



IE UNIVERSIDAD

TESIS DOCTORAL / DOCTORAL DISSERTATION

A TRAVÉS DE LOS OJOS DE LOS DEMÁS: TRES ENSAYOS SOBRE LA TOMA DE
PERSPECTIVA EN EL ESPÍRITU EMPRESARIAL /

THROUGH OTHERS' EYES: THREE ESSAYS ON PERSPECTIVE TAKING IN
ENTREPRENEURSHIP

SHELBY RENEE MEEK

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ABSTRACT

Perspective taking, or seeing the world from different viewpoints, is an important cognitive ability that can have a powerful impact in organizations by, for instance, increasing helping behaviors, negotiation outcomes, and innovation. The purpose of this dissertation is to elucidate the important role that perspective taking can play in entrepreneurship research and to situate perspective taking as a primary mechanism for entrepreneurial learning. To this end, this dissertation consists of a literature review and three essays on perspective taking in entrepreneurship. I start with a literature review to strategically review research that has come before mine on this important topic. I position perspective taking as a mechanism for learning in entrepreneurial settings. I structure my review alongside the antecedents, consequences, mediators and moderators of perspective taking in existing scholarship. Essay 1 then considers perspective taking at a macro-level as a possible mechanism for knowledge spillovers originating from regional entrepreneurial activity to absorb into local public service institutions. Essay 2 takes a micro-level look at employee cognitive adaptability, beneficiary contact and job burnout, as three possible antecedents to perspective taking among corporate entrepreneurs. In essay 3, I examine how international entrepreneurs achieve resource fit when making hiring decisions. Here I consider the perspective taking of international entrepreneurs as a moderator that weakens the strength of their preferences for certain resource fit. This dissertation concludes with suggestions for additional research avenues of perspective taking in entrepreneurship. I use multiple methodologies, including longitudinal secondary data from multiple sources, and primary data collected via online surveys with randomized

interventions, verbal protocol interviews and a conjoint experiment, resulting in a grand total of eight different samples. Taken together, this dissertation shows that perspective taking, and the learning that it evokes, play a valuable and necessary role across the spectrum of entrepreneurship research.

RESUMEN

La toma de perspectiva, o ver el mundo desde diferentes puntos de vista, es una capacidad cognitiva importante que puede tener un poderoso impacto en las organizaciones, por ejemplo, aumentando la cooperación, mejorando los resultados de las negociaciones y la innovación. El propósito de esta tesis es dilucidar el papel que la toma de perspectiva puede desempeñar en la investigación sobre el espíritu empresarial y situar la toma de perspectiva como un mecanismo primario para el aprendizaje empresarial. Para ello, esta tesis consta de una revisión de la literatura y tres ensayos sobre el rol de la toma de perspectiva en el espíritu empresarial. Comienzo con una revisión de la literatura que repasa estratégicamente las investigaciones anteriores a la mía sobre este importante tema. Sitúo la toma de perspectiva como un mecanismo de aprendizaje en los entornos empresariales. Estructuro mi revisión junto a los antecedentes, consecuencias, mediadores y moderadores de la toma de perspectiva en los estudios existentes. Luego, en el primer ensayo considero la toma de perspectiva a nivel macro como un posible mecanismo para que los desbordamientos de conocimiento originados por la actividad empresarial regional sean absorbidos por las instituciones locales de servicios públicos. En el segundo ensayo examino a nivel micro, la adaptabilidad cognitiva de los empleados, el contacto con los beneficiarios y el agotamiento laboral, como tres posibles antecedentes de la toma de perspectiva entre los empresarios. En el tercer ensayo examino cómo los empresarios internacionales logran la adecuación de los recursos a la hora de tomar decisiones de contratación. Aquí considero la toma de perspectiva de los empresarios internacionales como un moderador que debilita la fuerza de sus

preferencias por un determinado ajuste de recursos. Esta tesis concluye con sugerencias sobre otras rutas de investigación de la toma de perspectiva en el espíritu empresarial. En general, en esta tesis utilizo múltiples metodologías, incluyendo datos secundarios longitudinales de múltiples fuentes y datos primarios recogidos a través de encuestas en línea con intervenciones aleatorias, entrevistas de protocolo verbal, y un experimento conjunto, lo que resulta en un gran total de ocho muestras diferentes. En conjunto, esta disertación muestra que la toma de perspectiva y el aprendizaje que evoca, desempeñan un papel valioso y necesario en todo el espectro de la investigación sobre el espíritu empresarial.

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This dissertation has been a labor of love, sweat, and (some) tears over the last 4 years. This endeavor has pushed me academically and in time management more times than I can count. I adopted persistence as my motto and the journey has been well worth it. I also know that this dissertation would not have come together if it were not for my incredible support system, for whom I am most grateful.

Seeking new perspectives has become a life philosophy for me that originated with my parents, Steven and Julianne Wolf, who avidly believe in education and always encourage me to push myself. You discouraged me from becoming a doctor, and, per usual, I sort of listened. The perspective you instilled in me about the things that really matter in life and a focus on family helped me take a break when I needed one, so I could keep coming back to the work when I was refreshed. Thank you for your never-ending love, prayers and support. And enthusiasm for participating in our Spanish adventures. I love you both.

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TABLE OF CONTENTS

ABSTRACT	iii
RESUMEN	v
ACKNOWLEDGEMENTS	vii
TABLE OF CONTENTS	xi
LIST OF TABLES	xiv
LIST OF FIGURES	xv
LIST OF APPENDICES	xvi
STATEMENT OF CO-AUTHORSHIP.....	xvii
CHAPTER 1: INTRODUCTION	1
<i>REFERENCES.....</i>	<i>9</i>
CAPÍTULO 1: INTRODUCCIÓN	13
CHAPTER 2: A LITERATURE REVIEW AND PRELIMINARY SYNTHESIS OF PERSPECTIVE TAKING RESEARCH RELEVANT FOR ENTREPRENEURSHIP.....	23
<i>METHODOLOGY.....</i>	<i>25</i>
<i>LITERATURE REVIEW.....</i>	<i>28</i>
Antecedents Leading to Perspective Taking.....	30
Consequences of Perspective Taking in Entrepreneurship.....	31
Perspective Taking Elicits Mediators to Distal Outcomes.....	35
Moderators that Enhance Perspective Taking’s Relationship with Opportunity Identification.....	37
Perspective Taking as a Moderator.....	39
Concepts in Nomological Proximity to Perspective Taking.....	39
<i>THEORETICAL BACKGROUND FOR PERSPECTIVE TAKING.....</i>	<i>42</i>
The Origins of Perspective Taking: Psychology, Child Development and Neurology.....	42
Entrepreneurial Cognition.....	44
Entrepreneurial Learning.....	44
<i>CONCLUSION.....</i>	<i>47</i>
<i>REFERENCES.....</i>	<i>50</i>
CHAPTER 3: A CHANGE OF PERSPECTIVE: REGIONAL ENTREPRENEURIAL ACTIVITY AND DIFFERENTIAL RELATIONSHIPS WITH OBJECTIVE QUALITY AND SUBJECTIVE PERCEPTIONS OF QUALITY IN PUBLIC SERVICE INSTITUTIONS	63

<i>LITERATURE REVIEW</i>	68
Knowledge Spillover Theory of Entrepreneurship.....	68
Regional Economic Clusters.....	69
A Model of Knowledge Spillovers in Regional Economic Clusters.....	70
<i>HYPOTHESIS DEVELOPMENT</i>	72
Entrepreneurial Activity and Objective Hospital Quality of Care.....	73
Entrepreneurial Activity and Subjective Perceptions of Hospital Quality of Care.....	78
Contingencies of Entrepreneurial Activity and Research Hospitals.....	82
<i>RESEARCH METHODOLOGY</i>	84
Hospitals as an Important Public Policy and Organizational Context.....	84
Data.....	85
Methodology.....	87
Regression Models.....	91
<i>RESULTS</i>	92
Robustness Checks.....	98
<i>DISCUSSION AND CONCLUSION</i>	99
Theoretical Implications.....	99
Implications for Policymakers.....	103
Limitations and Future Research.....	105
<i>REFERENCES</i>	107

CHAPTER 4: WIDENING YOUR LENS: COGNITIVE ADAPTABILITY, BENEFICIARY CONTACT AND JOB BURNOUT AS ANTECEDENTS TO PERSPECTIVE TAKING AMONG CORPORATE ENTREPRENEURS117

<i>LITERATURE REVIEW</i>	125
Perspective Taking in Entrepreneurship.....	125
Cognitive Perspectives in Corporate Entrepreneurship.....	127
<i>HYPOTHESIS DEVELOPMENT</i>	129
Cognitive Adaptability and Perspective Taking.....	131
Beneficiary Contact and Perspective Taking.....	135
The Hindering Effect of Job Burnout on Perspective Taking.....	137
Perspective Taking and Employee Opportunity Identification.....	138
Moderation Effect of Prior Knowledge.....	140
<i>RESEARCH METHOD</i>	141
Pilot Study: Sample and Procedures.....	141
Study 1: Sample and Procedures.....	143
Study 2: Sample and Procedures.....	144
Study Design.....	145
Study Measures.....	148
<i>RESULTS</i>	152
Antecedents of Perspective Taking (stage 1)	152
Consequences of Perspective Taking Results (stage 2)	160
Additional Analyses.....	167
<i>DISCUSSION</i>	170
Theoretical Implications.....	171

Limitations and Future Research.....	176
CONCLUSION.....	178
REFERENCES.....	179
CHAPTER 5: HIRING FOR RESOURCE SIMILARITY OR RESOURCE COMPLEMENTARITY? EXAMINING THE HIRING PREFERENCES OF INTERNATIONAL ENTREPRENEURS.....	191
<i>LITERATURE REVIEW</i>	198
Evolution of Cognition in International Entrepreneurship.....	198
Hiring Practices in Entrepreneurship Relevant to IE.....	201
Person-Organization Fit: Resource Similarity versus Complementarity.....	205
Human Capital and Social Capital Resource Fit.....	207
<i>HYPOTHESIS DEVELOPMENT</i>	211
IEs' Hiring Preferences Regarding Social Capital Resource Fit.....	211
IEs' Hiring Preferences Regarding Human Capital Resource Fit.....	215
IEs' Hiring Preferences Regarding Innovation Preference Resource Fit.....	218
Perspective Taking as an Individual-level Moderating Variable.....	220
Ease of Doing Business as an Institutional-level Moderating Variable.....	223
<i>RESEARCH METHOD</i>	226
Pre-test Method and Sample: Verbal Protocol Interviews.....	227
Main Method and Sample: Conjoint Analysis.....	228
Research Instrument.....	235
<i>RESULTS</i>	239
Main Analysis.....	239
Post-hoc analyses.....	245
<i>DISCUSSION AND CONCLUSION</i>	249
Theoretical Implications.....	249
Limitations, Future Research and Conclusions.....	252
<i>REFERENCES</i>	255
CHAPTER 6: CONCLUSION	287
<i>THEORETICAL CONTRIBUTIONS</i>	288
<i>PRACTICAL CONSIDERATIONS</i>	291
<i>FUTURE RESEARCH ON PERSPECTIVE TAKING IN ENTREPRENEURSHIP</i>	292
<i>REFERENCES</i>	296
CAPÍTULO 6: CONCLUSIÓN	299

LIST OF TABLES

Chapter 2

Table 1. Definitions of Perspective Taking in Chronological Order of Appearance.....	25
--	----

Chapter 3

Table 1. Data Sources.....	87
Table 2. Summary Statistics and Correlation Matrix.....	93
Table 3. Regression Analysis Results.....	94

Chapter 4

Table 1. Study 1: Means, Standard Deviations, and Correlations.....	154
Table 2. Study 1: Regression Analyses Predicting Perspective Taking.....	156
Table 3. Study 2: Means, Standard Deviations, and Correlations.....	158
Table 4. Study 2: Regression Analyses Predicting Perspective Taking.....	160
Table 5. Study 1: Regression Analyses Predicting Quantity and Quality.....	163
Table 6. Study 2: Regression Analyses Predicting Quantity and Quality.....	165
Table 7. Robustness Check: Regression Analyses on Studies 1 and 2 Subcomponents of Cognitive Adaptability and Perspective Taking.....	168
Table 8. Robustness Check: Regression Analyses on Studies 1 and 2 Using Intervention for Beneficiary Contact	170

Chapter 5

Table 1. Verbal Protocol Interview International Entrepreneur Profiles.....	230
Table 2. Candidate Profile Attributes and Basis for Similarity with IE.....	237
Table 3. Descriptive Statistics and Correlations.....	241
Table 4. HLM Model Predicting IEs' Likelihood of Hiring Candidates (robust standard errors).....	242

LIST OF FIGURES

Chapter 2

Figure 1. Situating This Dissertation Within Existing Bodies of Literature.....	24
Figure 2. A Preliminary Synthesis of Perspective Taking Research Relevant for Entrepreneurship.....	28
Figure 3. This Dissertation's Additions to Perspective Taking in Entrepreneurship.....	49

Chapter 3

Figure 1. Knowledge Spillover Relationships in a Regional Cluster.....	
Figure 2. Knowledge Spillover Effects on the Quality of Public Service Organizations	
Figure 3. Margins Plots of Research Hospitals and Entrepreneurial Activity on Patient Satisfaction Ratings.....	97

Chapter 4

Figure 1. Model of Antecedents to Perspective Taking Among Corporate Entrepreneurs.....	130
Figure 2. Model of Consequences of Perspective Taking Among Corporate Entrepreneurs.....	131
Figure 3. Idea Quantity per Respondent by Sample.....	161

Chapter 5

Figure 1. Model of Hypotheses Predicting the Likelihood of Hiring Candidate Based on Greater Similarity (Relative to Complementarity) with IE.....	210
Figure 2. Interactions with IEs' Perspective Taking on Likelihood of Hiring.....	244

LIST OF APPENDICES

Chapter 2

Appendix A. Overview Table of Perspective Taking Articles Relevant to Entrepreneurship.....	54
Appendix B. Organizing Framework for Perspective Taking’s Role Among Managers in Organizations (from Ku, Wang & Galinsky, 2015).....	61

Chapter 3

Appendix. Table 4: Regression Analysis Results of Robustness Checks with Alternative Dependent Variables.....	115
---	-----

Chapter 4

Appendix. Antecedents and Consequences of Perspective Taking Online Questionnaire Administered via Qualtrics	185
--	-----

Chapter 5

Appendix A. Lessons Learned from Verbal Protocol Interviews and Resulting Changes Made to Study Design	264
Appendix B. International Entrepreneurs’ Hiring Decisions Conjoint Experiment Administered via Qualtrics.....	267
Appendix C.HLM Model Predicting IEs’ Likelihood of Offering Equity Partnership (robust standard errors)	286

STATEMENT OF CO-AUTHORSHIP

Chapter three (essay 1) in this dissertation is the product of a collaborative effort and has been co-authored by myself and my advisor, Professor Matthias A. Tietz. As the first author, I took the lead on this essay including: conceptualizing the paper, formulating the research question, conducting the literature review, creating the data set from multiple sources, conducting all data analysis, and writing the first complete draft of the manuscript. While this essay is largely mine, I would be remiss if I did not acknowledge the significant revisions the paper has undergone at the direction of Professor Tietz. His advice and edits have been invaluable. That is why in chapter three, I use first-person plural (“we” and “our”) tense. With the above exceptions, I certify that this dissertation and the research to which it refers, is fully a product of my own work.

CHAPTER ONE

INTRODUCTION

“Everybody knows the story of the Three Little Pigs. Or at least they think they do. But I’ll let you in on a little secret. Nobody knows the real story because nobody has ever heard my side of the story.”

- A. Wolf

The children’s book, the True Story of the Three Little Pigs! By Jon Scieszka (1996) retells the well-known fable from the perspective of the wolf, in which of course, the pigs are not innocent victims but play a more conniving role, and the wolf argues that we have only heard one side of the story. As this retelling of a classic tale illustrates, every situation has more than one perspective. Perspective taking is “the active cognitive process of imagining the world from another’s vantage point or imagining oneself in another’s shoes to understand their visual viewpoint, thoughts, motivations, intentions, and/or emotions” (Ku, Wang & Galinsky, 2015: 79).

Perspective taking can be critical throughout the entrepreneurship process by helping entrepreneurs 1) to expand their imaginations and improve opportunity identification through exposure to a greater variety of viewpoints, 2) to structure and guide them to focus on the most promising opportunities based on relevant stakeholder needs, including customers, investors, and competitors, and 3) to develop more novel and useful solutions to address market problems (Frederiks, Englis, Ehrenhard & Groen, 2019; Grant & Berry, 2011; McMullen, 2010; Prandelli, Pasquini, & Verona,

2016). Perspective taking is also of further practical importance in entrepreneurship, as a modern design discipline (Blank, 2013), an important life skill for navigating challenging circumstances (Ku & Brewis, 2017) and as a way to maintain successful relationships (Campbell, 2016).

Despite its ubiquitous relevance, perspective taking is in its infancy within entrepreneurship research (Prandelli et al., 2016). Having been borrowed from human development and organizational psychology literatures (Parker & Axtell, 2001; Davis, 1983), it currently operates on the margins of entrepreneurship research. To date, entrepreneurship research has most typically used perspective taking as an antecedent to enhance opportunity identification (Khalid & Sekiguchi, 2018; Prandelli et al., 2016; Frederiks et al., 2019). While this is important initial work, the potential for this topic is much larger.

With this dissertation, I shine light directly on the powerful construct of perspective taking and highlight how it might play a more central role in entrepreneurship research in the future. This research is important because the “identification of entrepreneurial learning mechanisms remains a key research objective” (Cope, 2005: 381), and with perspective taking I study one such mechanism. Seeking ways to learn is of fundamental importance for generating knowledge that can be used to create innovative products and processes (Cope, 2005; Wang & Chugh, 2014). After all, scholars have emphasized that “entrepreneurship is a process of learning” (Minniti & Bygrave, 2001: 7). Perspective taking plays a key role in learning because “having the capacity to take another perspective into account is a means by which more complexified knowledge and improved possibilities for product or process innovation are

achieved" (Boland & Tenkasi, 1995: 369). In other words, knowledge creation requires integration of knowledge from a broad array of sources.

This dissertation spans broad topics with entrepreneurial learning as the overarching cognitive theory and perspective taking as the focal construct. In chapter 2, I provide a first literature review in order to synthesize the work that has come before mine and illustrate and solidify the relevance of perspective taking to entrepreneurship. Then, I offer three essays that examine perspective taking in different entrepreneurial contexts: (1) as a theoretical argument for how knowledge spillover transfers might occur at the regional level between entrepreneurial activity and public service institutions (third chapter), (2) as an influential consequence of employee cognitive adaptability, beneficiary contact, and a balanced work environment in corporate entrepreneurship (fourth chapter), and (3) as a moderator that influences the relationship between international entrepreneurs' preferences for resource fit and their hiring likelihood of certain candidates (fifth chapter). I provide a brief summary of each chapter next.

Chapter 2 serves as an opening to my dissertation with a literature review, focusing on the 25 most relevant perspective taking articles for entrepreneurship. This is a deliberate and necessary starting point because there has not been a synthesis of this literature to date. I focus most of this chapter on situating perspective taking in entrepreneurship within entrepreneurial learning and the variety of ways perspective taking has been used in previous literature: as antecedent, consequence, and in conjunction with mediators and moderators. I offer a graphical depiction (Figure 2 in Chapter 2) of the previous literature, and also situate my own essays (Figure 1 and

Figure 3 in Chapter 2) to further advance this literature.

In Chapter 3 (essay 1), I explore the potential for perspective taking at a macro-level by studying the differential effects of knowledge spillovers from regional entrepreneurial activity on the objective quality and subjective perceptions of quality of local public service institutions. The Knowledge Spillover Theory of Entrepreneurship (KSTE) provides the theoretical backdrop for this essay, which traditionally suggests that entrepreneurial ventures can benefit from absorbing knowledge spillovers originating in incumbent firms and university research in regional clusters (Acs, Braunerhjelm, Audretsch, & Carlsson, 2009; Audretsch & Keilbach, 2007; Audretsch & Lehmann, 2005; Ghio, Guerini, Lehmann, & Rossi-Lamastra, 2015; Plummer & Acs, 2014). I offer the novel theoretical perspective that entrepreneurial activity plays an additional key role in regional clusters as sources of knowledge spillovers. I specifically study the feedback that regional entrepreneurial activity can offer to local public service institutions, namely hospitals, as learning through inter-organizational links is imperative for hospitals (Goes & Park, 1997). Perspective taking occurs at a macro-level here because, entrepreneurial activity in a region influences the viewpoint of the local population, and this offers an opportunity for nearby public service institutions to take the collective perspective of the community. I theoretically argue that these knowledge spillovers translate into learning for public service institutions through individuals in the local population whose perspectives act as important conduits in this relationship. I use hospitals as exemplar public service institutions to test my hypotheses, because hospitals are ubiquitous institutions that serve the population in all regional economic clusters and are currently under pressure to innovate more than ever before in response

to market pressures, policy changes and the Covid-19 pandemic. I use a unique, longitudinal dataset that I created from four independent sources and test my hypotheses with fixed-effect regression models. Results suggest that regions with high entrepreneurial activity have better objective hospital quality in the form of mortality rates, but also have worse subjective perceptions of quality as evidenced in patient satisfaction scores. These relationships are positively moderated by research activity in hospitals, such that research hospitals located in areas of high entrepreneurial activity experience better (i.e. lower) mortality rates and better (i.e. higher) patient satisfaction scores compared to non-research hospitals in the same region. In relation to perspective taking, these results indicate that hospitals and other public service institutions can benefit by taking the perspective of, and learning from, individuals involved in entrepreneurial activity in their local region, including patients, employees and local innovators.

In Chapter 4 (essay 2), perspective taking plays a central role as the main outcome of interest. In this essay, I separately examine the antecedents and effects of perspective taking in corporate entrepreneurship. Motivating employees to participate in corporate entrepreneurship activities is difficult but vital for existing organizations to ensure competitiveness and survival (Hitt, Ireland, Sirmon, & Trahms, 2011; Park, Kim, & Krishna, 2014; Rigtering, Weitzel, & Muehlfeld, 2019). This study specifically examines what makes employees better at perspective taking by examining three possible antecedents that are particularly relevant to corporate entrepreneurship: 1) employee cognitive adaptability, 2) beneficiary contact and 3) job burnout. I suggest that by enhancing perspective taking, employees' cognitive adaptability and beneficiary

contact provide the knowledge and motivation, respectively, that has been suggested as crucial to identifying entrepreneurial opportunities (McMullen & Shepherd, 2006). Additionally, job burnout is an important contextual variable for workplaces because employees who are burnt out may be less likely to engage in perspective taking. Secondly, I then look at whether perspective taking leads to higher quantity and higher quality of opportunities identified by employees, and how this relationship is moderated by the employees' prior knowledge. I started this data collection with a pilot experiment of 13 employees from multiple organizations, followed by two main studies. My first main study utilized a sample of 58 employees from one organization in the United States. My second study supplemented this first sample and utilized a sample of 97 online respondents. These studies consisted of two models. First, I focus on the antecedents to perspective taking. Then, I enhance current perspective taking research in entrepreneurship that suggests perspective taking leads to better opportunity identification. In both studies, the online questionnaire included an intervention to induce beneficiary contact in which I randomly assigned participants to read positive, negative, or no customer comments. This was followed by an idea generation exercise that was evaluated for both quantity and quality by two independent judges. For this procedure I took guidance from Amabile (1982, 1997). I use multivariate ordinary least squares and poisson regressions to test my hypotheses. My contribution with this essay is to establish empirical evidence of clear relationships and boundaries between employee cognitive adaptability, beneficiary contact, job burnout and perspective taking. I hope that my work may serve as a first step toward integrating these important concepts in corporate entrepreneurship research.

Chapter 5 (essay 3) studies the decision-making of international entrepreneurs (IEs) when hiring in terms of resource fit. The literature on person-organization (P-O) fit suggests two competing hiring philosophies for IEs based on two types of resource fit: resource similarity and resource complementarity (Cable & Edwards, 2004; Kristof, 1996; Lazear & Shaw, 2007; Muchinsky & Monahan, 1987). When employees join a venture they bring their social capital, human capital and innovation preferences with them (Raffiee & Byun, 2020). These resources can be characterized as either more similar or more complementary to the hiring IE's own resources. I develop and investigate this theoretical tension. Perspective taking plays an important role here as a potential moderator that may weaken IEs preferences. IEs have an opportunity to take the perspective of the individuals in their chosen venture's host country, which influences their insights and cognitive abilities (Coviello, 2015; Terjesen & Elam, 2009; Zahra, Korri, & Yu, 2005). I suggest the more IEs take the perspective of their host country, the less their uncertainty in the foreign environment and the less their need to hire based on rigid guidelines. Instead, IEs who are high in perspective taking can be more flexible with who they choose to hire. Also, "engaging in perspective taking may be particularly useful for managers as they relate to their employees" (Longmire & Harrison, 2018: 907), and fostering this skill in entrepreneurs may be important, especially because power, such as exists in hiring relationships, has been shown to inhibit perspective taking (Galinsky, Magee, Inesi & Greenfield, 2006). To solidify my hypothesized model, I first conducted four verbal protocol interviews and then tested my model with 104 founders of international ventures in a conjoint analysis experiment where participants make 832 nested hiring decisions. I analyze my data using

hierarchical linear modeling. My findings advance existing international entrepreneurship literature by moving past the first step of the decision to internationalize (Kulchina, 2016; Zahra, 2005; Reuber, Knight, Liesch & Zhou, 2018) to important decisions IEs make after operationalizing their venture (Zahra, 2005).

This dissertation ends with Chapter 6 summarizing the overarching theoretical contributions of its three essays and offering a number of suggestions for future research on perspective taking in entrepreneurship.

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CAPÍTULO UNO

INTRODUCCIÓN

"Todo el mundo conoce la historia de los tres cerditos. O al menos eso creen. Pero te voy a contar un pequeño secreto. Nadie conoce la verdadera historia, porque nadie ha escuchado nunca mi versión de la historia".

- A. Wolf

El libro infantil ¡La verdadera historia de los tres cerditos! de Jon Scieszka (1996) vuelve a contar la conocida fábula desde la perspectiva del lobo, en la que, por supuesto, los cerdos no son víctimas inocentes, sino que desempeñan un papel más confabulador y el lobo argumenta que sólo hemos oído una parte de la historia. Como ilustra esta versión de un cuento clásico, toda situación tiene más de una perspectiva. La toma de perspectiva es "el proceso cognitivo activo de imaginar el mundo desde el punto de vista de otra persona o de imaginarse en el lugar de otra persona para comprender su punto de vista, sus pensamientos, sus motivaciones, sus intenciones, y/o sus emociones" (Ku, Wang y Galinsky, 2015: 79).

La toma de perspectiva puede ser fundamental a lo largo del proceso de emprendimiento, ya que ayuda a los emprendedores a 1) ampliar su imaginación y mejorar la identificación de oportunidades mediante la exposición a una mayor variedad de puntos de vista, 2) estructurar y guiarlos para que se centren en las oportunidades más prometedoras en función de las necesidades de las partes interesadas pertinentes, incluidos los clientes, los inversores y los competidores, y 3) desarrollar

soluciones más novedosas y útiles para abordar los problemas del mercado (McMullen, 2010; Grant y Berry, 2011; Prandelli et al., 2016; Frederiks et al., 2019). La toma de perspectiva también tiene una importancia práctica adicional en el emprendimiento, como una disciplina de diseño moderno (Blank, 2013), como una habilidad vital importante para navegar por circunstancias desafiantes (Ku & Brewis, 2017) y como una forma de mantener relaciones exitosas (Campbell, 2016).

A pesar de su relevancia omnipresente, la toma de perspectiva está en su infancia dentro de la investigación sobre el espíritu empresarial (Prandelli, et al., 2016). Tras haber sido tomada de las literaturas de desarrollo humano y psicología organizacional (Parker y Axtell, 2001; Davis, 1983), actualmente opera al margen de la investigación en emprendimiento. Hasta la fecha, la investigación en emprendimiento ha utilizado típicamente la toma de perspectiva como un antecedente para mejorar la identificación de oportunidades (Khalid & Sekiguchi, 2018; Prandelli et al., 2016; Frederiks, et al., 2019). Si bien este es un trabajo inicial importante, el potencial de este tema es mucho mayor.

Con esta tesis, arrojo a la luz el poderoso concepto de la toma de perspectiva, y destaco cómo podría desempeñar un papel más central en la investigación sobre el espíritu empresarial en el futuro. Esta investigación es importante porque la "identificación de los mecanismos de aprendizaje empresarial sigue siendo un objetivo clave de la investigación" (Cope, 2005: 381), y con la toma de perspectiva estudio uno de esos mecanismos. La búsqueda de formas de aprendizaje tiene una importancia fundamental para generar conocimientos que puedan utilizarse para crear productos y procesos innovadores (Cope, 2005; Wang y Chugh, 2014). Después de todo, los

estudiosos han subrayado que "el espíritu empresarial es un proceso de aprendizaje" (Minniti y Bygrave, 2001: 7). La toma de perspectiva desempeña un papel clave en el aprendizaje porque "la capacidad de tener en cuenta otra perspectiva es un medio por el que se consigue un conocimiento más complejo y mejores posibilidades de innovación de productos o procesos" (Boland & Tenkasi, 1995: 369). En otras palabras, la creación de conocimientos requiere la integración de conocimientos procedentes de una amplia gama de fuentes.

Esta tesis abarca amplios temas considerando el aprendizaje empresarial como teoría cognitiva general y la toma de perspectiva como concepto central. En el capítulo 2, ofrezco una primera revisión de la literatura con el fin de sintetizar el trabajo que me precede, y así ilustrar y consolidar la relevancia de la toma de perspectiva en el emprendimiento. A continuación, ofrezco tres ensayos que examinan la toma de perspectiva en diferentes contextos empresariales: 1) como argumento teórico de cómo pueden producirse transferencias de conocimiento a nivel regional entre la actividad empresarial y las instituciones de servicio público (tercer capítulo), 2) como consecuencia influyente de la adaptabilidad cognitiva de los empleados, el contacto con el beneficiario y un entorno de trabajo equilibrado en la iniciativa empresarial (cuarto capítulo), y 3) como moderador que influye en la relación entre las preferencias de los empresarios internacionales por el ajuste de los recursos y su probabilidad de contratación de determinados candidatos (quinto capítulo). A continuación, ofrezco un breve resumen de cada capítulo.

El capítulo 2 sirve de apertura a mi tesis con una revisión de la literatura que se centra en los 25 artículos de toma de perspectiva identificados como los más

relevantes para el espíritu empresarial. Se trata de un punto de partida deliberado y necesario, ya que hasta la fecha no se ha realizado una síntesis de esta literatura. La mayor parte de este capítulo se centra en situar la toma de perspectiva en el espíritu empresarial dentro del aprendizaje empresarial y en la variedad de formas en que se ha utilizado la toma de perspectiva en la literatura anterior: como antecedente, consecuencia y junto con los mediadores y moderadores. Ofrezco una representación gráfica (Figura 2 en el Capítulo 2) de la literatura anterior, y también sitúo cómo mis propios ensayos (Figura 1 y Figura 3 en el Capítulo 2) avanzan esta literatura.

En el capítulo 3 (ensayo 1), exploro el potencial de la toma de perspectiva a nivel macro estudiando los efectos diferenciales de los desbordamientos de conocimiento de la actividad empresarial regional sobre la calidad objetiva y la percepción subjetiva de la calidad de las instituciones locales de servicios públicos. La teoría del desbordamiento del conocimiento de la actividad empresarial (knowledge spillover theory of entrepreneurship=KSTE) constituye el telón de fondo teórico de este ensayo, que tradicionalmente sugiere que las empresas emprendedoras pueden beneficiarse de la absorción de los desbordamientos del conocimiento que se originan en las empresas ya establecidas y en la investigación universitaria en los agrupaciones (clusters) regionales (Acs, Braunerhjelm, Audretsch, & Carlsson, 2009; Audretsch & Keilbach, 2007; Audretsch & Lehmann, 2005; Ghio, Guerini, Lehmann, & Rossi-Lamastra, 2015; Plummer & Acs, 2014). Ofrezco la novedosa perspectiva teórica de que la actividad empresarial desempeña un papel clave adicional en las agrupaciones (clusters) regionales como fuentes de desbordamiento del conocimiento. Específicamente, estudio la retroalimentación que la actividad empresarial regional puede ofrecer a las

instituciones locales de servicios públicos, concretamente los hospitales, ya que el aprendizaje a través de los vínculos interorganizativos es imperativo para los hospitales (Goes & Park, 1997). La toma de perspectiva se produce aquí a nivel macro ya que la actividad empresarial en una región influye en el punto de vista de la población local, y esto ofrece una oportunidad para que las instituciones de servicio público cercanas tomen la perspectiva colectiva de la comunidad. Teóricamente, sostengo que estos desbordamientos de conocimiento se traducen en aprendizaje para las instituciones de servicio público a través de individuos de la población local cuyas perspectivas actúan como importantes conductos en esta relación. Utilizo los hospitales como instituciones de servicio público ejemplares para poner a prueba mis hipótesis, porque los hospitales son instituciones omnipresentes que sirven a la población en todas las agrupaciones (clusters) económicas regionales y actualmente están bajo presión para innovar más que nunca en respuesta a las presiones del mercado, los cambios políticos y la pandemia de Covid-19. Utilizo un conjunto de datos único y longitudinal que he creado a partir de cuatro fuentes independientes y pongo a prueba mis hipótesis con modelos de regresión de efectos fijos. Los resultados sugieren que las regiones con una elevada actividad empresarial tienen una mejor calidad de los hospitales objetiva en forma de tasas de mortalidad, pero también tienen una peor percepción subjetiva de la calidad, como se pone de manifiesto en las puntuaciones de satisfacción de los pacientes. Estas relaciones están moderadas positivamente por la actividad de investigación en los hospitales, de manera que los hospitales de investigación ubicados en zonas (condados de los EEUU) de alta actividad empresarial experimentan mejores (es decir, menores) tasas de mortalidad y mejores (es decir, mayores) puntuaciones de

satisfacción de los pacientes en comparación con los hospitales no de investigación de la misma región. En relación con la toma de perspectiva, estos resultados indican que los hospitales y otras instituciones de servicio público pueden beneficiarse al tomar la perspectiva de los individuos involucrados en la actividad empresarial en su región local, incluyendo pacientes, empleados e innovadores locales, y aprender de ellos.

En el capítulo 4 (ensayo 2), la toma de perspectiva desempeña un papel central como principal resultado de interés. En este ensayo, examino por separado los antecedentes y los efectos de la toma de perspectiva en el espíritu empresarial de las empresas. Motivar a los empleados para que participen en actividades de emprendimiento corporativo es difícil pero vital para que las organizaciones existentes aseguren la competitividad y la supervivencia (Hitt, Ireland, Sirmon, & Trahms, 2011; Park, Kim, & Krishna, 2014; Rigtering, Weitzel, & Muehlfeld, 2019). Este estudio examina específicamente qué hace que los empleados sean mejores en la toma de perspectiva. Lo hace a través de examinar tres posibles antecedentes particularmente relevantes para el emprendimiento corporativo: 1) la adaptabilidad cognitiva del empleado, 2) el contacto con el beneficiario, y 3) el agotamiento laboral. Sugiero que, al mejorar la toma de perspectiva, la adaptabilidad cognitiva de los empleados y el contacto con el beneficiario, proporcionan el conocimiento y la motivación, respectivamente, que se han sugerido como cruciales para identificar las oportunidades empresariales (McMullen & Shepherd, 2006). Además, el agotamiento laboral es una variable contextual importante en el ambiente de trabajo, ya que los empleados con alto nivel de agotamiento pueden ser menos propensos a la toma de perspectiva. En segundo lugar, se analiza si la toma de perspectiva resulta en una mayor cantidad y

calidad de oportunidades identificadas por los empleados, y cómo esta relación se ve moderada por el conocimiento previo de los empleados. La recogida de datos empezó con un experimento piloto con 13 empleados de varias organizaciones, seguido de dos estudios principales. El primer estudio utilizó una muestra de 58 empleados de una organización en los Estados Unidos. El segundo estudio complementó esta primera muestra y utilizó una muestra de 97 encuestados en línea. Estos estudios constan de dos modelos. En primer lugar, me centré en los antecedentes de la toma de perspectiva. A continuación, amplió la investigación actual sobre la toma de perspectiva en el ámbito empresarial, que sugiere que la toma de perspectiva conduce a una mejor identificación de las oportunidades. En ambos estudios, el cuestionario incluía una intervención para inducir el contacto con el beneficiario en la que se asignó aleatoriamente a los participantes a leer comentarios positivos, negativos o sin comentarios de los clientes. A continuación, se realizó un ejercicio de generación de ideas que fue evaluado en cantidad y calidad por dos jueces independientes. Este procedimiento se realizó siguiendo a Amabile (1982, 1997). Utilizo mínimos cuadrados ordinarios multivariantes y regresiones de Poisson para probar mis hipótesis. Mi contribución con este ensayo es establecer pruebas empíricas de relaciones y límites claros entre la adaptabilidad cognitiva de los empleados, el contacto con los beneficiarios, el agotamiento laboral y la toma de perspectiva. Espero que mi trabajo pueda servir como un primer paso hacia la integración de estos importantes conceptos en la investigación sobre el espíritu empresarial de las empresas.

El capítulo 5 (ensayo 3) estudia la toma de decisiones de empresarios internacionales (international entrepreneurs=IEs) a la hora de contratar empleados en

términos de congruencia de recursos con la organización. La literatura sobre la congruencia persona-organización (P-O) sugiere dos filosofías de contratación que compiten entre sí, basadas en dos tipos de congruencia de recursos: similitud de recursos y complementariedad de recursos (Cable & Edwards, 2004; Kristof, 1996; Lazear & Shaw, 2007; Muchinsky & Monahan, 1987). Cuando los empleados se incorporan a una empresa, traen consigo su capital social, su capital humano y sus preferencias en materia de innovación (Raffiee y Byun, 2020). Estos recursos pueden caracterizarse como más similares o más complementarios a los recursos propios del empresario internacional contratante. En esta tesis desarrollo e investigo esta tensión teórica. La toma de perspectiva desempeña aquí un papel importante como moderador potencial que puede debilitar las preferencias del empresario internacional. Estos tienen la oportunidad de adoptar la perspectiva de los individuos del país anfitrión elegida de su empresa, lo que influye en sus percepciones y capacidades cognitivas (Coviello, 2015; Terjesen & Elam, 2009; Zahra, Korri, & Yu, 2005). Sugiero que cuanto más adopten los empresarios internacionales la perspectiva de su país de acogida, menor será su incertidumbre en el entorno extranjero y menor su necesidad de contratar basándose en directrices rígidas. En cambio, los empresarios internacionales que tienen un alto grado de toma de perspectiva pueden ser más flexibles con las personas que eligen para contratar. Además, "participar en la toma de perspectiva puede ser particularmente útil para los gerentes cuando se relacionan con sus empleados" (Longmire y Harrison, 2018: 907), y fomentar esta habilidad en los empresarios puede ser importante, especialmente porque el poder, como el que existe en las relaciones de contratación, ha demostrado inhibir la toma de perspectiva

(Galinsky, Magee, Inesi y Greenfield, 2006). Para dar soporte al modelo hipotetizado, primero realicé cuatro entrevistas de protocolo verbal. Luego, testé mi modelo con 104 fundadores de empresas internacionales en un experimento de análisis conjunto en el que los participantes toman 832 decisiones de contratación anidadas. Analicé estos datos mediante un modelo lineal jerárquico. Los hallazgos avanzan la literatura sobre el emprendimiento internacional al ir más allá de enfocarse en la decisión de internacionalización (Kulchina, 2016; Zahra, et al., 2005; Reuber, et al., 2018) para estudiar las decisiones importantes que los emprendedores internacionales toman después de poner en funcionamiento su emprendimiento (Zahra, et al., 2005).

Esta tesis termina con el capítulo 6, en el que se resumen las contribuciones teóricas generales de sus tres ensayos y se ofrecen varias sugerencias para futuras investigaciones sobre la toma de perspectiva en el espíritu empresarial.

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CHAPTER TWO

A Literature Review and Preliminary Synthesis of Perspective taking Research Relevant for Entrepreneurship

INTRODUCTION

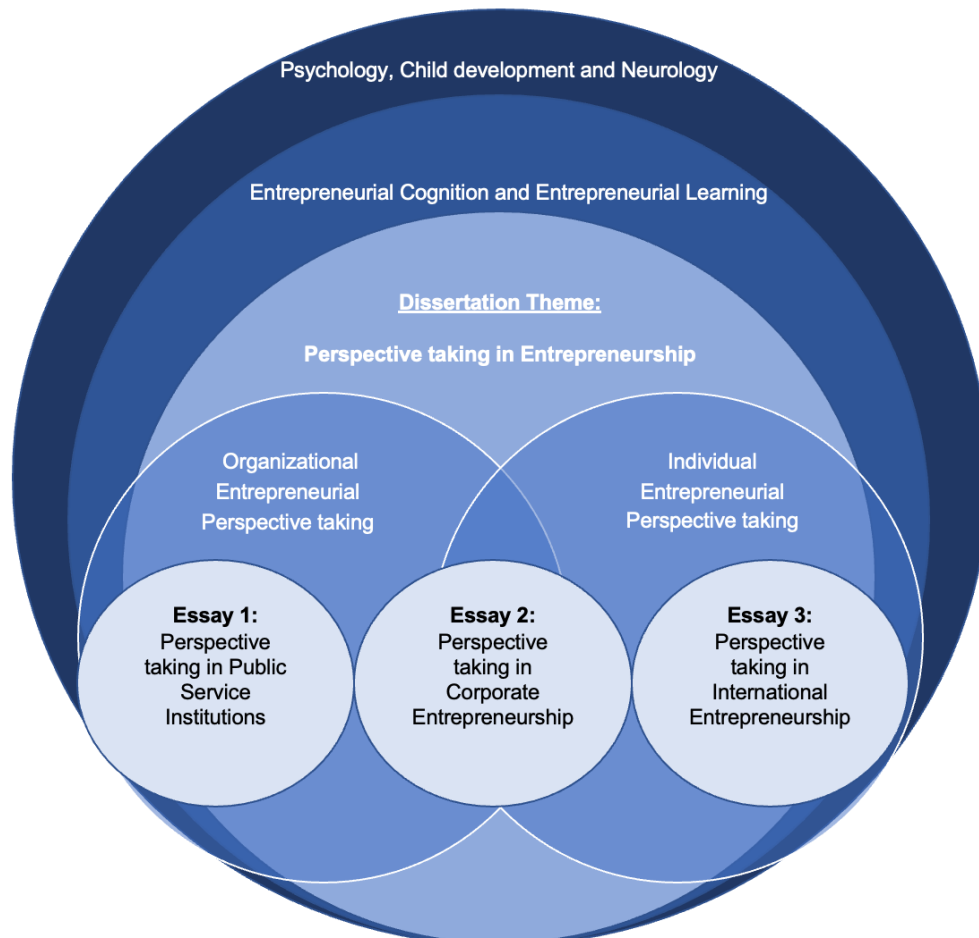
Abraham Lincoln championed perspective taking before the term was coined. He has been touted for building and relying on a “team of rivals,” because he appointed three leaders to his cabinet who he had previously competed with for the Republican presidential nomination. Among other characteristics, this radical approach to selecting his colleagues secured Lincoln as a respected leader by people with a variety of political views (Gross, 2012). In other words, by surrounding himself with people he disagreed with, with the intent of learning from their perspectives, Lincoln was an exemplar of perspective taking.

My purpose with this literature review is to offer a preliminary synthesis of the scholarly work on perspective taking that precedes mine and that is particularly relevant to the entrepreneurship field. I also highlight how my three subsequent essays additionally contribute to this growing body of knowledge.

I start this literature review by defining perspective taking. Following the definitions, I explain my methodological process. Then, based on previous literature that may be the most relevant to entrepreneurship, I provide a first overview of the antecedents to, the consequences of, and the mediators and moderators that interact with perspective taking. Of course, perspective taking has a rich history, so I then take a

step back to discuss perspective taking in three broader streams of research: 1) perspective taking's history in psychology, child development and neurology, 2) entrepreneurial cognition, and 3) entrepreneurial learning. Figure 1 below gives a graphical depiction of this positioning. I start this literature review with the interior circles, focusing on perspective taking's relevance for entrepreneurship and foreshadowing my own essays' contributions in the innermost circles, before moving to the broader circles and associated topics.

FIGURE 1
Situating This Dissertation Within Existing Bodies of Literature



In conducting this literature review, I found seven definitions of perspective taking since its origination by Davis (1983). Table 1 below displays these definitions and their

different foci. For the purposes of this dissertation, I rely on the latest definition by Ku, Wang & Galinsky (2015) for its recency, comprehensiveness and potential relevance for entrepreneurship. Thus, perspective taking is “the active cognitive process of imagining the world from another’s vantage point or imagining oneself in another’s shoes to understand their visual viewpoint, thoughts, motivations, intentions, and/or emotions” (Ku et al., 2015: 79).

TABLE 1		
Definitions of Perspective Taking in Chronological Order of Appearance		
Perspective Taking Definition	Authors, Year: Page	Focus
The tendency to spontaneously adopt the psychological point of view of others	Davis, 1983: 113	<ul style="list-style-type: none"> • Perspective taking as the cognitive component of empathy
Communication that improves a community's ability to take the knowledge of other communities into account.	Boland & Tenkasi, 1995: 351	<ul style="list-style-type: none"> • Group perspective taking
The adoption of another person’s viewpoint.	Parker & Axtell, 2001: 1085	<ul style="list-style-type: none"> • Wide applicability
The process of imagining the world from another’s vantage point or imagining oneself in another’s shoes.	Galinsky et al., 2005: 110	<ul style="list-style-type: none"> • General, not specifically an active process
The ability to infer other individuals' mental states, to consider their perspective, and thereby to interpret and predict their actions.	Wu & Keysar, 2007: 600	<ul style="list-style-type: none"> • To make inferences about others
The degree to which the observer has a relatively accurate, comprehensive, and objective understanding and appreciation of the target’s thoughts and/or feelings and the reasons they are thinking and/or feeling that way...An active process that occurs when an observer tries to understand, in a non-judgmental way, the thoughts, motives, and/or feelings of a target, as well as why they think and/or feel the way they do.	Parker, Atkins & Axtell, 2008: 6 and 151	<ul style="list-style-type: none"> • Perspective taking is both an ability and an active process. • Focuses on perspective taker making accurate assumptions and being non-judgmental about the target
The active cognitive process of imagining the world from another’s vantage point or imagining oneself in another’s shoes to understand their visual viewpoint, thoughts, motivations, intentions, and/or emotions.	Ku, Wang & Galinsky, 2015: 79	<ul style="list-style-type: none"> • An active process • Broadly encompasses others' viewpoints, thoughts, motivations, intentions, and emotions

METHODOLOGY

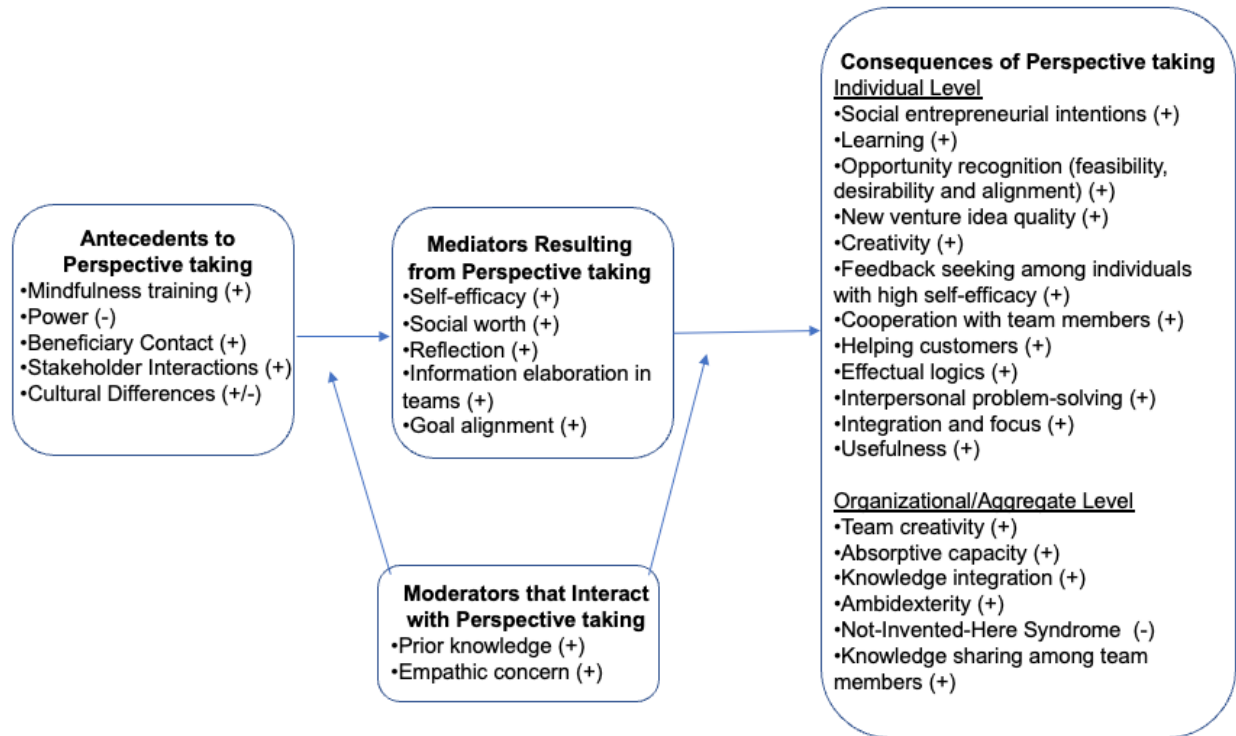
To conduct this literature review, I entered the search terms “entrepreneu*” and

“perspectiv* tak*” into Google Scholar, EBSCO, and JSTOR. This rendered 80 results. I screened out a majority of the resulting search hits as they were either not related to entrepreneurship or they were about a certain “perspective” in entrepreneurship, not “perspective taking” as its own construct. I screened all 80 hits individually and read all titles and abstracts of the search results in order to validate that the resulting list of papers was indeed related to perspective taking and entrepreneurship. Then I specifically searched the Academy of Management Journal, Academy of Management Review, Entrepreneurship & Regional Development, Entrepreneurship Theory and Practice, Journal of Business Venturing, Journal of International Business Studies, Journal of Management, Journal of Small Business Management, Research Policy, Small Business Economics, Strategic Entrepreneurship Journal, and the Strategic Management Journal, for articles containing “perspective taking.” Interestingly, only one entrepreneurship-focused journal on this list has published articles on perspective taking, the Journal of Business Venturing (JBV), which has published four of these articles. This search helped me identify the most recent and most cited articles of perspective taking relevant for entrepreneurship. Because this is a relatively new direction for the entrepreneurship field, I worked outward and backward from these four sources in JBV. I used a snowball method to cross-check that I had identified the most important sources, by reviewing the references used in the four JBV focal articles. From here I moved to the articles that cited my four focal JBV articles. Then I moved outward in the literature to the origins of perspective taking psychology research, again starting with the most recent and highly cited articles. I also heavily relied on the articles that were published in the list of FT 50 journals, because of their quality standards. A couple

of meta-analyses (Ku et al., 2015; Parker & Axtell, 2001) also helped direct my search and cross-checking with these articles helped ensure I did not miss core references.

In total, I identified 25 articles in which perspective taking plays a central role, and the relevance for entrepreneurship is clearly apparent. These 25 papers make up the core of this literature review and an overview table of these articles is included in Appendix A. Six of these 25 articles suggest antecedents to perspective taking. Another 11 articles are introduced in discussing relevant consequences of perspective taking. Six more articles focus on mediation and moderation relationships regarding perspective taking. Two (of these 25) articles are conceptual and are discussed throughout the literature review. First, Ku et al. (2015) provide a useful model of perspective taking in organizations. While this framework can provide a starting point for entrepreneurship scholars, some work needs to be done to ensure the relevance of these studies in the entrepreneurship literature. I include their model illustration in Appendix B. Additionally, I replicated the layout of their model using these 25 articles that I found to be most relevant for entrepreneurship in Figure 2 below. Second, McMullen (2010) elucidates the conceptual reasons why perspective taking is important in entrepreneurship, using the example of new product development, which I discuss in the next section. Aside from these 25 articles there are 26 others that inform this literature review as I move to the broader topics of perspective taking within psychology, cognition and entrepreneurial learning.

FIGURE 2
A Preliminary Synthesis of Perspective Taking Research Relevant for Entrepreneurship



LITERATURE REVIEW

The Relevance of Perspective Taking to Entrepreneurship

Next, I discuss why perspective taking is particularly relevant to entrepreneurship before moving to the antecedents, consequences, moderators and mediator relationships of this important topic. In regard to entrepreneurship, McMullen (2010) provides a great first theoretical look at the relevance of perspective taking to important entrepreneurial processes; specifically, detecting market problems, generating new product ideas, defining the target market, identifying stakeholders and adapting to feedback. For instance, detecting market problems is crucial to introducing new products because the "entrepreneur needs to know what other people need and what obstacles are currently preventing those needs from being met as well as they could be" (McMullen, 2010: 119). Entrepreneurship requires detecting market problems and

perspective taking can help entrepreneurs discover problems that they can help solve because they can experience others' frustrations or annoyances and think about how they can create a product or service to solve them.

Perspective taking can also improve the creativity of entrepreneurs by expanding their imagination by being exposed to a greater variety of viewpoints (Grant & Berry, 2011). This can help the entrepreneur come up with more and better solutions to market problems. When identifying opportunities for new products and services, entrepreneurs must imagine who might be impacted by their innovation and from this choose a target market. Even if the entrepreneur is also an end user himself, learning from the perspectives of others helps facilitate this process so that the innovation matches the preferences and meets the needs of the target market. In identifying stakeholders, "perspective taking is directed at firm-internal persons--such as colleagues, subordinates, and supervisors of the same and other units--but also at firm-external persons belonging to the firm's customers, suppliers, and other stakeholders" (Distel, 2019: 2017).

In general, when an individual engages in perspective taking, there is a particular "other" outside themselves who is the target of this process (McMullen, 2010). The specific target does not have to be an individual, and may be a group, such as customers in the case of entrepreneurship, but perspective taking is more than a general consideration of alternative views. The information that a perspective taker gathers may not be directly communicated by the target, and instead may be inferred based on interactions with the target or the target's environment, or the perspective taker's own imagination. I now move to the discussion of antecedents that have been

shown to precede perspective taking.

Antecedents Leading to Perspective Taking

I identified six articles dealing with antecedents to perspective taking in entrepreneurship. Important antecedents include prosocial motivation (Grant & Berry, 2011), job roles (Parker & Axtell, 2001), training (Bartunek, Gordon, & Weathersby, 1983; Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007; and personal interactions (Parker & Axtell, 2001; Grant & Berry, 2011). Galinsky, Magee, Inesi & Gruenfeld (2006) conducted four experiments and a correlational study on the relationship between power and perspective taking. Power was shown to have a negative impact on perspective taking, such that people in more powerful positions often find it more difficult to engage in perspective taking and comprehend how other people see, think and feel (Galinsky et al., 2006). This is important to note, because entrepreneurs are often in positions of power, especially as the founder of their venture in interpersonal relationships with employees of the organization. Serving as a potential countermeasure to this problem, mindfulness training in particular has seen success in increasing the extent to which individuals engage in perspective taking (Block-Lerner et al., 2007; Hölzel et al., 2011).

Perspective taking is a direct outcome of personal interactions in organizations, and the benefits have been realized in interactions with individuals involved in both upstream and downstream processes. From an upstream viewpoint, when employees take the perspective of suppliers, the employees' performance is enhanced (Parker & Axtell, 2001). This could apply to employees in corporate entrepreneurship settings in

existing organizations. It could just as likely be relevant for entrepreneurs working with external suppliers who in interacting with suppliers learn more about the supplier processes and how the entrepreneurs can streamline their own processes to conduct business more effectively with suppliers. Concerning downstream interactions with the beneficiaries of employees' work, beneficiary contact leads to perspective taking that increases employees' persistence, accuracy, and motivation on the job because employees see the impact of their work (Grant & Berry, 2011). Collectively, these studies start to build the nomological net around the antecedents of perspective taking.

Consequences of Perspective Taking in Entrepreneurship

I next discuss two levels of consequences from perspective taking. First, I identified 8 articles discussing individual-level consequences of perspective taking. Second, I identified 3 articles discussing the aggregate consequences of perspective taking at the organizational level.

Individual outcomes of perspective taking relevant to entrepreneurship. I identified a total of 12 individual-level dependent variables (in 8 articles) that result from perspective taking that are particularly relevant to entrepreneurship. First, the core of this literature base (four articles) says that taking the perspective of others assists with entrepreneurial opportunity identification. For instance, Prandelli et al. (2016) find that entrepreneurs are better able to identify opportunities when they take the perspective of users. This is because perspective taking a) opens up entrepreneurs' minds to learn about other viewpoints; b) helps entrepreneurs to focus in and prioritize the most viable

opportunities; c) and motivates entrepreneurs to act on opportunities by building confidence in the entrepreneurs' ability to develop the solution (Prandelli, et al., 2016). User perspective taking has also been shown to help corporate entrepreneurs identify opportunities that are more novel and more useful (Grant & Berry, 2011). Frederiks, Englis, Ehrenhard & Groen (2019) also studied perspective taking's impact on idea generation, adding to the construct's validity within entrepreneurship. Here the authors take a slightly different approach by studying the effectiveness of perspective taking in relation to prospective thinking and counterfactual thinking on identifying opportunities. Their findings suggest that perspective taking is just as good as prospective thinking, and better than counterfactual thinking at improving the quality of new venture ideas. A significant difference between these articles is that Prandelli et al. (2016) focused on taking the perspective of one specific group (users), while Frederiks et al. (2019) took a more general approach to perspective taking. This is important because in addition to users, other stakeholders, such as investors and competitors, could offer helpful perspectives to entrepreneurs.

Also, in relation to usefulness, Mohrman Gibson & Mohrman (2001) found that when academic researchers engage in perspective taking by interacting with and discussing research findings with practitioners, the practitioners are more likely to perceive the research as useful. Applying this conceptual model to entrepreneurial opportunities, the more entrepreneurs interact with their target market to learn from their perspective, the more useful the entrepreneur's solution may be perceived.

Perspective taking's role in enhancing helping behaviors is applicable to entrepreneurship. First, there may be benefits for working in entrepreneurial teams,

because understanding others' viewpoints increases cooperation among team members (Parker & Axtell, 2001). One of the earliest studies of perspective taking conducted an experiment to train students how to identify and discuss the different perspectives in a social scenario and found that this perspective taking improved students' ability to solve interpersonal problems (Marsh Serafica & Barenboim, 1980). Entrepreneurs often have to deal with multiple stakeholder groups and potential conflicts can arise between groups, so these prosocial behaviors could be especially crucial during the first few years of a venture's life when there is high uncertainty and risk of failure. Secondly, perspective taking also enhances employees' helping behaviors toward customers (Axtell, Parker, Holman & Totterdell, 2007), which can be crucial to maintaining good customer relations in service-oriented entrepreneurial ventures.

Organizational outcomes of perspective taking relevant to entrepreneurship.

Perspective taking has also been studied as an aggregate of cognitive processes in key individuals on the organizational level (Distel, 2019; Litchfield & Gentry, 2010) and I found 6 organizational-level outcomes (in 5 articles) that are highly relevant for entrepreneurial learning. The origins of organizational capabilities have often been traced to the behaviors, relationships, and viewpoints of individuals within the organization, and how they interact with the environment (Distel, 2019). Litchfield & Gentry (2010) suggest that at an organizational level the "major proximal consequence of perspective taking capability is improved knowledge integration, a process whereby knowledge of multiple specialists is transformed into something usable by the firm as a whole" (pg. 194). The authors also suggest that more distal consequences may be the

development of absorptive capacity and ambidexterity as organizational capabilities resulting from perspective taking (Litchfield & Gentry, 2010). Distel (2019) buttressed the prevailing line of work by finding empirical support that employees' perspective taking and creative behavior are important microfoundations of absorptive capacity. Other research at the aggregate level has shown that individual perspective taking can support organizations' human resource management systems to enhance knowledge sharing among teams (Flinchbaugh Li, Luth & Chadwick, 2016).

Different perspectives in organizations are often associated with job roles or professional roles, and these perspectives have been analyzed at the group level (Boland & Tenkasi, 1995; Litchfield & Gentry, 2010). Perspective taking among groups with different job roles in an organizational setting can be facilitated by opportunities to work with and learn from each other. This is showcased by the focus of leading organizational process-improvement methodologies on getting all the people who touch a portion of the target process together to work on improving the process (Blank, 2013). The baseline idea being that getting people in a room together to understand each other's job roles can help facilitate process improvement. At an aggregate, "organizations might be said to engage in cognitive perspective taking when they have established patterns of action where members routinely consider specific perspectives of others that are relevant to their work, imagine how the holders of those perspectives think, and then either take these views into account or make a decision to ignore them after consideration" (Litchfield & Gentry, 2010: 193).

One obstacle to organizational learning is the Not-Invented-Here Syndrome (NIHS), which is an organizational bias against external knowledge (Hannen et al.,

2019). Hannen et al. (2019) find that in the aggregate, individual perspective taking can become a particularly effective countermeasure for overcoming this obstacle to organizational learning. In fact, perspective taking is so effective at enhancing the knowledge absorption of individuals with NIHS, that their knowledge absorption levels were found to be comparable to individuals not exhibiting NIHS. This finding led Hannen et al. (2019) to conclude that “perspective taking stimulates sustained organizational learning and helps to develop competitive advantage” (pg. 15).

In total, these organizational consequences of perspective taking are relevant to entrepreneurship because collective perspective taking enhances knowledge integration (Litchfield & Gentry, 2010), and integrating new knowledge from multiple sources is a crucial component of entrepreneurial learning. Entrepreneurial organizations need to maintain a competitive advantage in order to survive and organizational capabilities, such as those gained through perspective taking, are how competitive advantage is maintained to ensure venture survival.

Perspective Taking Elicits Mediators to Distal Outcomes

I identified three articles in which perspective taking was shown to encourage immediate outcomes which often act as mediators to subsequent consequences. For instance, Bacq and Alt (2018) recognized that taking the perspective of others does not always lead individuals to devote themselves to social change. Therefore, the authors conducted a study of 281 university students who completed online questionnaires to determine the mechanisms through which taking the perspective of others can enhance intentions to engage in social entrepreneurship. The overarching question the authors

were trying to understand was: “If a person's ability to feel and react to others' experiences can potentially spark positive social change, what mechanisms help catalyze that individual's disposition into intentions to engage in social entrepreneurship” (Bacq & Alt, 2018: 333)? Their study found that there are two important ways that this occurs, through increasing self-efficacy and social worth. In other words, when individuals are able to look outside themselves, this can increase their belief in their own competence to make change, and also increase their belief that they are well-regarded in the community which they hope to serve. When perspective taking is channeled this way, it can result in increased social entrepreneurial intentions.

Moving to a different mediated relationship, reflection is a process of thinking that brings meaning to experience (Rae & Carswell, 2000), and can be seen as one proximal outcome associated with perspective taking. Once an individual is engaged in trying to understand another person's viewpoint, reflecting on how this other person may feel and act, can be beneficial to aid in learning. The ability to take the perspective of others allows one to engage in reflection. Rae & Carswell analyzed the life stories of individuals engaged in various aspects of entrepreneurship and found that one of the most influential ways people learn is by their interactions with “parents, mentors, powerful business owners, other entrepreneurs, consultants, employees and academic teachers” (2000: 224). When perspective taking elicits individuals to engage in reflection, the fruit of this self-reflection is learning. This study is particularly relevant here because this type of “learning is critical to entrepreneurial effectiveness” (Rae & Carswell, 2000: 220).

We also know that differences in perspectives within organizations can both

enhance and limit learning (Hoever, Knippenberg, Ginkel & Barkema, 2012). For instance, diverse perspectives in teams can enhance learning, or create conflict that hinders learning. In this respect, Hoever et al. (2012) studied why team diversity does not always lead to higher team creativity. They found that while diverse perspectives in teams are often lauded as crucial to creativity, diversity alone is not sufficient to reap these outcomes. However, when diverse team members engage in seeing a situation from the perspective of their team members, information elaboration results in team creativity (Hoever et al., 2012). This finding is relevant to entrepreneurship research because for teams to reap the benefits of having diverse team members, the members need to be able to take the perspectives of each other. Perspective taking plays a necessary role for organizations to take advantage of the benefits of internal diverse viewpoints (Hoever et al., 2012; Distel, 2019). This will allow entrepreneurial teams to come up with more novel and more useful products and services to bring to market.

Learning is one surprisingly common theme in these studies of the more proximal consequences of perspective taking, that then mediate more distal outcomes. In these nuanced studies, here we start to see that taking the perspective of others leads to immediate outcomes (reflection, information elaboration, self-efficacy and self-worth) that then enhance the individual's ability to learn. And integrating this new knowledge can be particularly important in competitive entrepreneurial settings.

Moderators that Enhance Perspective Taking's Relationship with Opportunity Identification

I identified two moderator variables that importantly interact with and enhance

perspective taking's ability to influence opportunity identification. First, prior knowledge seems to be the most prevalent moderator suggested, with mentions in three of the six articles involving interaction models in my literature review. The best market opportunities may be identified when entrepreneurs pair perspective taking with their prior knowledge of the market (Prandelli et al., 2016; Frederiks et al., 2019). Having prior knowledge makes entrepreneurs well-versed in the topic area, so they are better able to understand different perspectives and then better integrate the knowledge that is generated from other perspectives. Interestingly, there is some tension in this relationship because there may be tradeoffs between gaining experience, and perspective taking. Entrepreneurs tend to rely on knowledge gained from their past experience more than on new knowledge (Parker, 2006). New knowledge does not hold as much weight as previously existing knowledge in entrepreneurs' minds. The evidence of this is that experienced entrepreneurs tend to rely on their past experiences and use past experience to reinforce their beliefs, even when new information is inconsistent with this experience (Prandelli et al 2016; Parker, 2006). There may be a mutually beneficial relationship between prior knowledge and perspective taking, such that the best opportunities are identified when an individual has past experience but is truly able to practice perspective taking with "fresh eyes" to try to gain new knowledge to inform their opportunity identification process.

Second, empathy may be a promising moderator to interact with perspective taking in opportunity identification. Recently, entrepreneurship scholars have criticized previous work on perspective taking's role in opportunity identification because it did not include this component of empathy as an affective response, which is often paired in

psychology research with the cognitive response of perspective taking (Khalid & Sekiguchi, 2018). In filling this gap, Khalid and Sekiguchi (2018) find initial support that the combination of both perspective taking ability and an empathic response result in the best opportunity recognition.

Perspective Taking as a Moderator

Looking at interaction relationships another way, perspective taking itself can enhance (or diminish) other main effect relationships. In a recent article, Sherf & Morrison (2020) conducted 5 studies examining the relationship between self-efficacy and feedback seeking, with the intent to understand why there have been inconsistent findings in regard to these relationships. The authors argue and, using a sample of employee-manager dyads, find empirical support that perspective taking plays a key moderating role, such that the relationship between self-efficacy and feedback seeking depends on the extent to which an individual takes the perspective of others. When perspective-taking is low, self-efficacy does not encourage feedback seeking. Conversely, when an individual with high self-efficacy also regularly takes the perspective of others, the likelihood of seeking feedback is higher (Sherf & Morrison, 2020). In other words, perspective taking among individuals with high self-efficacy, can result in a higher likelihood of seeking feedback.

Concepts in Nomological Proximity to Perspective Taking

In examining the boundaries of perspective taking, it is important to position perspective taking in relation to other similar concepts. In this section, I relate

perspective taking to two closely related individual-level concepts: empathy and cognitive adaptability.

Empathy and perspective taking. The originating research differentiated perspective taking as a cognitive response and empathy as an affective response to interactions with other people (Davis, 1983). Perspective taking is a cognitive capacity and under certain circumstances can result in the intermediate mechanism of empathic concern as an affective response (Frederiks et al., 2019; McMullen, 2010). For instance, perspective taking that triggers an affective empathic response is a predictor of prosocial behaviors, such as helping others (Brief & Motowidlo, 1986), decreasing aggression and improving interpersonal relationships (Batson & Shaw, 1991), reducing prejudice and stereotyping by improving overall attitudes and evaluations of the target group (Galinsky & Ku, 2004), and improving conflict resolution (Eiseman, 1978). One reason that perspective taking can cause these effects is because when people engage in perspective taking, they are more likely to empathize, or connect emotionally, with the targets (Parker & Axtell, 2001; Galinsky, Maddux, Gilin & White, 2008).

Of course, empathy is not the only result from perspective taking and, in fact, Longmire & Harrison (2018) found less than 25% shared variance between perspective taking and empathy. Perspective taking has other effects which importantly differentiate it from empathy. It is, for instance, a common experience to consider another person's viewpoint and how this viewpoint relates to one's own view without caring about the other person's outcomes (Litchfield & Gentry, 2010). The ability to take the perspective of others is clearly an asset during negotiations and strategic interactions, which would

not necessarily entail feeling empathy for the other party (Longmire & Harrison, 2016; Galinsky et al., 2008). In experiments of negotiations, when one person was primed to take the perspective of the other party, collectively the negotiating dyad had better joint outcomes, and individually the perspective taker fared better in comparison to their partner and also in comparison to other negotiating dyads who were told to consider their own role carefully as the control condition (Galinsky et al., 2008). Individuals who were primed to show empathy for the other party experienced the worst outcomes during negotiation (Galinsky et al., 2008).

Cognitive adaptability and perspective taking. Another cognitive concept related to perspective taking at the individual level is cognitive adaptability. Cognitive adaptability is defined as “the ability to be dynamic, flexible and self-regulating in one’s cognitions given dynamic and uncertain task environments,” and is based in metacognition, or “thinking about thinking” (Haynie, Shepherd, Mosakowski, & Earley, 2010: 218). Similar to perspective taking, cognitive adaptability is a learning capability that can be developed, it is not a dispositional trait (Haynie et al., 2010), which is important because both can be taught and learned over time. In my essay 2, I suggest that cognitive adaptability may be a precursor to perspective taking, because individuals who have an adaptable mindset may be more willing and able to engage in taking the perspective of others. Cognitive adaptability indicates an individual’s ability to learn from inputs in the environment and adapt accordingly, and taking the perspective of others is one way to gather information from the environment.

THEORETICAL BACKGROUND FOR PERSPECTIVE TAKING

In the next sections, I move away from the details about perspective taking's role in current entrepreneurship literature, to discuss its theoretical positioning and history more broadly. Perspective taking as a cognitive trait originated out of work on child development which showed that a critical developmental phase occurs when humans are able to look outside of themselves to see the world from other people's viewpoints, and that this ability serves as a necessary basis for learning and for interpersonal interactions (Davis, 1983). In staying true to these roots in development and learning, I situate perspective taking as a crucial mechanism for entrepreneurial learning within the field of entrepreneurial cognition. I first briefly describe perspective taking's origins in psychology, child development and neurology. I then discuss the overarching field of entrepreneurial cognition and the subfield of entrepreneurial learning, as the appropriate lens with which to view perspective taking.

The Origins of Perspective Taking: Psychology, Child Development and Neurology

Perspective taking was originally studied in the fields of psychology, child development and neurology, because the ability to take the perspective of others is indicative of cognitive complexity (Harvey, Hunt & Schroder, 1961; Valsiner, 1993). One of the markers of human development is that as people progress developmentally, they are better able to see the perspective of others whom they disagree with (Bartunek et al, 1983; Parker & Axtell, 2001). The amount of perspective taking that people engage in is thought to be a relatively stable characteristic (Davis, 1983; Ku et al., 2015), and,

similar to other cognitive development concepts, can also be learned over time and enhanced by environmental factors, experience, and organizational interventions (Parker & Axtell, 2001).

The psychology of perspective taking has been shown to even create a safer environment in some settings. For instance, Grant & Hofmann (2011) found that when healthcare workers were reminded of the effects on patient health (as opposed to their own health), and thus, changed their perspective to 'other-focused,' the healthcare workers significantly improved their hand hygiene. Specifically, when healthcare workers saw signs reminding them that hand hygiene reduces *patient* risk of infection, they used 45 percent more hand-hygiene product per dispenser and increased their hand-hygiene behavior before and after contact with patients by 10 percent, in comparison to when they saw signs reminding them that hand hygiene reduces their *own* risk of infection.

There are also the psychological considerations of the impact on the person whose perspective is being taken. When individuals believe that someone else has taken their perspective (for instance, as in when they believe a political candidate can truly relate to them and their experiences and is looking out for their best interests), this individual has increased liking for the perspective taker, a greater sense of self-other overlap with the perspective taker, and is more likely to help the perspective taker (Goldstein, et al., 2014).

Perspective taking has also been studied from a clinical standpoint, within the field of Neurology. Research in this area specifically has shown that participating in mindfulness training increases gray matter concentration as seen by magnetic

resonance images (MRIs) in the area of the brain involved in perspective taking and learning (Hölzel et al., 2011). Neurology research also provides clinical evidence that perspective taking increases the self-other overlap. MRIs show that people engaged in perspective taking rely to a greater extent on the part of the brain reserved for introspection about oneself (the ventromedial prefrontal cortex or vMPFC) (Ames, Jenkins, Banaji & Mitchell, 2008).

Entrepreneurial Cognition

The field of entrepreneurship has a long-established precedent of borrowing from findings originating in psychology in order to better understand entrepreneurship (Shepherd, 2015). The most closely aligned area of entrepreneurship research to the psychology field is that of entrepreneurial cognition (Baron, 2004; Gregoire, Corbett & McMullen, 2010; Shepherd & Patzelt, 2018). One of the reasons the cognition literature is popular is because of its current focus on the capabilities of individuals that can be learned and that can change over time, such as perspective taking.

Entrepreneurial Learning

Within cognition, entrepreneurial learning may be the best umbrella topic under which perspective taking contributes. “Entrepreneurship is a process of learning” (Minniti & Bygrave, 2001: 7), thus taking a learning lens when examining cognitive traits, including perspective taking, makes sense. Generating knowledge through learning is of fundamental importance to creating innovative products and processes (Cope, 2005; Wang & Chugh, 2014), and innovation to create economic value is the heart of

entrepreneurship (Schumpeter, 1934).

Entrepreneurial learning is fundamentally important because of the existence of knowledge corridors (Shane & Venkataraman, 2000). Seminal work in entrepreneurship has established that individuals have heterogeneous knowledge stocks which create knowledge corridors, and these are a primary reason entrepreneurial opportunities exist (Shane & Venkataraman, 2000). Some individuals have a tendency to respond to situational cues of opportunities, and these different responses among individuals exist because individuals have different stocks of knowledge. We have empirical evidence of these knowledge corridors, for example, in a study of 3D printing technology that showed entrepreneurs identified different opportunities for the same technology, based on their knowledge and past experiences (Shane, 2000).

Learning can break down knowledge corridors by increasing the breadth of an individual's knowledge. The broader knowledge entrepreneurs have, the more innovative opportunities they identify (Gruber, MacMillan & Thompson, 2013). Several entrepreneurship scholars have pointed out that knowledge stocks of entrepreneurs are cumulative based on the individual's experiences up to that point in time (Reuber & Fischer, 1999; Minniti & Bygrave, 2001). For instance, Minniti & Bygrave (2001) argue that entrepreneurial decision-making occurs as an iterative process, based on entrepreneurs' experiences, of which the outcomes (successes or failures) determine how the entrepreneur acts in the future (Minniti & Bygrave, 2001). When entrepreneurs decide which actions to take, they can either replicate decisions similar to those they have taken before (relying on past knowledge and experience), or they can choose to make new, different decisions (either to avoid previous failures, or to explore new

opportunities) (Minniti & Bygrave, 2001). In this second case of an entrepreneur deciding to go in a new direction in order to explore new territory, perspective taking of others can be particularly helpful. As entrepreneurs learn from others, they incorporate this new knowledge into their existing stocks, update their decision-making algorithm, and potentially over time improve their performance.

The current entrepreneurial learning literature argues that knowledge stocks are a result of entrepreneurs' accumulated experiences (Minniti & Bygrave, 2001; Cope, 2005). However, my reading of the perspective taking literature suggests more nuanced theorizing. In order for experience to turn into usable knowledge, it seems that entrepreneurs must be able and willing to learn from other perspectives. In order to better understand this, we need to understand the mechanisms that encourage entrepreneurial learning. One mechanism for learning I found in the literature is through rare, critical experiences which are important to stepwise learning (Cope, 2005).

I suggest here that perspective taking is another mechanism for entrepreneurial learning. In comparison to stepwise learning, perspective taking offers an additional, more consistent way to learn. "Perspective taking causes people to step outside the constraints of their own internal, and often biased, frames of reference" (Sherf & Morrison, 2020: 148), making it an important form of interpersonal learning (Longmire & Harrison, 2018). Perspective taking becomes an important cognitive trait for entrepreneurial learning because, "to be as fully prepared as possible for entrepreneurship, individuals must look outward in order to interact with, and learn about, the wider environment and recognize fully the opportunity that confronts them" (Cope, 2005: 379). While it is necessary for entrepreneurs to look outwardly, individuals

have varying capacities for this outward approach. Take the experience of someone first visiting a foreign country. Many people would visit a foreign country and have their mind widened by these new experiences. For instance, the first time I visited China, all my senses were alive and I was amazed by the sights, smells and general atmosphere. Like a sponge, I attempted to learn as much as possible from the local people. In contrast, I know people who have traveled to a foreign country for the first time, and for who this novelty was just as apparent as to me, but in fact it solidified their own already established views. So, while new experiences are necessary for learning, they are not a guarantee that knowledge stocks will be challenged and changed. Boland and Tenkasi (1995) contend that "having the capacity to take another perspective into account is a means by which more complexified knowledge and improved possibilities for product or process innovation are achieved" (pg. 369). Thus, having the capacity and engaging in perspective taking of others is a central mechanism for entrepreneurial learning.

CONCLUSION

In conclusion, perspective taking has a rich theoretical base in psychology and entrepreneurial cognition, and perspective taking has only just started to help us understand how learning occurs in entrepreneurship. In these 25 articles I focused on for this synthesis, one glaring omission is that they read almost as a panacea of perspective taking. This positive outlook on perspective taking is a signal of the early stage of development perspective taking is in, when investigated in the entrepreneurship literature, such that we need to work further to establish its relevance and support in entrepreneurship before we can start to look at the downsides of

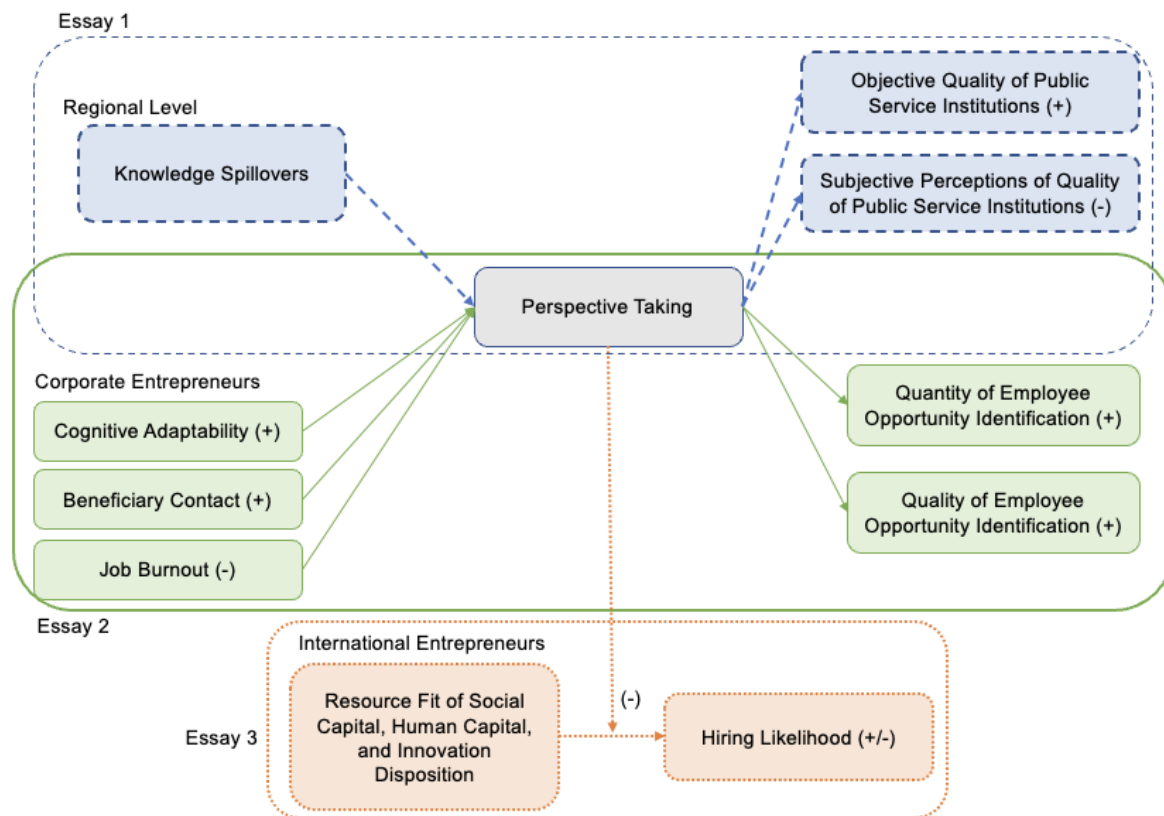
perspective taking. That said, interesting future research could examine the potential for negative consequences of perspective taking, such as the cognitive and emotional load it demands, its time intensity and uncertainty in relation to outcomes, for entrepreneurs who are already operating in risky and stressful environments (Lerman, Munyon & Williams, 2020).

In the following three essays, I attempt to enhance our knowledge base of perspective taking's potential in entrepreneurship. First, my dissertation follows the logic that entrepreneurial learning can be studied well by examining how entrepreneurs operate and grow their business after the venture has launched (Cope, 2005), because all three subsequent essays involve post-startup entrepreneurial contexts. Second, Cope (2005) has argued that the entrepreneur is an important and interesting research subject, because the individual entrepreneur learns and develops alongside her business. In support of this logic, I envision this learning perspective of entrepreneurship as a subcategory within entrepreneurial cognition, as you can see in Figure 1. Essays 2 and 3 study perspective taking at the individual level. Specifically, essay 2 spans both the organizational and individual circles in Figure 1, because of its corporate entrepreneurship context and potential influence on organizations.

To foreshadow this dissertation's contributions, I offer my essays' additions to the model of perspective taking in entrepreneurship in Figure 3 below. Essay 1 theoretically suggests that collective perspective taking, by both public service institution employees and by the aggregate regional population, influences the differential effects of knowledge spillover transfers. In essay 2, I suggest cognitive adaptability, beneficiary contact, and a balanced work environment as antecedents to perspective taking among

corporate entrepreneurs. Also, by examining cognitive adaptability as an antecedent, I attempt to further tease apart this similar concept, mentioned above, from perspective taking in essay 2. Essay 3 examines perspective taking playing a moderating role that weakens the relationships between resource fit and the likelihood of hiring certain candidates by international entrepreneurs. I argue that the more international entrepreneurs take the perspective of the individuals in their host country, the less they need to rely on strong hiring decision heuristics regarding resource fit. With these additions, I hope to make the case even stronger for perspective taking to be considered as a central mechanism for entrepreneurial learning and demonstrate its promising future in the entrepreneurship field.

FIGURE 3
This Dissertation's Additions to Perspective Taking in Entrepreneurship



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APPENDIX A

Overview Table of Perspective Taking Articles Relevant to Entrepreneurship								
Article Number	Authors	Year	Journal	Title	Abstract	Research Question	Empirical Sample	Contribution to Perspective taking
Antecedents to Perspective Taking								
1	Block-Lerner, Adair, Plumb, Rhatigan & Orsillo	2007	Journal of Marital and Family Therapy	The Case for Mindfulness-Based Approaches in the Cultivation of Empathy: Does Nonjudgmental, Present-Moment Awareness Increase Capacity for Perspective-Taking and Empathic Concern?	Empathic responding, most notably perspective-taking and empathic concern, has important implications for interpersonal functioning. While empathy training approaches have received some support for a variety of populations, few extant interventions have targeted empathic responding in couples. Mindfulness- and acceptance-based behavioral approaches, for couples as a unit and/or for individual family members/partners, are proposed as an adjunct to empathy training interventions. Preliminary findings suggest that the viability of these interventions for increasing empathic responding should be further investigated, and specific suggestions for this line of research are offered.	What is the impact of mindfulness training on empathy?	Conceptual	Mindfulness training acts as antecedent to perspective taking
2	Galinsky, Magee, Inesi & Gruenfeld	2006	Psychological Science	Power and Perspectives Not Taken	Four experiments and a correlational study explored the relationship between power and perspective taking. In Experiment 1, participants primed with high power were more likely than those primed with low power to draw an E on their forehead in a self-oriented direction, demonstrating less of an inclination to spontaneously adopt another person's visual perspective. In Experiments 2a and 2b, high-power participants were less likely than low-power participants to take into account that other people did not possess their privileged knowledge, a result suggesting that power leads individuals to anchor too heavily on their own vantage point, insufficiently adjusting to others' perspectives. In Experiment 3, high-power participants were less accurate than control participants in determining other people's emotion expressions; these results suggest a power-induced impediment to experiencing empathy. An additional study found a negative relationship between individual difference measures of power and perspective taking. Across these studies, power was associated with a reduced tendency to comprehend how other people see, think, and feel.	What is the relationship between power and perspective taking?	57 undergraduates in an experiment (study 1), 42 undergraduates (study 2a, 2b) and 70 undergraduates (study 3)	High power is associated with low levels of perspective taking
3	Grant & Berry	2011	Academy of Management Journal	The Necessity of Others is the Mother of Invention: Intrinsic and Prosocial Motivations, Perspective Taking and Creativity	Although many scholars believe that intrinsic motivation fuels creativity, research has returned equivocal results. Drawing on motivated information processing theory, we propose that the relationship between intrinsic motivation and creativity is enhanced by other-focused psychological processes. Perspective taking, as generated by prosocial motivation, encourages employees to develop ideas that are useful as well as novel. In three studies, using both field and lab data, we found that prosocial motivation strengthened the association between intrinsic motivation and independent creativity ratings. In our second and third studies, perspective taking mediated this moderating effect. We discuss theoretical implications for creativity and motivation.	What is the effect of other-focused psychological processes on the relationship between intrinsic motivation and creativity?	111 employees and their direct supervisors at a water treatment plant in the southeastern U.S.	Beneficiary contact is an antecedent to perspective taking; individuals who engage in perspective taking identify more creative opportunities; perspective taking also helps employees integrate information and focus
4	Hölzel, Carmody, Vangel, Congleton, Yerramsetti, Gard & Lazar	2011	Psychiatry Research: Neuroimaging	Mindfulness practice leads to increases in regional brain gray matter density	Therapeutic interventions that incorporate training in mindfulness meditation have become increasingly popular, but to date little is known about neural mechanisms associated with these interventions. Mindfulness-Based Stress Reduction (MBSR), one of the most widely used mindfulness training programs, has been reported to produce positive effects on psychological well-being and to ameliorate symptoms of a number of disorders. Here, we report a controlled longitudinal study to investigate pre-post changes in brain gray matter concentration attributable to participation in an MBSR program. Anatomical magnetic resonance (MR) images from 16 healthy, meditation-naïve participants were obtained before and after they underwent the 8-week program. Changes in gray matter concentration were investigated using voxel-based morphometry, and compared with a waiting list control group of 17 individuals. Analyses in a priori regions of interest confirmed increases in gray matter concentration within the left hippocampus. Whole brain analyses identified increases in the posterior cingulate cortex, the temporo-parietal junction, and the cerebellum in the MBSR group compared with the controls. The results suggest that participation in MBSR is associated with changes in gray matter concentration in brain regions involved in learning and memory processes, emotion regulation, self-referential processing, and perspective taking.	What is the impact of mindfulness training on perspective taking?	MRI scans of 16 study participants	Mindfulness training acts as antecedent to perspective taking

5	Parker & Axtell	2001	Academy of Management Journal	Seeing Another Viewpoint: Antecedents and Outcomes of Employee Perspective Taking	Supplier perspective taking, whereby an internal customer adopts the perspective of an internal supplier, was investigated. Two dimensions were assessed: positive attributions and empathy. Supplier perspective taking was associated with team leader ratings of employees' contextual performance. Production ownership and integrated understanding predicted supplier perspective taking and were in turn predicted by job autonomy. Interaction with suppliers contributed to supplier perspective taking directly and indirectly. These findings suggest two ways to enhance supplier perspective taking and hence contextual performance: increase employee interaction with suppliers and enrich job content.	Supplier perspective taking is culture dependent. People in collectivistic cultures (e.g., China) are said to have interdependent selves, whereas people in individualistic cultures (e.g., the United States) are said to have independent selves. To evaluate the effect of culture, we asked Chinese and American pairs to play a communication game that required perspective taking. Eye-gaze measures demonstrated that the Chinese participants were more tuned into their partner's perspective than were the American participants. Moreover, Americans often completely failed to take the perspective of their partner, whereas Chinese almost never did. We conclude that cultural patterns of interdependence focus attention on the other, causing Chinese to be better perspective takers than Americans. Although members of both cultures are able to distinguish between their perspective and another person's perspective, cultural patterns afford Chinese the effective use of this ability to interpret other people's actions.	Do differences in culture induce systematic differences in the way people consider others during interactions?	Pairs of 20 Chinese students and 20 American students participating in a perspective taking game.	141 employees of a UK-based glass manufacturing company	Stakeholder interactions are an antecedent to perspective taking; perspective taking leads to cooperation with team members	
6	Wu & Keyser	2007	Psychological Science	The effect of culture on perspective taking	People consider the mental states of other people to understand their actions. We evaluated whether such perspective taking is culture dependent. People in collectivistic cultures (e.g., China) are said to have interdependent selves, whereas people in individualistic cultures (e.g., the United States) are said to have independent selves. To evaluate the effect of culture, we asked Chinese and American pairs to play a communication game that required perspective taking. Eye-gaze measures demonstrated that the Chinese participants were more tuned into their partner's perspective than were the American participants. Moreover, Americans often completely failed to take the perspective of their partner, whereas Chinese almost never did. We conclude that cultural patterns of interdependence focus attention on the other, causing Chinese to be better perspective takers than Americans. Although members of both cultures are able to distinguish between their perspective and another person's perspective, cultural patterns afford Chinese the effective use of this ability to interpret other people's actions.					Cultural differences induce different patterns of perspective taking. Cultures emphasizing interdependence focus on taking the perspective of others (e.g. Chinese), and independence focus on the self (e.g. American)	
Consequences from Perspective Taking											
7	Axtell, Parker, Holman & Totterdell	2007	European Journal of Work and Organizational Psychology	Enhancing customer service: Perspective taking in a call centre	We propose that an important prerequisite of helping customers is the capacity to take the customer's perspective. If this is the case, then it is also important to consider the factors that might facilitate perspective taking. To investigate this, 347 customer service agents in a UK call centre were surveyed on the antecedents and outcomes of customer-oriented perspective taking. Managers also supplied ratings of helping behaviour for 141 of the service agents. Structural equation modelling showed a positive relationship between perspective taking and self-reported helping, and this relationship was partially mediated by empathy. Perspective taking was also positively related to managers' ratings of helping but this relationship was not mediated by empathy. In turn, service agents' perspective taking was predicted by the perceived reciprocity of customers and by having a positive customer role orientation (which was itself predicted by job enrichment). Predictors of helping customers included perspective taking, empathy, and having an integrated understanding of the call centre's services. Enhancing employees' perspective taking and their integrated understanding of the organization's services might thus be hitherto neglected avenues for enhancing the quality of customer service.	Does customer perspective taking lead to helping customers?	Managers and employees in a UK call center	Perspective taking increases helping behaviors toward customers			
8	Baqi & Ait	2018	Journal of Business Venturing	Feeling capable and valued: A prosocial perspective on the link between empathy and social entrepreneurial intentions	Empathy is a key trait distinguishing social entrepreneurs from traditional entrepreneurs, and an important antecedent of social entrepreneurial (SE) intentions. Yet, little research explains the mechanisms through which empathy motivates SE intentions. We argue that studying the link between the prosocial trait of empathy and the prosocial outcome of SE intentions requires a prosocial lens that traditional entrepreneurial intent theories cannot offer. Building on prosocial motives research, we propose that empathy explains SE intentions through two complementary mechanisms: self-efficacy (an agentic mechanism), and social worth (a communal mechanism). We find support for our hypotheses in a study of 281 university students.	How does empathy motivate social entrepreneurial intentions?	281 university students in social entrepreneurship courses	perspective taking leads to social entrepreneurial intentions through the mechanisms of self-efficacy and social worth			

9	Distel	2019	Journal of Management	Unveiling the Microfoundations of Absorptive Capacity: A Study of Coleman's Bathub Model	<p>Although the concept of absorptive capacity has gained wide acceptance in the literature, our understanding of the origins of a firm's ability to absorb and leverage new knowledge is limited. Drawing on Coleman's (1990) bathub framework for macro-micro-relations in social science, this study explores the multilevel antecedents of absorptive capacity using survey data gathered from 342 informants at different levels of analysis in 106 medical technology firms. Multilevel structural equation modeling analyses indicate that formal and informal integration mechanisms are positively related to absorptive capacity at the organizational level and that this relationship is mediated through a microlevel process. The findings reveal that knowledge work-ers' cognitive process of perspective taking and their creative behavior are important micro-foundations of absorptive capacity. Moreover, the results emphasize the critical role of key employees in explaining firm-level heterogeneity in building organizational capabilities.</p>	<p>Where does a firm's ability to absorb and leverage new knowledge originate?</p>	<p>Multi-level survey analysis of 342 respondents at 106 medical technology firms</p>	<p>Organizational consequences of perspective taking is absorptive capacity</p>
10	Frederiks, Engels, Ehrenhard & Groen	2019	Journal of Business Venturing	Entrepreneurial cognition and the quality of new venture ideas: An experimental approach to comparing future-oriented cognitive processes	<p>In the research reported here, we compared how future-oriented cognitive processes underpin differences in the quality of new venture ideas (NVIs) generated by respondents. We primed the use of future-oriented cognitive processes in two experiments. The first experiment shows that prospective thinking leads to NVIs of higher quality in comparison to counterfactual thinking, perspective taking and a control group. The second experiment shows that prospective thinking and perspective taking result in NVIs of higher quality compared to counterfactual thinking and the control group. We also find that prior knowledge of technology strengthens these effects. Post-hoc analyses show that these effects are present when respondents are prompted to generate NVIs, but not when they spontaneously generate NVIs, and that respondents with more prior business experience are more likely to spontaneously generate NVIs. Finally, we discuss contributions our research makes to the literature on entrepreneurial cognition and opportunity recognition, and to practice.</p>	<p>What is the relative effectiveness of future-oriented cognitive processes (prospective thinking, perspective taking, counterfactual thinking) on the quality of new venture ideas?</p>	<p>120 students in scenario-based experiment (study 1), then Mturk respondents (not all entrepreneurs) (study 2)</p>	<p>Perspective taking improves new venture idea quality; Prior knowledge moderates this relationship to enhance perspective taking's effect on new venture idea quality</p>
11	Hannan, Antons, Piller, Salge, Coltman & Devinney	2019	Research Policy	Hannan, Antons, Piller, Salge, Coltman and Devinney	<p>This paper builds new theory and provides supporting evidence to contain the Not-Invented-Here Syndrome (NIHS)—a persistent decision-making error arising from an attitude-based bias against external knowledge. Conceptually, we draw on the 4i framework of organizational learning to develop a novel process perspective on NIHS. This allows us not only to unpack how and where NIHS impedes organizational learning, but also to identify the key requirements for effective NIHS countermeasures. Importantly, countermeasures fall into two categories: those that seek to change the negative attitude directly (direct NIHS countermeasures) and those that seek to attenuate the behavioral impact of negative attitudes without addressing the attitudes as such (indirect NIHS countermeasures). While the evidence base on direct NIHS countermeasures has grown over the last decade, indirect NIHS countermeasures have received little research attention. To address this gap, we adopt mixed methods research design composed of two complementary empirical studies—the first qualitative and the second quantitative. Study 1 explores the prevalence of distinct NIHS countermeasures in collaborative R&D practice. Based on 32 interviews and three focus group meetings with R&D employees, we find that a broad array of primarily direct NIHS countermeasures is employed in R&D practice. Study 2 addresses the scarcity of scholarly and managerial insights on indirect NIHS countermeasures by testing the effectiveness of perspective taking as a debiasing technique to contain negative attitudes at the level of the individual. Based on quantitative survey data from 565 global R&D projects, it provides empirical evidence not only for the prevalence and negative effects of NIHS on project success as mediated by external knowledge absorption, but also for the effectiveness of perspective taking as an exemplary indirect NIHS countermeasure.</p>	<p>How can organizations overcome a bias against external knowledge?</p>	<p>Mixed methods design one qualitative of 32 interviews and 3 focus groups and one quantitative study of 565 R&D projects.</p>	<p>Perspective taking enhances knowledge integration, which decreases the Not-Invented-Here Syndrome</p>

12	Litchfield & Gentry	2010	Strategic Organization	Perspective taking as an Organizational Capability	This article proposes perspective-taking as an organizational capability to facilitate the knowledge integration that is widely posited as crucial to organizational learning and innovation. Building on psychological research at the individual level, the article examines how perspective-taking might be scaled to an organizational capability that can vary in strength and character. The article discusses how individual-level antecedents can be shaped to produce perspective-taking at the organizational level, and shows how perspective-taking capability might be a useful concept for strategic management by examining how it adds to absorptive capacity and ambidexterity research.	Perspective taking as an Organizational Capability	Organizational consequences of perspective taking are knowledge integration, ambidexterity, absorptive capacity	
13	Marsh, Serafica & Barenboim	1980	Child Development	Effect of Perspective-Taking Training on Interpersonal Problem Solving	A study was undertaken to assess the effect of perspective-taking training on the ability to solve interpersonal problems. Subjects consisted of 2 classes of average-ability eighth-grade students. They were given the following measures before and after training: means-ends interpersonal problem solving, interpersonal analysis, social perspective taking, and affective perspective taking. Subjects in the experimental group received training in role playing designed to increase the ability to articulate and coordinate the relevant social perspectives in a social situation, as well as the internal states of individuals in that situation. The training did have a significant effect on interpersonal problem solving, but only on one measure of that ability (interpersonal problem analysis). There was no overall effect, however, on either measure of perspective taking, although there was some evidence that training stabilized pre-existing levels of social perspective taking.	What is the effect of perspective taking training on the ability to solve problems?	2 classes of average-ability 8th grade students (34 students in each class) who participated in pretest, experimental training, and post-test	Perspective taking enhances interpersonal problem solving
14	Mohrman, Gibson & Mohrman	2001	Academy of Management Journal	Doing Research That Is Useful to Practice: A Model and Empirical Exploration	Drawing from literature on knowledge transfer and cognition, we develop a theoretical model for conducting research that is useful to practitioners. We explore the potential of this model by examining the usefulness of a research project involving ten companies. Perceived usefulness is related to the extent that members' organization self-design activities are informed by research results and to the existence of forums where researchers and practitioners jointly interpret results. We discuss implications for organizational science.	How can academic research be useful to practitioners?	Examined a research project conducted during 1995-1997 in 10 companies.	Perspective taking by researchers leads to perceived usefulness by practitioners
15	Prandelli, Pasquini & Verona	2016	Journal of Business Venturing	In user's shoes: An experimental design on the role of perspective taking in discovering entrepreneurial opportunities	In this paper we investigate how the entrepreneur's ability of taking the perspective of the user in a market enhances opportunity identification. We also show how prior knowledge of the market positively moderates the relationship between user perspective taking and opportunity recognition. Our study is grounded in entrepreneurship contributions that try to disentangle the role of cognitive processes in opportunity recognition. We confirm our intuition through a one-factorial between-subject experiment and we discuss our findings for entrepreneurship research and user innovation literatures.	How does user perspective taking enhance opportunity identification in entrepreneurs? And how does this interact with the entrepreneur's prior knowledge?	Scenario-based experiment to 137 graduate students	Perspective taking improves opportunity recognition (feasibility, desirability and alignment); Prior knowledge moderates this relationship to enhance perspective taking's effect on opportunity recognition

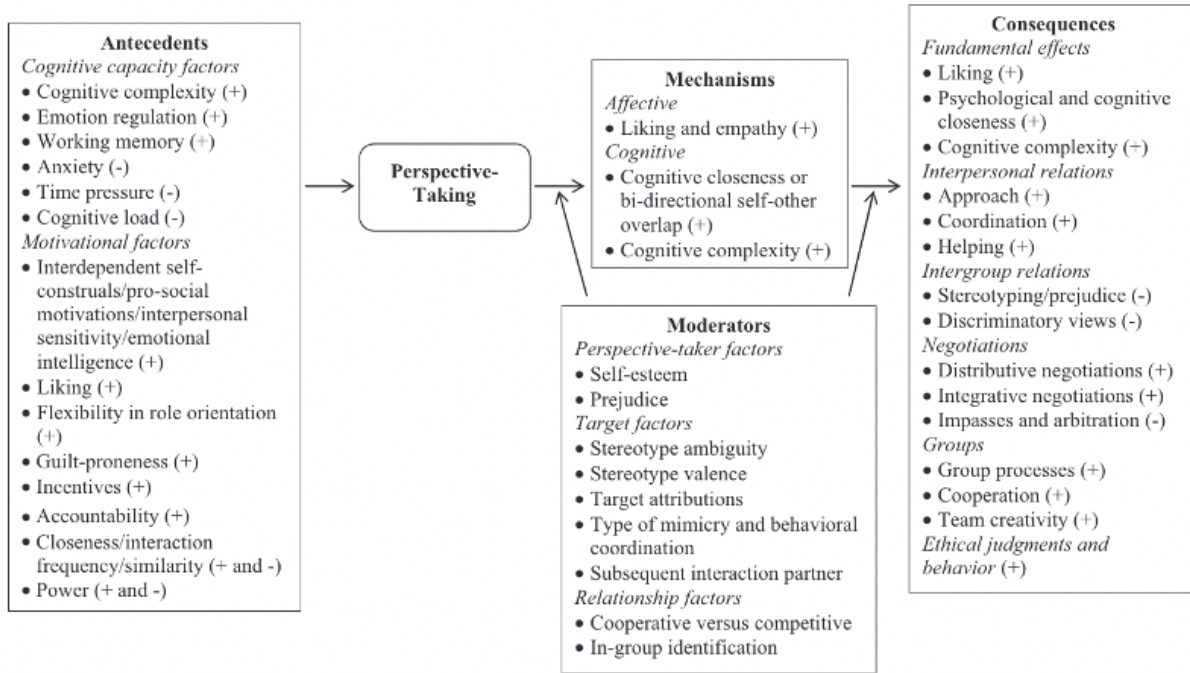
Sherf & Morrison	2020	Journal of Applied Psychology	I do not Need Feedback! Or Do I? Self-efficacy, Perspective taking, and Feedback seeking	A central idea in the feedback seeking literature is that there should be a positive relationship between self-efficacy and the likelihood of seeking feedback. Yet empirical findings have not always matched this theoretical claim. Departing from current theorizing, we argue that high self-efficacy may sometimes decrease feedback seeking by making people undervalue feedback and that perspective taking is an important factor in determining whether or not this occurs. Results from 5 studies, utilizing diverse methodologies and samples, support our hypothesis that the relationship between self-efficacy and feedback seeking depends on the extent to which one engages in perspective taking. In the absence of perspective taking, self-efficacy tends to be more negatively related to feedback seeking. However, when perspective taking occurs, this relationship tends to be more positive. We also provide evidence that this interaction effect is mediated by perceptions of the value of feedback. We discuss the implications of our theory and findings for the feedback seeking literature and more broadly.	Why doesn't self-efficacy always increase the likelihood of seeking feedback?	Across 5 studies, a variety of managers, employee-manager dyads, and individuals recruited via MTurk	Perspective taking leads to feedback seeking behavior among individuals with high self-efficacy
Zhang, Cui, Zhang, Sarasvathy & Anusha	2019	Emerging Markets Finance and Trade	An Exploratory Study of Antecedents of Entrepreneurial Decision-Making Logics: The Role of Self-Efficacy, Optimism, and Perspective Taking	This study explores the impacts of psychological factors on entrepreneurs' preferences for causal and effectual decision-making logics. Data were collected in the USA and China. The research findings suggest that self-efficacy was positively related to the control decision-making logic and the prediction decision-making logic both in the USA and China. Optimism was negatively related to the prediction decision-making logic in the USA while there was no significant relationship between optimism and the prediction decision-making logic in China. We also found that perspective taking was positively related to the prediction decision-making logic both in the USA and China. Meanwhile, perspective taking was positively related to the control decision-making logic in China. Our findings indicate that psychological factors have impacts on entrepreneurs' preferences for causal and effectual decision-making logics. Our research contributes to extend effectuation by exploring psychological antecedents and demonstrating that effectual logics can also stem from an increase in psychological factors.	Why do individuals with limited or no entrepreneurial experience vary in their application of effectual logics? Specifically what are the impacts of self-efficacy, optimism and perspective taking on entrepreneurs' control and propensity?	116 American entrepreneurs and 132 Chinese entrepreneurs completed online survey	Perspective taking is an antecedent to effectual logics
Mediators and Moderators in Perspective Taking Relationships							
Flinchbaugh, Li, Luth & Chadwick	2016	Human Resource Management Journal	Team-level high involvement work practices: investigating the role of knowledge sharing and perspective taking	To assess potential boundary conditions in the relationship between HRM systems and team service quality, we examined both collective and individual-level capabilities as underlying mechanisms between team-level high involvement work practices (HIWPs) and team service quality. Using multi-level modelling with a sample of 397 employees in 25 work teams from five service organisations, we found that team HIWPs enhanced knowledge sharing, leading to improved team service climate. Moreover, the presence of individual perspective taking moderated the mediating effect of knowledge sharing such that perspective taking enhanced service climate beyond the value of team HIWPs. The results contribute to the HRM literature by examining the multi-level social and environmental influences on individual learning conceptualised in social cognitive theory, to identify the value of individual capabilities as moderators to knowledge sharing in the link between team HRM systems and service climate.	How do high involvement work practices influence team service quality?	397 employees in 25 teams from 5 service organizations	Perspective taking strengthens HRM systems to enhance knowledge sharing among team members and overall service climate
16	17	18					

19	Hoever, van Knippenberg, van Ginkel & Barkema	2012	Journal of Applied Psychology	Fostering team creativity: perspective taking as key to unlocking diversity's potential.	Despite the clear importance of team creativity for organizations, the conditions that foster it are not very well understood. Even though diversity, especially diversity of perspectives and knowledge, is frequently argued to stimulate higher creativity in teams, empirical findings on this relationship remain inconsistent. We have developed a theoretical model in which the effect of a team's diversity on its creativity is moderated by the degree to which team members engage in perspective taking. We propose that perspective taking helps realize the creative benefits of diversity of perspectives by fostering information elaboration. Results of a laboratory experiment support the hypothesized interaction between diversity and perspective taking on team creativity. Diverse teams performed more creatively than homogeneous teams when they engaged in perspective taking, but not when they were not instructed to take their team members' perspectives. Team information elaboration was found to mediate this moderated effect and was associated with a stronger indirect effect than mere information sharing or task conflict. Our results point to perspective taking as an important mechanism to unlock diversity's potential for team creativity.	Why doesn't team diversity always result in higher team creativity?	77 student teams from a Dutch university participating in a perspective taking and lab experiment. Verbal instructions to try to take the perspectives of their teammates as they completed the task. Used 2 independent coders to rate the novelty and usefulness (creativity) of team ideas.	Information elaboration as a mediator between perspective taking and team creativity
20	Khalid & Sekiguchi	2018	Journal of Business Venturing Insights	The role of empathy in entrepreneurial opportunity recognition: An experimental study in Japan and Pakistan	The paper investigates the role of perspective taking and empathic concern as cognitive and affective components of empathy in entrepreneurial opportunity recognition. The results of the scenario-based experimental study using the samples of undergraduate business students in Japan and Pakistan suggest that, although the use of perspective taking in the entrepreneurial context helps individuals in recognizing opportunities as the previous study found, the use of both perspective taking and emphasizing empathic concern increases the ability of opportunity recognition more than the use of perspective taking only. We discuss theoretical and practical implications and future research directions.	What is the role of both perspective taking and empathic concern (both components of empathy) on opportunity recognition?	Scenario-based experiment to 131 undergraduate students in Japan and 120 students in Pakistan	Empathic concern enhances the relationship between perspective taking and opportunity recognition
21	Longmire & Harrison	2018	Journal of Applied Psychology	Seeing Their Side Versus Feeling Their Pain: Differential Consequences of Perspective-Taking and Empathy at Work	Perspective-taking and empathic concern (empathy) have each been proposed as constructive approaches to social relationships. However, their potential distinctions, limitations, and consequences in task contexts are not well understood. We meta-analytically examined 304 independent samples to uncover unique effects of perspective taking and empathic concern on important work-related outcomes. We develop and test a contingency model of those effects, based on three facets of psychological interdependence: outcome, hierarchical (or power asymmetry), and social category (or in-group/out-group distinctions). Results revealed perspective taking and empathic concern to have positive impacts on being supportive of others, but the effects of empathic concern were stronger. In contrast, perspective taking was an asset and empathy was a liability for capturing value in strategic interactions (e.g., negotiations). Effects of perspective taking and empathic concern were differentially contingent on psychological interdependence. The impact of perspective taking, but not of empathic concern, was attenuated or reversed under negative outcome interdependence; perspective-taking leads to advantage taking in competitive contexts. Perspective taking was particularly beneficial when the actor had high power, but empathic concern's benefits were independent of hierarchy. Finally, social dissimilarity had no detectable impact on the effects of perspective taking or empathic concern, contrary to our theorizing. Overall, results suggest two key conclusions. First, perspective taking and empathic concern have powerful effects on work-related outcomes. Second, each construct has its own distinctive and predictable impacts. We conclude by offering practical suggestions for improving workplace interactions through perspective taking and empathic concern.	Are perspective taking and empathic concern substitutable constructs, or do they have distinct mechanisms that drive unique outcomes?	Meta-analysis on perspective taking and empathic concern at work	Taking each others' perspectives enhances perceptions of goal alignment

Parker	2006	Journal of Business Venturing	Learning about the unknown: How fast do entrepreneurs adjust their beliefs?	<p>This paper seeks to measure the extent to which entrepreneurs adjust their beliefs in the light of new information, instead of relying on past experience to guide their decision making. We build a model in which entrepreneurs continually receive valuable but noisy market signals about the true but unobserved productivity of their effort, and use this information to update their expectations of unobserved productivity. The model is estimated using a sample of over 700 self-employed Britons interviewed in 1999 and 2000. It is found that on average, these individuals adjust their expectations of unobserved productivity in the light of new information by only 16%. This suggests that while entrepreneurs do exploit new information, they give much greater weight to their prior beliefs when forming their expectations. Also, there are no significant differences in terms of expectation formation between males and females, employers and non-employers, and experienced and less experienced entrepreneurs. However, younger entrepreneurs respond significantly more sensitively to new information than older entrepreneurs do, with adjustment rates of 21% compared with 14%, respectively. We go on to discuss some policy implications of these findings, and briefly discuss several features of entrepreneurship education programs that might help entrepreneurs improve this aspect of their business performance.</p>	<p>To what extent do entrepreneurs rely on past experience when making decisions about their business ventures? And to what extent do they utilize new information about their venture's performance to learn about their true (but unknown) abilities and trading environment?</p>	700 self-employed Britons from the British Household Panel Survey	<p>Perspective taking can interact with prior knowledge to enhance outcomes.</p>	
Rae & Cuswell	2000	Education + Training	Using a life-story approach in researching entrepreneurial learning: the development of a conceptual model and its implications in the design of learning experiences	<p>Summarises the conclusions from research which explores how people learn to start and grow high performing businesses. Seeks to understand better the ways in which individuals learn to act entrepreneurially and also suggests how this understanding might influence the design of more effective learning experiences. Proposes a conceptual model of entrepreneurial learning, and assesses its implications for designing entrepreneurship education and development programmes. Findings indicate that there would be benefits from designing development programmes for current and aspirant business owners with a greater emphasis on personal development, based upon the entrepreneurial learning model proposed in the article.</p>	<p>How do people learn to become entrepreneurial?</p>	Conceptual	<p>Reflection as a mediator between perspective taking and learning</p>	
Conceptual Background								
Ku, Wang & Galinsky	2015	Research in Organizational Behavior	The promise and perversity of perspective taking in organizations	<p>Successful managers and leaders need to effectively navigate their organizational worlds, from motivating customers and employees to managing diversity to preventing and resolving conflicts. Perspective-taking is a psychological process that is particularly relevant to each of these activities. The current review critically examines perspective-taking research conducted by both management scholars and social psychologists and specifies perspective-taking's antecedents, consequences, mechanisms, and moderators, as well as identifies theoretical and/or empirical shortfalls. Our summary of the current state of perspective-taking research offers three important contributions. First, we offer a new definition of perspective-taking: the active cognitive process of imagining the world from another's vantage point or imagining oneself in another's shoes to understand their visual viewpoint, thoughts, motivations, intentions, and/or emotions. Second, we highlight that although perspective-taking has many positive benefits for managers and leaders, it also carries with it the potential for perverse effects. Third, we argue that previous theoretical lenses to understand perspective-taking's goal are insufficient in light of all the available evidence. Instead, we offer a new theoretical proposition to capture the full range of perspective-taking's positive and negative effects: perspective-taking helps individuals effectively navigate a world filled with mixed-motive social interactions. Our mixed-motive model of perspective-taking not only captures the current findings but also offers new directions for future research.</p>	<p>What is a model for perspective taking in organizations, including its antecedents, consequences, and moderators?</p>	Conceptual	<p>Literature Review of perspective taking in organizations; See full model in Appendix</p>	
McMullen	2010	Book Chapter: Advances in Austrian Economics	Perspective taking and the heterogeneity of the entrepreneurial imagination		<p>What is the role of perspective taking in developing the entrepreneurial imagination? How can perspective taking be beneficial in the new product development process?</p>	Conceptual	<p>Theoretical arguments for the importance of perspective taking in entrepreneurship</p>	

APPENDIX B

Organizing Framework for Perspective Taking's Role Among Managers in Organizations (from Ku, Wang & Galinsky, 2015)



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CHAPTER THREE

A Change of Perspective: Regional Entrepreneurial Activity and Differential Relationships with Objective Quality and Subjective Perceptions of Quality in Public Service Institutions

ABSTRACT

We examine how entrepreneurial activity in regional economic clusters (RECs) provides a source of knowledge spillovers for local public service institutions. We derive testable hypotheses against the backdrop of the knowledge spillover theory in entrepreneurship and expect divergences in objective quality and subjective perceptions of service quality. Econometric fixed-effects regression models on a novel, self-designed, multi-year dataset, representative of the entire hospital population in the U.S. in more than 3000 counties between 2006 and 2018, combined with two sources of entrepreneurial activity in U.S. counties, suggests differential effects. The strength of local innovation clusters is associated with improved objective quality, and at the same time negatively relates to subjective perceptions of service quality. Further a public service institution's characterization as a research facility attenuates the negative relationship between entrepreneurial activity and perceptions of quality. We make important theoretical contributions to our understanding of the knowledge spillover theory of entrepreneurship and imply policy ramifications for the intersection of entrepreneurship and hospital care.

Keywords

Knowledge Spillover Theory of Entrepreneurship, Regional Economic Clusters, Hospital Performance, Service Quality, Entrepreneurial Activity

A Change of Perspective: Regional Entrepreneurial Activity and Differential Relationships with Objective Quality and Subjective Perceptions of Quality in Public Service Institutions

INTRODUCTION

The Knowledge Spillover Theory of Entrepreneurship (KSTE) suggests that entrepreneurial activity in a regional cluster benefits from knowledge spillovers resulting from taking the perspective of incumbent firms and university research (Acs et al., 2009; Audretsch and Keilbach, 2007; Audretsch and Lehmann, 2005; Ghio Guerini, Lehmann & Rossi-Lamastra, 2015; Plummer and Acs, 2014). Organizations in regional economic clusters (RECs) create knowledge spillovers when new knowledge is not completely internalized by nearby knowledge-generating organizations (Audretsch and Feldman, 1996; Jaffe et al., 1993). Spillover-provoked entrepreneurial activity is then associated with economic growth in these RECs (Audretsch and Keilbach, 2008; Feldman, Francis & Bercovitz, 2005). Such entrepreneurial activity has also been argued to be a critical catalyst for change in regional economies and a crucial component to developing the “character of a place” (Feldman, 2014; Feldman et al., 2005).

We relax the assumptions of entrepreneurial activity as solely a recipient of knowledge spillovers to offer the theoretical perspective that entrepreneurial activity plays a key role in regional clusters as a source of knowledge spillovers that specifically can affect local public service institutions. With this argument we join a growing contingent of critics of the linear and one-directional perspective of KSTE (Agarwal Audretsch & Sarkar, 2007; Audretsch and Link, 2019; Casper, 2013; De Clercq et al.,

2008), and put forward in its place a more circular, recursive, collaborative and thus novel theoretical perspective of the KSTE. To fully understand what KSTE can offer to the literature on regional clusters from a policy perspective, we need to study the feedback that entrepreneurial activity as a source of knowledge spillovers can offer to other public service institutions in the cluster. We suggest that entrepreneurial activity translates into knowledge spillovers for public service institutions through individuals in the local population whose novel perspectives act as important conduits in this relationship. If entrepreneurial activity were associated with strong public service institution performance in addition to being the catalyst of economic measures of performance (Audretsch and Keilbach, 2008; Feldman, 2014; Feldman et al., 2005; Schumpeter, 1934), entrepreneurial activity may have been understood too narrowly within KSTE. Instead, entrepreneurial activity in a region influences the viewpoint of the local population, and this offers a source of knowledge for nearby public service institutions that take these perspectives. Our proposed shift towards public service institutions as recipients of knowledge spillovers from entrepreneurial activity, therefore, also offers a balancing of purely economic driven logics, with more social considerations, where public service institutions are understood to serve the general population. In particular, the performance of public service institutions, such as hospitals, is crucial to the well-being of the general population and a key target of policy makers today (Gulbrandsen et al., 2016). In studying how the performance of public service institutions can be influenced by knowledge spillovers from regional entrepreneurial activity, we rely on the argument that organizational outcomes occur as a result of the aggregate cognitive processes, including perspective taking, of key

individuals (Distel, 2019). When individuals in an organization collectively take the perspective of another group, such as the organization's labor force or local population, there is improved knowledge integration, which can lead to improved organizational outcomes (Litchfield & Gentry, 2010).

In this study we ask: Do public service institutions perform better if they are situated in regions with higher entrepreneurial activity? We rely on the model of service quality (Parasuraman, Zeithaml & Berry, 1985) to suggest that entrepreneurial activity translates into knowledge spillovers which differently impact the objective and subjective quality of the performance of public service institutions. We use hospitals as exemplar public service institutions to test our hypotheses, because hospitals are ubiquitous institutions that serve the population in all RECs and currently need to innovate more than ever before, to respond to market pressures and policy changes. Further, hospital performance matters beyond economic reasons. Improving healthcare is often literally a matter of life and death.

To investigate our research question, we built a multi-year database for over 3,000 counties in the U.S. that draws on four distinct public and private data sources and includes details on regional entrepreneurial activity, singular hospital performance and key socio-demographic variables on the REC level. We use fixed effects regression in longitudinal models and graph important interactions with research hospitals as key recipients of knowledge spillovers from entrepreneurial activity.

The results afford us three contributions to the literature. First, we theoretically extend the conceptualization of the KSTE by adding a feedback loop to include the externalities of knowledge generated by entrepreneurial activity that can be beneficial to

public service institutions in RECs. This addition to KSTE provides a more complete picture of knowledge flows in regions and invites testing of more than one-directional relationships in future studies.

Second, we now have a more nuanced understanding of how knowledge spillovers differently affect important performance outcomes in RECs, and, as a result of this, can provide a new lens for scholarly work to continue on the important and dynamic consequences of knowledge spillovers. By applying the model of service quality to the relationships between entrepreneurial activity and the performance of local public service institutions, we are able to theoretically explain the divergence we empirically see in different performance outcomes because of the differential evaluation bases used to evaluate objective quality and subjective perceptions of quality.

Third, the ramifications of this research for policy makers are notable. Policymakers and government programs often encourage entrepreneurship as a mechanism for job growth to help the general welfare of each REC. At the same time, policymakers struggle to improve public service institutions whose progress is often complex and slow, despite their importance for the local economy (Eriksson and Ujvari, 2015; Ferlie, Fitzgerald, Wood, Hawkins & Ferlie, 2005; Meyer and Rowan, 1977; Ruef and Scott, 1998). Especially improving hospital performance across the U.S. in order to deliver consistent, high-quality, cost-effective healthcare to the population of its REC is of the utmost importance to current policymakers. Our study sheds first and much needed light on the empirical magnitude of the intersection between the domains of entrepreneurship and hospital performance, which is important for effective policy making. Our measures are reliable, repeated, and uncommon, and offer innovative and

important metrics for analyzing the performance of public service institutions in RECs (Feldman et al., 2012).

The following sections contain the theoretical development of our hypotheses, a description of the data, an explanation of our analyses and our empirical findings. The article concludes with a discussion of our findings, their implications for theory and policymakers, and future research opportunities.

LITERATURE REVIEW

Knowledge Spillover Theory of Entrepreneurship

The original intent of the Knowledge Spillover Theory of Entrepreneurship (KSTE) was to provide a theory explaining a particular source of entrepreneurial opportunities (Audretsch and Keilbach, 2007), and traditionally it was understood that the “sources of knowledge in this field are either incumbent firms or research organizations like universities or research institutions, either public or private” (Ghio et al., 2015: 10).

Knowledge spillovers exist in the first place, because new knowledge cannot always be completely internalized by the knowledge-generating organization and are therefore likely to spill over to other organizations. Such spillovers happen because of intentional decision-making, a lack of resources, the regulatory environment, or other factors that prompt organizations to not take advantage of the knowledge they generate (Acs et al., 2009; Acs and Plummer, 2005; Audretsch and Keilbach, 2007; Feldman and Audretsch, 1999). KSTE has demonstrated that these spillovers are received by entrepreneurial ventures, which then act as a conduit for economic growth and

development (Audretsch and Keilbach, 2008). The subsequent link in this logical chain, from entrepreneurial activity to economic development, has also been well established (Acs, 2006; Feldman and Desrochers, 2003; Schumpeter, 1934; Shane and Venkataraman, 2000; Wong et al., 2005). This traditional perspective of KSTE has thus viewed knowledge spillovers predominantly as a linear, one-directional relationship from incumbent firms and university research to entrepreneurial activity, which results in economic growth. It focuses often on confined RECs.

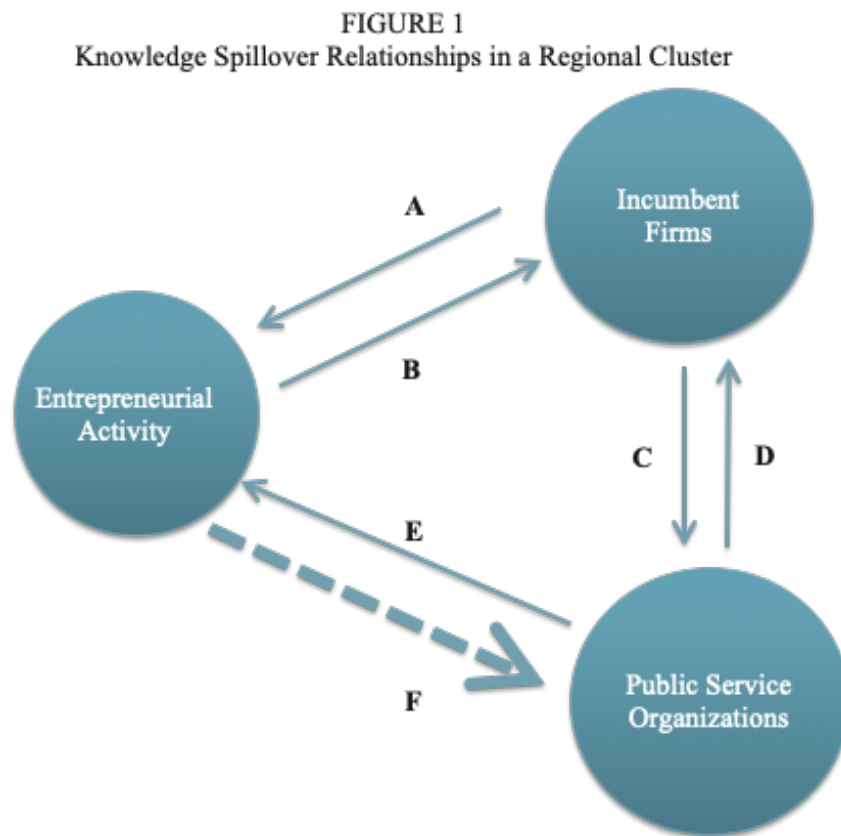
Regional Economic Clusters

Regional economic clusters (RECs) are defined as “geographically proximate groups of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities” (Porter, 2000: 16). RECs can cross organizational, institutional, and industry boundaries, and are inextricably linked to the physical location of the organizations (Porter, 2000). Strong RECs share a large presence of agglomerated, related industries and are important because positive externalities can occur across complementary economic activities when the activities are agglomerated (Delgado et al., 2014; Feldman and Audretsch, 1999; Feser et al., 2008; Glaeser, Kerr & Ponzetto, 2010; Glaeser and Kerr, 2009; Porter, 2003). RECs contribute to regional performance, including higher levels of job growth, higher wages, more patents and the emergence of new industries (Delgado et al., 2014). Related to entrepreneurial activity, industries rooted in strong RECs have more new business growth, more start-up employment and longer start-up firm survival (Delgado et al., 2010). Of special importance for this paper, strong RECS are crucial for fostering

entrepreneurial activity because they lower the cost of starting a business, increase the perception of opportunities for innovations, enable access to diverse resources, and increase pressure to innovate (Delgado et al., 2010).

A Model of Knowledge Spillovers in Regional Economic Clusters

Figure 1 displays our model of knowledge spillovers in RECs. It visualizes a REC with the traditional knowledge spillover paths A, B, C, D and E as solid line arrows, and our hypothesized knowledge spillover path F as a dotted line arrow.



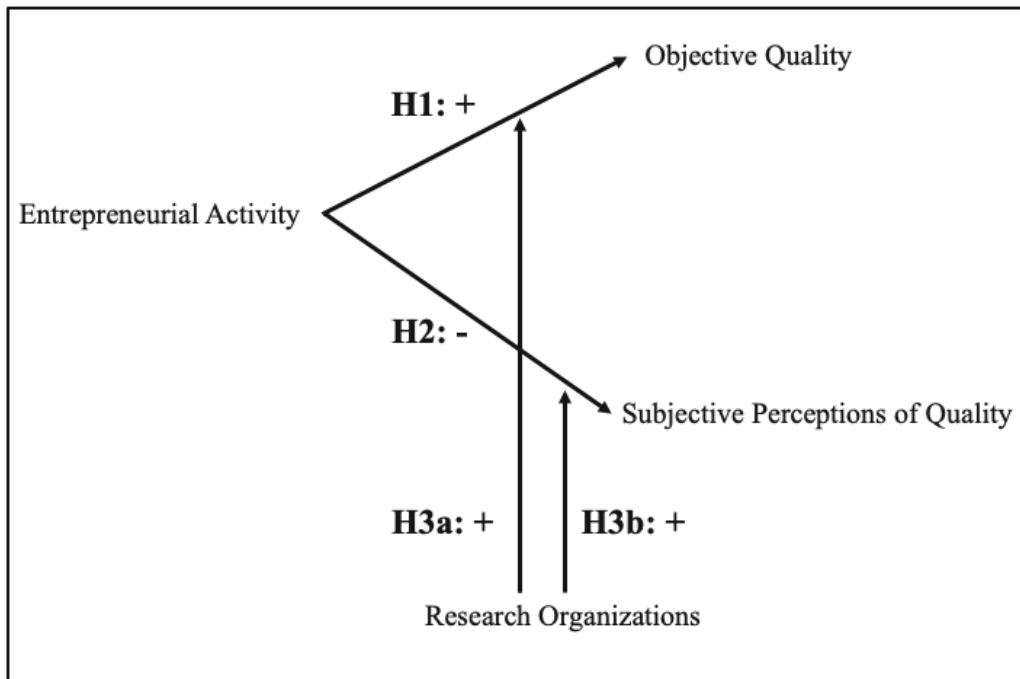
Path A represents knowledge spillovers from incumbent firms, which invest in research and development that they do not completely commercialize themselves, and

subsequently spawn new ventures (Acs et al., 2009; Audretsch and Feldman, 1996; Audretsch and Keilbach, 2007). Path B illustrates how entrepreneurial activity feeds back knowledge spillovers to incumbent firms. Such knowledge spillovers occur for example, when new ventures are acquired by incumbent firms. Path B thus represents a first feedback loop from new ventures that commercialize knowledge spillovers from incumbent firms and then provide information on viability back to the originating firm. Originating firms benefit from the uncertainty reduction (Yang and Steensma, 2014) and may choose to develop their own copycat (Fu and Tietz, 2019). Paths C and D are not discussed in this study, because they are unrelated to entrepreneurial activity. They represent knowledge spillover relationships between public service institutions, such as universities, and incumbent firms (Bercovitz and Feldman, 2008; Laursen and Salter, 2004). Finally, path E illustrates a second well-established source of knowledge spillovers and entrepreneurial opportunities, the public service institution of university research (Audretsch and Feldman, 1996; Audretsch and Lehmann, 2005; Feldman and Audretsch, 1999; Feldman and Desrochers, 2003; Godin and Gingras, 2000; Jaffe, 1989). Knowledge spillovers from public service institutions to entrepreneurial activity were recently discussed by Audretsch and Link (2019) who empirically show (Edwards & Cable, 2009; Fang, Wade, Delios, & Beamish, 2013; Heyden, Fourné, Koene, Werkman, & Ansari, 2017; Jimenez & Tietz, 2018; Joardar & Wu, 2017; Lord & Ranft, 2000; Miller & Eden, 2006; Nachum, 2010; Park, Kim, & Krishna, 2014) that government agencies can create knowledge spillovers that help improve the performance of entrepreneurial ventures. We show path F as the relationship we wish to add. We develop it in detail in the context of hospitals as local public service institutions in the form of our hypotheses.

HYPOTHESIS DEVELOPMENT

When it comes to the performance of public service institutions, we follow Parasuraman et al.'s (1985) model of service quality and distinguish between objective quality and users' subjective perceptions of quality. Objective quality can be easily measured and agreed upon. Users' perceptions of service quality on the other hand come relative to users' expectations for the service, compared to their perception to what degree these expectations were met (Boulding Kalra, Staelin & Zeithaml, 1993; Cronin & Taylor, 1994; Fornell, Johnson, Anderson, Cha & Bryant, 1996; Parasuraman et al., 1985). These conceptual differences already suggest that knowledge spillovers differently affect the objective quality of care and the subjective perceptions of quality of care. We also anticipate that public service institutions designated as research organizations moderate these relationships. Figure 2 illustrates our theoretical model and we will present arguments for each hypothesized relationship in turn.

Figure 2: Knowledge Spillover Effects on the Quality of Public Service Organizations



Entrepreneurial Activity and Objective Hospital Quality of Care

Especially in the context of hospital performance, the distinction between the objective quality of patient care and patients' perceptions of quality of patient care is important (Donabedian, 1989). Starting with the objective quality of hospital care, hospital mortality rates from common diagnoses, such as pneumonia, heart failure and heart attacks, are some of the most objective measures of hospital quality. For these diagnoses, there are evidence-based protocols that should be followed with every patient to reduce the chance for death (CMS.gov, 2017). We expect entrepreneurial activity to positively relate to objective hospital quality of care for three reasons: 1) geographic proximity, 2) social relationships and the effects of the associated perspective taking (including employee relationships, customer contact, and labor

mobility) and 3) diverse innovation clusters. We address each reason sequentially.

First, geographic proximity is a necessary component for knowledge spillovers to exist. Clusters are spatially bound by definition (Porter, 2000). Knowledge spillovers are also spatially bound and stay mostly local (Audretsch and Feldman, 1996; Jaffe, 1989; Jaffe et al., 1993). Hospitals are essentially stationary public service institutions with patients visiting hospitals mostly locally. For knowledge to be assimilated across sectors of the economy, such as from entrepreneurial activity to hospitals, co-location has been shown to be even more important (Agrawal et al., 2006). The geographic proximity of clusters also impacts the potential for serendipity, the impact of which should not be underestimated (Feldman, 2014). After all, serendipity has been credited with Honda's discovery of a latent market for small motorcycles in the U.S., the development of Velcro, and the founding of the Staples supply retail chain (Dew, 2009).

Second, social relationships serve to transfer knowledge spillovers (Agrawal et al., 2006) when individuals are influenced by the perspective of others (Galinsky et al., 2008; McMullen, 2010), through: a) employee relationships, b) customer (or patient) contact, and c) labor mobility. First, hospitals have highly skilled, professional workers who interact in their communities with people outside of healthcare. In ecosystems with high entrepreneurial activity, the likelihood that someone in a hospital employee's network of friends, family and acquaintances works in an innovative capacity is higher, and therefore employees have the opportunity to take the perspective of these individuals. We expect the exchange of information, knowledge and perspectives, critical conduits for spillovers (Thursby & Thursby, 2004), to occur through these social ties. Consequently, employees who take the perspective of innovative individuals may

be more likely to hear about the latest innovative healthcare technology, connect healthcare start-ups to hospital administrators, or to suggest process improvements at the hospital. In short, social relationships strengthen the ability of hospital employees to absorb and translate new knowledge into hospital process improvements (Escribano et al., 2009). Ultimately, this would improve the objective hospital quality.

Customer perspectives are another important social relationship because knowledge diffusion and absorption are enhanced when the creators and users of new knowledge interact (Thursby & Thursby, 2004; von Hippel & Cann, 2020). Patients are the ultimate users of new knowledge in hospitals, and unique to this context, the entire community population qualifies as potential users, so chances for interacting with and taking the perspective of users are high. Lending further support to our argument, the majority of healthcare workers interact frequently with patients, and personal contact between employees and patients has been shown to be crucial for innovation (Ali & Gittelman, 2016; Llopis & D'Este, 2016). Hospitals can leverage their patient population as a "living laboratory" to support its entrepreneurial efforts (French & Miller, 2012; Miller & French, 2016: 717; von Hippel, 2018). Mostly likely by interacting with patients, hospital caregivers better understand patient care needs and understanding customer needs and problems is the first step toward developing or implementing appropriate solutions (Shepherd & Detienne, 2005). In RECs with more entrepreneurial activity, patients may be more willing to share their needs with hospital employees, and hospital employees may be more willing to seek opportunities to learn about patient needs. To the extent that patient contact helps hospital employees and leaders understand the problems that patients have, it should also help to identify and adopt better solutions.

Thus, the more entrepreneurial activity in a REC, the higher the chance of patients bringing new knowledge into the local hospital, and the more objective quality of care may benefit.

Labor mobility and the perspectives of employees can also intensify the spread of knowledge (Braunerhjelm et al., 2016; Koo & Cho, 2011) and in particular knowledge flows within regions (Almeida & Kogut, 1999; Feldman, 2001). Local labor mobility is such an important mechanism for transmitting knowledge spillovers that firms try to protect themselves from their own employees leaving and taking internal knowledge with them (Kim & Marschke, 2005). Relevant for our context, cross-industry labor mobility into healthcare has been increasing (Nelson & Wolf-powers, 2010), and employment in healthcare occupations is expected to add 2.4 million new jobs from 2019 to 2029 (Bureau of Labor Statistics, 2020) indicating that only more employees will be making their entrance into the healthcare industry. Employees first joining hospitals bring knowledge with them from previous organizations, some of which are engaged in entrepreneurial activity. As an anecdotal example, take for instance Dr. Sahin and Dr. Türeci, the two physicians behind the BioNTech and Pfizer Covid-19 vaccine. These physician-scientists currently focus on research at their BioNTech venture but their career trajectories have frequently weaved them between entrepreneurial endeavors and hospital systems (Pancevski and Hopkins, 2020). We anticipate that, though low in quantity, many breakthrough innovations in technical medical care may come from employees, such as these exemplary physicians, moving from industry to hospitals. At the same time, we do not underestimate the more frequent labor mobility that occurs within the healthcare industry in its power to transfer knowledge between hospitals,

especially regarding process improvements. For instance, Greenwood Ganju & Angst (2017) find that physicians are likely to leave their hospital to go to work for another organization following the implementation of a new electronic medical record system. Thus, these physicians act as carriers for knowledge flows between institutions. Of course, hospitals do not just rely on highly trained physicians to run smoothly, and employees with a wide range of qualifications and experiences can act as productive conduits for knowledge to flow. In fact, it is often the less technically trained employees who have the highest turnover in hospitals (Baughman and Smith, 2012), and thus, the most opportunities to spread knowledge among multiple organizations. While a minor amount of labor mobility may occur between regions (limited typically to absolute top-performers), we follow existing scholarship to assume that the vast majority of employees "seek employment opportunities only within the region where they live" (Kim and Marschke, 2005: 307) and that more innovative regions tend to rely on intra-regional labor markets (Ejeremo and Karlsson, 2006). Besides, employees who are in caregiving positions (physicians, nurses, pharmacists, radiology technicians, etc) must maintain active licenses in their area of expertise, and these requirements vary by locale (Holen, 1965), and thus limit labor mobility to local options. Hence, we expect labor mobility and associated knowledge flows to improve objective hospital quality within the REC.

Third, innovation clusters with multiple different economic sectors can be beneficial to knowledge spillovers transferring from entrepreneurial activity to hospitals. Feldman and Audretsch (1999) found that diversity of economic activity across many industries is more conducive to innovation in a region than specialization. Knowledge

spillover transfers do not stay within the same technology or industry, and often cross industries, organizations, and institutions (Battke et al., 2016). For instance, new technologies such as the laser, ultrasound, and chemotherapy were developed by physicists, submarine engineers, and chemical weapon experts respectively, but have significantly contributed to medical progress (Nelson et al., 2011). Many entrepreneurial efforts take place outside of healthcare, but considering the advantages of diverse sectors, such as innovation conductivity and opportunities for learning, these efforts may harbor potential for cross-sector knowledge spillovers. Such knowledge spillovers are among the most productive for objective hospital quality (Goes and Park, 1997). This is because hospitals' primary purpose is utilizing knowledge to care for patients. Here the knowledge spillovers from diverse economic sectors provide an avenue for hospitals to learn from knowledge that is locally generated in their RECs, by those (entrepreneurs and innovators) in other industries, who have the novel insights, time and resources to focus on innovation that does not need to benefit hospitals objective quality of care, but still does so effectively, albeit indirectly.

In summary, the flow of knowledge spillovers in RECs from entrepreneurial ventures to hospitals could be possible via geographic proximity, personal interactions and diverse economic activities. Thus, we would expect to see a positive association between high entrepreneurial activity and objective hospital quality of care in RECS.

Hypothesis 1. Entrepreneurial activity is positively related to objective quality in public service institutions.

Entrepreneurial Activity and Subjective Perceptions of Hospital Quality of Care

Notwithstanding the above, it is not obvious that users' perceptions of hospital

quality follow the same logic and direction as between entrepreneurial activity and objective quality of care in local hospitals. Indeed, in RECs with high entrepreneurial activity the difference between expected service and perceived service (Parasuraman et al., 1985) may be higher, and thus, overall perceived quality lower, for three dominant reasons: (1) an evaluative base of “soft” aspects of the user experience, (2) the population in innovative RECs having higher absolute expectations and (3) the hospital’s focus on other quality indicators rather than the user experience. We present all three arguments sequentially.

First, in hospital care, consumers (i.e. patients) cannot easily evaluate the technical advancements affecting objective quality of care they receive (Bowers et al., 1994; Lam, 1997; Ware and Snyder, 1975). Hospital processes are not transparent and difficult to observe (Akao and Chaplin, 2003; Levay and Waks, 2009). Most difficult to observe is the complex critical thinking of medical personnel, which is paramount to healthcare quality (Fargen and Friedman, 2014). While positively impacted by regional entrepreneurial activity through the above-mentioned effects, this decision-making typically also involves multiple care team members, making it nearly impossible for patients to observe all processes running in parallel and mostly in the background. For instance, physicians typically ask patients questions about their symptoms and thus rule out conditions (Redelmeier and Shafir, 1995). Unobservable to the patient, this conversation is supported by advanced imaging data and lab results which eliminate many questions. Thus most (if not all) ruled-out alternative explanations that might be possible to discard because of advanced objective quality of care, cannot be easily observed by the patient and thus do not transfer to subjective perceptions of quality of

care.

Because of this lack of transparency in objective quality of care, patients instead prioritize the “soft”, easy to evaluate aspects of their care experience, such as the humaneness of caregivers, patients' involvement in decisions, waiting times, and the appearance of facilities (Bjertnaes et al., 2012; Joffe et al., 2003; Vogus and McClelland, 2016; Wensing et al., 1998). This differential evaluation base between hard to evaluate objective criteria and more easily available subjective impressions, suggests the impact of entrepreneurial activity in RECs on objective quality and subjective perceptions of quality may differ.

Secondly, people living in areas where the total amount and rate of innovation is highest (Aghion and Jaravel, 2015; Yang et al., 2010), get used to living with advanced innovation, because expectations differ based on life experiences (Donthu and Yoo, 1998; Zeithaml et al., 1993). For instance, many consumers are familiar with frustration when expectations set by good marketing for mobile phone artificial intelligence (e.g. Apple's Siri, Amazon Alexa, or Google Voice) do not match reality (“Sorry, I didn't quite get that”). When the service is not as seamless as expected, consumers' overall perception of quality and satisfaction with the associated service is lowered (Kaplan and Haenlein, 2019). People who live in areas with a lot of entrepreneurial activity, such as Silicon Valley or Cambridge, MA, are used to streamlined, transparent processes in several aspects of their lives (Goetz and Han, 2020), which increases all their expectations—hospital care quality included. Consider waiting times in emergency rooms (ER) for instance. In 2019, patients waited for an average of 101 minutes in the emergency department after admission and before treatment (Centers for Medicare and

Medicaid Services, 2020). A person who is used to streamlined innovative services and high availability of information is likely to be dissatisfied with this wait time. Someone else who may not have experienced the same high level of innovation in other aspects of life may still dislike the long wait, but arguably be less likely to judge it unreasonable. Indeed, an innovative mindset does not stop at the office door, but often carries over from work to home life (Lukoschek and Stock-Homburg, 2021). Thus, individuals from highly entrepreneurial regions, might have higher than average expectations around the hospital user experience and thus are less likely to have these expectations met. Hence, they would rate their perceived quality of care lower.

Thirdly, the greatest improvement potential in hospitals is the user experience (Djellal and Gallouj, 2005; Lateef, 2011; Porter and Teisberg, 2007). While hospitals often emphasize innovation in technology (Gulbrandsen et al., 2016), improving processes around communication and the general user experience is actually the predominant factor in hospitals meeting patient expectations (Boudreaux and O’Hea, 2004; Taylor et al., 2006; Trout et al., 2000). Yet, elevating the hospital’s user experience requires coordination among multiple stakeholders (Brock et al., 2013) and overcoming resistance to change (Herzlinger, 2006; Ruef and Scott, 1998), especially because hospitals rely heavily on professionals and are very dependent on the environment (Berwick, 2003; DiMaggio and Powell, 1983; Ferlie et al., 2005; Ruef and Scott, 1998). The difficulty and length of time required to improve service delivery paired with the typical focus on the technical improvements in medical care, result in the hospital user experience typically lagging behind other service industries (Grazier and Metzler, 2006). This lag in the user experience increases the chances that patients’

expectations will not be met, and their perception of quality will be lower.

Hypothesis 2. Entrepreneurial activity is negatively related to perceptions of quality in public service institutions.

Contingencies of Entrepreneurial Activity and Research Hospitals

Academic research hospitals differentiate themselves from non-research hospitals because they participate and invest in the entrepreneurial activities of research and development on technical innovation and process improvements. We rely on their role as knowledge generators to motivate their moderating role in converting knowledge spillovers from entrepreneurial activity into improving both objective and subjective perceptions of hospital quality.

First, as both co-developers and users of innovations (Frenken and van Oort, 2010; Gulbrandsen et al., 2016), research hospitals are expected to facilitate knowledge diffusion, whether internally or externally generated, within their own institution. Internally, research hospitals conduct laboratory research and also importantly lead clinical trials on their own patients. Clinical trials are highly regulated and patients voluntarily participate in this research (U.S. National Library of Medicine, n.d.), so safety concerns for patients are low, while the upside possibilities for improving quality of care are significant. In particular, the primary purpose of clinical trials is to learn in order to improve the quality of care, and thus we expect to see this improvement in objective quality measures. Regarding patient satisfaction, by their learning nature, clinical trials also afford many more opportunities for interacting and communicating with patients than traditional patient care. Thus, we also expect this extensive patient communication to improve quality perceptions of research hospitals compared to non-research

hospitals. Research hospitals may additionally be more prepared to discuss and appreciate novel insights from external entrepreneurial activity, because the absorptive capacity of a research environment is typically higher than that of a non-research active environment (Escribano et al., 2009; Zahra and George, 2002). Also, the absorptive capacity of an organization increases when the organization is connected to the broader scientific community, outside their own organization (Cockburn and Henderson, 1998), which is true of most academic research hospitals. In fact, by definition research hospitals explicitly prioritize the ability to translate healthcare research to hospital practice (Curtis et al., 2016; Morris et al., 2011).

Second, the close spatial and industry proximities between hospital research labs with potential entrepreneurs and hospital operations increase the chance for social interactions to take place (Hoang and Antoncic, 2003). As research labs are typically located on the same campus as hospital operations, often in adjacent buildings, this increases the chance for interactions between hospital researchers and patient caregivers. Staff in hospital research labs will help other hospital staff, including patient caregivers, incorporate new entrepreneurial insights into their routines, making them more efficient, innovative and better communicators. Clinical research also involves more testing and more time interacting with closely watched patients to learn about and document the progression of disease and treatment effects. We expect this increased communication and social interactions to translate to both better objective and subjective perceptions of care.

Third, research hospitals typically emphasize their dual focus on research and patient care by intersecting leadership responsibilities in both domains. These leaders

and their teams are often incentivized to incorporate both technical and user experience innovations into hospital practice. For instance, Johns Hopkins Medicine recently developed and deployed their Strategic Plan for 2019-2023 wherein health system leaders and their teams receive financial incentives and performance reviews based on their department's progress toward innovation and excellence (Johns Hopkins Medicine Strategic Plan, 2019). Research also shows that health systems are working to better financially incentivize physicians to participate in research and offer innovative solutions (Litwin and Tan, 2016). Such research incentives facilitate the adoption of novel insights to improve objective hospital quality outcomes. As far as these are observable and understandable, or concern the user experience, patients' hospital satisfaction ratings may also increase.

In summary, these arguments lead us to expect that research hospitals are more likely than non-research hospitals to convert knowledge spillovers into better objective quality of care and higher satisfaction ratings.

Hypothesis 3a. For research hospitals, the positive relationship between regional entrepreneurial activity and objective quality of care is stronger than for non-research hospitals.

Hypothesis 3b. For research hospitals, the negative relationship between regional entrepreneurial activity and subjective perceptions of quality is weaker than for non-research hospitals.

RESEARCH METHODOLOGY

Hospitals as an Important Public Policy and Organizational Context

We test our model in the important public service institutional context of hospitals. Healthcare is currently the largest employment industry in the U.S. with 20

million employees in 2018 and is expected to continue growing in the coming years (Dowell, 2020). Additionally, recent policy changes in the U.S. healthcare sector have incentivized hospitals to seek knowledge as an ingredient to innovate as they progressively transition from volume-based payment toward performance-based payment (Berwick et al., 2008; Gawande, 2012; *Patient Protection and Affordable Care Act*, 2010). Yet despite a clear and recent policy mandate for hospitals to innovate, hospitals are prototypical public service institutions (Eriksson and Ujvari, 2015; Meyer and Rowan, 1977; Ruef and Scott, 1998; Yang, 2015), because they are highly regulated by public agencies (Gulbrandsen et al., 2016) and subject to the bureaucracies that make public service institutions notoriously difficult to change (Grazier and Metzler, 2006; Herzlinger, 2006; Shortell et al., 2001). Thus, hospitals' prototypical nature is relevant from a research design and generalizability perspective, and hospitals' resistance to change contributes to balanced arguments, for it is far from obvious whether or not knowledge spillovers from entrepreneurial ventures will have a measurable impact on standardized hospital performance metrics.

Data

We test our hypotheses using a hand-collected county-level dataset assembled from four secondary databases: the U.S. Cluster Mapping Project (USCMP), StatsAmerica (SA), Hospital Compare from the Centers for Medicare and Medicaid Services (CMS), and the American Hospital Association's (AHA) annual survey of hospitals. Having entrepreneurship data at the county-level is beneficial to allow for a fine-grained approach to studying the relationship between entrepreneurial activity in a

county (Audretsch and Feldman, 1996) and local hospital performance. The USCMP and CMS datasets provide us with longitudinal measures whereas the SA and AHA datasets allow only for cross sectional corroboration.

Table 1 provides an overview of our various data sources and the variables we used. We briefly introduce each dataset here. First, USCMP provides county-level information about RECs and their business environments. Here we use the longitudinal USCMP data from 2006-2014. Second, SA's Innovation 2.0 dataset provides comprehensive data on the innovation capacity and output of counties from 2016. Third, CMS publicly reports hospital performance information on the Hospital Compare website at the specific hospital level. Here we use CMS biennial data from 2008-2018. Finally, the AHA survey provides hospital profiles and statistics for approximately 6,300 hospitals across the U.S. Here we use the 2017 annual survey results. We matched the county-level data to hospital data in the same county using the Federal Information Processing Standard (FIPS) code.

Data Source	Sponsor and Key Notes	Timeframe of Data Included in Analysis	Level of Data Analysis	Variables Used in Analysis
U.S. Cluster Mapping Project (USCMP)	-Sponsored by U.S. Economic Development Administration and the U.S. Department of Commerce, led by the Institute for Strategy and Competitiveness at Harvard Business School -Longitudinal panel data on regional cluster strength, business environments and regional economic performance for the 3,141 counties or county-equivalents in the U.S. -Innovative data source standardized for cross-regional analysis (Feldman, et al., 2012 Innovative Data Sources for Regional Economic Analysis)	2006-2014, every other year	U. S. County	IV: Cluster Strength Controls: Establishments Growth Rate, Innovation (Patents)
StatsAmerica (SA)	-Led by Indiana Business Research Center at Indiana University's Kelley School of Business -Innovative data source (Feldman, et al., 2012 Innovative Data Sources for Regional Economic Analysis)	2016 (Innovation 2.0)	U.S. County	IVs: Business Dynamics Index, Business Incubator Spillovers Controls: economic wellbeing index, population growth ages
Hospital Compare (CMS)	- Centers for Medicare and Medicaid Services (CMS)	2008-2018, every other year	Hospital	DVs: 30-day pneumonia mortality, % of patients rating their hospital experience a 9 or 10
American Hospital Association (AHA) Annual Survey	-American Hospital Association (accessed through the Wharton database)	2017	Hospital	Moderator: Research Hospitals Controls: Hospital Bed Size, State

Methodology

Dependent variables: Hospital mortality rates and patient satisfaction. Our two dependent variables come from the CMS Hospital Compare Dataset. First, we measure the objective quality of patient care based on *30-day mortality rates for pneumonia*. Mortality (or death) rates from common diagnoses, including pneumonia, were some of the first performance metrics that CMS required hospitals to report, and have been publicly reported since 2007, making them one of the most standardized, well-accepted measures of quality of hospital performance in the industry (CMS.gov, 2017). Specific care protocols ensure high comparability across U.S. counties. To calculate the mortality rate, CMS obtains risk-adjusted (for the severity of patient illnesses) data, directly from hospitals about the deaths in the 30 days after a patient enters the hospital

for pneumonia. Lower rates equal better performance.

Our measure of subjective perceptions of hospital quality is patient satisfaction (Bjertnaes et al., 2012). Patient satisfaction is officially recorded by the HCAHPS survey for all hospitals accepting CMS payments, because patient satisfaction is used to determine financial reimbursement for hospitals (CMS.gov, 2017). It is also the metric most patients follow when selecting a hospital for elective treatment (Wensing et al., 1998). The HCAHPS survey asks about overall patient experience, and specific processes such as cleanliness, communication with caregivers and quietness of the facilities and summarizes an overall experience rating of 0 (extremely negative) to 10 (extremely positive). We report results for the percentage of patients who *responded 9 or 10* in this summary measure of patient satisfaction. Higher patient satisfaction reflects in higher percentage values.

One reason that these specific performance measures matter to hospitals and policymakers is because CMS, the largest government payer, withholds 2% of all hospitals' base reimbursement for Medicare patients to pay hospitals who score above the median on important metrics, and (not coincidentally) 25% of this performance payment is determined by patient satisfaction scores and another 25% is determined by patient mortality rates.

Independent variables: Entrepreneurial activity. We measure entrepreneurial activity using the bi-annual U.S. Cluster Mapping Project (USCMP) measure of *cluster strength*, which measures the percent of traded employment in strong clusters and is an appropriate and tested empirical proxy for entrepreneurial activity in a region (Delgado

et al., 2010). We also measure entrepreneurial activity with the *business dynamic index* and *business incubator spillovers* from StatsAmerica (SA). The business dynamics index is a composite measure of establishment formation (e.g. business start-ups and associated jobs), establishment dynamics (e.g. start-up births, deaths, expansions and contractions) and venture capital measures (e.g. venture capital by high-tech industries and number of IPOs). Business incubator spillovers are measured as the concentration of business incubator resources in a region and are described as “akin to university knowledge spillovers” (Slaper et al., 2016: 22). StatsAmerica calculates a score from the number of business incubators within 50 miles, weighted by distance. Higher scores represent regions with higher density of business incubators. Together, the U.S. Cluster Mapping Project and Stats America, provide innovative data for a comprehensive view of entrepreneurial activity in RECs.

Moderating variable: Research hospitals. The AHA annual survey of hospitals provided data on whether hospitals were characterized as a *research hospital* through the inclusion of a dedicated question: “Does your hospital have an organized hospital research program in any of the following areas: basic research, clinical research, community health research, and/or research on innovative health care delivery?” We coded a “yes” as 1 and a “no” as 0 for a binary indicator variable.

Control variables. In the longitudinal analysis with *cluster strength* as the independent variable, we control for alternative innovation measures, economic well-being measures

and hospital size. The U.S. Cluster Mapping Project measures *innovation* as the number of utility patents per 10,000 employees. Other scholars have already established the importance of patents as a measure of regional production of new knowledge (Acs et al., 2002; Jaffe, 1989; Plummer and Acs, 2014). Importantly, cluster strength and innovation measure different things. Cluster strength is a marker for entrepreneurship in the community and patents measure technical innovation. The U.S. is one of the most advanced countries in healthcare patents (Herper, 2011). Of course, overall economic well-being could be associated with both strong clusters and high performing public service institutions. To control for this possibility, we include *establishments' growth rate* in our models, which measures new business growth in a location. This measure comes from the U.S. Cluster Mapping Project and reflects the annual percentage change (positive or negative) of registered businesses in a county. It is important to control for business growth (Audretsch and Feldman, 1996; Jaffe et al., 1993; Wong et al., 2005), as we wish to isolate the relationship of strong clusters with healthcare performance, from general economic growth in a county. Finally, *bed size* (from the AHA survey), counts the number of stationary patients a hospital can accommodate. This measure corrects for differences that are solely due to economies of scale in the healthcare sector (Berry, 1967; Goes and Park, 1997; Lynk, 1995).

In the cross-sectional analysis with *business dynamics index* and *business incubator spillovers* as the independent variables, we control for population growth, economic well-being, hospital size and state. The *population growth* measure comes from StatsAmerica and measures the annual average growth rate for the population ages 25 to 44. The *economic well-being index* from StatsAmerica is a composite

measure of employment and poverty rates, compensation, income growth, and migration of new residents. We again include *bed size* as a control for hospital size. Finally, we also control for state (which fixed effects account for in the longitudinal data), because a large portion of health policy occurs at the state level and we may expect differences between state policy environments.

Regression Models

We started the analysis by using longitudinal data from the U.S. Cluster Mapping Project to run regression analysis with fixed effects for hospitals and robust standard errors, on panel data from 2006-2014. Investigating cluster strength in fixed effects models allows us to isolate the relationships we are interested in and controls for other differences between hospitals, such as state context. Additionally, using fixed effects also controls for the average differences across hospitals in any unobservable characteristics and leaves only the within-hospital variation across time, reducing the potential for omitted variable bias. In order to verify the use of fixed effects, we confirmed its appropriateness versus a random effect model with the Hausman test (Chi-squared 1017.65, $p < 0.000$).

To corroborate our longitudinal analysis with cluster strength, we re-run tested each hypothesis with the more direct measures of entrepreneurial activity, the business dynamics index and business incubator spillovers, from StatsAmerica as our independent variables. We test business dynamics index and business incubator spillovers simultaneously in the regression models. Because both IVs are correlated with each other ($R = 0.61$, $p = 0.000$) and still show significant results when tested

together, we gain confidence that we are not overestimating their effects. In all regressions, the dependent variables were lagged by two years to allow time for knowledge diffusion.

RESULTS

Table 2 shows the summary statistics and correlation matrix for all variables. As is expected, the mortality and patient satisfaction dependent variables are highly ($R=0.10$) and significantly ($p<0.000$) correlated. On average 70.1% of patients rated their hospital experience as a 9 or 10 out of 10 throughout all U.S. hospitals during 2008-2018. The average hospital in our nationally representative data (and hence in the entire U.S.) has approximately 198 beds, but hospital size differs widely across all hospitals. The largest hospital has 2,478 beds. The growth rate of new establishments also varies across counties. The average growth rate across the U.S. in the number of new businesses was flat, but this ranged from -0.18 to 0.32. our indicators of entrepreneurial activity were reported at the county-level and showed wide variation across the nation. A Skewness/Kurtosis test for normality histogram indicated that cluster strength, one of our indicators of entrepreneurial activity, is not normally distributed; however, nonnormality in the data is not unexpected with such a large sample size and the kurtosis of 0.5741 is within an acceptable range (-1 to +1) (Hair et al., 2007). Histogram and quantile plots of cluster strength both show graphical evidence of normality. The cluster strength variable ranges from 0 to 0.93 with a mean of 0.49. Additionally, the number of entrepreneurial resources in communities varies across the United States. From StatsAmerica, the business incubator spillovers measure averages 114.39 (a weighted number of business incubators in the county),

ranging from 0, indicating no business incubators nearby, up to 200.

Table 3 shows the longitudinal and cross-sectional regression results for these variables. In the subsequent paragraphs, models with odd numbers represent longitudinal fixed effects models based on the cluster strength IV. Models with even numbers intend to corroborate their immediately preceding model with simple OLS regressions of business dynamic index and business incubator spillovers. Overall, we found mostly support for our hypotheses.

TABLE 2

Summary Statistics and Correlation Matrix

Variable	N	Mean	S.D.	Min	Max	Correlations												
						1	2	3	4	5	6	7	8	9				
(1) 30-Day Pneumonia Mortality	11426	13.02	2.75	6.4	26													
(2) Patient Satisfaction (% 9 or 10 Rating)	12060	70.1	8.58	29	100	0.10***												
(3) Cluster Strength	10611	0.49	0.17	0	0.93	0.01	-0.02*											
(4) Business Dynamics Index	12060	70.88	27.49	9.9	159.1	-0.16***	-0.08***	-0.01										
(5) Business Incubator Spillovers	12060	114.39	58.58	0	200	-0.14***	-0.13***	-0.02**	0.61***									
(6) Hospital Bed Size	12060	197.94	209.64	0	2478	-0.09***	-0.14***	-0.04***	0.40***	0.38***								
(7) Innovation (Patents/10k employees)	10611	8.22	12.97	0.14	178.13	0.02	0.06***	0.08***	0.36***	0.21***	0.01							
(8) Establishments Growth Rate	10611	0	0.02	-0.18	0.32	0.10***	-0.05***	0.04***	0.25***	0.10***	0.06***	0.11***						
(9) Economic Wellbeing Index	12060	108.82	18.77	59.6	187.8	-0.01	0.21***	0.10***	0.06***	-0.12***	-0.18***	0.23***	0.17***					
(10) Population Growth (Ages 25-44)	12060	125.15	42.84	50	200	-0.02**	0.01	0.04***	0.39***	0.12***	0.21***	0.02**	0.35***	0.12***				

* p<0.05
 ** p<0.01
 *** p<0.001
 Correlations higher than 0.02 are significant at least at the 5% level

TABLE 3								
REGRESSION ANALYSIS RESULTS								
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	Hypothesis 1		Hypothesis 2		Hypothesis 3a		Hypothesis 3b	
	Mortality: 30-day Pneumonia		Patient Satisfaction: % 9 or 10		Mortality: 30-day Pneumonia		Patient Satisfaction: % 9 or 10	
Cluster Strength	-1.372*** (0.41)		-2.361*** (0.70)		-1.038* (0.45)		-2.989*** (0.79)	
Business Dynamics Index		-0.011*** (0.00)		0.025*** (0.00)		-0.011*** (0.00)		-0.07 (0.00)
Business Incubator Spillovers		-0.003*** (0.00)		-0.006*** (0.00)		-0.003*** (0.00)		-0.010*** (0.00)
Research Hospital (Binary)	0.689*** (0.14)	0.249*** (0.06)	0.768*** (0.24)	1.705*** (0.20)	1.262*** (0.36)	0.526** (0.18)	-0.269 (0.60)	0.146 (0.60)
Research Hospital x Cluster Strength					-1.215† (0.70)		2.206† (1.18)	
Research Hospital x Business Dynamics Index						0.001 (0.00)		0.028*** (0.01)
Research Hospital x Business Incubator Spillovers						-0.003* (0.00)		-0.005 (0.00)
Controls								
Hospital Bed Size	-0.00† (0.00)	-0.000*** (0.00)	0.001 (0.00)	-0.004*** (0.00)	-0.002* (0.00)	-0.001*** (0.00)	0.001 (0.00)	-0.006*** (0.00)
Economic Well Being Index		0.003* (0.00)		0.076*** (0.01)		0.003† (0.00)		0.082*** (0.00)
Population Growth (Ages 25-44)		0.001* (0.00)		0.000 (0.00)		0.001 (0.00)		0.007*** (0.00)
Innovation (Patents/10k employees)	0.166*** (0.01)		0.218*** (0.02)		0.167*** (0.01)		0.218*** (0.02)	
Establishments Growth Rate	45.503*** (1.98)		22.178*** (3.75)		45.469*** (1.99)		22.228*** (3.74)	
Constant	12.57*** (0.31)	14.129*** (0.57)	69.024*** (0.50)	57.095*** (1.99)	12.408*** (0.33)	14.097*** (0.57)	69.327*** (0.53)	62.666*** (0.51)
Observations	10591	15829	10611	12060	10591	15829	10611	12060
R-squared	0.15	0.05	0.06	0.16	0.15	0.05	0.06	0.07
Log-Likelihood	-22367.94	-38382.14	-27767.76	-42010.67	-22365.72	-38379.09	-27765.03	-42627.2
F Statistic	167.51	14.76	51.64	40.47	141.05	14.36	42.95	105.77
Degrees of Freedom	(5, 3422)	(55, 15773)	(5, 3424)	(55, 12004)	(6, 3422)	(57, 15771)	(6, 3424)	(8, 12051)
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

Robust standard errors in parentheses

Regression estimations of fixed effects reported in Models 1, 3, 5 and 7.

Models 2, 4, 6 and 8 report cross-sectional regression results from 2016.

Dependent variables are lagged 2 years in all models.

*** p<0.001

** p<0.01

* p<0.05

† p<0.1

Model 1 tests H1, the main effect of cluster strength on 30-day pneumonia mortality. Model 1 has an F-Statistic of 167.51 and adjusted $R^2=0.15$. We find a significant negative relationship (beta=-1.372, p<0.001) between the two, indicating that as cluster strength increases, local hospital mortality rates from pneumonia decrease.

These findings support hypothesis 1, which expects that entrepreneurial activity in a region is associated with improved hospital quality of care.

In Model 2, we use two IVs from the cross-sectional StatsAmerica 2016 data and maintain our dependent variable to support and verify the findings from Model 1. We regress the (1) business dynamics index and (2) business incubator spillovers on 30-day pneumonia mortality and find corroborative evidence of significant negative relationships with both independent variables (business dynamics index: $\beta = -0.011$, $p < 0.000$; business incubator spillovers: $\beta = -0.003$, $p < 0.000$). Taken together, entrepreneurial activity in a region is associated with lower mortality rates for pneumonia at local hospitals. These findings also suggest strong support for hypothesis 1.

Models 3 and 4 both examine H2, which stated that as entrepreneurial activity increases in a region, patient satisfaction decreases. Model 3 examines the relationship between cluster strength and the percent of patients rating their hospital experience as a 9 or 10. We find a significant negative relationship ($\beta = -2.361$, $p < 0.001$). Contrarily to mortality, as cluster strength increases, the percent of patients rating their hospital experience as a 9 or 10 decreases. Our findings support hypothesis 2 and show that a relatively small increase in cluster strength, say from the mean of 0.49 to 0.50, is associated with the comparatively larger change from 70.1% to 67.7% of patients surveyed rating their hospital experience as a 9 or 10.

In Model 4 we run the regression with the patient satisfaction dependent variable using the StatsAmerica measures of entrepreneurial activity and here results are less consistent. Model 4 examines the relationship between business dynamics index and

business incubator spillovers on the patient satisfaction ratings. As expected, business incubator spillovers were significantly negatively associated ($\beta=-0.006$) with high patient satisfaction ratings ($p<0.001$). Yet, in contrast, we found a positive relationship ($\beta=0.025$) between the business dynamics index and the percent of patients giving their hospital experience a 9 or 10 rating ($p=0.000$). These findings suggest contradictory results. At best we can offer partial corroboration of hypothesis 2.

Model 5 tests H3a, the interaction effects of research hospitals x cluster strength on 30-day pneumonia mortality. we find a marginally significant negative coefficient ($\beta=-1.215$ and $p=0.084$). This finding indicates that research hospitals in entrepreneurial areas may have lower (i.e. better) pneumonia mortality rates than non-research hospitals.

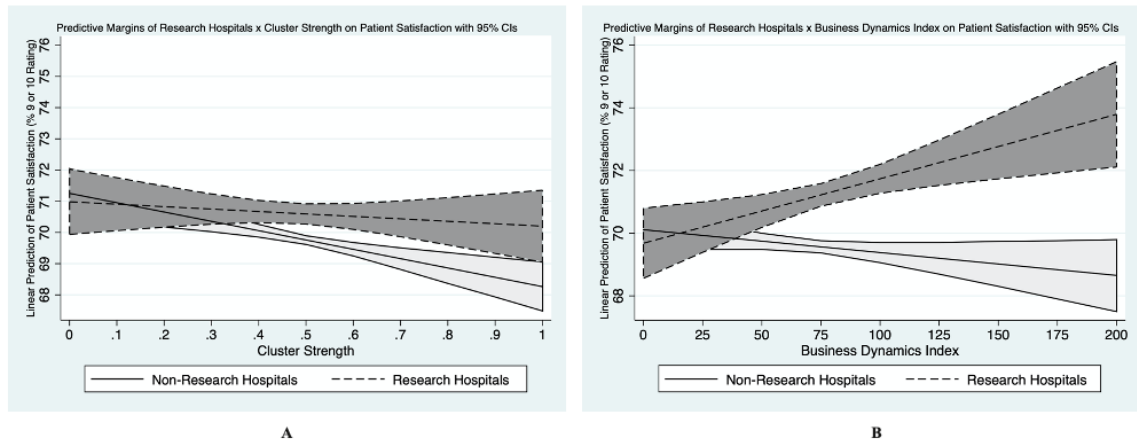
Model 6 tests our other measures of entrepreneurial activity in the interaction of research hospitals x business dynamics index and research hospitals x business incubator spillovers on 30-day pneumonia mortality rates. we find that the interaction with the business dynamics index is not significant ($p=0.745$) and the interaction with business incubator spillovers is negative and significant ($\beta=-0.003$, $p=0.026$). This finding suggests that research hospitals in areas with high business incubator spillovers have even better pneumonia mortality rates than non-research hospitals. Taken together, these findings suggest partial support of H3a.

Model 7 tests H3b and finds a positive, though not significant, relationship between the interaction of research hospitals x cluster strength on the percent of patients rating their hospital experience a 9 or 10 ($\beta=2.206$, $p=0.06$). This finding is suggestive of research hospitals in areas with high cluster strength indicating a lot of

entrepreneurial activity might have better patient satisfaction scores than non-research hospitals but does not provide conclusive support for H3b.

Model 8 does find a positive ($b=0.028$) and significant ($p<0.001$) relationship between the interaction of research hospitals with the business dynamics index and patient satisfaction. The interaction of research hospitals with business incubator spillovers on patient satisfaction is not significant ($p=0.195$). Thus, Model 8 provides some initial support for hypothesis 3b. Figure 3 shows the margins plots for the interactions between research hospitals and cluster strength (A) and research hospitals and business dynamics index (B) on patient satisfaction.

Figure 3: Margins Plots of Research Hospitals and Entrepreneurial Activity on Patient Satisfaction Ratings



The dependent variable, patient satisfaction, is plotted on the Y-axis in both figures, cluster strength (in Figure 3A) and the business dynamics index (in Figure 3B) are plotted on the X-axis respectively. The plotted relationships and associated 95% confidence intervals represent research hospitals (solid lines) and non-research hospitals (dashed lines). Figure 3 reveals that the interaction effect of research hospitals can be differentiated between cluster strength and business dynamics index. Figure 3A

shows that as cluster strength increases, patient satisfaction decreases more slowly in research hospitals than non-research hospitals, and this divergence in patient satisfaction is significant when cluster strength is between 0.4 and 0.9 (where the confidence intervals do not overlap). Figure 3B shows a strong interaction effect between research hospitals and the business dynamics index on patient satisfaction. It reverses the previously observed negative relationship between business dynamics and patient satisfaction. For research hospitals we observe a positive relationship between the business dynamics index and patient satisfaction, while for non-research hospitals, this relationship continues to be a negative one with an increasing business dynamic index. The divergence between research hospitals and non-research hospitals increasingly grows as the business dynamics index increases.

Robustness Checks

In our main analysis we chose to include one dependent variable each for hospital mortality rates and for patient satisfaction scores. There are of course other quality and patient satisfaction measures that are also important performance measures for hospitals. As further robustness checks on our results, we mirror our main analysis (Table 3) using alternative measures. First, to verify our results on hospital quality of care, we use the alternative dependent variable, *30-day heart failure mortality*, from the CMS Hospital Compare dataset. Second, to verify our patient satisfaction results, we use a second summary metric from the HCAHPS survey by CMS as the dependent variable, the percent of patients who report they would “*definitely recommend*” the hospital to friends and family. We run the same analyses with these alternative

measures; first, the longitudinal fixed-effects regressions using the *cluster strength* measure from the USCMP as the independent variable, and then cross-sectional OLS regressions using *business dynamics index* and *business incubator spillovers* from the SA dataset as independent variables. 30-day mortality for pneumonia and 30-day mortality for heart failure have a correlation of $r=0.36$ ($p=0.000$). The patient satisfaction summary metric is highly correlated with patient recommendation at $r=0.88$ ($p=0.000$). The results of these robustness analyses closely mirror the findings we report above and are available in the Appendix.

DISCUSSION AND CONCLUSION

On its surface the synergies between entrepreneurial activity and local hospital quality of care may not be apparent. Why should entrepreneurial activity affect the quality of hospital care in the region? They may seem unrelated. Our findings suggest though that there are important knowledge flows between these domains. We have conceptualized these knowledge flows as facilitated by geographic co-location and social relationships, and that the effects of knowledge flows are affected by the perspectives of the individuals in the local population.

Theoretical Implications

First, our reconceptualization of the KSTE as recursive is crucial to the theory's advancement. Such duality is in agreement with work by a small but growing group of scholars, who have also challenged the problematic assumption of the current view of

KSTE that knowledge flows simply and one-directionally, from incumbent organizations and university research, to spur entrepreneurial activity (Agarwal et al., 2007; Audretsch and Link, 2019; Casper, 2013; De Clercq et al., 2008). Our work differentiates from these scholars since we add the novel path of knowledge spillovers originating in entrepreneurial activity and flowing to local hospitals, and our longitudinal data supports this directionality. Yet, our work also complements recent scholarship when extrapolated from our exemplar public service institution of hospitals, and more generally applied to other institutional contexts, such as education, government and military. In this vein, our work is complementary to recent work by Audretsch & Link (2019) who find that government investments encourage entrepreneurial activity in the form of new firm growth. Taken together, our collective findings suggest that, at a minimum, a complete model of the KSTE importantly accounts for the role of public service institutions. While practice has long known that innovations designed for science and military purposes have transformed into life-saving technologies that are used on a daily basis in hospitals (Nelson et al., 2011), our theory and findings can now also represent these links conceptually and thus match reality more closely. Importantly, our study shows that entrepreneurial activity is even more important than initially conceptualized for knowledge flows within regions. It can be a source of knowledge for hospitals to improve their objective quality of care, the ramifications of which are particularly apparent in light of the current Covid-19 pandemic.

Our reinterpretation of KSTE helps position the theory in relation to other bodies of literature. For instance, we believe that our study coincides with the well-established literature regarding “demand pull innovation” and “technology push innovation” (Di

Stefano et al., 2012). Existing literature on institutions has suggested the importance of “demand pull innovation,” such that institutions need new technologies and methods, thus mobilizing entrepreneurial activity in response to these needs. Our study additionally suggests that regional entrepreneurial activity can provide “technology push innovation,” which institutions can then absorb.

Second, we show that not all consequences of knowledge spillovers are necessarily positive, specifically in terms of the relationship between entrepreneurial activity and subjective perceptions of hospital quality of care. We attribute this negative relationship to differential evaluation bases compared to objective quality of care. Understanding possible negative consequences, as suggested by Agarwal, et al. (2010), is critical to advancing the KSTE. For instance, Parker (2010) presents a well-developed conceptual model of negative backlash of knowledge spillovers against the knowledge-generating incumbent firms. Here instead of focusing on the effects to knowledge-generators, our empirical findings suggest knowledge spillovers may raise population expectations for innovation which can negatively affect the population’s perceptions of institutional quality. By exploring nuances in the consequences of regional knowledge flows, we provide first evidence of a more differentiated and hence more complete view of KSTE, which subsequent theorizing and empirical modeling needs to take into account. We show solid empirical findings for the type, directionality, and magnitude of the overarching relationships between entrepreneurial activity and local hospital performance, which in its form of empirical groundwork makes it possible for future research to delve into e.g. the mechanisms of exactly how these domains interact, and further delineate the contingencies of these relationships.

Third, much as Casper (2013) shows that university scientists interact in regional knowledge networks in circular and collaborative knowledge flows, our findings might be interpreted to illustrate that local social interactions, and thus taking the perspective of local individuals, act as one conduit for knowledge spillovers. Our theoretical arguments regarding perspective taking indicate that hospitals and other public service organizations can benefit by taking the perspective of, and learning from, individuals involved in entrepreneurial activity in their local region, including patients, employees and local innovators. In this way, we add to recent work legitimizing the construct of perspective taking as an important learning mechanism in entrepreneurship research (Prandelli, Pasquini, & Verona, 2016). From a regional economic standpoint, legitimizing perspective taking of the local population is important because it supports the argument that entrepreneurs are “pivotal as agents of change that can transform communities” (Feldman, 2014: 9) and suggests one important channel for how this might occur. Previous research has already shown that at an individual level, people engaged in entrepreneurship are crucial to changing communities (Feldman & Zoller, 2012), and the effects of their perspectives and insights are not isolated to private enterprise.

Finally, our study also importantly contributes to research on RECs by showing that there are essential non-economic ramifications of regional entrepreneurial activity that have previously been ignored. Significant work has been done to establish the link between knowledge spillovers and economic growth of regions (Agarwal et al., 2010). Yet, the focus on economic output, such as employment, growth and productivity (Acs et al., 2017, 2008; Braunerhjelm et al., 2010), as the sole impact of entrepreneurial activity within clusters seems too narrow (Audretsch and Keilbach, 2007; Bloom and

Canning, 2000; Ghio et al., 2015) in light of our findings. Here we complement this previous approach by explicitly creating a symbiotic link between knowledge spillovers and non-economic characteristics of regions. In the same vein as Feldman (2014), entrepreneurial activity is a catalyst for change within communities and public service institutions are vital components of communities for the health and wellbeing of regional populations. A more holistic and realistic model of KSTE such as we propose, should test novel metrics in order to gain unique insights that go beyond the traditional economic performance to allow truly meaningful studies that impact society. We need to define, collect, and investigate those metrics that are not just of interest to us as scholars, but also meaningful and impactful for others. For instance, if we accept that "REC genesis is a process that moves through common stages with defined inflection points," as Feldman et al. (2005: 131) suggest, perhaps another additional stage that should be evaluated is when the cluster generates knowledge that spills over from entrepreneurial activity in predominantly private enterprises to affect local public service institutions, such as hospitals. This would signal maturity of the cluster in non-economic terms.

Implications for Policymakers

Communities often spend precious resources to encourage and incentivize entrepreneurial activity as a means for economic growth and innovation more broadly. It is important for policymakers to accurately estimate the effects of such initiatives, and only considering effects within private enterprise and not the spillovers to the public sector may be underestimating the true effects. As communities invest in agglomerating

industries in their surroundings and cluster strength increases over time, they can expect reverberating and perhaps positive spillover effects, including for the objective quality of care at their local hospital.

At the same time, policymakers should be alert to the increased expectations the population is likely to have as a result of more entrepreneurial activity, therefore, raising the benchmark for patient experience. As a result of our work, hospitals can now have a better understanding of the evaluative base that patients use in determining their satisfaction and hospitals can balance their efforts to improve the technical aspects of care with those of the user experience. Understanding how entrepreneurial activity in local constituencies relates to both objective and subjective quality metrics of patient care in opposing ways, thus translates into the chance to meaningfully tailor policy to where hospitals receive their due share for the service they provide. For instance, CMS and other payers could align hospital financial incentives to encourage hospitals to seek out, experiment with and implement innovative processes regarding the hospital user experience in order to stimulate more of the positive relationship we see in the data between entrepreneurial activity and objective hospital quality.

With our data showing the influence that local entrepreneurial activity can have, hospitals (and presumably other public service institutions) would do well to reduce the barriers to knowledge flow from outside their boundaries and also from outside of their own industry to allow for the diffusion of proven innovations from elsewhere. Specific to hospitals, increased efficiency, innovation and communication are imperative for adjusting to value-based reimbursement (Berwick et al., 2008; Gawande, 2012; *Patient Protection and Affordable Care Act*, 2010). Yet, from our connections in the hospital

industry, we know that hospitals have a tendency to prefer peer-to-peer learning from other hospitals across the U.S., perpetuating an industry-centric knowledge sharing culture, rather than drawing on organizations outside the industry. Our data suggests for instance that in highly entrepreneurial RECs regular meetings between community entrepreneurs and leaders of public service institutions may be fruitful to encourage perspective taking and cross-industry knowledge transfer.

Limitations and Future Research

These contributions notwithstanding, this study has limitations. Endogeneity is a concern when studying RECs with secondary data sources, because the private and public sectors often develop in parallel and depend on each other, so despite all care and corroboration we are not able to make unambiguous causal claims about the relationships between entrepreneurial activity and hospital performance. We use longitudinal and cross-sectional data, relevant controls, and alternative measures to the best of our ability to reduce the chance for reverse causality or omitted variables; nonetheless, the measurement of cluster strength is an indirect measure of entrepreneurial activity in a region and we did not yet have access to all data in a longitudinal setting, hence partially relying on non-longitudinal measures for new business formations and business incubator spillovers.

Additionally, we recognize that entrepreneurial clusters do not necessarily have the same geographic boundaries as government definitions of counties. For instance, our county level data may mask innovative clusters that occur in smaller neighborhoods or, in less populated areas of the country, may be too small of a perspective.

One opportunity, which we did not explore in the current dataset, may be in using a two-stage least squared (2SLS) model to examine a potential self-selection effect of highly-qualified physicians choosing to work in research hospitals. A symbiotic relationship between highly trained physicians and employment at research hospitals is likely, though this is outside our core model and our data does not afford us the ability to explore this phenomenon. We would encourage future research in this direction.

Finally, our data did not have sufficient granularity to directly test the precise mechanisms of social networks and labor mobility that we conceptualize as paramount to facilitate knowledge spillovers. It is also fair to assume that knowledge flows are dynamic relationships involving both the source and recipient. Future research could empirically examine the detailed mechanisms facilitating knowledge spillovers dynamically. For instance, future research could integrate our results with those of Escribano and colleagues (2009) and examine the sources hospitals use for learning and incorporating new information. Similarly, we see great potential in building on the work of Nohria and Gulati (2011) in connection with our contribution to investigate the amount of slack resources that hospitals have to further afford the exploration, experimentation and exchange of novel insights within their regional innovation cluster.

As a result of our work, we hope that the KSTE is viewed through a more holistic, yet still parsimonious lens, that recognizes entrepreneurial activity not only as a recipient, but also a generator of knowledge that spills over into the regional ecosystem and importantly into local public service institutions where this knowledge might improve our healthcare.

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APPENDIX

Table 4								
Regression Analysis Results of Robustness Checks with Alternative Dependent Variables								
Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	Hypothesis 1		Hypothesis 2		Hypothesis 3a		Hypothesis 3b	
	Mortality: 30-day Heart Failure	PS: % Definitely Recommend	Mortality: 30-day Heart Failure	PS: % Definitely Recommend	Mortality: 30-day Heart Failure	PS: % Definitely Recommend	Mortality: 30-day Heart Failure	PS: % Definitely Recommend
Cluster Strength	-0.47* (0.19)		-1.90** (0.63)		-0.42† (0.22)		-2.70*** (0.72)	
Business Dynamics Index		-0.01*** (0.00)		0.05*** (0.00)		-0.01*** (0.00)		0.03*** (0.00)
Business Incubator Spillovers		-0.00*** (0.00)		-0.00 (0.00)		-0.00*** (0.00)		-0.01*** (0.00)
Research Hospital (Binary)	0.19** (0.07)	0.01 (0.03)	0.21 (0.21)	2.49*** (0.22)	0.28 (0.18)	0.72*** (0.09)	-1.12* (0.51)	2.98*** (0.65)
Research Hospital x Cluster Strength					-0.19 (0.34)		2.81** (1.01)	
Research Hospital x Business Dynamics Index						0.00 (0.00)		0.01 (0.01)
Research Hospital x Business Incubator Spillovers						-0.01*** (0.00)		-0.01 (0.00)
Controls								
Hospital Bed Size	-0.00 (0.00)	-0.00*** (0.00)	0.00 (0.00)	-0.00 (0.00)	-0.00 (0.00)	-0.00*** (0.00)	0.00 (0.00)	-0.00*** (0.00)
Economic Well Being Index		0.01*** (0.00)		0.09*** (0.01)		0.01*** (0.00)		0.09*** (0.00)
Population Growth (Ages 25-44)		0.00*** (0.00)		0.01*** (0.00)		0.00*** (0.00)		0.01*** (0.00)
Innovation (Patents/10k employees)	0.04*** (0.00)		0.10*** (0.01)		0.04*** (0.00)		0.10*** (0.01)	
Establishments Growth Rate	3.93*** (0.95)		5.27 (3.41)		3.93*** (0.95)		5.33 (3.41)	
Constant	11.72*** (0.15)	11.92*** (0.33)	71.19*** (0.43)	56.30*** (2.17)	11.70*** (0.16)	11.80*** (0.33)	71.58*** (0.46)	57.70*** (0.55)
Observations	10098	14516	10611	12060	10098	14516	10611	12060
R-squared	0.03	0.16	0.02	0.14	0.03	0.17	0.02	0.07
Log-Likelihood	-13316	-25911	-26865	-43078	-13315	-25848	-26860	-43550
F Statistic	25.11	51.67	14.43	36.26	21.08	52.48	13.14	118.18
Degrees of Freedom	(5, 3244)	(55, 14460)	(5, 3424)	(55, 12004)	(6, 3244)	(57, 14458)	(6, 3424)	(8, 12051)
P-Value	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000

PS: Patient Satisfaction
 Robust standard errors in parentheses
 Regression estimations of fixed effects reported in Models 1, 3, 5 and 7.
 Models 2, 4, 6 and 8 report cross-sectional regression results from 2016.
 Dependent variables are lagged 2 years in all models.
 *** p<0.001
 ** p<0.01
 * p<0.05
 † p<0.1

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CHAPTER FOUR

Widening Your Lens: Cognitive Adaptability, Beneficiary Contact and Job Burnout as Antecedents to Perspective Taking Among Corporate Entrepreneurs

ABSTRACT

Taking the perspective of others is a crucial ability to identify the best entrepreneurial opportunities. In corporate entrepreneurship, constant effort goes into training and motivating employees to participate in entrepreneurial activities. What makes employees in corporate entrepreneurship better at perspective taking? How can employees widen their lens to better see others' viewpoints? While important scholarly work has shown that perspective taking plays a central role in identifying entrepreneurial opportunities, research has not yet examined the antecedents to this important new variable that are relevant for corporate entrepreneurship. Here I complement the cognitive work on perspective taking by focusing on possible antecedents to perspective taking in corporate entrepreneurship. I specifically focus on employee cognitive adaptability and beneficiary contact to provide the knowledge and motivation, respectively, that has been suggested as crucial to initiating entrepreneurial action. Additionally, I suggest that perspective taking is hindered when employees experience job burnout. Employee cognitive adaptability, beneficiary contact, and job burnout collectively are important considerations because they play unique roles in the corporate entrepreneurship setting. Secondly, I investigate whether perspective taking among corporate entrepreneurs enhances their opportunity identification, in both quantity and quality, and how prior knowledge moderates this relationship. I collect

primary data in two separate samples, employing survey techniques with a randomized intervention to investigate these questions. My results suggest that employee cognitive adaptability, beneficiary contact, and a lack of job burnout are associated with employees' ability to take the perspective of others. The results of my study start important conversations about the central role that perspective taking can play in corporate entrepreneurship.

Keywords

Perspective Taking, Cognitive Adaptability, Beneficiary Contact, Entrepreneurial Opportunity Identification, Corporate Entrepreneurship, Job Burnout

Widening Your Lens: Cognitive Adaptability, Beneficiary Contact and Job Burnout as Antecedents to Perspective Taking Among Corporate Entrepreneurs

INTRODUCTION

Considering the world from other viewpoints, or perspective taking, enhances an entrepreneur's ability to recognize better market opportunities in terms of desirability, feasibility, alignment and creativity (Prandelli, Pasquini & Verona, 2016; Grant & Berry, 2011; Frederiks, Englis, Ehrenhard & Groen, 2019). Perspective taking has been shown to be just as effective as prospective thinking at enhancing opportunity identification, and more so than counterfactual thinking (Frederiks et al., 2019). Opportunity identification is the foundational starting point for entrepreneurial action (Hitt, Ireland, Sirmon, & Trahms, 2011; McMullen & Shepherd, 2006), thus, perspective taking is a "new and powerful cognitive variable" that should be considered in entrepreneurship research (Prandelli et al. 2016: 288).

This ability to take others' perspectives could be particularly pertinent for corporate entrepreneurs, or employees within existing organizations, because it is of core interest to corporate entrepreneurship (CE) that established organizations understand the microfoundations underlying how employees identify entrepreneurial opportunities to improve the organization (Groth, Wu, Nguyen, & Johnson, 2019; Park, Kim, & Krishna, 2014). In examining these microfoundations, we know that entrepreneurial action is a function of both knowledge and motivation (McMullen & Shepherd, 2006), so it makes sense to look for potential antecedents to perspective taking from these two domains.

Despite its proven importance, the antecedents of perspective taking within CE have not yet been examined. What makes employees better at perspective taking? How can corporate entrepreneurs (CEs) widen their lens to better see others' perspectives? In order to make the most of the perspective taking work, the CE literature needs to understand what enhances employees' ability and willingness to take the perspective of others. It is therefore crucial to CE to ensure the antecedents to perspective taking, along with the consequences of perspective taking, are well understood within established organizations.

I shed light onto these questions by examining three important cognitive antecedents to perspective taking that may be of particular relevance to CE: employee cognitive adaptability, beneficiary contact and job burnout. These particular constructs are important to examine, because they are representative of the knowledge and motivation of CEs, and the workplace environment, all of which are known to play a foundational role in encouraging (or discouraging) entrepreneurial action (McMullen & Shepherd, 2006). First, I suggest that by enhancing perspective taking, CEs' cognitive adaptability, the "ability to be dynamic, flexible and self-regulating in one's cognitions given dynamic and uncertain task environments" (Haynie, Shepherd, Mosakowski & Earley, 2010: 218), provides an ability and knowledge pertinent to identifying opportunities. Second, beneficiary contact, referring to personal interactions with the end beneficiaries, or customers, of a person's work (Bolino & Grant, 2016), can motivate CEs to identify more and higher quality opportunities. Finally, job burnout is an important contextual variable for workplaces because CEs who are burnt out may be less likely to engage in perspective taking (Maslach, Schaufeli & Leiter, 2001). I

complement this investigation by looking at whether perspective taking leads to higher quality and more quantity of opportunities identified by employees, and how this relationship is moderated by the CEs' prior knowledge.

Cognitive adaptability, the first cognitive antecedent of perspective taking I consider, has been suggested to be a crucial ability for entrepreneurs and a foundational component of an entrepreneurial mindset (Haynie et al., 2010). While most of the cognitive adaptability research to date has focused on independent entrepreneurs (Haynie & Shepherd, 2007; Haynie et al., 2012; Shepherd, Williams, & Patzelt, 2015), the cognitive adaptability of CEs may also be crucial to existing organizations successfully responding to changing environments (Shepherd, Patzelt, & Haynie, 2010; Shepherd & Patzelt, 2018). As organizations struggle to maintain or gain competitive advantage and adapt to environmental changes, the cognitive adaptability of CEs may be crucial to enable CEs to better take the perspective of others, in the process of identifying opportunities.

Beneficiary contact, the second antecedent to perspective taking that I consider here, is an important motivating technique from organizational psychology and has currently been overlooked in the CE literature (Bolino & Grant, 2016). Beneficiary contact is an important driver of employee motivation and behavior in organizations in terms of persistence, output, productivity and vigilance (Bellé, 2012, 2013; Bolino & Grant, 2016). Beneficiary contact has been suggested to enhance perspective taking (Grant, 2012), and therefore could be a crucial characteristic for CE to take into account.

Job burnout is the third antecedent to perspective taking that I consider here, as

indicative of the workplace context, because job burnout is prevalent in some organizations (Maslach et al., 2001). Job burnout can result from excessive workload and psychological stress (Maslach et al., 2001), and thus, may require employees to focus their cognitive effort on simply performing their job. It may therefore reduce employees' ability to consider other cognitive tasks, such as exploring the perspective of others. CE literature is currently not taking advantage of these learnings regarding cognitive adaptability, beneficiary contact and job burnout, thus hampering what we know about how employees' perspective taking occurs.

I study these important questions in a comprehensive set of three studies, comprising one pilot study, and two online studies featuring two slightly different randomized experiments. I first completed a pilot study with 13 corporate entrepreneurs from multiple organizations in the same industry who were attending an innovation course. The pilot study and the associated initial results provided significant feedback for me to improve the study tool and process. For my main data collection, I then administered two online studies. The first study's sample came from 58 CEs from one large healthcare organization in the U.S identified through my personal networks. The second study's sample consisted of 97 paid online respondents from diverse industry backgrounds. For both studies, the online questionnaire included an intervention to induce beneficiary contact. For the healthcare study, the intervention was designed considering original patient comments. For the broader sample, a more general intervention was designed to cover multiple industries equally. In both studies, I randomly assigned participants to be exposed to positive, negative, or no beneficiary comments prior to studying their perspective taking.

This paper makes important contributions to the literature on CE. First, previous research on perspective taking in entrepreneurship has focused on the consequences of perspective taking, especially relating perspective taking to higher quality opportunity identification (Prandelli et al., 2016; Fredericks et al., 2019). While we have a basic understanding of the important consequences of perspective taking, my work differs by trying to understand what leads to perspective taking by CEs. My positioning of perspective taking as an important proximal outcome from employee cognitive adaptability, beneficiary contact, and a healthy work-life balance, is especially useful because it aligns with the knowledge, motivation and contextual aspects that we know set the stage for productive opportunity identification (Shepherd & McMullen, 2006). Previous scholars have conceptually argued that an “entrepreneurial mindset” is a crucial component to established organizations identifying new opportunities that can result in superior organizational performance (Ireland, Hitt & Sirmon, 2003: 967; Ma & Tan, 2006). My results complement this perspective by providing empirical evidence that these antecedents are associated with perspective taking, an important element of an entrepreneurial mindset within organizations.

Second, my research helps legitimize and better understand cognitive adaptability’s role within established organizations. Scholars agree that employees in the corporate context can be expected to think and act differently from traditional, independent entrepreneurs, so we cannot simply apply what we know from entrepreneurial cognition literature directly to the corporate context (Corbett & Hmieleski, 2007), and it is important to study entrepreneurship within the context in which it exists (Mitchell et al., 2002). As a result of this work, I encourage application of

cognitive adaptability to explain prior findings. For instance, Behrens & Patzelt (2016) argue that CE managers' cognitive characteristics related to previous project failures affect the likelihood of the manager terminating a project. My findings suggest that another important cognitive characteristic of these managers that may also impact project termination decisions is their ability to change the way they think about the project, or their cognitive adaptability.

Third, I introduce the important organizational characteristic of beneficiary contact to the CE literature. By not including beneficiary contact in studies of CE and perspective taking, the entrepreneurship literature is missing an important and realistic motivating factor for employees. My work is one step toward integrating this important organizational psychology construct into the corporate entrepreneurship literature. This integration allows understanding how employees work more closely together (Bolino & Grant, 2016; Shepherd, 2015).

Fourth, I start to delineate the boundary effects of the relationships between these cognitive constructs. My arguments specifically highlight the hindering effect that job burnout has on perspective taking. Especially now during the Covid-19 pandemic, job burnout and psychological stress are on the rise in workplaces. CE models need to take these realities of regular workplaces into account as we seek to understand the underlying cognitions that contribute to (or interfere with) identifying entrepreneurial opportunities within organizations. I also differentiate between types of beneficiary contact: that which occurs on a regular basis in an individual's daily work, and beneficiary contact that occurs during a short, induced interaction.

Importantly my empirical samples and settings also differ from previous

perspective taking work in that they do not take place in a lab with a student sample (Frederiks et al., 2019; Prandelli et al. 2016), but with real employees currently engaged in corporate entrepreneurship. My objective with these contributions is to establish empirical evidence of clear relationships between cognitive adaptability, beneficiary contact, job burnout and perspective taking. I hope that my work may serve as one step toward integrating these important concepts in corporate entrepreneurship research.

In the following sections I begin by situating this discussion within entrepreneurial cognition in CE and developing my hypotheses. I then go on to describe the methodology that I use to test these hypotheses and present my findings. I conclude with a discussion of the potential contributions and implications of this research for theory and practice.

LITERATURE REVIEW

Before outlining my hypotheses, I briefly introduce, define and review the literature on the two overarching concepts that are relevant to my study: 1) perspective taking in entrepreneurship and 2) cognitive perspectives in CE.

Perspective Taking in Entrepreneurship

"Perspective taking entails the active consideration of another's point of view, imagining what the person's life and situation are like, walking a mile in the person's shoes" (Galinsky & Ku, 2004: 596). In general, perspective taking requires a specific target individual or group, such as users (Blank, 2013) or suppliers (Parker & Axtell, 2001), and the perspective taker reflects on the target's viewpoint. The act of

perspective taking can be based on information that the target group shares with the perspective taker, or from the perspective taker talking to oneself in imagining how the target would feel and act (McMullen, 2010). The amount of perspective taking that people engage in is thought to be relatively stable, and, similar to other cognitive development concepts (Davis, 1983). It can also be learned over time and enhanced by environmental factors, experience, and organizational interventions (Parker & Axtell, 2001). Important antecedents of perspective taking have been identified outside of entrepreneurship, including prosocial motivation (Grant & Berry, 2011), power (Litchfield & Gentry, 2010), job roles (Parker & Axtell, 2001), training (Bartunek, Gordon, & Weathersby, 1983; Block-Lerner, Adair, Plumb, Rhatigan, & Orsillo, 2007; Frederiks et al., 2019) and personal interactions (Parker & Axtell, 2001). Perspective taking is a relatively new concept in regard to entrepreneurship research, and the current work has focused on the consequences of this important construct (Prandelli et al., 2016). Perspective taking helps entrepreneurs to focus their imaginations in identifying opportunities, to identify potential stakeholders such as customers, investors and competitors, and to maintain focus on how to meet stakeholders' needs in developing solutions (McMullen, 2010).

Here I position perspective taking as crucial to identifying third-person entrepreneurial opportunities (the first stage in the theory of entrepreneurial action) (McMullen & Shepherd, 2006), because this is the relevant key outcome in terms of CE. In this context individual employees do not have to assess the feasibility and desirability of pursuing the opportunity by themselves; they have the resources (and constraints) of the organization to contribute to this process. Accordingly, I follow the example of others

(Grégoire, Shepherd, & Lambert, 2010; Shepherd, McMullen, & Jennings, 2007) to characterize opportunity identification as the subjective belief that an opportunity exists for the willing and able, regardless of the evaluation of whether or not one individual or firm should pursue the opportunity.

Cognitive Perspectives in Corporate Entrepreneurship

The study of entrepreneurial cognitions within the corporate environment is still in development and there is a strong need for more work in this area (Calisto & Sarkar, 2017; Corbett & Hmieleski, 2007; Dewald & Bowen, 2010; Garrett & Holland, 2015; Hoskisson, Covin, Volberda, & Johnson, 2011), because researchers need to consider the context in which the individuals they study are embedded (Mitchell et al., 2002). This repositioning of entrepreneurial cognition within established organizations is at the same time challenging, because of the complexity of organizations, and also realistic, because individuals do not typically think and act void of context and restrictions (Mitchell et al., 2002). The cognitive perspective in CE is also critical because, scholars show that an entrepreneurial mindset is a critical dimension for organizations (along with entrepreneurial culture and leadership, strategic management of resources, and applying creativity and developing innovation) that can lead to competitive advantages (Ireland et al., 2003). One example of important work in this area has demonstrated the importance of context on cognition by proposing that because of the context of CE, individuals experience tension between role and event schemas, which are different from independent entrepreneurs (Corbett & Hmieleski, 2007). For example, the authors use this tension to posit that corporate entrepreneurs have more resources, formal

networks and situational knowledge for new ventures than independent entrepreneurs but are also more concerned about idea protection and less likely to take actions to start a new venture (Corbett & Hmieleski, 2007). Shepherd & Krueger (2002) provide another example of translating entrepreneurial cognition research to the CE context. For instance, they find that team perceptions of the feasibility of entrepreneurial behavior and the team's collective efficacy affect the team's entrepreneurial intention, and a team's collective efficacy is higher when it has more entrepreneurial experience, which can be enhanced by enactive mastery, feedback, training, and vicariously learning from others. Relevant to my current study, their findings demonstrate that collective decision-making regarding entrepreneurial behaviors, such as occurs in teams and organizations, differs from individual decision-making on entrepreneurial action.

Employees are an important resource in CE environments that can either help or hinder the organization from meeting its goals (Hornsby, Kuratko, Shepherd, & Bott, 2009; Hornsby et al., 1993; Schmelter, Mauer, Borsch, & Brettel, 2010). In fact, employees can be seen as the engines responsible for propelling the organization toward its goals and maintaining its entrepreneurial posture and competitive edge (Antoncic & Hisrich, 2001; Hornsby et al., 1993; Kuratko et al., 2015; Schmelter et al., 2010; Zahra et al., 1999). Thus, one of the main concerns of the CE literature is how to motivate employees to participate in CE activities (Rigtering, Weitzel, & Muehlfeld, 2019; Park et al., 2014). For instance, Rigtering, et al. (2019) found that managerial communication could influence both the number and quality of ideas from employees for CE. Specifically, the authors found that using an opt-out approach versus an opt-in approach to submitting ideas for improvement significantly increased participation and

did not reduce the quality of ideas submitted (Rigtering et al., 2019). At the individual level, goals, feedback and transformational leadership have been identified as antecedents to employees participating in CE (Shepherd & Krueger, 2002). Additionally, there is evidence that certain human resources practices, including staff selection, development and training and rewards, can "foster entrepreneurial thinking, orientation, and activity within employees, thereby creating and nurturing corporate entrepreneurship activity" (Schmelter et al., 2010: 720). When it comes to motivating employees, research has looked at designing better financial incentives for employees to participate in CE and found that it is not a simple matter of financial utility maximization (Monsen, Patzelt, & Saxton, 2010). Employees also consider additional pay risk and job risk, and expectations for success, in addition to financial rewards (Monsen et al., 2010). Context significantly impacts employees' motivation to participate in CE efforts, specifically, managerial receptiveness to CE, employee empowerment and communication symmetry, all of which impact the relationship the employee has with the organization and either encourages or discourages employee participation in CE (Park et al., 2014). Supportive leadership is also associated with employees portraying creativity behaviors (Amabile, Schatzel, Moneta, & Kramer, 2004). These previous studies all provide evidence for the need to examine antecedents to perspective taking pertaining to employee cognitive abilities, employee motivation, and the workplace context.

HYPOTHESIS DEVELOPMENT

My model of antecedents to perspective taking is displayed in Figure 1. Building

on previous literature, I propose a direct relationship between employee cognitive adaptability and perspective taking, a direct relationship between beneficiary contact and perspective taking, and a direct (negative) relationship between job burnout and perspective taking. These hypotheses make up stage 1 of my model. In stage 2, I then hypothesize about the effect of perspective taking on the ultimate outcome of employee opportunity identification, and the moderating role that prior knowledge plays in this relationship. These stage 2 hypotheses regarding the consequences of perspective taking are illustrated in Figure 2.

FIGURE 1
Model of Antecedents to Perspective Taking Among Corporate Entrepreneurs

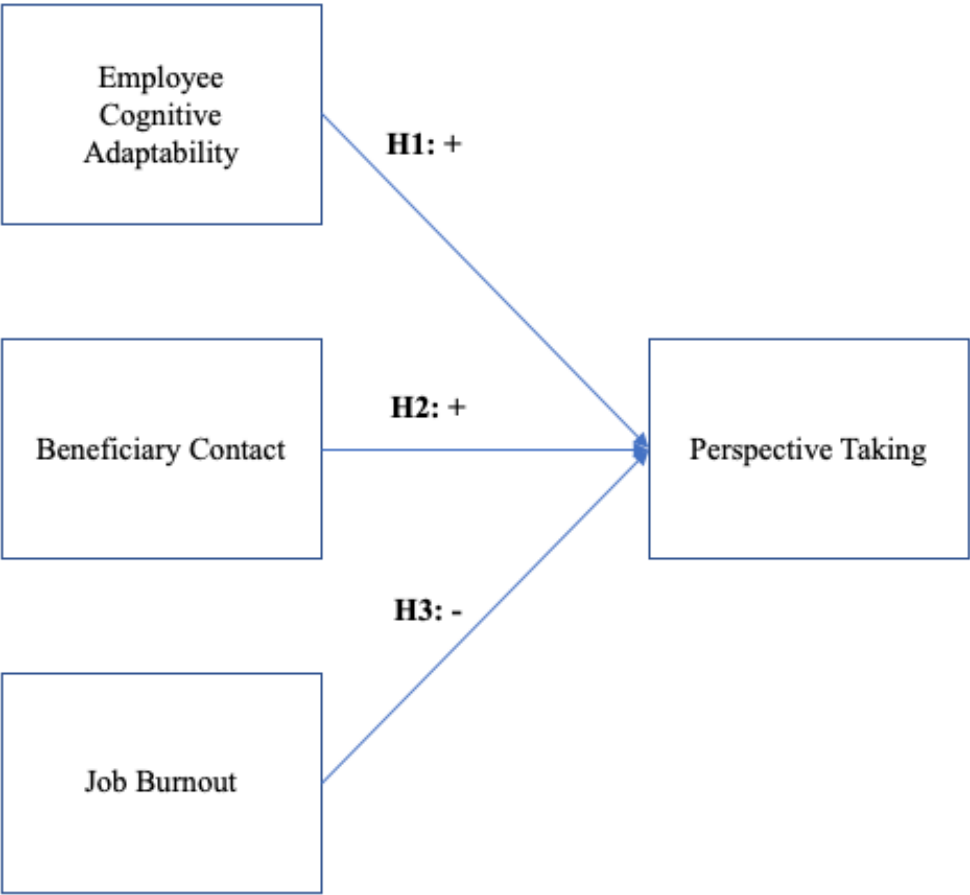
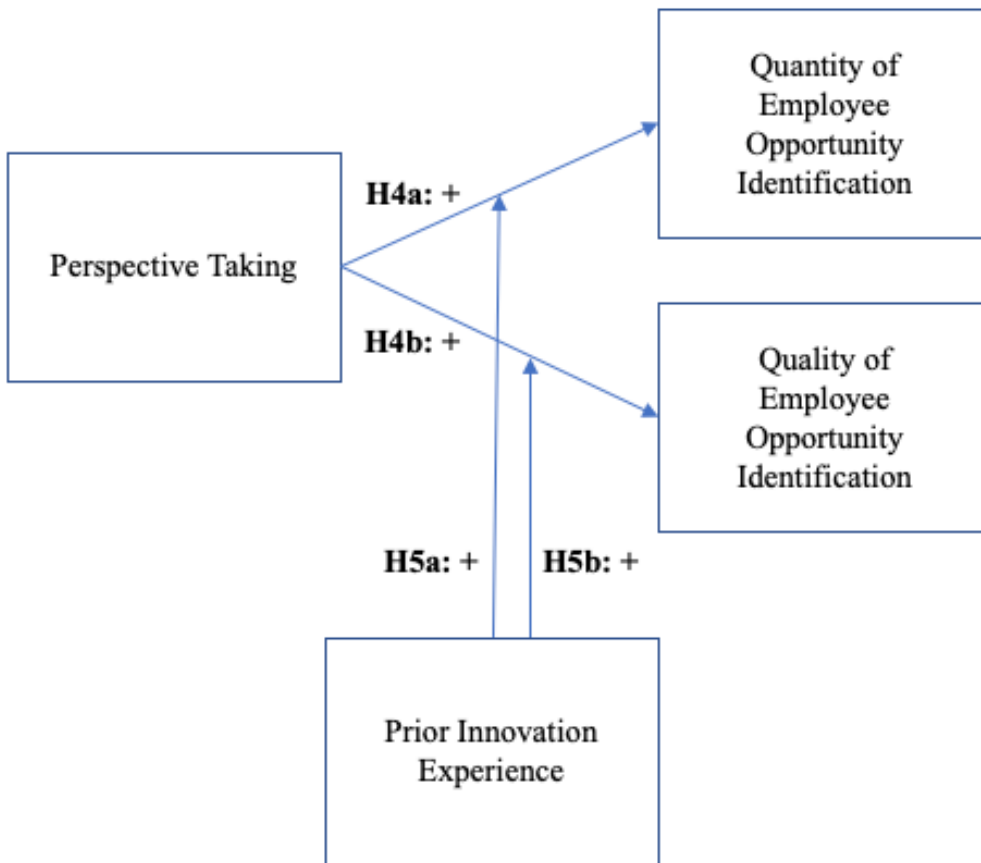


FIGURE 2
Model of Consequences of Perspective Taking Among Corporate Entrepreneurs



Cognitive Adaptability and Perspective Taking

I start my discussion of the potential antecedents of perspective taking in corporate entrepreneurship by examining an important construct in the domain of employees' knowledge. The cognitive adaptability literature in entrepreneurship is built on the central assumption that adaptable thinking is "an attribute of fundamental importance to entrepreneurs," because it improves opportunity identification (Haynie et al., 2010: 218). This is still an assumption and we do not know how this could occur.

Here I suggest that more proximally, having cognitive adaptability allows employees to

take the perspective of others more easily and naturally. Cognitive adaptability is about an individual's ability to change their mindset and is conceptualized as the aggregate of metacognition's five dimensions: goal orientation, metacognitive knowledge, metacognitive experience, metacognitive choice, and monitoring (Haynie et al., 2010). "Metacognition describes the process through which individuals are aware and reflect upon the range of strategies (or create new strategies) appropriate to apply to a given task and consider each relative to its utility in addressing the decision task at hand" (Haynie & Shepherd, 2009: 695). In other words, metacognition describes how an entrepreneur goes about thinking about the decision task (Flavell, 1979). Individuals differ in their cognitive adaptability and looking more deeply at each of its five dimensions can help explain why cognitive adaptability can be expected to enhance the perspective taking of CEs.

The first dimension of cognitive adaptability is goal orientation, such that individuals who are cognitively adaptable are motivated to reach a targeted outcome. In CE, these motivations may be, for example, to assist the organization to "improve market share, enhance manufacturing efficiency, or increase annual revenue" (Haynie & Shepherd, 2009: 698) or simply to improve processes at the CE's workplace to better meet customer needs or make it a more satisfying place to work. In order to reach their target outcome, individuals who are goal-oriented focus on learning from those impacted most directly as the target audience. CEs with high cognitive adaptability may therefore be motivated to improve processes at their workplace to better meet customer needs. In order to reach this target, these CEs may take the focused perspective of their customers to see how they can better meet their needs. For example, in working to

improve customer throughput, CEs may spend time acting as a customer, walking through the whole customer process as if in the shoes of a customer, and identifying processes that do not add value to the customer, or that have particularly long waiting times between process steps.

The second dimension of cognitive adaptability is metacognitive knowledge, which can be directed externally (Haynie & Shepherd, 2009). Externally directed metacognitive knowledge is gathered when individuals work to come up with multiple ways of thinking about a problem or a task, and they consider how other people view their organization or the environment. Cognitively adaptable CEs thus enhance their perspective taking of others when they engage in this cognitive process to gather knowledge about how others, including competitors, investors, and customers, view their organization or the environment.

Third, metacognitive experience is another dimension of cognitive adaptability which indicates the maintenance a flexible mindset over time and requires individuals to frequently change the way they think (Haynie & Shepherd, 2009). This will require frequently looking for new sources of knowledge, such as those that come from others' perspectives. Consistent practice with perspective taking processes will enhance CEs' ability to take perspective and their natural reliance on the perspectives of others as new knowledge sources. Consciously practicing perspective taking improves CEs' ability for perspective taking, making it a more natural process to search for new knowledge by trying to imagine and understand other people's viewpoints.

Fourth, CEs who are high in the metacognitive choice dimension of cognitive adaptability frequently asks themselves whether they have considered all the options

when solving a problem. She asks herself: Is there another perspective that I am not considering? Have I considered all the perspectives? By asking oneself, have I considered all the options, the individual considers the different options. Therefore, cognitively adaptable individuals who are high in metacognitive choice frequently think about different perspectives that exist, and whether they have considered them all in their decision-making. These CEs high in metacognitive choice then are expected to have high perspective taking abilities as well.

The fifth dimension of cognitive adaptability is monitoring, or seeking and using feedback, to reevaluate the other dimensions of an individual's adaptable mindset (goal orientation, metacognitive knowledge, metacognitive experience, and metacognitive choice) (Haynie & Shepherd, 2009). This monitoring of one's own cognitions can occur simultaneously and retrospectively as the individual makes decisions (Haynie & Shepherd, 2009). Relevant to perspective taking, in monitoring one's own cognitions, the CE seeks feedback from external sources, and one important source of feedback is other people's perspectives.

In general, we have heard it said that CEs must be willing and able to think "outside the box" (Ma & Tan, 2006). Having an adaptable cognitive mindset means that the "box" that is an individual's current mindset is frequently changing. For a person's mindset to change, there must be a way for new knowledge to advance the individuals' thinking so the individual can learn. CEs with cognitive adaptability may improve their ability to take the perspective of others because they are out searching for new knowledge and other individuals with whom the CE interacts offer a source of new knowledge. Individuals with adaptable cognitions tend to be more willing to question the

status quo (Shalley, Zhou & Oldham, 2004) and these individuals must also have a way to change their status quo. In other words, individuals are characterized as cognitively adaptable precisely because this flexible mindset enables and encourages them to learn from other perspectives. In consideration of the above, I contend that:

Hypothesis 1. Higher cognitive adaptability is associated with higher perspective taking among corporate entrepreneurs.

Beneficiary Contact and Perspective Taking

Now considering a possible motivating factor that acts as antecedent to perspective taking, and borrowing from organizational psychology, beneficiary contact can be a strong motivator for employees. Beneficiary contact can be a regular occurrence for employees who directly interact with and help customers on a frequent basis. These corporate entrepreneurs who are closest to customers are in a unique position to take the perspective of their customers. First, beneficiary contact is very effective at influencing employees' perspective taking, and motivating them to perform better on the job, because these employees see the impact of their work (Grant & Berry, 2011) eventually themselves. Employees who have beneficiary contact have empathy for and better understand the beneficiary's needs (Grant, 2011, 2012). For example, fundraisers increased their efforts after a visit from a student scholarship recipient (Grant, 2011), radiologists improved their accuracy after seeing a patient photograph (Grant, 2011), and employees who frequently interact with internal or external suppliers are better able to understand their suppliers' processes and needs (Parker & Axtell, 2001).

Beneficiary contact also increases employees' prosocial motivation (Grant, 2007,

2008), and makes them want to help others (Batson et al., 2008). In considering how to go best about helping others, these employees engage in perspective taking. The significant performance effects of beneficiary contact have been tested and proven across multiple, diverse settings, including a U.S. government agency (Grant, 2012), a water treatment plant (Grant & Berry, 2011), a large public university (Grant, 2008), a privately held company selling educational and marketing software (Grant, 2012), and within healthcare organizations (Bellé, 2012, 2013; Grant & Hofmann, 2011; Llopis & D'Este, 2016). Even the reminder of the importance of employees' work to customers induces better performance, as shown by Grant & Hofmann (2011) who found that hospital staff were more likely to wash their hands before going into a patient room if they were first reminded that it will prevent patient illness (versus their own illness), because they underestimate their own chances of getting sick and then even more importantly, feel empathy for patients who they wish to not get sick(er), which then motivates the hospital staff to change their behavior in favor of better hand hygiene (Grant and Hofmann, 2011). Thus, beneficiary contact motivates CEs to imagine the viewpoints of the beneficiaries of their work.

Thinking about it differently, when employees have low contact with the beneficiaries of their work, they are less able to engage in perspective taking, because there are less perspectives available in close vicinity to them. Taking others' viewpoints requires individuals to interact (at least to a minimal extent) with other people. In the absence of beneficiary contact, employees in CE settings may become self-absorbed, focusing on their own workplace problems, which can lead to "siloed" organizations where each functional role or department acts only in its own best interest. In relation to

CE, employees who have low beneficiary contact may look to their own experiences to derive ways to improve their workplace, thus, relating to a low level of perspective taking. Consistent with the above reasoning, I hypothesize:

Hypothesis 2. Employee beneficiary contact is associated with higher perspective taking among corporate entrepreneurs.

The Hindering Effect of Job Burnout on Perspective Taking

Perspective taking can also be influenced by situational factors such as workload and time pressure (Parker, Atkins & Axtell, 2008). Job burnout refers to emotional exhaustion, depersonalization and reduced personal accomplishment because of dissatisfaction with the job, work environment and/or career responsibilities (Maslach et al., 2001), and is one such situational factor. Job burnout can have real consequences, not only directly for the individual's life but also the way they think at work. For instance, healthcare workers experience high rates of job burnout (Rotenstein et al., 2018; McHugh, Kutney-Lee, Cimiotti, Sloane, & Aiken, 2011) and as a result, a randomized-control trial of resident physicians found that 56 percent reported they do not have time to be empathetic (Riess et al., 2012). Additionally, nurses may suffer from compassion fatigue and be more likely to experience psychological distress, sadness, and anxiety, because they empathize frequently and intensely with their patients (Adams, Boscarino, & Figley, 2006). These examples illustrate that in jobs where job burnout is common, employees may be less able or willing to engage in taking the perspectives of others at work and will instead search for ways to mentally escape their workplace.

Aside from stressful work environments, job burnout can come from excessive workloads (Maslach et al., 2001) and CEs who are experiencing job burnout may be

less likely to engage in cognitive exercises to take the perspectives of others at work, especially customers, coworkers, or supervisors. Job burnout and CEs' willingness to participate in entrepreneurial activities can be influenced by these relationships. For instance, CEs are more willing to act entrepreneurial when managers display confidence and satisfaction with entrepreneurial projects (Brundin et al., 2008). In contrast to work environment of job burnout, employees' participation in CE is highest when managers are receptive to employees' innovative efforts, employees are empowered to voice their opinions, and there is two-way symmetrical communication between the organization and employees (Park et al., 2014). Therefore, I expect that perspective taking will suffer in instances of job burnout. This leads me to propose the following hypothesis:

Hypothesis 3. Job burnout is negatively related to perspective taking among corporate entrepreneurs.

Perspective Taking and Employee Opportunity Identification

In the corporate entrepreneurship literature, the ultimate outcome of employees' identification of entrepreneurial opportunities is important (Hornsby et al., 2009; Kuratko et al., 2015). Moving to the consequences of perspective taking in organizations, and since perspective taking is relatively new to the entrepreneurship literature, here I intend to improve upon and extend previous work in this area. Much of the recent research has focused on perspective taking's role in opportunity identification and found that taking the perspective of others, especially customers, is useful in identifying higher quality opportunities (Prandelli et al., 2016; Frederiks et al., 2019; Shepherd & DeTienne, 2005). In line with the arguments above, this is because understanding the perspective

of customers allows entrepreneurs to understand their problems and design solutions that will be successful and sustainable (McMullen, 2010; Ward, 2004). Perspective taking in relation to CE entails spending time thinking about problems that other people have, focusing on stakeholders and what their needs might be, and developing a solution with a particular person (or target market) in mind (McMullen, 2010). These steps all can influence both the quantity and quality of opportunities identified.

Perspective taking increases the breadth of a CE's knowledge stocks because knowledge stocks are a result of the CE's accumulated experiences (Minniti & Bygrave, 2001). The broader knowledge CEs have, the more innovative opportunities they identify (Gruber, MacMillan & Thompson, 2013). Also, the broader a CE's knowledge stocks, the individual has knowledge in a higher number of different areas, which could result in different types of opportunities identified. Thus, I expect perspective taking to be associated with both more quantity and higher quality, in form of creativity, of opportunities identified.

Perspective taking is also helpful in enhancing the usefulness of opportunities identified (Mohrman et al., 2001). In CE, the usefulness of opportunities is important because while idea generation in general can be beneficial to organizations, identifying opportunities that are useful for their target market is the ultimate goal in order to implement the ideas and gain or maintain competitive advantage (McMullen & Shepherd, 2006). In relation to corporate entrepreneurship, Grant & Berry (2011) conducted a series of studies and found that perspective taking is directly linked to the creative behavior of employees. And creativity is a proven measure of the quality of entrepreneurial opportunity identification (Ward, 2004). Increasing the usefulness of

ideas increases the overall creativity, and thus, the quality of opportunities identified (Amabile, 1982). This leads me to hypothesize that:

Hypothesis 4. Perspective taking is associated with (a) higher quantity and (b) better quality opportunity identification among corporate entrepreneurs.

Moderation Effect of Prior Knowledge

Along the same lines as the previous hypothesis, previous research on perspective taking in entrepreneurship has shown that the best opportunity identification occurs when entrepreneurs have previous knowledge in the topic area, and have a high perspective taking ability (Prandelli et al. 2016; Frederiks et al 2019) This is the case, for three different reasons.

First, identification of new information is contingent on the stock of existing information, or in other words, one needs to know something to adequately judge additional information as new or old. This is why we often feel that the more we know, the more we realize how little we know. Second, beyond the identification of new cognitive input, its contextualization is important and here too previous experience serves as a benchmark to understand where new input fits in and where it does not. Third, the more familiar CEs are with an area, the better able they are to know how to translate new information from different perspectives to apply to their focus area. As an example, only an orthopedic surgeon would see 3D printing technology as an opportunity for creating prosthetic limbs (Shane, 2000).

In the corporate entrepreneurship setting, previous innovation experience could play this important enhancing role, because employees who have more experience working on innovation projects could be expected to be better able to use their

perspective taking ability to come up with more and better ideas, in comparison to employees with limited previous experience. This leads to my final hypothesis that:

Hypothesis 5. Prior knowledge positively moderates the relationships between perspective taking and (a) higher quantity and (b) better quality opportunity identification among corporate entrepreneurs.

RESEARCH METHOD

Pilot Study: Sample and Procedures

I scheduled my pilot study as part of an Innovation Workshop in June 2019 during the Lean Healthcare Transformation Summit hosted by Catalysis in Washington, DC. The participants in this all-day workshop were corporate entrepreneurs in leadership roles from healthcare organizations across the United States. Participants held a variety of roles in their respective organizations and, thus, varied naturally in the amount of beneficiary contact they have in their jobs. At the same time, the healthcare industry is a particularly interesting industry to study beneficiary contact and the possibly resulting perspective taking, because of the high number of employees that have regular contact with the beneficiaries of their work (typically patients) in comparison to other industries.

The innovation course was designed to teach healthcare leaders about care model innovation, which the instructor defines as “people using new knowledge and understanding how to experiment with new possibilities in order to implement new care models that create new value” (Toussaint, 2019). We designed our pilot study to be a seamlessly integrated part of the innovation course. Thus, after signing up for the course, all participants received an official welcome message from the course instructor, asking them to complete our pilot study in form of an online exercise via Qualtrics prior

to attending the course. The online exercise was anticipated to take approximately 25 minutes. Multiple reminders were sent to the attendees to maximize participation in the exercise. At the beginning of the course, the instructor gave a brief overview of the research project and encouraged any remaining non-respondents to complete the exercise during their first morning break in the course. Of the 29 course participants, I received 20 responses to the experiment, which resulted in a total of 13 useable responses.

From the pilot study I learned that the experiment takes 15 minutes on average, not 25 minutes as previously believed, so I adjusted the introductory message accordingly. The pilot study confirmed the wording of the intervention and scale instructions, and the clarity of the task. Since the pilot participants were from a variety of healthcare organizations, I controlled for the participant's organization in the analysis. Regarding my communication with participants, I shortened the instructions and included a personal note. Because of existing professional relationships with the organizations involved in the pilot study, I was able to promise participants of my pilot study (and follow-through on this commitment) to share their ideas for improvement in an anonymous way with their organization's leadership, which resulted in uncovering an additional motivational driver for participation. One other question raised from my pilot study was whether the healthcare setting is different from other CE settings. As a result, to ensure generalizability of my findings, I adjusted my study design to include two main studies: study 1 using a sample of CEs in healthcare, and study 2 using a general CE sample.

Study 1: Sample and Procedures

I received ethics approval for my studies from the IE Research Committee prior to data collection. My main data collection builds on the learnings of the pilot study and came from two separate samples collected approximately 1 year apart. In study 1 I collect data from hospital employees who all work for the same large, academic medical center in the United States. Having all respondents from one organization controlled for potential organizational and industry effects. Respondents are from a variety of roles within the organization and, thus, vary in the amount of beneficiary contact they have in their jobs. These employees are considered CEs because the organization makes an active and explicit effort to engage all employees in identifying opportunities to improve the organization (Johns Hopkins Medicine Strategic Plan, 2019). I sent emails to 448 employees who had attended a Lean process improvement training at the hospital since 2015. I then complemented this approach by obtaining permission from the hospital's executive leadership to solicit responses more broadly. I was granted access to the email addresses for all clinical nurses who take care of patients and all supervisors. In total, I manually sent out 989 initial emails requesting participation to these employees with a personal note and followed up with two reminder emails during a 3-week period between January-February 2020. All participants completed the online exercise via Qualtrics. 202 respondents (20%) started the online experiment. From this set, I received a total of 58 useable and complete responses for an overall response rate of 5.8 percent. While this is a low response rate, this response rate is not unexpected. I anticipate that the study length of 15 minutes on average and the upfront opportunity identification exercise, which requires open-ended responses from participants, are both

contributing factors to the low response rate. Additionally, the participants I was seeking out are frontline patient caregivers and their supervisors who do not work regular business hours and who spend most of their working hours with patients and are not frequently on their work email. Given these challenges, I rounded out my data collection with a second, separate sample.

Study 2: Sample and Procedures

For study 2, I collected data from online respondents using Amazon's MTurk service in January 2021. This timing is important because this sample came approximately 9 months after the Covid-19 pandemic began, so I assume workplace changes due to the pandemic have occurred and these organizations are solidly in their "new normal" context. Respondents were paid \$3.00 in exchange for completing the 15-minute study. I received 139 initial responses from this sample. After removing incomplete or incoherent (e.g., "abdabdabd") responses, I had 97 useable responses. This sample importantly differs from that in study 1 because these respondents were all employees engaged in corporate entrepreneurship for different organizations in a variety of industries. This is an important difference, because motivating employees to identify opportunities to improve the organization is not just a concern for healthcare organizations but is applicable to all types of organizations. This second study mimicked the first with a few important exceptions. First, I added a few items to ensure confidence in the quality of data I was receiving from MTurk. MTurk allowed me to only receive respondents from individuals who said they were currently employees in an organization. This helped me have confidence in the data quality because qualifying

respondents could come from a variety of organizations. I also added an attention check question partially through the survey to ensure that respondents were really reading the questions. A total of 91 percent of the respondents answered the attention check question correctly. Second, I adapted the intervention stimuli, so that it was understandable and of relevance to CEs from all types of organizations, not just designed for healthcare employees.

Study Design

The online exercise included an intervention based on randomized assignment to treatment groups (Stevenson et al., 2020). The intervention appears first in the online exercise, so it chronologically precedes the dependent variables (Stevenson et al., 2020). Similar to how other scholars have operationalized beneficiary contact (Bellé, 2012, 2013; Grant, 2012), the beneficiary contact intervention was created through the manipulation of three experimental conditions, into which participants were randomly split. The first group read three positive customer (or patient in study 1) comments about recent experiences at an organization (or hospital in study 1). Participants were asked to imagine that this person was a customer (or patient in study 1) at the organization (or hospital in study 1) where they work. The second group read three negative patient comments about recent experiences at an organization and, again, these participants were asked to imagine that the comments came from a customer at their workplace. The third group serves as a control and did not read any customer comments. The customer (or patient in study 1) comments in the intervention were adapted from real comments about hospital experiences publicly posted on Yelp

referring to randomly selected hospitals in the U.S. I adapted the comments so the patient names are gender neutral and the same for both positive and negative comments. I also made the comments more generic by removing any references to specific hospitals and physicians in study 1. In study 2 with the MTurk sample, I edited the comments to be even more general by replacing any healthcare specific comments with more general comments about the same topic (for example, the hospital billing process versus payment collection). I also replaced any mention of “patients,” with “customers,” and “hospital” with “organization.” As a manipulation check, I asked an independent judge to rate the comments in the interventions according to three categories: negative (1), neutral/neither positive or negative (2) and positive (3) and only included comments in the online exercise in which the judge agreed with my categorization. I also added two manipulation check questions to the online questionnaire itself before administering it in study 2. The first manipulation check question asked respondents to rate whether the customers’ comments express dissatisfaction or satisfaction (on a 5-point Likert scale) and the results showed that for respondents who read positive comments, the average rating was 4.43 (sd .95), while the average rating for respondents who read negative comments was 1.5 (sd 1.1). The second manipulation check question asked respondents to rate whether the customers’ comments are very negative or very positive on a 5-point Likert scale (ranging from very negative=1, neither negative or positive=3, very positive=5). Results from this second manipulation check show that of the respondents who read positive comments, the average rating was 4.4 (sd .95), and for respondents who read negative comments, the average rating was 1.6 (sd .91).

Then, participants were asked to think about and list important problems they are currently experiencing in their work area. Then, I ask them to brainstorm as many and as creative ideas to solve these problems as they can. This idea generation exercise design is consistent with others in entrepreneurship (Grant & Berry, 2011; Prandelli et al., 2016; Rigtering et al., 2019). There was no time limit on this exercise, but I suggested to participants that it takes most people 5-10 minutes for this portion of the exercise. I also suggest to participants that ideas can range from improving the current process or extending the current business, to innovating a completely new system or embarking on a new venture. I encouraged participants to think outside existing constraints, such as the feasibility or desirability of the solution in their current organization and role. By completing the exercise online, the chance for spillover effects to other participants is reduced (Sinclair, Mcconnell, & Green, 2012).

Creativity refers to the development of novel, potentially useful ideas (Shalley et al., 2004), and thus is a good measure for the quality of ideas. In order to evaluate this task objectively, I followed Amabile et al.'s (1996) consensual assessment method for creativity, which separately measures the novelty and usefulness of each idea. In entrepreneurship, creativity is best assessed as this two-factor composite latent construct model with formative indicators for novelty and usefulness, especially if there is a chance that these two factors may have differential relationships with the investigated variables (Sullivan & Ford, 2010). This method uses independent raters to judge the quality of opportunities (Amabile et al., 1996), and is well preceded within entrepreneurship research (Prandelli et al., 2016; Frederiks et al., 2019; Rigtering et al., 2019). Thus, for each sample, I relied on the objective and professional evaluations of

two external judges. In the case of study 1, I relied on two experts in the healthcare industry in different organizations and roles. One judge works in process improvement for the hospital where participants are employed and the other works in a separate and geographically distant, publicly funded hospital in finance. The judges were unaware of the study's hypotheses. For study 2, I relied on two independent, lay raters who are employed in different industries and were unfamiliar with my hypothesized models. I removed all identifying information and created a list of all problems and opportunities generated from the exercises. Judges then independently rated the opportunities identified for novelty and usefulness following the established procedure by Rigtering et al. (2019) and Besemer & Treffinger (1981).

Study Measures

The complete online exercise, which consists of four parts is detailed in the Appendix. The exercise begins with a randomized customer experience intervention, which acted as a beneficiary contact stimulus, and is described in detail above. Second, an opportunity identification exercise immediately follows the intervention to capture the quality and quantity of entrepreneurial opportunities identified by corporate entrepreneurs. It was important for me to collect these ideas before any of the subsequent individual survey questions, so as to avoid contamination or second guessing of the study's intent. Third, I collected the series of scaled survey questions corresponding to perspective taking, the independent variables of employee cognitive adaptability, beneficiary contact and job burnout. Finally, the questionnaire ends with basic demographic information and other control variables. Whenever possible, I

measure variables using multiple-item scales that have been tested and validated in previous studies.

Dependent Variable. My main dependent variable for hypotheses 1, 2 and 3, *perspective taking*, was measured using the 4-item scale from Grant & Berry (2011). For this scale, Grant & Berry (2011) adapted the Davis et al.'s (1996) perspective taking measure to apply to the work environment.

The dependent variables for hypotheses 4a, 4b, 5a and 5b, *quantity* and *quality* of opportunities identified, are captured through the idea generation exercise. I recorded the quantity of identified opportunities as the numerical count of (grammatically and logically) separately described opportunities in the text box field. The independent coders agreed with the separation of these ideas and the associated quantity count. Quality is measured based on the idea's creativity and its subcomponents of novelty and usefulness, which is a common approach to measuring the quality of entrepreneurial ideas (Ward, 2004). All assessments were on a 7-point scale ranging from 1 (very low) to 7 (very high). Novelty measures the idea's originality and surprisingness. Usefulness measures the ideas' perceived value added by assessing the idea in terms of value creation, cost saving, and market potential (Sullivan & Ford, 2010). I average the judges' ratings to obtain unique measures for novelty and usefulness for each opportunity. In turn, I average these two factors, to have a final measure of quality of opportunity recognition based on idea creativity. I used Cohen's kappa to assess the agreement between my judges in each study. In study 1 with the healthcare sample, the two judges achieved 12.07% agreement based on 6.30%

expected agreement for novelty ($\kappa = 0.06$, $p < 0.02$) and 6.9% agreement based on 3.27% expected agreement for usefulness ($\kappa = 0.04$, $p < 0.04$). In study 2 with the online respondents, the two judges achieved 9.28% agreement based on 3.68% expected agreement for novelty ($\kappa = 0.06$, $p < 0.01$) and 13.4% agreement based on 6.02% expected agreement for usefulness ($\kappa = 0.08$, $p < 0.01$).

Independent Variables. The first independent variable is measured according to the *cognitive adaptability* scale designed by Haynie and Shepherd (2009). This is a 36-item, seven-point Likert scale (1 = Not at all like me; 7 = Just like me) that measures the five components of cognitive adaptability: goal orientation (5 questions), metacognitive knowledge (11 questions), metacognitive experience (8 questions), metacognitive choice (5 questions), and monitoring (7 questions). For each subcomponent, I summed the question scores and divided by the number of questions in the subcomponent. To get an overall cognitive adaptability score for each respondent, I summed the subcomponent scores together and divided by 5.

The second independent variable, *beneficiary contact*, is measured along a continuum from infrequent contact to high levels of contact with work beneficiaries, based on employees' interactions with beneficiaries in their regular jobs. I use the 4-item beneficiary contact scale developed by Grant (2012), ranging from 1 (strongly disagree) to 7 (strongly agree).

The third independent variable, *job burnout* was measured using the 10-items from Stamm (2010)'s Professional Quality of Life Scale (ProQOL). These items are on a 5-point Likert scale (1=Never, 5=Very Often), and ask respondents the frequency of

certain experiences in the last 30 days in their current workplace. Five of these 10 items were reverse-coded, so when compiling these items into one measure, I first reversed these items, and then averaged the item scores together into a single variable for job burnout.

The *intervention* variable was coded as both a binary variable (any type of customer comments (positive or negative) = 1, no customer comments = 0) and as a categorical variable for analysis (negative customer comments = -1, positive customer comments = 1, no customer comments = 0). Combining the negative and positive patient comments into one variable was appropriate in my study, because my model of beneficiary contact does not include differential effects for the type of beneficiary contact, and hence does not invite this level of differentiation in the intervention either.

Moderator Variable. In my model I measured *prior knowledge* as the employee's previous experience with innovation projects. As part of the online questionnaire, I asked respondents "How many innovation or process improvement projects have you been involved in at any organization?" The corresponding number of projects was listed as the count variable *prior knowledge*.

Control Variables. I collected demographic information and other important variables that may also be expected to influence the dependent variables, via survey questions. In study 1, participant's *role* in the organization is important, because I would expect clinical staff (physicians, nurses, etc.) to respond differently than administrative staff. This is because clinical staff have more frequent beneficiary contact and therefore likely

higher job burnout due to the nature of their jobs. Additionally, I recorded if participants are members of their organization's corporate entrepreneurship (or process improvement) team and thus may be used to frequently identifying opportunities for improvement as part of their job. Role also matters, because frontline managers use a different balance of thinking styles than senior managers (Groves et al., 2011).

Participant *gender* is important to collect especially in study 1, because the majority of employees in healthcare are women (Diamond, 2014) and women have been shown to be more empathetic (they were also shown to take more perspective) than men (Javidan, Bullough, & Dibble, 2014). In both study 1 and study 2, I collected information on *role tenure*, *organizational tenure*, and *age* (all in number of years), *education* (on a standard 6 item multiple-choice menu ranging from high school education to doctorate degree, and *industry* (on a 9-item multiple-choice menu based on NAICS categories), which may all be indicators of general experience, and have been shown to have a significant impact on opportunity recognition (Shepherd & Detienne, 2005).

RESULTS

Antecedents of Perspective Taking (stage 1)

I start by reporting my results from study 1, the sample of 58 healthcare CEs. Means, standard deviations, ranges, and correlations for the variables appear in Table 1. In this sample, the average perspective taking was 5.95 with a minimum of 4 (on 1-7 scale), indicating this variable's raw data is right-skewed. I confirmed this distribution of perspective taking graphically with a histogram, and with a Skewness-Kurtosis test in Stata, which indicated that I should reject the null hypothesis that the data are normally

distributed, at $p < 0.1$ ($p = 0.069$). This distribution could be due to my rather small sample size of 58 observations in this sample. After I completed my regression analyses, I checked the residuals for heteroskedasticity with a scatter plot, and this does not seem to be a problem because the residuals appear to be evenly distributed around 0. This high perspective taking is to be expected in a sample of healthcare CEs, many of whom are frontline caregivers, and this additionally applies to beneficiary contact, which is also rather high in this sample, at 6.29 on average. The average age of the respondents in study 1 was 51.33 (ranging 26-76), and these respondents had been at their organizations an average of 12.33 years, and in their role an average of 15.6 years.

TABLE 1
Study 1: Means, Standard Deviations, and Correlations^a

Variables	Mean	s.d.	min	max	1	2	3	4	5	6	7	8	9	10	11	12
1. Perspective taking	5.95	0.87	4	7	1											
2. Cognitive adaptability	5.69	0.78	3.51	7	0.46***	1										
3. Beneficiary contact	6.29	1.19	1	7	0.36***	0.03	1									
4. Intervention (-1, 0, 1)	-0.05	0.81	-1	1	0.27**	0.03	0.07	1								
5. Job burnout	2.15	0.57	1.1	3.6	-0.21*	-0.22*	0.05	-0.09	1							
6. Idea quantity	3.33	1.94	1	9	0.03	0.1	-0.26*	-0.06	-0.12	1						
7. Idea creativity	2.92	0.99	1	5.25	0.02	0.22	0.01	0.09	-0.07	0.09	1					
8. Prior knowledge (Innovation projects at any organization)	12.57	13.99	0	51	-0.07	0.26**	-0.15	-0.02	-0.27**	0.03	0.05	1				
9. Organization tenure (years)	12.33	7.95	0	34	-0.00	0.1	0.01	-0.03	-0.14	0.13	-0.11	0.21*	1			
10. Role tenure (years)	15.63	12.16	1	40	-0.05	0.03	-0.06	0.01	-0.11	0.05	-0.17	0.38***	0.41***	1		
11. Gender (F=1, M=0)	0.83	0.42	0	2	0.27**	-0.01	0.12	0.03	0.05	0.07	-0.32**	-0.16	0.18	0.39***	1	
12. Age	51.33	10.7	26	76	-0.14	0.03	-0.14	-0.03	-0.09	0.16	-0.24*	0.35***	0.55***	0.69***	0.27**	1
13. Education	3.68	0.93	2	6	-0.12	0.19	-0.26**	-0.08	0.00	-0.02	0.041	0.16	-0.03	-0.11	-0.23*	-0.13

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$
^a $n = 58$

I conducted ordinary least squares (OLS) regression analyses with robust standard errors to test my hypotheses that perspective taking, beneficiary contact and job burnout are associated with perspective taking (hypotheses 1-3). Table 2 depicts the results of these regression analyses. Model 1 contains the control variables only with an F statistic of 1.15 and $R^2=0.126$. As I successively add in my explanatory variables, these statistics improve. Model 2 depicts the results of the test of hypothesis 1, that cognitive adaptability is positively related to perspective taking in CE. These model statistics are $F=3.71$ and $R^2=0.36$. and the cognitive adaptability coefficient result is significant (Beta=0.554, $p= 0.000$). Model 3 showed support for hypothesis 2, that beneficiary contact is positively related to perspective taking with overall model statistics of $F=1.58$ and $R^2=0.19$ and beneficiary contact coefficient beta=0.199 and $p=0.057$. Model 4 tested the hypothesis that job burnout is negatively related to perspective taking and had an F statistic of 1.59 and $R^2=0.19$. Job burnout was significantly negatively related to perspective taking (Beta=-0.412, $p=0.057$). Model 5 tests all three direct effects at the same time. In this case, only cognitive adaptability (Beta=0.494, $p=.001$) and beneficiary contact (Beta=.177, $p=.049$) are significantly related to perspective taking. This model does seem to be a better predictor of perspective taking because the R^2 increases from 0.356 when testing cognitive adaptability alone, to $R^2=0.436$ ($F=3.87$) when testing all three direct effects together, indicating that this model explains more of the variation in perspective taking than each of the single direct effects alone.

TABLE 2
Study 1: Regression Analyses Predicting Perspective Taking

	Model 1	Model 2	Model 3	Model 4	Model 5
	Controls Only	H1	H2	H3	All Main Effects
Dependent Variable: PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking
Variables					
Organization Tenure	0.000 (0.02)	-0.001 (0.02)	-0.001 (0.02)	-0.003 (0.02)	-0.005 (0.02)
Role Tenure	-0.009 (0.01)	-0.010 (0.01)	-0.008 (0.01)	-0.012 (0.01)	-0.012 (0.01)
Gender	0.741* (0.33)	0.679* (0.28)	0.649* (0.32)	0.839* (0.32)	0.675* (0.28)
Age	-0.013 (0.02)	-0.013 (0.01)	-0.009 (0.02)	-0.012 (0.02)	-0.008 (0.01)
Education	-0.060 (0.14)	-0.129 (0.12)	-0.003 (0.14)	-0.066 (0.13)	-0.075 (0.12)
Job Role	0.033 (0.09)	0.070 (0.07)	0.007 (0.08)	0.047 (0.08)	0.053 (0.07)
Cognitive Adaptability		0.554*** (0.14)			0.494*** (0.13)
Beneficiary Contact			0.199+ (0.10)		0.177* (0.09)
Job Burnout				-0.412+ (0.21)	-0.300 (0.18)
Constant	6.267*** (1.04)	3.309** (1.16)	4.731*** (1.28)	7.079*** (1.09)	2.856* (1.35)
F	1.15	3.71	1.58	1.59	3.87
LogLikelihood	-66.72	-58.33	-64.59	-64.58	-54.64
R-sqr	0.126	0.356	0.191	0.191	0.436
df	48	47	47	47	45

+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Next, I conducted the tests of hypotheses 1-3 in study 2. The sample for this study consisted of 97 paid online CEs from the general adult population of Canada and the United States. The means, standard deviations, ranges, and correlations for study 2 are displayed in Table 3. This sample was significantly younger than study 1's sample, with an average age of 34, ranging from 19 to 62. This sample was also more evenly distributed between male and female participants (52% females, 48% males), whereas study 1 mostly (83%) consisted of females (as is typical of healthcare employees). This sample also differed from that of study 1 in that tenure was significantly shorter (5.5 years in respondents' current organization, and approximately 7 years in respondents'

current role). Despite shorter organizational tenure, these CEs had more prior experience conducting innovation projects in their organizations (average of 25 projects per respondent). The perspective taking abilities of respondents in Study 2 did not seem to be as right skewed as it was in study 1, although respondents' cognitive adaptability did seem to be right-skewed, and therefore not normally distributed (mean=5.4, minimum=3.87). These respondents had lower beneficiary contact (mean=5.48) compared to the sample in study 1 (mean=6.29), which was expected because these respondents came from organizations across many industries with varying degrees of beneficiary contact.

TABLE 3
Study 2: Means, Standard Deviations, and Correlations^a

Variables	Mean	s.d.	min	max	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Perspective taking	5.55	0.9	2.75	7	1												
2. Cognitive adaptability	5.4	0.54	3.87	7	0.54***	1											
3. Beneficiary contact	5.48	1.5	1	7	0.30***	0.25**	1										
4. Intervention (-1, 0, 1)	-0.04	0.81	-1	1	0.20*	0.16	0.09	1									
5. Job burnout	2.42	0.6	1.1	4.2	-0.20**	-0.13	-0.20**	0.03	1								
6. Idea quantity	3.25	1.8	1	9	0.02	0.04	0	0.06	-0.03	1							
7. Idea creativity	3.95	0.84	2	6.25	0.21**	0.02	0.1	0.04	-0.07	-0.05	1						
8. Prior Knowledge (Innovation projects at any organization)	25.02	26.75	0	100	0.20**	0.23**	0.15	-0.07	-0.13	-0.1	0.12	1					
9. Organization tenure (years)	5.53	5.56	0	32	0.19*	0.23**	0.24**	0.20*	-0.08	0.04	0.08	0.31***	1				
10. Role tenure (years)	6.95	6.49	1	31	0.11	0.12	0.18*	0.03	-0.13	0.01	-0.01	0.34***	0.62***	1			
11. Gender (F=1, M=0)	0.52	0.56	0	2	0.04	0.02	0.08	-0.14	-0.06	0.15	0.17*	-0.03	0	0.11	1		
12. Age	34.42	8.89	19	62	0.03	0.01	0.11	0.15	-0.12	0.17*	-0.08	0.25**	0.45***	0.57***	0.01	1	
13. Education	3.11	1.09	1	6	-0.09	0.08	-0.09	0.04	-0.06	0.17*	0.15	-0.04	0.02	-0.05	0.02	0.01	1
14. Industry	6.05	3.01	1	12	0.17*	0.22**	0.01	0	0.1	0.08	0.19*	-0.12	-0.09	-0.12	0.1	-0.28***	-0.04

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

^a $n = 97$

I followed the same procedures in study 2 as I did in study 1 for my regression analyses. First, I started model 1 with only the control variables ($F=1.32$, $R^2=0.079$). Model 2 adds in testing the main effect of cognitive adaptability on perspective taking. Again, here I find that this is a positive and significant relationship with model statistics $F=6.13$ and $R^2=0.32$ (cognitive adaptability $\beta=0.865$, $p=0.000$), providing strong support for hypothesis 1. Model 3 tests the direct relationship between beneficiary contact and perspective taking ($F=2.14$, $R^2=0.14$). I find a positive significant relationship here ($\beta=0.155$, $p=.012$), providing support for hypothesis 2. Model 4 looks at the relationship between job burnout and perspective taking and I find a negative and significant relationship here ($F=1.87$, $R^2=0.13$) and job burnout coefficient of $\beta=-0.331$ ($p=.031$). Model 5 tests all three main effects together, and now cognitive adaptability is the only variable that remains significant for predicting perspective taking with model statistics improving to $F=5.51$ and $R^2=0.358$ (cognitive adaptability $\beta=0.785$, $p=0.000$). Thus far, study 1 and study 2 results largely mimic each other, and show support for hypotheses 1, 2 and 3.

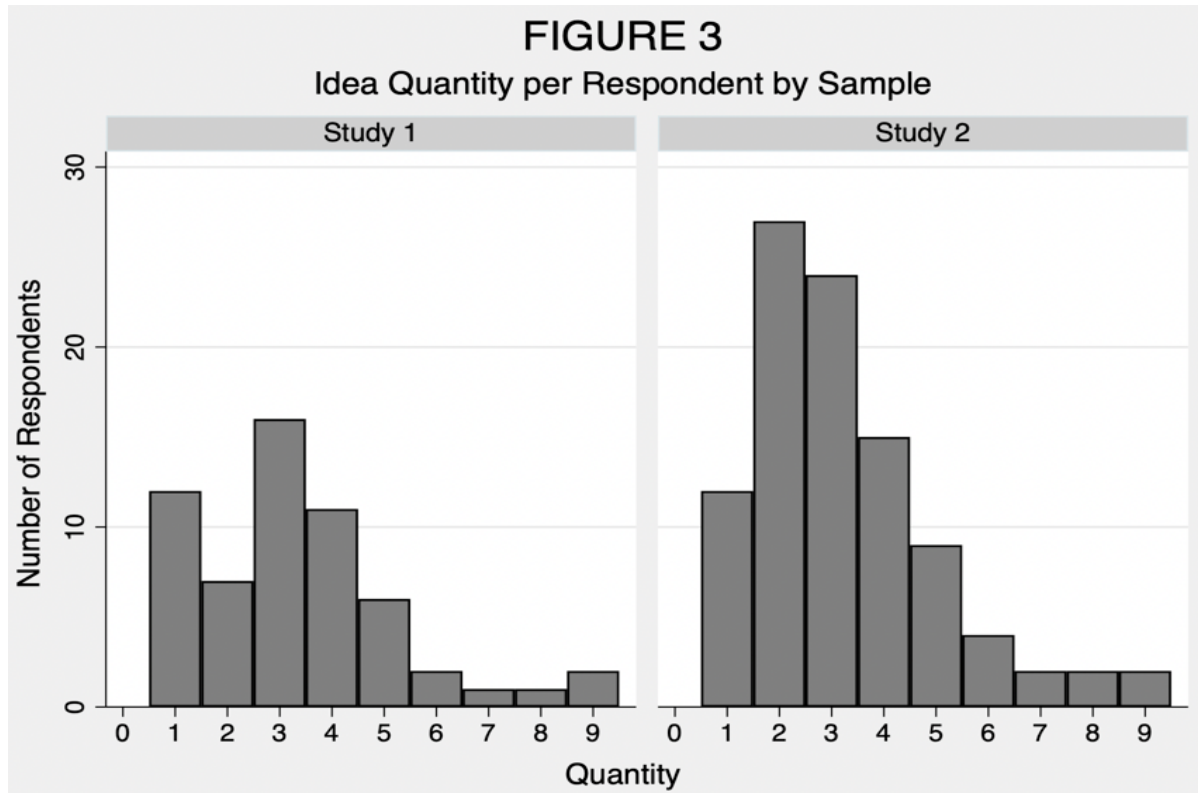
TABLE 4
Study 2: Regression Analyses Predicting Perspective Taking

	Model 1	Model 2	Model 3	Model 4	Model 5
	Controls Only	H1	H2	H3	All Main Effects
Dependent Variable: PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking
Variables					
Organization Tenure	0.036+ (0.02)	0.015 (0.02)	0.026 (0.02)	0.036+ (0.02)	0.012 (0.02)
Role Tenure	-0.000 (0.02)	-0.003 (0.02)	-0.001 (0.02)	-0.004 (0.02)	-0.006 (0.02)
Gender	0.045 (0.16)	0.055 (0.14)	0.015 (0.16)	0.024 (0.16)	0.026 (0.14)
Age	-0.002 (0.01)	0.001 (0.01)	-0.002 (0.01)	-0.003 (0.01)	0.000 (0.01)
Education	-0.074 (0.08)	-0.112 (0.07)	-0.053 (0.08)	-0.085 (0.08)	-0.104 (0.07)
Job Role	0.052 (0.03)	0.016 (0.03)	0.050 (0.03)	0.058+ (0.03)	0.022 (0.03)
Cognitive Adaptability		0.865*** (0.15)			0.785*** (0.15)
Beneficiary Contact			0.155* (0.06)		0.081 (0.05)
Job Burnout				-0.331* (0.15)	-0.197 (0.13)
Constant	5.330*** (0.55)	1.011 (0.90)	4.498*** (0.63)	6.188*** (0.67)	1.491 (1.01)
F	1.32	6.13	2.14	1.87	5.51
LogLikelihood	-125.88	-110.84	-122.44	-123.33	-108.04
R-sqr	0.079	0.321	0.141	0.126	0.358
df	92	91	91	91	89

+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001

Consequences of Perspective Taking Results (stage 2)

I now move to stage 2 of my analysis, looking at the consequences of perspective taking on the quantity and quality of opportunities identified by CEs. The sample in study 1 suggested an average of 3.33 ideas per respondent, while the sample in study 2 suggested an average of 3.25. Interestingly, while the averages of the two studies are very similar, their distribution differed notably. In study 1, respondents who suggested more than 1 idea, tended to suggest 3 or 4 ideas. In comparison, in the study 2 sample, 2 was the most common number of suggested ideas. These distributions are visualized in the histograms in Figure 3.



The results for study 1 in this second stage include dependent variables for the quantity, quality, and the quality subcomponents of novelty and usefulness. I used poisson regression analysis to predict the quantity of opportunities identified, because the Poisson distribution is appropriate for modeling count data. I conducted OLS regression on the tests predicting the quality of opportunities identified. The results for study 1 in this second stage are shown in Table 5. Models 1 and 3 include control variables only on predicting quantity and quality. Model 2 in study 1 tests hypothesis 4a, which says that perspective taking should lead to a higher quantity of opportunities identified. Results are not significant; thus, I did not find support for hypothesis 4a in study 1. Model 4 tests hypothesis 4b that perspective taking by CEs leads to higher quality of opportunities identified. In study 1, I do not find support for hypothesis 4b.

Because I would have expected to see a significant relationship here, I decomposed my quality variable into its two subcomponents of novelty and usefulness and tested these individually in models 5 and 6. Again, I do not find significant relationships between perspective taking and novelty of opportunities identified, or between perspective taking and usefulness of opportunities identified. In models 7 and 8, I add in the moderating variable of prior knowledge to test hypotheses 5a and 5b, and I do not find support for either hypothesis 5a or 5b in study 1. Results in this second stage did not support my hypotheses.

TABLE 5
Study 1: Regression Analyses Predicting Quantity and Quality

Dependent Variable:	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	Controls Only Quantity	H4a Quantity	Controls Only Quality	H4b Quality	H4b (subcomponent) Novelty	H4b (subcomponent) Usefulness	H5a Quantity	H5b Quality
Organization Tenure	-0.001	-0.001	-0.01	-0.01	-0.005	-0.016	0	-0.011
Role Tenure	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02
Gender	-0.006	-0.005	0.012	0.013	0.013	0.013	-0.004	0.013
Age	-0.01	-0.01	-0.02	-0.02	-0.01	-0.02	-0.01	-0.02
Education	0.12	0.104	-0.583	-0.643+	-0.696+	-0.59	0.046	-0.649
Job Role	-0.22	-0.23	-0.35	-0.37	-0.36	-0.44	-0.25	-0.43
Perspective Taking	0.013	0.013	-0.02	-0.019	-0.02	-0.017	0.014	-0.018
Prior Knowledge (Innovation projects at any organization)	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02
Perspective Taking x Prior Knowledge	-0.022	-0.021	-0.062	-0.058	-0.025	-0.091	-0.023	-0.049
Constant	-0.09	-0.09	-0.15	-0.15	-0.15	-0.18	-0.09	-0.16
F	-0.031	-0.031	-0.043	-0.045	-0.075	-0.014	-0.041	-0.047
Chi-sqr	-0.06	-0.06	-0.1	-0.1	-0.1	-0.12	-0.06	-0.11
LogLikelihood	0.02	0.02	0.084	0.084	0.079	0.09	-0.022	0.132
R-sqr (or pseudo)	-0.09	-0.09	-0.16	-0.16	-0.15	-0.19	-0.12	-0.21
df	0.737	0.614	4.736***	4.211**	3.857*	4.564*	0.909	3.912*
n=58	-0.72	-0.92	-1.16	-1.53	-1.48	-1.8	-1.05	-1.79
	2.6	2.65	1.03	0.91	1.05	0.67	3.17	0.69
	-101.76	-101.73	-66.55	-66.39	-64.53	-74.84	-101.47	-66.31
	0.01	0.01	0.12	0.13	0.14	0.10	0.13	0.13
			45	44	44	44		42

+ p<0.10, * p<0.05 ** p<0.01 *** p<0.001

I conducted the same regression analyses on my study 2 sample to predict both quantity and quality of opportunities identified. The results of these analyses are shown in Table 6. Models 1 and 3 show only control variable relationships with quantity and quality. Model 2 tests hypothesis 4a, the relationship between perspective taking and quantity, and I do not find a significant relationship, indicating no support for hypothesis 4a. Model 4 tests hypothesis 4b, which suggests that perspective taking is related to higher quality of opportunities identified and has model statistics of $F=1.85$ and $R^2=0.13$. Here I find marginal support for hypothesis 4b ($Beta=0.166$, $p=.084$). In order to further understand this relationship, in model 5 and 6 I test the relationship between perspective taking and two subcomponents of quality (novelty and usefulness). Here I find a significant relationship between perspective taking and usefulness with model statistics of $F=2.19$ and $R^2=0.15$ (usefulness $beta=0.184$, $p=.074$) although not with novelty. This is an interesting finding, because it indicates that when CEs take the perspective of others, they are more likely to identify opportunities that are useful, but not necessarily highly novel.

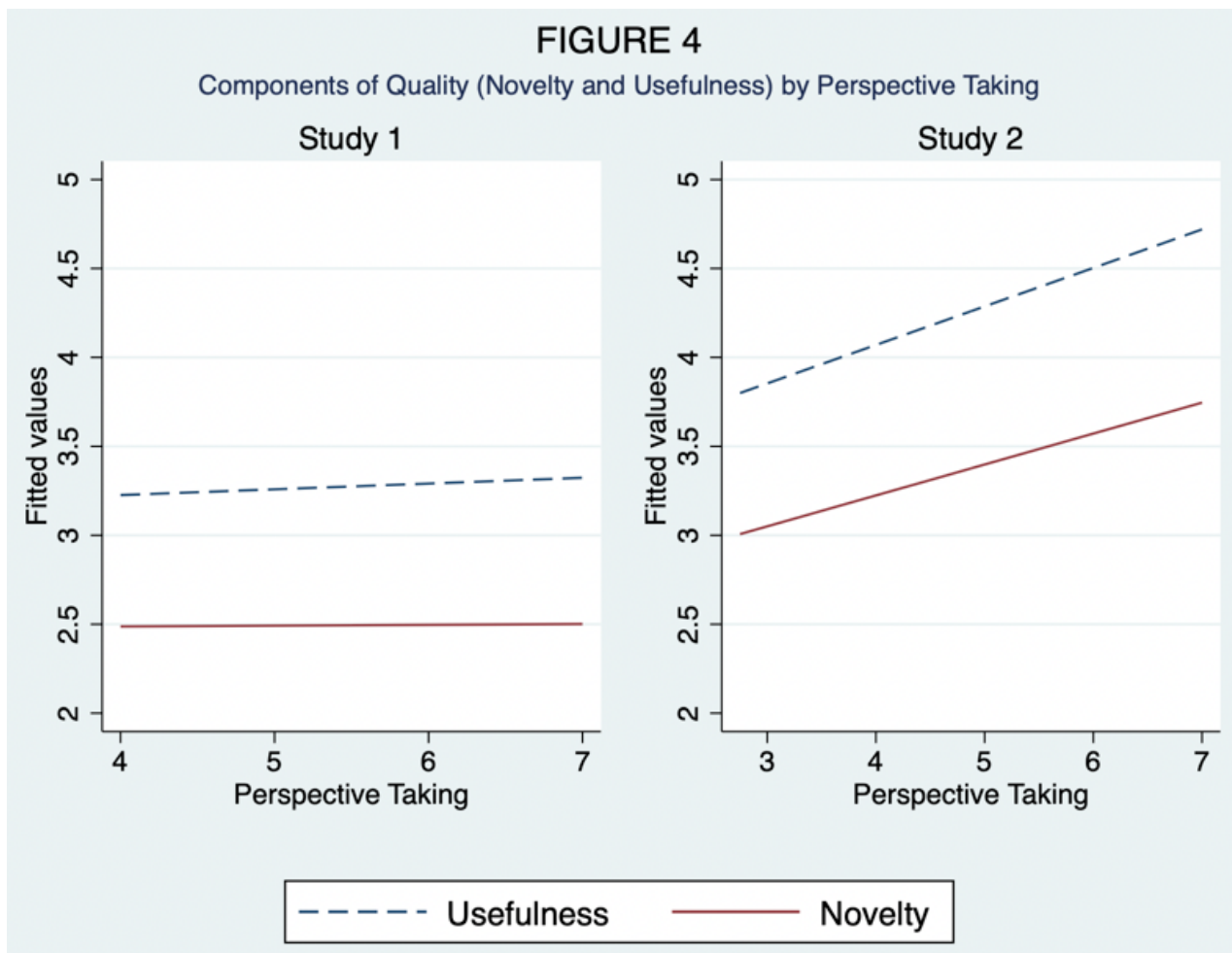
TABLE 6
Study 2: Regression Analyses Predicting Quantity and Quality

Dependent Variable: Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
	Controls Only Quantity	H4a Quantity	Controls Only Quantity	H4b Quantity	H4b (subcomponent) Novelty	H4b (subcomponent) Usefulness	H5a Quantity	H5b Quantity
Organization Tenure	-0.002	-0.002	0.025	0.019	0.024	0.014	-0.002	0.018
Role Tenure	-0.01	-0.01	-0.006	-0.006	-0.011	-0.02	-0.01	-0.02
Gender	-0.014	-0.014	-0.006	-0.006	-0.011	-0.001	-0.01	-0.011
	-0.01	-0.01	-0.02	-0.02	-0.02	-0.02	-0.01	-0.02
	0.148	0.147	0.222	0.216	0.177	0.255	0.167	0.196
	-0.1	-0.1	-0.15	-0.15	-0.16	-0.16	-0.11	-0.16
Age	0.019*	0.019*	-0.008	-0.007	-0.005	-0.009	0.019*	-0.007
	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01
Education	0.077	0.077	0.113	0.124	0.102	0.146+	0.077	0.123
	-0.05	-0.05	-0.08	-0.08	-0.08	-0.08	-0.05	-0.08
Job Role	0.025	0.024	0.045	0.037	0.025	0.049	0.022	0.039
	-0.02	-0.02	-0.03	-0.03	-0.03	-0.03	-0.02	-0.03
Perspective Taking	0.008	0.008	0.166+	0.166+	0.148	0.184+	0.077	0.08
	-0.07	-0.07	-0.1	-0.1	-0.1	-0.1	-0.09	-0.14
Prior Knowledge (Innovation projects at any organization)							0.01	-0.01
Perspective Taking x Prior Knowledge							-0.02	-0.02
Constant	0.147	0.102	3.396***	2.503***	2.249**	2.758***	-0.002	0.002
	-0.35	-0.5	-0.52	-0.72	-0.74	-0.77	0	0
F			1.61	1.85	1.30	2.19	-0.247	2.926**
Chi-sqr	10.54	10.56					-0.62	-0.92
Log Likelihood	-179.21	-179.20	-113.77	-112.14	-114.46	-118.48	12.75	-111.06
R-sqr (or pseudo)	0.03	0.03	0.10	0.13	0.09	0.15	-178.11	0.15
df			89	88	88	88	0.03	86

n=97

+ p<0.10, * p<0.05 ** p<0.01 *** p<0.001

To further understand the results in models 5 and 6, I graphed the two subcomponents of usefulness and novelty for each of the two studies in Figure 4. This graphical representation shows that the relationship between perspective taking and quality of opportunities identified is largely driven by usefulness. The slope of the usefulness line is steeper in both studies 1 and 2, which indicates that as perspective taking increases, usefulness increases more than novelty. In other words, perspective taking may be relatively more helpful in increasing the usefulness of opportunities identified.



Models 7 and 8 add in the interaction term between perspective taking and prior knowledge, based on respondents' experience with innovation projects. I included this moderation effect because previous research has found that the best opportunities are identified when entrepreneurs engage in perspective taking and have prior knowledge in the subject matter (Prandelli et al., 2016; Frederiks et al., 2019). Unfortunately, here I do not find support for this moderation effect in my study 2.

Additional Analyses

Since cognitive adaptability seems to have the strongest relationship with perspective taking in CE, I conducted model 6 in both studies 1 and 2, which examines the 5 subcomponents of cognitive adaptability and their relationship with perspective taking. These results are shown in Table 7. From study 1, we can see that the relationship between cognitive adaptability and perspective taking is mainly driven by metacognitive choice (Beta=0.332, $p=.037$). In model 6 of study 2, I again decompose cognitive adaptability into its subcomponents to see which domains are most strongly associated with perspective taking. Here I find that metacognitive choice (Beta=0.430, $p=.003$) and metacognitive knowledge (Beta=.519, $p=.028$) are strongly impacting in this relationship. My results also indicate that metacognitive choice and metacognitive knowledge may be the most important aspects of cognitive adaptability in terms of its relationship with perspective taking.

TABLE 7
Robustness Check: Regression Analyses on
Studies 1 and 2 Subcomponents of Cognitive
Adaptability and Perspective Taking

Dependent Variable:	Study 1	Study 2
	Model 6	Model 6
Variables	All Main Effects (Cognitive Adaptability Subcomponents)	All Main Effects (Cognitive Adaptability Subcomponents)
	PerspectiveTaking	PerspectiveTaking
Organization Tenure	-0.005 (0.02)	0.007 (0.02)
Role Tenure	-0.010 (0.01)	-0.004 (0.02)
Gender	0.695* (0.29)	0.115 (0.14)
Age	-0.005 (0.02)	-0.001 (0.01)
Education	-0.048 (0.13)	-0.087 (0.07)
Job Role	0.062 (0.07)	0.010 (0.03)
Beneficiary Contact	0.152+ (0.09)	0.120* (0.06)
Job Burnout	-0.269 (0.19)	-0.258+ (0.14)
Goal Orientation	0.080 (0.20)	0.003 (0.14)
Metacognitive Knowledge	-0.178 (0.29)	0.519* (0.23)
Metacognitive Experience	-0.084 (0.20)	-0.012 (0.20)
Metacognitive Choice	0.332* (0.15)	0.430** (0.14)
Monitoring	0.203 (0.30)	-0.187 (0.19)
Constant	3.479* (1.43)	1.620 (1.05)
F	2.94	4.60
LogLikelihood	-52.29	-103.61
R-sqr	0.483	0.413
df	41	85

+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001

As another robustness check, I conducted my regression analyses again using the manipulated intervention (measured as positive, negative, and no comments) to measure the type (positive, negative, or no) of beneficiary contact, instead of the survey scale. The results of these analyses are in Table 8 below and these results largely replicate those I found using the regular beneficiary contact survey scale in my main analyses. This is an important addition within the same manuscript because previous research has operationalized beneficiary contact either through the scaled survey question or with a short beneficiary intervention. I show convergence in the different ways beneficiary contact can be measured because I achieved similar results with my analyses, giving me confidence especially in the direct relationship between beneficiary contact and perspective taking. Here I did differ from previous research that used a beneficiary contact intervention (Bellé, 2012; 2013; Grant, 2008) because I used both positive and negative customer comments, not just positive comments. My argument is that in most cases, it is just as realistic that CEs may encounter customers who are dissatisfied as those who are satisfied. These different beneficiary contact types had no significantly different relationships with perspective taking in my analyses.

TABLE 8

Robustness Check: Regression Analyses on Studies 1 and 2 Using Intervention for Beneficiary Contact

	Study 1 Model 1	Study 1 Model 2	Study 2 Model 3	Study 2 Model 4
	IV: Intervention	All Main Effects (with Intervention)	IV: Intervention	All Main Effects (with Intervention)
Dependent Variable: PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking	PerspectiveTaking
Variables				
OrgYears	0.005 (0.02)	0.002 (0.02)	0.029 (0.02)	0.012 (0.02)
Role Tenure	-0.009 (0.01)	-0.012 (0.01)	0.004 (0.02)	-0.002 (0.02)
Gender	0.665* (0.32)	0.643* (0.28)	0.081 (0.16)	0.064 (0.14)
Age	-0.013 (0.02)	-0.013 (0.01)	-0.005 (0.01)	-0.002 (0.01)
Education	-0.048 (0.13)	-0.133 (0.11)	-0.077 (0.08)	-0.120+ (0.07)
Industry	0.000	0.000	0.049 (0.03)	0.021 (0.03)
Intervention	0.244+ (0.14)	0.234+ (0.12)	0.201+ (0.12)	0.138 (0.10)
Cognitive Adaptability		0.515*** (0.13)		0.801*** (0.15)
Job Burnout		-0.216 (0.19)		-0.237+ (0.13)
Constant	6.345*** (0.90)	4.258*** (1.14)	5.457*** (0.55)	2.037* (1.01)
F	1.70	4.12	1.59	5.47
Log Likelihood	-65.13	-55.56	-124.26	-108.18
R-sqr	0.17	0.42	0.11	0.36
df	48	46	91	89

"+ p<0.10 * p<0.05 ** p<0.01 *** p<0.001"

DISCUSSION

In this research, I set out to validate the importance of perspective taking in corporate entrepreneurship and suggest important antecedents relevant to the corporate entrepreneurship context, namely, cognitive adaptability, beneficiary contact, and (the lack of) job burnout. In doing so, I further the knowledge base of perspective

taking in entrepreneurship. I developed and empirically tested my theoretical model. In stage 1 of my model, across two different samples, cognitive adaptability is very strongly linked to perspective taking, suggesting that cognitive adaptability may be one of the important antecedents to perspective taking in CE. Beneficiary contact is also positively related to perspective taking in both study 1 and study 2. This indicates that when CEs have contact with the beneficiaries of their work, they are better able to take the perspective of others. Finally, in both study 1 and study 2, job burnout is negatively associated with perspective taking. This indicates support for hypothesis 3 and suggests that CEs who are burnt out at their jobs may not be able to engage as well in taking the perspective of others. Stage 2 of my model extended previous research on the consequences of perspective taking entrepreneurship, and while my results showed minimal support for my hypotheses in this stage, these findings can still allude to important considerations, as mentioned below.

Theoretical Implications

Recent work has situated perspective taking as an important construct in entrepreneurship and focused on the impressive results that can follow when entrepreneurs focus on seeing the world from others' viewpoints (Prandelli et al., 2016; Frederiks et al., 2019). My empirical results enrich this literature in as far as they suggest that cognitive adaptability, beneficiary contact and a lack of job burnout are important knowledge, motivational, and contextual factors respectively that relate to corporate entrepreneurs taking the perspective of others. Additionally, in relation to each other, it seems that cognitive adaptability is most strongly associated with

perspective taking in CE. This argumentation is supported by other researchers who have alluded to the suggestion that for perspective taking to be effective, individuals must have the higher cognitive adaptability and complexity, to engage in perspective taking (Parker et al., 2008). This suggests that other scholars coming after me should at least include cognitive adaptability in their studies of antecedents of perspective taking, if not all three of these constructs. With the present advance regarding antecedents and consequences of perspective taking my contribution stems from focusing on the cognitive factors that may enhance or hinder perspective taking from occurring among corporate entrepreneurs. This is critical work for advancing the construct of perspective taking in entrepreneurship as more than just a theoretical variable, but really positioning it as a driving force in corporate entrepreneurship.

Second, my results in stage 2 are surprising in light of previous findings that showed strong relationships between perspective taking and quality of opportunities identified (Prandelli et al., 2016; Frederiks et al., 2019) whereas my model provided limited statistical support for the consequences of perspective taking among two distinct samples. However, this work is still important to include here, because I go beyond previous work on perspective taking in entrepreneurship in three main ways. First, I suggest that perspective taking should enhance the number of opportunities suggested, not just the quality of opportunities identified by CEs. A higher volume of opportunities suggests a higher likelihood that one or more of them are appropriately aligned with the organization's strategic objectives (Kier & McMullen, 2018). Second, these other studies induced perspective taking through an experimental intervention (asking participants to look at a picture and imagine what the person is thinking and how the person feels)

(Prandelli et al., 2016; Frederiks et al., 2019). Here my difference in outcomes may indicate that future research needs to further tease apart the long-term effects of a short perspective taking intervention in comparison with perspective taking as a stable cognitive trait (as I operationalized it in my studies). Perhaps the effects of the intervention wear off after some time, and only result in better opportunity identification in the long run if the individual's extent of perspective taking is significantly changed. Finally, my results suggest that perspective taking differentially relates to the creativity of opportunities identified in terms of novelty on one hand and usefulness on the other. Specifically, individuals with higher perspective taking seem to especially identify more useful ideas, in relation to ideas that are high in novelty, and in relation to individuals with low perspective taking abilities. These results provide empirical support for the theoretical argument that entrepreneurs who engage in perspective taking identify opportunities that are more focused to be utilized (McMullen, 2010) than they are novel.

Third, this paper also furthers the concept of cognitive adaptability in entrepreneurship research, and importantly, introduces it to the corporate entrepreneurship context. Previous work on cognitive adaptability has involved independent entrepreneurs (or potential entrepreneurs) (Haynie & Shepherd, 2007; Haynie et al., 2012; Shepherd, Williams, & Patzelt, 2015), yet cognitive adaptability is just as important in existing organizations (Shepherd, Patzelt, & Haynie, 2010; Shepherd & Patzelt, 2018). Cognitive adaptability can now definitively be added to the list of individual-level antecedents to perspective taking in organizations. Cognitive adaptability thus offers further legitimacy and empirical importance to the construct of perspective taking in CE research. This is an important and necessary extension,

because of the prevalence of CE and the reality that entrepreneurial opportunity identification is not void of the context in which it is embedded (Corbett & Hmieleski, 2007; Mitchell et al., 2002). Other work in entrepreneurship has focused on important antecedents to cognitive adaptability (Haynie et al., 2012). My study supports and continues the trajectory of this work by focusing on one important consequence of cognitive adaptability in the form of perspective taking. My study supports the possibility to conceptualize cognitive adaptability as a promising way of operationalizing the entrepreneurial mindset (Haynie & Shepherd, 2007, 2009; Shepherd et al., 2010) also in organizations. An entrepreneurial mindset conceptually captures how entrepreneurs think differently than their non-entrepreneur counterparts, a central discussion in entrepreneurial cognition. The entrepreneurial mindset has been discussed multiple times in the literature from a theoretical standpoint (Ireland et al., 2003; Ma & Tan, 2006; Shepherd et al., 2010), but so far, a clear empirical model and measurement strategy has been lacking. This contribution is even more relevant, since entrepreneurship as a mindset allows us to take different perspectives in order “to think about challenging the status quo and finding new ways of doing things” (Ma & Tan, 2006: 708).

Fourth, by drawing on the concept of beneficiary contact from organizational psychology, I have identified an important motivating factor for employees to participate in CE initiatives. My results show that regular beneficiary contact can be motivating to employees and enhance their willingness to see the world through other viewpoints. This is in line with other organizational psychology research on beneficiary contact, and importantly enriches it within the CE context. Additionally, past research has

operationalized beneficiary contact as either a regular occurrence in employees' daily work (Grant, 2012), or as a short beneficiary intervention (Bellé, 2012, 2013; Grant & Hofmann, 2011). Here I differ from this previous work to suggest not only that different types of beneficiary contact can produce similar results, but also that positive or negative beneficiary interactions can elicit similar responses. My results suggest that beneficiary contact in the form of a short intervention should not be overlooked as a potential employee motivator. Short interactions with beneficiaries outside of the normal work setting can elicit an emotional response to enhance employees' perspective taking. Additionally, I operationalized the beneficiary contact intervention as sharing both positive and negative customer experiences. This was an important distinction to examine because the beneficiary contact literature focuses primarily on sharing positive experiences. However, negative experiences by beneficiaries may also be motivating to employees because they may be more efficient at motivating employees to improve. Recent work found that the effect of negative feedback on recipient creativity depends on where the feedback comes from (Kim & Kim, 2020). When negative feedback comes from employees and flows to supervisors, supervisor creativity is improved. In contrast, when negative feedback flows from supervisors to employees, employee creativity suffers (Kim & Kim, 2019). Importantly, my study differs from this recent study in studying feedback from customers, not from employees or supervisors. While there is previous work on customer mistreatment and the negative effects this may have on employees (Wang et al., 2013), the direct comparison between negative and positive experiences conveyed during beneficiary contact on employee motivation has not been explicitly made previously, so there is no support in the current literature to suggest that

a different relationship would be expected. These boundary conditions are important to understand as research continues incorporating beneficiary contact into CE.

Limitations and Future Research

As with all research studies, this study is not without limitations. The main limitation is my low response rate and resulting small sample sizes. My small sample size may be one reason I do not find significant results in my moderation regression analyses in stage 2. Although I attempt to address this through multiple studies, I also invite other scholars in CE to address this in future research by using large samples from other CE settings. This study may also be subject to social desirability bias (Nederhof, 1985). For instance, by asking about job burnout within an online experiment, participants may worry about being identified and not wanting others to know about their distress. I hope to have mitigated this concern by having instilled confidence in the participants by including information upfront about the voluntary nature of the questionnaire and the anonymity and confidentiality of the data. Another source of social desirability bias may occur because participants may want to be perceived as innovative but may not typically be innovative in their jobs. This again speaks to the practical realities of trying to encourage employees to participate in CE, and future studies could consider whether these relationships are different when observed as part of an experiment versus during regular work routines.

Another concern is the possibility for endogeneity in the relationship between cognitive adaptability and perspective taking. In light of the conceptual overlap between the two concepts, this is likely a self-reinforcing relationship, such that individuals who

have flexible mindsets improve their ability to take the perspective of others because they are frequently out searching for new knowledge. On the other hand, taking the perspective of others, can also contribute to higher degrees of cognitive adaptability. One way to balance this concern with future research would be to conduct a longitudinal study to see how this relationship in any of its directionalities, changes, or to set up a pre-post experiment involving a cognitive adaptability (or perspective taking, respectively) training with a control group. Endogeneity self-selection bias may also be a concern in the relationship between beneficiary contact and perspective taking. I could imagine, for instance, that people who often take the perspectives of others would self-select into careers that involve a lot of beneficiary contact, as could be argued, is the case in my healthcare sample in study 1. I try to balance these concerns with my second study using paid online respondents from a variety of organizations as a comparison. The results of my two studies largely support each other.

Based on the predicted importance of employee cognitive adaptability in opportunity identification, one area for future research could be in examining how to increase employee cognitive adaptability. We know that cognitive adaptability can change over time based on the entrepreneur's context or motivation (Haynie & Shepherd, 2009) and this has been verified in multiple educational settings (Mevarech, 1999). Now, entrepreneurship research could study not just the effects of higher cognitive adaptability as they relate to entrepreneurial outcomes, but also how to increase and sustain cognitive adaptability within individuals in order to encourage entrepreneurial action. Additionally, some may argue that conclusions derived from the healthcare and online settings, while very appropriate for testing the relationships I am

interested in, may not be generalizable to all other entrepreneurship settings. To fully appreciate the nuances of these relationships, alternative settings also warrant study.

CONCLUSION

The overarching goal of my study is to initiate the conversation about the possible antecedents to perspective taking that can be particularly useful in corporate entrepreneurship. Here I provide an original theoretical model and first empirical evidence that amounts to the conclusion that cognitive adaptability, beneficiary contact and a lack of job burnout most certainly should not be left out of future research on perspective taking in this important area.

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APPENDIX

Antecedents and Consequences of Perspective Taking

Online Questionnaire Administered via Qualtrics

Introduction

Thank you for participating in this study. We are a team of researchers affiliated with IE Business School in Madrid, Spain and we are studying opportunities for improvement that employees identify in their workplaces. The exercise will take approximately 15 minutes to complete and we really appreciate your insight. We will first ask you to identify problems you think need to be solved in your workplace and then ask you to suggest creative solutions to these problems. A series of survey questions follows this exercise. It is important that you answer all questions before submitting your response.

IE Business School has high standards for research ethics and the IE Ethics Committee has approved this experiment. There are no known risks involved in participating in this survey. All recorded data will be kept separate from identifying information and will be treated and stored in the secure online environment of IE Business School. Data will be securely stored on password-protected servers and accessed through encrypted, password-protected computers. The data will be handled at all times to respect its integrity and ensure complete confidentiality of participants. We will not share any information with anyone outside the research team who will prepare the data for analysis. All results if and when published, will be generalized and anonymous. The data will be deleted 3 years after the project concludes. Please feel free to contact me if you have any questions or concerns.

Randomized Customer Comments Intervention

Before completing the exercise, please read the following comments carefully. These are a sample of real customer comments about a recent experience. As you read these statements, please imagine that you work at this organization and that these comments are from customers at your organization.

Intervention Group 1: Positive Comments for Corporate Entrepreneurs in Healthcare

"Kind smiles and helpful advice on finding the proper elevator from the staff at the entry door. Love, love, loved the staff at the Oncology lab. You've GOT to have a sense of humor when working with needles and nervous patients. Even though I'm very used to having my blood drawn, I still nearly faint when I stand up. Can't help it. The team of nurses had me laughing and not feeling embarrassed at all." -Morgan

"A big thank you to the ER. From the front desk to being discharged was a great and easy experience. Nurse Adrian greeted me with a wonderful smile and was very helpful. Dr. Greg was great. He helped me with my injury then took the time out to sit and talk to me about other things that were very helpful. All was done without having to wait. Simply awesome!!" -Alex

"I love this health system. I'm a 63-year-old, health and fitness advocate. I can run 10 miles or lift heavy weights. But, there are some things I can not solve on my own. Such as surviving Status Epilepticus. They put me in an induced coma, shipped me to another hospital, and saved my life. In addition, I have gotten every referral from my doctor, who is great. He even got me a referral outside the network. They always ask about your lifestyle. They make eye contact. They listen to you. My doctor is proactive. When he sees something unusual on a test, he follows it like a hawk, or sends me to specialists." -Kerry

Intervention Group 2: Negative Comments for Corporate Entrepreneurs in Healthcare

"I have never dealt with a more entitled and rude hospital staff. Having just moved to the area, and needing to find new doctors, I went to this hospital since it has the largest network in town. When I've explained that I'm a new patient, I have consistently been told "new patient? Sorry, can't help you." If the doctors cannot take more patients, that's one thing, but it really sounded like I was just inconveniencing them with more paperwork." -Morgan

"I went in several months back and am still receiving bills for what should not be billed, in my opinion. I received intravenous saline solution and the next thing you know, I had an infection where they inserted the IV. That turned out more serious than my initial needs. At that time, they prescribed me some antibiotics for the infection that they caused (more money out of my pocket). They stated that I should stop by and let them look at it in a day or two just to make sure it was on the healing trend. I did and I was billed for every single "look". In total, I went there three times, saw three different Doctors and had to explain myself each time as if their records meant nothing. If you are healthy enough to drive by this place to another facility, I would recommend doing so." - Alex

"I no longer have any faith in this health care system. Ineffective management, incompetent billing and the most frustrating customer service. Sad because a few years ago, they were good. The most confusing bureaucracy I have ever witnessed. More of a machine, than a competent or caring system. Spend less on branding and administrators and focus on caring and not harming patients." -Kerry

Intervention Group 3: Positive Comments for general corporate entrepreneurs, paid online respondents via MTurk

"Kind smiles and helpful advice - love, love, loved the people there. You've GOT to have a sense of humor when working with stressful situations and anxious customers." - Morgan

"A big thank you. From the front door through the whole organization, this was a great and easy experience. Adrian greeted me with a wonderful smile and was very helpful. Greg was great. He helped me with my professional needs then took the time to talk to me about other issues I might have. All was done without having to wait. Simply awesome!!" -Alex

"I love this organization. I'm an intelligent, healthy 63-year-old who loves to problem solve. But, there are some things I can not solve on my own. They answered my questions, and found solutions to fix my problem. In addition, I have gotten multiple recommendations for other organizations to work with. They always ask about you. They make eye contact. They listen to you. My representative is proactive. When he sees something out of the ordinary, he follows up, or recommends me to someone else who can help." -Kerry

Intervention Group 4: Negative Comments for general corporate entrepreneurs, paid online respondents via MTurk

"I have never dealt with a more entitled and rude staff. Having just moved to the area, and needing to find new business contacts, I went to this organization. When I've explained that I'm new, I have consistently been told "Sorry, can't help you." It really sounded like I was just inconveniencing them." -Morgan

"I received service from them several months back and am still receiving bills for what should not be billed, in my opinion. After using them, my problem only got worse. Now it turns out more serious than my initial needs. At that time, they tried to sell me a solution to the problem they caused (more money out of my pocket). In total, I went there three times, saw three different employees and had to explain myself each time as if their records meant nothing. If you have the option to find another organization, I would recommend doing so." -Alex

"I no longer have any faith in this organization. Ineffective management, incompetent technical staff and the most frustrating customer service. Sad because a few years ago, they were good. The most confusing bureaucracy I have ever witnessed. More of a machine, than a competent or caring organization. Spend less on branding and administrators and focus on caring and taking care of customers." -Kerry

Problem Identification

Now, please think about your own workplace and list here any problems that you think need to be solved. You can list as many problems as you would like here.

Manipulation Check

Q5.2 The customers' comments express...

- dissatisfaction (1)
- (2)
- (3)
- (4)
- satisfaction (5)

Q5.3 The customer comments' are...

- very negative (1)
- (2)
- (3)
- (4)
- very positive (5)

Idea Generation Exercise: Brainstorming Solutions

Brainstorm as many and as creative of ideas as you can think of to solve the problems in your workplace. Ideas can range from improving the current process or extending the current business, to innovating a completely new system or embarking on a new venture. Do not worry about existing constraints, such as the feasibility and desirability of the solution in your current organization and current role. Please start a new line for each idea. Most people take about 5-10 minutes for this part of the exercise.

Survey Questions

- Cognitive Adaptability Survey: 36 items (Haynie & Shepherd, 2009)
- Beneficiary Contact Survey: 4 items (Grant, 2008; 2012)

- Job Burnout/Compassion Satisfaction Survey: 20 items (Stamm, 2010)
- Social Worth Survey: 3 items (Grant & Gino, 2010)
- Prosocial Motivation Survey: 5 items (Grant & Sumanth, 2009)
- Perspective Taking at Work Survey: 4 items (Grant, 2008)

Demographic Information

Please answer the following demographic questions about yourself.

Q13.3 What is your gender?

- Male (1)
- Female (2)
- Other/I prefer not to answer (3)

Q13.4 In what year were you born?

Q13.5 What is the highest level of education you have completed?

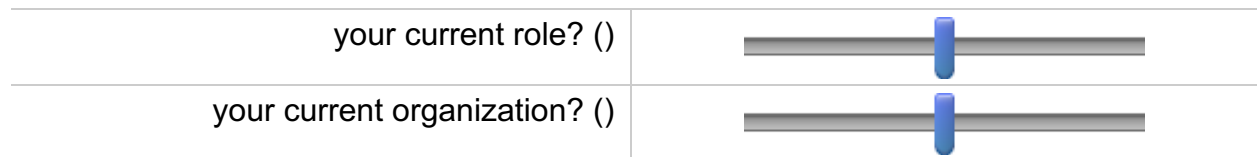
- High School Education (1)
- Some College (2)
- Associate's Degree (3)
- Bachelor's Degree (4)
- Master's Degree (5)
- Doctorate Degree (6)

Q13.6 Which of the following best describes the industry in which you work?

- Construction (1)
- Education and Healthcare Services (6)
- Financial Services (2)
- Information Technology (3)
- Leisure and Hospitality (7)
- Manufacturing (4)
- Natural Resources and Mining (5)
- Other Services (Except Public Administration) (10)
- Professional and Business Services (11)
- Trade, Transportation and Utilities (12)

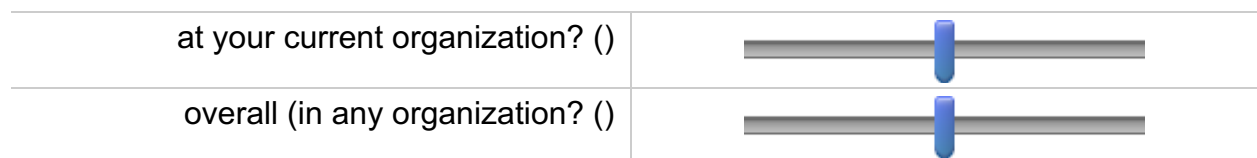
Q13.7 How many years of experience do you have in ...

0 5 10 15 20 25 30 35 40



Q13.8 How many innovation or process improvement projects have you been involved in?

0 10 20 30 40 50 60 70 80 90 100



CHAPTER FIVE

Hiring for Resource Similarity or Resource Complementarity? Examining the Hiring Preferences of International Entrepreneurs

ABSTRACT

I investigate the hiring preferences among international entrepreneurs (IEs) regarding the social capital, human capital and innovation preferences of their potential employees. My theoretical arguments are based in the person-organization fit literature and the tension between hiring based on resource similarity and resource complementarity. I elucidate how IEs' extent of perspective taking of their host country, and the difficulty of conducting business in their host country, relate to their hiring preferences. I conduct a conjoint analysis experiment on 104 founders of international ventures as they make 832 nested hiring decisions. I use hierarchical linear modeling to test my model and find that IEs prefer to hire employees with similar social capital resources, complementary human capital resources, and similar innovation preferences to themselves. I also find that the IE's perspective taking weakens their preference for hiring candidates with complementary human capital. My study opens the black box of IEs' decision heuristics regarding hiring preferences, and my results contribute to the resource fit literature and the individual perspective in international entrepreneurship.

Keywords

International Entrepreneurs, Resource Fit, Social Capital, Human Capital, Conjoint Analysis, Entrepreneurial Cognition

Hiring for Resource Similarity or Resource Complementarity? Examining the Hiring Preferences of International Entrepreneurs

INTRODUCTION

Central to international entrepreneurship is the study of the international entrepreneur's cognition and decision-making heuristics (Clark, Li, & Shepherd, 2018; Oviatt & Mcdougall, 2005; Reuber, Knight, Liesch, & Zhou, 2018; Williams & Grégoire, 2015). International entrepreneurs (IEs), defined here as entrepreneurs who found a business outside of their home country, gain new insights and cognitive abilities from navigating their venture host country's foreign environment, which can affect the way they operate their venture (Coviello, 2015; Terjesen & Elam, 2009; Zahra, Korri, & Yu, 2005), such as the types of employees IEs prefer to hire. Understanding the hiring preferences of IEs is crucial because we know from related literature that IEs' hiring decisions has enduring effects on their ventures (Coad, Daunfeldt, Johansson, & Wennberg, 2014; Dahl & Klepper, 2015). This is because the quality of employees hired can create the basis for new firm capabilities for these ventures (Coad, Nielsen, & Timmermans, 2017; Dahl & Klepper, 2015) and selecting the "right" employees can significantly help the venture maintain its entrepreneurial activity leading to a competitive advantage in the long term (Schmelter, Mauer, Borsch, & Brettel, 2010). Specifically in international ventures, it has been shown that individual employees representing fungible human capital substantially impact capability formation (Autio, George, & Alexy, 2011). Additionally, when ventures hire employees it also sends a strong signal to the market about the venture's growth and current success that can

influence future investors and customers (Coad et al., 2017). Aside from the long-lasting effects of hiring, the hiring process is also important to understand because it is typically difficult for most entrepreneurs (Cardon & Stevens, 2004). Entrepreneurs tend to have less experience selecting quality applicants since hiring is an infrequent occurrence for any young venture and IEs often do not have an HR manager to rely on for expertise (Cardon & Stevens, 2004; Hornsby & Kuratko, 2003).

Despite the importance of IEs' hiring decisions and recent advances in IE cognition research, existing literature in international entrepreneurship at the individual level typically concludes with the decision to internationalize (Kulchina, 2016; Reuber et al., 2018), focusing mostly on identifying and evaluating opportunities (Reuber et al., 2018; Zahra et al., 2005) and the decision to expand internationally (Chandra, 2017; Clark et al., 2018; Williams & Grégoire, 2015). Clearly, the decision to internationalize is an important first step, but "how firms compete once they enter [...] is [...] perhaps the most decisive factor in the competitive advantage that international new ventures derive" (Zahra, 2005: 22). My study takes an important step in this direction by going beyond the existing literature to research how IEs make operational decisions about whom they hire.

Additionally, it seems that the hiring preferences of IEs may not be straightforward. The literature on person-organization (P-O) fit may suggest competing hiring philosophies for IEs based on two types of resource fit: similarity and complementarity (Cable & Edwards, 2004; Kristof, 1996; Lazear, 2009; Muchinsky & Monahan, 1987). On the one hand, IEs may prefer to hire employees with human capital and social capital resources similar to themselves (Cable & Edwards, 2004).

This can strengthen the human capital and social capital resource set that has brought the IE into the position to hire in the first place. Researchers also found that entrepreneurs prefer to hire workers who they personally have a relationship with, such as a family member (Coad et al., 2017), or who are similar to them (Stewart & Hoell, 2016). A related research stream on how entrepreneurial teams add a new founding member shows that new team members are likely to be identified based on homogeneity with existing team members (Forbes, Borchert, Zellmer-Bruhn, & Sapienza, 2006). Thus, the resource similarities logic makes sense.

Yet, on the other hand, IEs also have good reasons to prefer employees that can complement existing human capital resources, reflecting individual capacities such as knowledge, skills, abilities, or other characteristics (KSAOs) (Becker, 1964; Reilly, Nyberg, Maltarich, & Weller, 2014), or social capital resources, 'the sum of the actual and potential resources embedded within, available through, and derived from the network of relationships possessed by an individual' (Nahapiet & Ghoshal, 1998: 243), in order to fill voids for the firm (Cable & Edwards, 2004). This would be rational, since complementary resources are crucial to organizational performance (Harrison, Hitt, Hoskisson, & Ireland, 2001) and because hiring decisions should be made based on the biggest needs of the company. Recent literature further finds that human capital resource complementarity, but not similarity, eases the integration of external hires (Raffiee & Byun, 2020). Because hiring is a serious decision that should be undertaken to fill an important need (Coad et al., 2017), hiring on human capital and social capital resource complementarities seems reasonable for IEs. These two seemingly competing hiring philosophies present an understudied theoretical tension in the literature on

international entrepreneurs. I wish to contribute to understanding this tension by asking:
Do international entrepreneurs prefer resource similarity or resource complementarity when making decisions about who to hire?

To study this question, I first theorize specifically about the resource similarity or complementarity that IEs prefer when considering the type of social capital, human capital, and innovation preferences potential employees have. I then consider how these preferences are moderated by the individual-level characteristic of the IEs' perspective taking, which when applied to the foreign setting can be indicative of the IE's liability of foreignness (Zahra, 2005). Finally, I consider how IEs' hiring preferences are moderated by the institutional-level characteristic of the ease of doing business in their host country in relation to their home country. I collected data with informal interviews and verbal protocol interviews with international entrepreneurs who have started a company outside of their home country. During the verbal protocol interviews, I asked participants to think-aloud as they considered candidate profiles and indicated the likelihood they would hire each candidate (Ericsson & Simon, 1993). As the hiring process of IEs is presently under-theorized in the literature, the think-aloud process of the verbal protocol interviews helps inform and improve my study design to capture variables that might not be predicated based on previous literature. Then, for my main data analysis, I conduct a conjoint analysis experiment and used hierarchical linear modeling to test my hypothesized model. A conjoint analysis is an advantageous methodology in this setting because it allows me to test my initial model, based on current literature and my informal interviews with international entrepreneurs. The conjoint analysis also removes supply-side concerns, which are often a problem in the

hiring literature (Fernandez-Mateo & Fernandez, 2016), by utilizing scenario-based, concurrent decisions.

My research makes the following contributions to the literature. First, I establish that IEs have clear preferences for resource fit when evaluating potential employees and that these preferences relate to their hiring decisions instrumentally. Importantly, this study advances existing international entrepreneurship literature by moving past IEs' first step of the decision to internationalize toward how they operationalize their ventures (Kulchina, 2016; Reuber et al., 2018; Zahra et al., 2005). Additionally, I show first contingencies of these relationships on cross-level factors, based on the IE's perspective taking and the institutional business environment in the IEs' host country. Consequently, my results show that IEs also differ in their individual-level characteristics and act within heterogeneous institutional settings, and that this heterogeneity moderates their hiring preferences. Therefore, future research should continue to explore the heterogeneity among IEs and how this may moderate important venture characteristics such as sustained performance and survival, and not simply studying them as one homogenous group that differs from domestic entrepreneurs.

Second, my findings theoretically tease apart the different dimensions IEs consider when hiring. In this respect my findings go deeper than existing literature which focused on the personal connection (Coad et al., 2017), education level of employees (Dahl & Klepper, 2015; Stewart & Hoell, 2016) or personality characteristics (Reda & Dyer, 2010) of entrepreneurs. My results indicate that what matters is how these resources fit with the existing resources in an international venture. Resource fit in terms of the social capital of the IE has already been shown to significantly influence

entrepreneurs' recruitment of employees (Leung, Zhang, Wong, & Foo, 2006). Here I complement the existing literature with a comprehensive and simultaneous study of two competing hiring philosophies regarding not only the types of social capital, but also the types of human capital and disposition toward innovation that IEs prefer when hiring.

Third, from a theoretical perspective, in relation to resource complementarity and resource similarity, my findings balance claims for either the superiority of the similarity perspective (Edwards & Cable, 2009; Forbes et al., 2006) or the complementarity perspective (Harrison et al., 2001; Raffiee & Byun, 2020) in the P-O fit literature. Instead, my findings support the perspective that in hiring decisions, IEs seek resource similarity in social capital and innovation disposition and resource complementarity in human capital. Importantly, these findings are the result of engaging with international entrepreneurs in interviews, including cross-level conditions and empirically testing my model using hierarchical linear modeling, and thus, advance the field by going further than previous conceptual models of hiring (Stewart & Hoell, 2016).

Finally, this paper also lends further support to Baron (2003) that the fields of human resources management (HRM) and entrepreneurship can reciprocally benefit from closer ties between the two domains. Specifically, resource complementarity has been well-theorized in the hiring literature (Kristof, 1996), but what constitutes complementarity has been more elusive, as it is rarely conceptually specified or empirically measured (Jackson, 2013). My modeling and empirical tests of resource complementarity and resource similarity in terms of social capital, human capital and innovation preferences work to lessen this scarcity and offer a precedent to other future research. In this way I "dig deeper" (Foss & Pedersen, 2019: 1595) to gain insights on

the types of resources IEs prefer in their employees.

LITERATURE REVIEW

Evolution of Cognition in International Entrepreneurship

International entrepreneurs are typically regarded as more resource-constrained than their domestic counterparts, oftentimes lacking the legitimacy, knowledge, and resources to operate viably in their host country (Acs, Morck, Shaver, & Yeung, 1997). They are also subject to higher failure rates (Zaheer & Mosakowski, 1997). However, a plethora of international new ventures exist and Oviatt and McDougall's (1994) decade-award winning paper established the field of international entrepreneurship by illustrating that existing theory in international business could not explain this phenomenon. In the U.S. in 2014, 28.5% of new ventures were launched by international entrepreneurs compared to 13.3% in 1996 (Fairlie, Morelix, Reedy, & Russell-Fritch, 2015). The research field was then bolstered by the same authors' updated definition of international entrepreneurship in 2005 (Oviatt & McDougall, 2005: 540) as the "discovery, enactment, evaluation, and exploitation of opportunities across national borders to create future goods and services." The scholarly study of international entrepreneurship therefore examines how, by whom, and with what effects opportunities across national borders are acted upon (Oviatt & McDougall, 2005), which because of its explicit focus on "by whom," clearly includes and encourages the study of the thought-processes of the founders of these international ventures. "Actors (organizations, groups, or individuals) who discover, enact, evaluate, or exploit opportunities to create future goods or services and who cross national borders to do so

are international entrepreneurial actors. Scholars who study those actors, how they act, and the effects of their actions are studying international entrepreneurship” (Oviatt & McDougall, 2005: 540).

Zahra et al. (2005: 137) then set the stage for examining international entrepreneurship in conjunction with entrepreneurial cognition by emphasizing that the "cognitive perspective can contribute to future IE research by examining the interrelationship between environment, experience, cognition and entrepreneurs' choice of different international strategies...and the role of international institutional environments in the entrepreneurial decision-making process." Substantial work followed the call by Zahra, et al. (2005), in particular on understanding the opportunity identification and internationalization decisions by IEs (Keupp & Gassmann, 2009). For instance, Williams and Grégoire (2015) contribute to the literature on the distance construct by examining how executives' perceptions of commonalities and differences between home and host countries impact the location, timing and mode of internationalization opportunities.

Mainela, Puhakka & Servais (2014: 120) review the literature on entrepreneurial opportunity in international entrepreneurship, suggesting that an international opportunity is a "situation that both spans and integrates elements from multiple national contexts in which entrepreneurial action and interaction transform the manifestations of economic activity. In developing a future research agenda, the authors propose that more attention should be given to the cognitive processes and cognitive framing of international opportunities, and in particular on the changing perceptions that result from sense-making in international settings (Mainela et al., 2014). The authors suggest that

to accomplish this it is critical to consider the influences of the institutional and cultural setting in which international entrepreneurship occurs (Mainela et al., 2014). Finally, the literature review suggests that in order to develop a research stream that takes a practical approach to international opportunities, scholars need to collect data in practice by getting close to international entrepreneurs to observe and understand their actions in real-time (Mainela et al., 2014).

More recently, there has been a special issue on entrepreneurial opportunity in international entrepreneurship in the *Journal of International Business Studies*, which highlights recent work on opportunities for international entrepreneurship and emphasizes the importance of IE research at multiple levels of analysis, such as the individual, the firm, and the institution (Reuber et al., 2018). For instance, at the individual level of analysis, Clark, Li and Shepherd (2018) demonstrate that individuals use decision rules to simplify the internationalization decision. Specifically, the authors find that there is an inverted U-shaped relationship between country familiarity and both cognitive effort and country assessment, and that these relationships are moderated by the individual's international experience (Clark et al., 2018). This paper added a slight contrast, and nuance, to Chandra's (2017) finding that IEs use increasingly complex decision rules to evaluate opportunities as they gain experience with internationalization. Another paper in the special issue (Reuber et al., 2018) highlighted the importance of institutional factors in opportunity identification that ranges on the spectrum from imitative to innovative (Young, Welter, & Conger, 2018). These results support the argument that institutional environments characterized by regulations that promote stability, encourage entrepreneurs to pursue more imitative opportunities, while

other institutional environments with regulations that promote flexibility encourage the pursuit of more innovative opportunities (Young et al., 2018).

Despite the work since Zahra et al. (2005), scholars continue to insist that more work needs to be done to study and understand the international entrepreneur's logic and reasoning (Coviello, 2015; Jones & Casulli, 2014; Zander, McDougall-Covin, & Rose, 2015). Similar to the proverbial fish out of water, foreign environments are rife with perspectives different from IEs' own, and when living and operating their business in a foreign country, IEs can expect for their decision-making to be influenced by this environment (Coviello, 2015; Terjesen & Elam, 2009). IEs decision-making when operating in foreign environment is especially important to dig deeper into, because, the predominant focus of other research has remained on characteristics leading to early internationalization, and as a result, has "largely neglected...the post-entry processes and outcomes through which the pursuit of opportunity is enacted" (Reuber et al., 2018: 396). The next step in this literature is to move beyond the identification of opportunities for internationalization and the initial decision to internationalize. Here, my work continues the trajectory of important IE research by examining international entrepreneurs' decision-making preferences during the crucial process of hiring employees and considers how these preferences are influenced by IEs' perspective taking.

Hiring Practices in Entrepreneurship Relevant to IE

Scholars have studied the human resources practices of entrepreneurs, including hiring practices (Cardon & Stevens, 2004; Hornsby & Kuratko, 2003; Kerr, Way, &

Thacker, 2007), and understanding entrepreneurs' preferences for hiring is extremely important. When entrepreneurs hire, as opposed to large established organizations adding one more person to their roster, the additional hire has a relatively larger impact, than the additional hire in a large firm simply because of the relative size of the addition and related economies of scale, such as additional resources that might be required for training and the need to establish more routines versus use routines in place (Field & Gatewood, 1987). One recent study went so far as to claim that the first hire "constitutes the single biggest growth event facing any growing firm—it effectively corresponds to the challenge to solo entrepreneurs to double their workforce" (Coad et al., 2017: 25). When entrepreneurial firms are just starting out they often have inadequate financial resources to put sophisticated HR procedures and personnel in place (Field & Gatewood, 1987) and tend to adopt more of a "muddle through" hiring strategy (Williamson, 2000: 34; Windolf, 1986). Additionally, hiring decisions have lasting consequences for ventures not least because current employees also tend to recruit their friends (Derfler-Rozin, Baker, & Gino, 2018). Again, quality of employees matters because top-performers tend to hire other top-performers, while middle and low performers tend to hire other mediocre performers (Pieper, 2015). From the HR literature we also know that peer effects are extremely strong and "A" players bring up the performance of the whole team (Hamilton, Nickerson, & Owan, 2003). One study of peer effects found that adding a single high-performer is associated with a 1% increase in the effect of other workers on the same shift (Mas & Moretti, 2009). In relation to international entrepreneurship where ventures typically are no less resource-constrained and trying to make the most out of the resources they do have, it is crucial

that employees be as productive as possible early on. Hiring decisions have even been shown to be important to the entrepreneur's well-being, because the life satisfaction of entrepreneurs who have employees has been shown to be higher than entrepreneurs without employees (Blanchflower, 2004).

Entrepreneurs, presumably including IEs, need to be particularly careful about who they hire, because they tend to have a harder time hiring high-quality workers compared to incumbent firms because of their lack of legitimacy in the market, lower resources for recruiting (Coad et al., 2017; Dahl & Klepper, 2015), and higher uncertainty surrounding the venture (Leung et al., 2006). For instance, larger, more productive firms tend to hire more talented employees and pay higher wages from the outset (Dahl & Klepper, 2015). Early employees of ventures also tend to have less education and be either unemployed or employed with a lower income the year prior to being hired, in comparison to employees hired into incumbent firms (Stewart & Hoell, 2016). Importantly, though, the research on the quality of employees in entrepreneurial ventures is difficult to interpret, because researchers often cannot tease out whether these are a supply-side or a demand-side problem. In other words, are highly qualified workers in terms of education and experience not interested in working for entrepreneurial firms and self-selecting out? Or are entrepreneurial firms prioritizing different characteristics in potential employees?

From what we know about entrepreneurs' hiring preferences, research has shown that trust (Leung, 2003) and previous relationships (Coad et al., 2017), such as relatives or acquaintances of the entrepreneur (Ruef, Aldrich, & Carter, 2003), are very important hiring criteria for entrepreneurs. Entrepreneurs' personality traits also can

affect their hiring preferences. For instance, entrepreneurs with a personality high in openness to experience, because of their curiosity, use a greater variety of selection methods than entrepreneurs low in openness (Reda & Dyer, 2010). These entrepreneurs, high in openness to experience, are also less likely to use recruitment professionals and candidate biographical information in comparison to other entrepreneurs, and this is credited to their preference for more novel approaches (Reda & Dyer, 2010).

Despite the large aggregate economic impact of international entrepreneurship, there is little research specifically addressing hiring of employees in international ventures (Kulchina, 2016). In one of these few studies, Kulchina (2016) argues that hiring practices are one avenue through which international entrepreneurs can be cost efficient, because when employees from the international entrepreneur's home country are more cost-efficient than local employees, the international entrepreneur tends to hire them more often than their domestic counterparts to reduce operating costs. Interestingly, Kulchina (2016) finds that international entrepreneurs have an advantage, not just in terms of information about more cost-efficient labor from their home country, but also better access to these employees in comparison to local entrepreneurs from the host country. Notwithstanding the above, there is still a need to better understand how entrepreneurs' characteristics influence hiring preferences (Leung, 2003), and in particular, given the increasing importance of international entrepreneurship in the global economy and the lasting consequences of hiring decisions, the hiring preferences of international entrepreneurs should also be of interest to a broader academic and business audience.

Finally, it has been argued that the IE field would benefit from research “emphasizing the study of capabilities and resource configurations of entrepreneurial firms that internationalize” (Keupp & Gassmann, 2009: 618), because international ventures face particular resource constraints, which imply the entrepreneur needs to use novel strategies and make decisions about where to focus and how to balance the firm's resources (Zander et al., 2015). The P-O fit literature offers a theoretically interesting perspective through potentially competing hiring philosophies of IEs.

Person-Organization Fit: Resource Similarity versus Complementarity

The original research on P-O fit emphasizes that the optimum fit occurs when the organization and the individual's needs are fulfilled by the other, and that there are two types of resource fit: similarity and complementarity (Cable & Edwards, 2004; Kristof, 1996). Similarity exists when a person matches, embellishes or possesses characteristics, which are similar to other individuals in an organization (Kristof, 1996). That is, similarity occurs when an organization hires an employee with skills or value congruence that replicate those currently in the organization (Cable & Edwards, 2004). Complementarity occurs when a person's characteristics complete the organization, adding to the organization what is missing (Kristof, 1996). In other words, complementarity occurs when a person's characteristics provide what the other party wants, referring to occasions when the weaknesses of the organization are offset by the strength of the individual (Cable & Edwards, 2004).

Bowen, et al., (1991) were one of the first to argue that P-O fit was a desired outcome of the hiring process and suggested that employees who are compatible with

the organizational culture create a flexible workforce and higher chance for long-term employment. When hiring people they do not have a personal connection with, entrepreneurs try to judge fit from the "feel" they get during the interview (Leung, 2003). Beyond this fit of shared values, entrepreneurs may be looking for employees to contribute social capital, human capital and a disposition toward innovation that fit with the venture.

The initial P-O research also emphasized that fit should be studied through a variety of multiple operationalizations (Cable & Edwards, 2004; Kristof, 1996). There are different fit considerations in the process of hiring employees, including how different individuals fit into different organizational settings; how different business strategies need different HR systems; and how different HR practices may be a result of the environmental constraints facing a firm (Leung et al., 2006). In entrepreneurship research, P-O fit has been examined through the lens of general versus specific human capital (Becker, 1964; Parker, 2011; Ucbasaran, Westhead, Wright, Wright, & Westhead, 2008); and the phase of the venture as start-up versus growth phase (Leung et al., 2006). One study using this P-O fit literature and regarding entrepreneurs' hiring decisions, proposed that entrepreneurs' decision to hire employees for similarity or complementarity is based on the entrepreneur's central identity (Stewart & Hoell, 2016). According to the authors, entrepreneurs whose *social* identity is more central to them, will prefer to hire employees with a similar social identity, whereas entrepreneurs whose *role* identity is more central to their identity, will prefer to hire employees who complement their role identity (Stewart & Hoell, 2016). This theoretical framework represents progress in the scholarly work on hiring decisions by entrepreneurs;

however, the authors do not empirically test these propositions (Stewart & Hoell, 2016).

Using the P-O fit literature as a theoretical backdrop, I argue that a comprehensive explanation of the hiring preferences of IEs must account for another fit consideration, that of the social capital, human capital and innovation preferences that employees can bring to the venture as either similar or complementary. My study uses this lens to attempt to discern which types of resources most meet the needs of the IE.

Human Capital and Social Capital Resource Fit

When new employees join a venture, they bring with them their human capital and social capital resources (Raffiee & Byun, 2020). Entrepreneurship research has studied the role of human capital resources (Parker, 2011; Shane, 2000; Ucbasaran et al., 2008), social capital resources (Kalnins & Chung, 2006; Leung et al., 2006), and the two perspectives together (Davidsson & Honig, 2003; Mosey & Wright, 2007). In these studies, the respective resource has predominantly been studied as an asset (or detriment) to the entrepreneur himself. Here my study differs in that the resources that the entrepreneur is considering are those of potential employees, because employees are one of the most important resources IEs can use to help navigate the institutional environments of a foreign setting (Jack, 2005; Terjesen & Elam, 2009).

Employees contribute their human capital resources to ventures, representing the knowledge that is derived from KSAOs, which can range from tacit to explicit, including both the underlying "know-how" and formal procedures, processes and education (Becker, 1964; Davidsson & Honig, 2003). Some of the most important and most often considered KSAOs are education, experience, and mindset characteristics,

such as how willing the employee is to innovate versus stick with routines they know to work. Regarding experience, IEs' prior experience is important because we know that it positively affects innovation (Liu, Lu, Filatotchev, Buck, & Wright, 2010) and influences IEs' use of heuristic reasoning and analogical reasoning, yet we still do not know how exactly this occurs (Jones & Casulli, 2014).

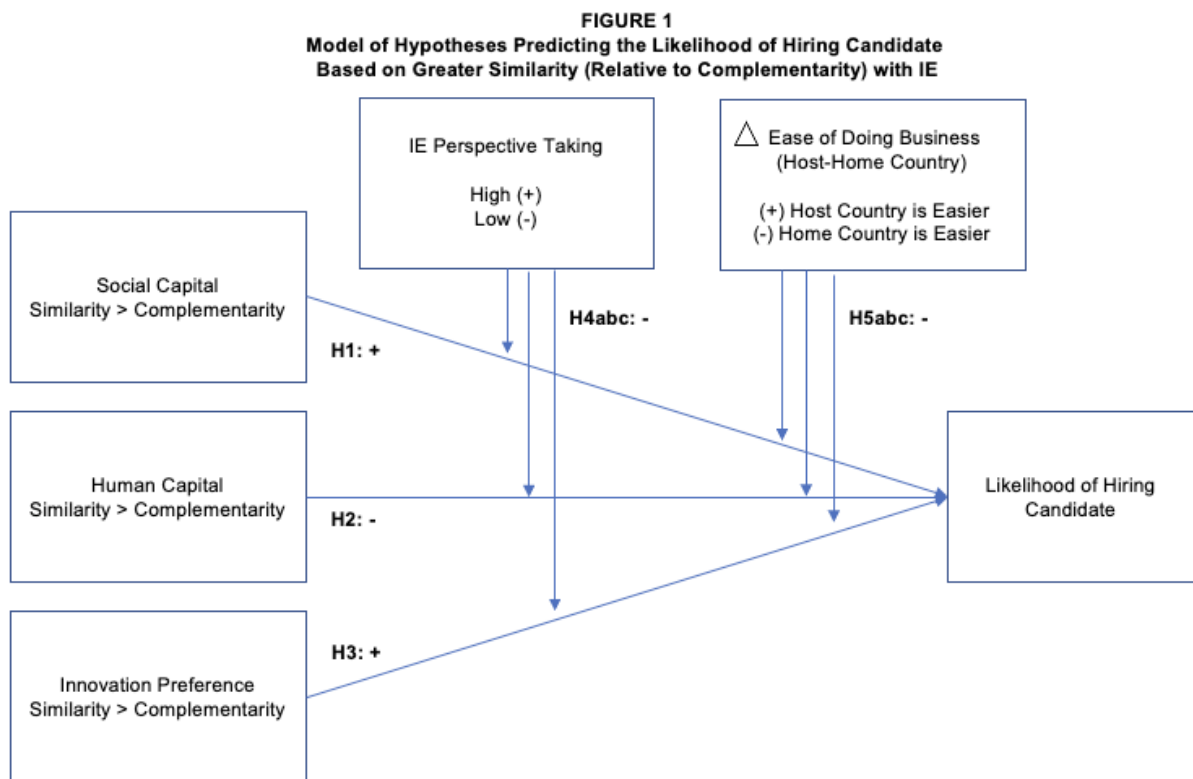
Social capital resources reflect the resources embedded in relationships, which can be used to create economic advantages (Adler & Kwon, 2002). Social capital resources can be characterized by the number and strength (tight or loose) of ties representing the time and emotions invested in a relationship and the reciprocity between actors (Granovetter, 1983). We know that entrepreneurs do not solely rely on their own individual resources and they require resources from their social networks (Davidsson & Honig, 2003), because relationships are the way entrepreneurs gain access to resources that are held by other people, including emotional support, information and advice, and financial resources (Hoang & Antoncic, 2003). Relationships can also act as a signal of reputation, for instance strategic alliances can help build legitimacy (Hoang & Antoncic, 2003). There is evidence that entrepreneurs greatly rely on their employees as a critical part of their social network in particular to gain staff and obtain local information (Jack, 2005). Specifically, in international entrepreneurship, social capital provides resources to IEs through market access, financing, distribution channels, referrals and a network of contacts for further development (Coviello, 2006).

The type of social capital resources that are important to an IE may be contingent on the context and expected outcomes. For instance, loose ties may be more beneficial

at the beginning of a venture's life and tight ties may be more beneficial the longer the venture exists (Stam, Arzlanian, & Elfring, 2014). In contrast, Leung et al. (2006) used an exploratory case study approach to study the use of tight and loose ties by entrepreneurs in hiring employees and how their use differed throughout different phases of their venture. The author finds that entrepreneurs often have to rely on tight social ties during the start-up phase out of necessity, because there is too much uncertainty with the venture so employees do not want to join the firm, and the entrepreneurs cannot afford to pay employees comparable salaries to more established firms (Leung et al., 2006). Additionally, Semrau & Werner (2013) find that, counter to the idea of "power" networking--making as many contacts as possible, entrepreneurs should focus on developing and maintaining a "network of essential ties" and adjust the time they dedicate to these relationships, so they spend enough time to access needed resources, but not too much time without returns. On the other hand, there are advantages to loose social connections, too. Loose connections, or weak ties, are important to maintaining diversity within a social network (Granovetter, 1983), and thus are considered important for entrepreneurial behavior (Dubini & Aldrich, 1991). Diverse ties are important, because they are more conducive to innovation than homogenous ties (Ruef, 2002). Loose connections also act as possible connections to other social networks, in contrast to strong ties, which sometimes provide redundant resources (Burt, 1992). For instance, we know that many resource-constrained entrepreneurs engage in bootstrapping until their venture is financially viable (Winborg & Landstrom, 2000). How often can this bootstrapping entrepreneur ask his same immediate family members for money? Another benefit from loose connections is that ventures can gain

new knowledge by engaging in controlled networking with their loose connections through learning alliances or knowledge-sharing spaces (Lechner & Dowling, 2003). In short, there are good reasons to attribute positive outcomes to both strong and weak ties as the basis for hiring on resource fit with social capital considerations.

Each stream of the literature reviewed above represents important extant literature of IEs and sets up my forthcoming arguments for how IEs might be expected to make hiring decisions in terms of the resource fit between the IE and potential employees. A holistic integration of how IEs make hiring decisions is yet to be developed, thus, my preliminary model is pictured in Figure 1.



HYPOTHESIS DEVELOPMENT

IEs' Hiring Preferences Regarding Social Capital Resource Fit

I first consider the social capital resources that potential employees can bring to an IE's venture, because IEs are strategic and they act intentionally to manage their social capital (Coviello, 2006; Ellis, 2011). Given that IEs are foreigners in a host country, they may not be able to rely on their past networks but need to build new networks through employees and we already have evidence that it is possible for IEs to build SC through employment relationships (Prashantham & Dhanaraj, 2010). IEs' social capital can be described as either predominantly relying on a few, tight connections or many loose connections with people and organizations in their field. We cannot make an overarching assumption about the type of social capital IEs rely on, because we know that this reliance changes depending on the IE's needs, the stage in the life cycle of the venture (Greve & Salaff, 2003), and the environmental context (Dahl & Sorenson, 2012). For instance, IEs may have tighter and more embedded social networks in their home country when compared to their host country (Dahl & Sorenson, 2012). Therefore, I consider how the predominant type of social capital a potential employee has (many loose or a few tight) fits with that of the IE herself. Employees bring their social capital resources when they join firms (Raffiee & Byun, 2020). Thus, I theorize that similarity in fit between an IE and a potential employee occurs when both parties rely predominantly on either a few, tight connections or both parties rely predominantly on many, loose connections. In this way, the employee supplements the same type of connections the IE already has. In comparison, social capital resource complementarity would occur when the predominant connection type differs between

the IE and the potential employee, which could fill a gap for the IE in terms of social capital.

IEs are time and resource-constrained (Zander et al., 2015), so they can be expected to prefer to get as much benefit from the hiring process as possible in terms of resources. For instance, hiring someone with complementary ties may make sense. The main benefit of hiring for complementary fit in SC is diversity of ties (Granovetter, 1983; Ruef, 2002). For instance, if the IE herself has a few, tight connections, then hiring an employee with many, loose connections in the host country may provide diverse ties. While this is one defensible point of view, I propose a counterargument that is even stronger. The resource complementarity of potential employees may provide relatively less benefits to IEs compared to resource similarity. I anticipate that IEs prefer resource similarity in SC for the following reasons: (1) IEs know how to best utilize similar SC, (2) SC similarity can create a sense of common identity and shared purpose with candidates, and (3) similar SC builds trust with candidates which improves the ease and timeliness of integrating these individuals. I explain each in turn.

First, the time IEs spend developing and maintaining relationships can be expected to depend on the phase of the venture's lifecycle (Greve & Salaff, 2003), and IEs may best know how to use the SC resources of employees with similar types of SC to themselves during these different phases. For example, entrepreneurs spend the most time developing and maintaining relationships during the planning phase of the venture to set the stage for their SC relationships (Greve & Salaff, 2003). Then when establishing and growing the venture, entrepreneurs tend to reduce the time spent networking (Greve & Salaff, 2003; Stam et al., 2014). As the venture's needs change,

and the way SC is used changes accordingly, it will be helpful to IEs for their employees to have similar types of connections to themselves so they know how to utilize (and advise the employee how to utilize) the employees' connections best to meet the needs of the venture. It is necessary for IEs to continuously work to maintain and grow the value of their SC relationships (Prashantham & Dhanaraj, 2010). So, because the way they utilize social capital changes based on venture needs, IEs may seek out employees who have matching social capital resources to them so they know how to best utilize these resources, and reduce the effort it takes to manage these resources.

Secondly, entrepreneurs can identify with candidates who are similar to themselves in terms of social capital and this helps to create a common bond through their similarities. IEs can use the characteristics of an employee's social capital as a proxy for personality. Think about an individual who tends to keep only a few close friends. This person is in frequent contact with these people and heavily relies on these few when she needs something. This individual solidifies her network by strengthening it. Just as easily, we can imagine someone else who is always meeting and engaging new people to expand her social circle. This individual builds her network by expanding the number of people in it and by establishing connections between them. With these examples in mind, it is easy to see why an employee who views her network similarly to how the IE sees her own network, could be attractive to the IE because this commonality could build a sense of common identity rather quickly. I will explain this relationship. Especially with early hires, successful international entrepreneurs prefer to hire employees who share similar values in order "to achieve the cohesiveness necessary for a single-minded effort in survival" (Leung, 2003: 305). A similar identity

between the IE and potential employees can act as common ground for easily understanding an employee's SC, for building rapport, and for having confidence in the communication between both parties, and thereby serves as the starting block to build a fruitful relationship.

Third, having similar SC may help IEs more quickly build trust with their employees, which can improve the ease and timeliness of integrating these resources into the venture. Social networks function by often being governed by mutual trust that increases resource flows (Hoang & Antoncic, 2003). For instance, trust reduces the transaction costs of monitoring and renegotiating, and increases the depth and richness of the exchange of information (Hoang & Antoncic, 2003). IEs may be able to utilize employees' similar social capital faster compared to social capital that is different from their own. Social capital is difficult for IEs to acquire, especially in a foreign context, because it takes a long time to develop relationships and build trust (Ellis, 2011; Zaheer, 1995). Yet, these connections to other organizations are important for IEs to successfully operate their venture and potentially recruit future employees. Recent research has shown that when ventures collaborate with individuals outside of their organization, these individuals may join the venture in the future themselves and will be more productive than employees who did not have a previous collaboration with the venture (Campbell et al., 2020). In other words, it is helpful if IEs use their social capital (and that of their employees) to collaborate with other organizations as far as possible. Employees, who join the venture and offer as well as strengthen similar connections, are an opportunity for IEs to utilize the employee's social resources quickly because they trust them. Raffiee & Byun (2020) recently found that when employees leave a firm

and join a new organization the employee's performance does not drop as much if they bring their external social capital with them (in this case, in the form of clients).

Specifically, the authors find that an employee with one standard deviation higher than the average retained client ratio correlates with 3.5 percent more revenue (Raffiee & Byun, 2020). Using this same logic, employees who bring similar connections with them to an IE's venture can more quickly utilize these connections to the benefit of the venture, in comparison to a predominantly complementary type of connections. For these reasons, I suggest the following hypothesis.

Hypothesis 1. International entrepreneurs are more likely to hire for resource similarity when considering candidates' social capital, such that they prefer hiring candidates who predominantly rely on similar types of connections as themselves.

IEs' Hiring Preferences Regarding Human Capital Resource Fit

Now I turn to the human capital characteristics that potential employees offer to IEs and anticipate that there are different resource fit considerations. Human capital resource similarity occurs when an employee's human capital resources, such as education and experience, match the already existing human capital resources of the venture (Cable & Edwards, 2004), and in my case, these human capital resources are mostly those contributed by the hiring IE. As an example, similarity would occur if a potential employee and the IE both have approximately 12 years of work experience in the petrochemical industry and both hold an internationally respected MBA degree. In contrast, complementarity in human capital fit would occur if a potential employee significantly differs from the IE on aspects or the amount of experience in the venture's area and type of education. In contrast to social capital, I anticipate that IEs prefer to

hire employees with complementary HC resources to themselves: (1) to broaden the venture's knowledge base and reduce redundancy, (2) to ensure the best employee performance possible, and (3) out of necessity because IEs own HC is rare and difficult to find.

First, employees with complementary HC resources can help IEs broaden their knowledge base to break down knowledge corridors and reduce redundancy. Having a greater breadth of knowledge is beneficial for IEs to prepare for unforeseen turns of events. For instance, adding complementary resources during acquisitions and strategic alliances is one way that weaker organizations broaden their skills and these complementary resources present "opportunities for synergy derived from economies of scope" (Harrison et al., 2001: 681). Having a broad knowledge base through complementary HC can also be beneficial because it may decrease the sense of uncertainty that IEs have, instead perceiving that there are many paths to venture success (in contrast to putting all their "eggs in one basket"). This broad knowledge base can be especially important at the beginning of a venture's life when it may be likely that the entrepreneur does not have a very clear vision or strategy for the organization (Leung, 2003). Without this clear vision and direction, the entrepreneur would especially want to reduce redundancy of HC resources to have flexibility in the venture's direction. Additionally, diversity in terms of international knowledge from prior international experience is one resource that is important for international ventures. More international knowledge is expected to lead to more internationalization and the identification of a greater number and more radical opportunities (Bloodgood, Sapienza, & Almeida, 1996; Fernhaber, Mcdougall-Covin, & Shepherd, 2009). One essential

source of a venture's international knowledge is the international experience of the venture's employees (Fernhaber et al., 2009; Grant, 1996), indicating that hiring employees with complementary experience can broaden the venture's international knowledge base. Entrepreneurs tend to be overconfident (Koellinger, Minniti & Schade, 2007) and could believe that they do not have a need for other employees who have the same background as themselves, believing instead that they have their topic areas covered for their venture. Instead, IEs may prefer to hire for resource complementarity in terms of human capital because they may want to continue growing and expanding their venture's knowledge base.

Second, hiring employees with complementary HC could allow the employee to be the expert in her domain and therefore, shine, within the venture. This could have the additional benefit of employees with complementary HC not feeling overshadowed by the IEs' own skillset, because their expertise differs. Utilizing employees' complementary skills in this way could be beneficial to the employees' own performance. Research has found that new employee performance does not suffer when the employees are able to work in a domain they are familiar with when joining a venture (Dokko & Jiang, 2017; Groyberg & Lee, 2009; Raffiee & Byun, 2020). Ensuring that an employee performs well in her area of complementary expertise is crucial to IEs because this ensures quick return on "investment." There are further benefits to employees of using their complementary skillset. For example, by allowing employees to integrate their background, employees may stay engaged to teach others in the workplace their skills and be challenged by applying their skills to a different domain. Thus, I expect IEs will prefer to hire for human capital complementarity.

Finally, IEs are a rare group with a unique skill set and it is hard to find employees with high degrees of similar human capital. At the same time, IEs are resource-scarce and employees are one of the sole resources locally that they can utilize to fill their needs. Thus, it might simply be easier to find employees who are complementary to the IEs, because there are many more with complementary HC, compared to the small group of those who have similar experience to IEs. It is a simple game of numbers. For instance, Kulchina (2016) found that IEs were more likely to hire international employees when they were more cost-effective in comparison to local employees, because the IEs had better information and access to the international employees than their domestic counterparts. This research shows that access (and the supply-side concerns) of hiring may be a driving factor in IEs' hiring decisions, and thus it is especially difficult to access employees with similar skill sets and experience. For these reasons I expect that:

Hypothesis 2. International entrepreneurs are more likely to hire for resource complementarity when considering candidates' human capital, such that they prefer hiring candidates with different education and experience to their own.

IEs' Hiring Preferences Regarding Innovation Preference Resource Fit

In addition to social capital and human capital, employee cognitive characteristics, such as their innovation preferences, can be important to the success of organizational change (Heyden, Fourné, Koene, Werkman, & Ansari, 2017), and to enhancing organizational effectiveness (Park, Kim, & Krishna, 2014). More than the specific type of innovation preference, the fit in preferences between the IE and employees may be more important. Anecdotally we have evidence that many entrepreneurs use trial-and-error learning to make the next important decision that

confronts them, and often they prefer to stick with what they know has worked for them up until now. For instance, after achieving some success requiring them to hire more employees, one team of inexperienced entrepreneurs preferred to hire employees who “would be a clone of the first team” (Lopez Jimenez & Tietz, 2018: 6). This makes sense as being of an innovative mindset is not always preferred, but instead fit in terms of thinking similarly about innovation may be more important. Think of highly technical industries, such as aerospace, where safety is of utmost importance and “trying new things” could be detrimental. While resource complementarity may be preferred in terms of tacit human capital of employees, when considering IEs’ preferences for resource fit regarding disposition toward innovation, I return to my arguments about the benefits of resource similarity. In this regard, one type of cognitive characteristic that is important to consider is the employee’s general disposition toward innovation. Individuals differ in their preference for innovation and can be archetypically categorized as predominantly preferring consistency by delivering on what has worked in the past or preferring innovativeness by trying new things with unknown outcomes.

Research has shown the significant importance of value-alignment between individuals and organizations (Edwards & Cable, 2009), because innovation disposition indicates value congruence which leads to employee job satisfaction, employee identification with the organization and seeking to maintain the employment relationship (Edwards & Cable, 2009). The main reason why these positive outcomes result when employees’ values match those of the organization is trust (followed by communication and attraction) (Edwards & Cable, 2009). From my previous arguments on trust regarding social capital, it is clear that trust is built through similarity. Additionally,

compatibility between the employee and organizational culture creates a flexible workforce and higher chance for long-term employment (Edwards & Cable, 2009). The longevity benefit is a mutual advantage to both the IE and the employee, and would reduce the IE's uncertainty when hiring, because employee turnover is costly to the venture in terms of resources and performance.

In addition to value congruence, innovation preferences may show up in personal routines and there are benefits to similar routines. For example, foreign subsidiaries tend to perform better when they stick with their current routines rather than attempting to mimic local company practices (Zaheer, 1995; Fang, Wade, Delios, & Beamish, 2013). Applying this logic to my context, IEs may continue performing well by keeping resources similar, through hiring employees with similar innovation preferences to them.

Hypothesis 3. International entrepreneurs are more likely to hire for resource similarity when considering candidates' innovation preferences.

In introducing potential moderator variables to my model, I follow Terjesen and Elam (2009) in suggesting that both individual-level characteristics and the macro-environment moderate the decisions of international entrepreneurs. Similarly, Zahra, et al. (2005) propose that individual characteristics and environmental forces both influence sensemaking, which affects how international entrepreneurs act. To concisely address these complex interaction effects, I limit my discussion within the context of resource fit regarding IEs' hiring preferences to the effects of the individual level of perspective taking, and the macro-level institutional characteristic of the ease of doing business in the venture's host country.

Perspective Taking as an Individual-level Moderating Variable

Operating a business in a foreign country has unavoidable costs that businesses in the IE's home country do not face, described as the liability of foreignness (Zaheer & Mosakowski, 1997). The liability of foreignness has been studied as an individual-level characteristic which can develop from an individual's lack of knowledge about the host country (Joardar & Wu, 2017; Nachum, 2010) and lack of familiarity with socio-cultural differences between home and host country that may affect an IE's integration into the local network (Joardar & Wu, 2017; Miller & Eden, 2006). The liability of foreignness can have severe consequences (Zaheer & Mosakowski, 1997), such as frequent errors, unnecessary risks and delays in operating the venture (Lord & Ranft, 2000). The liability of foreignness has multiple dimensions (Zaheer, 2002) but uniting them are the costs among IEs based on their degree of unfamiliarity with and their amount of roots in the venture's host country environment (Zaheer, 1995). Among other sources, these costs can originate from the IE's unfamiliarity with the local culture and local market, a lack of information networks, political influence, regulatory restrictions on foreign firms or difficulty in attracting local customers (Zaheer & Mosakowski, 1997). I focus my argument here on the extent of the IE's perspective taking as a possible moderator variable that weakens the IE's resource fit preferences when hiring. In other words, regarding social capital similarity, an IE with high perspective taking is less likely to need to hire employees with similar social capital. In terms of human capital, a higher degree of perspective taking makes hiring for complementarity to the IE's resources less likely. The IE's foreignness loses (some) relevance, and her liability of foreignness decreases, as she gains the perspective of those in her host country (Zhou & Guillen,

2015). The IE's perspective taking can help her overcome two types of barriers in the foreign environment: those associated with communication, and her lack of independent legitimacy in the environment, thus increasing her ability to be flexible in hiring preferences.

First, differences in language and communication ability are a major barrier for IEs (West & Graham, 2004). IEs may lack cultural know-how in the venture's host country, which impedes their ability to create deep relationships with local people. A lack of cultural know-how is a difficulty beyond language fluency skills in terms of communication in general and is expected to range from individual to individual. However, some aspects of culture can be learned and perspective taking can assist with this. For instance, in Spain the lunch culture is one that may take an IE some getting used to. Some IEs may be used to working through lunch or bringing their lunch to the office and taking a 30-minute break to eat while conversing with coworkers in the office and then go back to work. In contrast, Spanish business people tend to conduct business when they go out to lunch at a restaurant, to enjoy often the largest meal of the day for 2-3 hours with multiple courses and alcohol served. For an IE who is trying to build relationships with potential investors, clients and other stakeholders, Spanish lunch could be one unknowingly missed opportunity. Other cultural differences are harder to learn and fully absorb for an IE and may always exist to some extent. However, perspective taking can reduce the IE's need to hire based on the previous resource fit arguments.

Second, perspective taking can help weaken the hiring preferences of IEs because perspective taking can increase the IE's own independent legitimacy in the

host country, defined as “a generalized perception or assumption that the actions of an entity are desirable, proper, or desirable within some socially constructed systems of norms, values, beliefs, and definitions” (Suchman, 1995: 574). While host country stakeholders, including customers, investors and politicians, have a higher level of uncertainty about the quality of the international venture in comparison to domestic firms (Schmidt & Sofka, 2009), IEs could overcome this by taking the perspective of others in their host country. International ventures that mimic the local environment increase their legitimacy (Kostova & Zaheer, 1999; Haveman, 1993), making it easier for IEs to relax their hiring preferences. Terjesen and Elam (2009) find evidence that IEs know the importance of gaining legitimacy in their new environment and that IEs are looking to obtain legitimacy and power through social ties to key individuals of high status or with valuable knowledge, money, or relationships. In order to gain legitimacy, it has been shown to be crucial that entrepreneurs consider the norms, values, and beliefs that exist within an organization's industry when selecting which practices and policies to adopt, and perspective taking can help with this effort (Williamson, 2000). Overall, the preceding reasoning leads me to posit that:

Hypothesis 4a. IEs' perspective taking weakens the relationship between the resource similarity of candidates' social capital and the likelihood of hiring.

Hypothesis 4b. IEs' perspective taking weakens the relationship between resource complementarity of candidates' human capital and the likelihood of hiring.

Hypothesis 4c. IEs' perspective taking weakens the relationship between resource similarity of candidates' innovation preferences and the likelihood of hiring.

Ease of Doing Business as an Institutional-level Moderating Variable

Institutional rules regarding entrepreneurship vary from country to country and over time (Baumol, 1990), and entrepreneurial decision-making is affected by the institutional context of the venture (Shepherd, Wennberg, Suddaby, & Wiklund, 2019). The ease of doing business in a particular country is a rating of the regulatory environment for local entrepreneurs at a particular time (Ease of Doing Business Score, 2020), and indicates the institutional barriers to conducting business in that country. The rating includes a variety of topics relevant to conducting business, such as dealing with construction permits, getting electricity, paying taxes, enforcing contracts and registering property. Similarly to psychic distance or other distance measures (Williams & Grégoire, 2015), the ease of doing business measure can be used to symbolize and measure the difference between home country and host country.

I anticipate that the ease of doing business in a particular host country will affect the IE's hiring preferences because difficulties grow when the host country is institutionally more distant from the entrepreneur's home country (Eden & Miller, 2004), and vice versa, shrink when the countries are institutionally similar. The greater this institutional distance, the higher the barriers, uncertainty and additional costs to the IE. When it is institutionally easier to conduct business in a foreign host country than the IE's home country, the perceived barriers the entrepreneur faces are lowered. One characteristic of the institutional setting that may affect the ease of doing business in the country is local density of firms, which has been shown to negatively affect international venture performance and market experience is less beneficial in high-density areas (Miller & Eden, 2006). Additionally, in environments with a low density of firms, venture performance is enhanced through strategic conformity, but in areas with high firm

density, conformity has a negative effect on performance (Miller & Eden, 2006). In relation to my study and with regard to hiring, IEs are under less pressure when it is easier to conduct business in the host country and, thus, they can be more flexible in their hiring preferences.

Additionally, a higher ease of conducting business indicates fewer institutional voids in the institutional framework; so, the need and desire for employees with similar SC and complementary HC is not as crucial to fill IEs' needs (Mair & Marti, 2009; Ge, Carney, & Kellermanns, 2019). Essentially, the higher the ease of doing business, the relatively simpler it is for IEs to go about advancing their venture in their foreign environment. Hence, under conditions of higher ease of conducting business, IEs can afford to be more flexible in their prioritization of candidate characteristics, and thus IEs' preference for hiring in terms of specific resource fit will be attenuated.

Uncertainty is anticipated to be lower when the ease of doing business is high, and thus entrepreneurs have the luxury to hire based on other considerations. Perhaps, IEs want to replicate their own skillset and hire someone with the same HC as them, for instance, instead of focusing on the skills that help primarily by broadening their knowledge base. These IEs have relatively less stress about the logistics of running the business and can relax their hiring guidelines. Alternatively, in a difficult institutional setting, entrepreneurs feel immense pressure to understand and navigate the institutional setting (Peng & Luo, 2000). This presumably is their top priority and hiring candidates with similar social capital and similar innovation mindsets to themselves helps them reduce the uncertainty in these resource areas while also broadening their knowledge base by hiring for complementary HC. These hiring preferences make sense

for IEs trying to comprehend a new institutional framework that might be relatively less business friendly than their home country environment. In other words, IEs look for certainty and security somewhere, and if they are not getting it from the institutional setting, they search for it elsewhere. Therefore, the easier it is to conduct business in a venture's host country in comparison to the IE's home country, the more mitigated IEs' hiring preferences for resource fit. Specifically:

Hypothesis 5a. Ease of doing business in the host country weakens the relationship between resource similarity of social capital and the likelihood of hiring, such that international entrepreneurs are less likely to prefer hiring candidates with similar social capital, the higher the ease of doing business in the host country compared to the entrepreneur's home country.

Hypothesis 5b. Ease of doing business in the host country weakens the relationship between resource complementarity of human capital and likelihood of hiring, such that international entrepreneurs are less likely to prefer hiring candidates with human capital complementary to their own, the higher the ease of doing business in the host country compared to the entrepreneur's home country.

Hypothesis 5c. Ease of doing business in the host country weakens the relationship between resource similarity of innovation preferences and the likelihood of hiring, such that international entrepreneurs are less likely to prefer hiring candidates with similar innovation preferences, the higher the ease of doing business in the host country compared to the entrepreneur's home country.

RESEARCH METHOD

I used an iterative approach to design the methodology for my study to ensure the validity and robustness of my design and findings. My research design involved the use of a hypothetical hiring scenario with verbal protocol techniques and conjoint analysis to uncover the thought processes international entrepreneurs' use when making hiring decisions. In this regard, I follow the example of other scholars to use both verbal protocol and conjoint analysis techniques to support each other (Choi &

Shepherd, 2005). In this process I relied on 3 personal interviews, four separate pretest verbal protocol interviews, and a main sample of 104 international entrepreneurs who participated in a conjoint experiment conducted in an online environment, all collected over an 18-month period of time (early 2020-early 2021).

Pre-test Method and Sample: Informal Interviews

The idea for this study originated because since 2018 I have been involved with an active group of women international entrepreneurs in Madrid, Spain who have all started their companies outside of their home countries. Once I had the basic idea for this study, I conducted 3 informal interviews. These interviews were particularly important at the beginning stages of my study design, because the participants came from three different perspectives. One interviewee was one of the first employees of a new international venture in the aerospace industry. This employee was recruited by the IE and moved from the United States to the venture location of Spain, to help start the venture. This employee was also an equity partner with the original founder and was responsible for onboarding new employees, making this person's perspective particularly relevant to my study topic. One takeaway from this conversation was the importance international entrepreneurs place on early hires, because these early hires take on significant responsibilities for hiring and training subsequent hires as the venture grows. My second informal interviewee was an active member of the group of women international entrepreneurs and had started her business in Madrid (she was originally from Hong Kong) and at the time of our discussion, she was in the process of hiring her first employee. Our conversation centered on her considerations in finally

making the decision to hire, as well as the attributes she was looking for in a candidate. Finally, my third conversation was with an investment manager from a venture capital firm. This perspective was enlightening, because I learned about the value that venture capital firms place on their potential investment ventures' hiring practices, when making funding decisions. The informal interviews confirmed the importance of hiring for IEs and the stress related to these decisions which is exacerbated by the IEs also having to navigate a foreign environment. After these preliminary conversations, additional and richer learning occurred during the verbal protocol interviews, which I detail next.

Pre-test Method and Sample: Verbal Protocol Interviews

I designed a hypothetical hiring scenario which was intended to approximate the important realities of how international entrepreneurs make hiring decisions. To pre-test my instrument, I conducted four verbal protocol interviews with international entrepreneurs in which participants thought aloud as they completed the exercise. This allowed me to get a glimpse into their underlying reasoning and thought process behind their decisions. I also used these interviews to refine my instrument, based on feedback from respondents that the wording was unclear, or if they did not seem to be grasping the intent of my questions. These four interviews are considered verbal protocol interviews in comparison to traditional interviews because instead of asking interview questions directly to the IEs, I asked them to think-aloud as they made their decisions about each candidate. In this way, I was able to understand more about the decision-making process underlying their decisions without prompting or probing for verification of my preconceived notions of what might or might not be of relevance to the decision at

hand. Verbal protocols can be an advantageous methodology because instead of relying on retrospective recall of how participants believe they solve problems, verbal protocols utilize the transcripts from concurrent verbalization in the actual decision-making process to allow the researcher to hear the participants' thinking processes (Ericsson & Simon, 1993). Verbal protocol techniques are well-established in studies investigating the decision making of international entrepreneurs (Clark et al., 2018; Williams & Grégoire, 2015). Here I use verbal protocols in an exploratory and confirmatory way to better understand how international entrepreneurs weigh their preferences when hiring. This method is particularly useful in settings where there is a theoretical tension in the literature regarding the thinking underlying decisions, as is true of the hiring decisions of IEs. In my setting, these interviews helped me develop my hypothesized model about when IEs would prefer to hire employees with similar and complementary resources to themselves.

I met with these IEs individually via Zoom during 1-hour recorded interview sessions. Within 24-hours of conducting each interview, I downloaded the recording and transcript, and made a detailed list of lessons learned and changes to be made to the study design. Table 1 gives a snapshot of profile characteristics for the IEs who participated in my verbal protocol interviews. This table shows the variability of different venture types, sizes and ages that are representative of my main sample. I have included in Appendix A a detailed list of changes to my study design and lessons learned, based on these verbal protocol interviews. I used these interviews to solidify my study design, and then paired it with the quantitative approach of a conjoint analysis for my main sample.

Verbal Protocol Interview International Entrepreneur Profiles												
Type of Company/Industry	Last Year's Annual Revenue	# of Employees	Growth Objective	% of sales in host country	Biggest Challenges Regarding Hiring	Growth Objective	Home Country	Host Country	Time in Host Country (years)	Venture Age (years)	Venture industry experience (years)	Companies Founded
Travel Planning	< \$10,000	2	Grow in the same domain	10	Determining needs Finding the right culture fit Achieving flexibility Growing manageably	Grow in the same domain	USA	Spain	7	4	22	2
Foreign Language School	\$1.4 million	31	Maintain the size	10	Finding the right culture fit Balancing experience and cost Timing initial hires Growing manageably	Maintain the size	UK	Spain	19	15	19	3
Fashion and Beauty	\$45,000	2	Grow in a new direction	71	Finding the right culture fit Balancing experience and cost Growing manageably	Grow in a new direction	Hong Kong	Spain	5	3	20	1
Parenting Coaching	-	1	Grow in the same domain	100	Determining needs Finding the right culture fit Achieving flexibility	Grow in the same domain	Philippines	Spain	10	2	7	1

Main Method and Sample: Conjoint Analysis

This study aims to investigate attributes influencing international entrepreneurs' decision-making regarding hiring preferences. Given such a focus, I use a conjoint experiment: a technique requiring respondents to make a series of decisions based on a set of attributes from which the underlying structure of their decisions can be decomposed by means of hierarchical regression and hierarchical linear modeling (Choi & Shepherd, 2004; Lohrke, Holloway, & Woolley, 2010).

In my conjoint experiment, I asked respondents to evaluate a series of hypothetical candidate profiles. In each profile, the three candidate attributes are represented by one of two possible levels, resulting in eight profiles with different attribute level combinations, as I used a full factorial design. In total, each respondent evaluated 13 profiles (1 practice, 1 repeat, 8 main, and 3 with an additional consideration, which I describe further below).

Conjoint analysis is a well-accepted methodology for studying important decision-making processes in entrepreneurs (Lohrke, Holloway, & Woolley, 2010; Shepherd, 2011; Stevenson, Josefy, McMullen, & Shepherd, 2020; Stevenson & Josefy, 2019), as it enables researchers to capture the decision heuristics in real-time as decisions are made, thus overcoming many of the limitations associated with retrospective techniques that require extensive and error-prone reflection by the decision-maker (Wood, McKelvie & Haynie, 2014). Recently, conjoint analysis has been used to study the role of metacognitive ability and feedback in completing entrepreneurial tasks (Haynie, Shepherd, & Patzelt, 2012), entrepreneurs' decisions not to pursue a perceived opportunity (Wood, Williams, & Drover, 2017), and the role of social ties in IEs'

assessments of early international entry (Domurath & Patzelt, 2016). A conjoint experiment is well-suited to my study because the experiment allows me to tease apart different contributing attributes underlying a decision in a relatively controlled environment. This is especially relevant to hiring decisions, which can be difficult to study because there are dynamic considerations on the supply (IE) and demand (candidate) side that need to be considered. Removing the supply-side concerns is important here, because my intent is to isolate IEs' preferences for the types of candidates they would choose without considering the candidate's view. The conjoint analysis focuses on the demand-side of the hiring equation and removes supply-side concerns from the hiring decisions (Fernandez-Mateo & Fernandez, 2016). This is especially important in an entrepreneurial setting, especially if the ventures are small, because the venture may be less visible to potential employees (Williamson, Cable & Aldrich, 2002) and it might be difficult for the venture to recruit qualified employees (Coad et al., 2017; Dahl & Klepper, 2015), indicating that there are likely supply-side concerns in my study environment which the conjoint analysis can adequately address.

The experimental design is orthogonal for metric conjoint analysis, as the orthogonal structure of attributes guarantees that the effect of one attribute or interaction can be estimated separately from the effect of any other attribute or interaction in the model. With this method, correlations between attributes are zero and thus multicollinearity is not an issue (Huber, 1997). In my study, I asked participants to assess a series of hypothetical candidates (each featuring three different attributes with two manifestations each) for employment in a hiring scenario and to indicate their likelihood of hiring each candidate. Following previous research using conjoint analysis

(Warnick et al., 2018), my study involves nested data: level 1 are the decisions nested in each of the level 2 participants. I captured respondents' individual differences through a post-experiment survey. As such, I am able to test the hypothesized cross-level interactions included in my hypotheses.

Manipulation Check

Before large-scale data collection, I conducted a manipulation check with 72 paid online respondents via Amazon MTurk, a standard website to recruit internet participants who are representative of the general public (Crump, McDonnell & Gureckis, 2013; Smith et al., 2015). I conducted multiple t-tests on the sample and the manipulation check results validated my operationalization of perspective taking of an individual's host country. In the manipulation check, I provided definitions of perspective taking and a number of related concepts, and asked respondents how clearly they understood the meaning of each (on a Likert scale of 1-7). I then provided an example of different levels of perspective taking of an individual's host country and asked respondents if the levels were sufficiently clear and different from the other concepts. Respondents answered affirmatively to these questions.

Sample

International entrepreneurs. The primary participants in this study were real international entrepreneurs who founded and operate their venture outside of their home country. These participants have practical international entrepreneurship experience and are likely to be familiar with the real decision contexts of hiring

employees. International entrepreneurs are a particularly unique sample that can be difficult to access. My sample is the end result of multiple efforts to recruit participants. I started my recruitment efforts with the group of international entrepreneurs who inspired the study by posting the online experiment in their private Facebook group. I also posted the online experiment in other online groups of which I am a participant (e.g. foreign service spouse entrepreneurs, expat women and expat entrepreneurs). In addition to reminder messages in these large groups, I sent personal messages to 95 of these international entrepreneurs. Interestingly, I found my sample preferred personal interaction, as I had a much higher (80%) response rate from sample participants agreeing to conduct a 1-hour verbal protocol interview with me in comparison to participating in a 20-minute online experiment, because the interviews set an assigned time for the exercise and the exercise was completed as part of a conversation in the case of the verbal protocols. From these efforts, 61 individuals started the questionnaire, and 12 provided complete, usable responses. I decided to supplement my sample with international entrepreneurs identified through an online paid service, Prolific Research. All respondents to my questionnaire were screened initially to be “currently engaged in entrepreneurship” and to have “lived abroad for at least 6 months.” This yielded 238 more complete responses. As further screening of participants up front was not allowed, as part of my questionnaire, I asked respondents specifically about their international entrepreneurship experience, whether they had “started a business outside of their home country (in a foreign host country).” Thirty-nine percent or 92 respondents answered this question affirmatively, which resulted in a final combined sample size of 104 international entrepreneurs.

These IEs have an average age of 38 (s.d. 11.11) and a total of 52 IEs are females (50%). Their ventures have an average venture age of 5.32 years (s.d. 5.81). The IEs' average annual revenue last year was between \$80,000-100,000, and 8 (7.69%) of IEs had annual revenue over \$1 million last year. Each of the respondents made eight decisions in the original profiles of my conjoint experiment, resulting in 832 observations. I added a practice profile and its replication for test-retest reliability only and did not include these results in the final analysis.

Research Instrument

The IE University Research Committee reviewed and approved my project and methodology description, consent form, and research instrument. I designed my research instrument (included in the Appendix B) following a number of published conjoint studies in entrepreneurship (Haynie, Shepherd & Patzelt, 2012; Haynie, Shepherd & McMullen, 2009; Shepherd, Patzelt & Baron, 2013; Choi & Shepherd, 2005; Wood et al., 2014; Wood & Williams, 2014). The research instrument consisted of three components: (1) a task introduction and attribute descriptions, (2) a series of conjoint profiles, and (3) a post-experiment questionnaire.

In the task introduction and attribute descriptions, I provided a detailed explanation of the decision-making scenario and each of the attributes used in the conjoint experiment. To provide a common context for participants (Haynie et al., 2009; Wood et al., 2014), the scenario asked the IEs to imagine they are the founding CEO of a corporation based in a foreign country (not their home country). I asked them to assume the new venture has been operational for three years so far, that the company

has experienced initial success, and the hypothetical company's current business objective is to grow. In order to achieve their goals, I ask the IEs to imagine they have to hire up to four new employees: a senior operations leader, a sales manager, a functional professional (e.g. lawyer, accountant), and an entry-level administrative assistant. I asked the IEs to assume that all the candidates presented to them meet the qualifications to perform the job for which they are hiring. The IEs saw two candidate profiles for each position. I randomized the combinations of the positions and profiles, in order to control for the job roles.

Dependent Variable

I measure respondents' *hiring likelihood* of each candidate by asking the respondent to consider the candidate profile and assess, "What is the likelihood you would hire this candidate?" I used a continuous scale ranging from 0 (extremely unlikely) to 100 (extremely likely).

Explanatory Variables: Independent, Moderator and Control

Level 1: Decision-level explanatory variables. I designed my attributes, attribute levels, and similarity to the IE following previous research on social capital (Granovetter, 1983; Nahapiet & Ghoshal, 1998), human capital (Davidsson & Honig, 2003; Ucbasaran et al., 2008) and individual innovation preference (Bolton & Lane, 2012). The attribute levels were designed as binary archetypes. My decision-level variables were then based on the similarity of the attribute level with the IE's own attribute and these are described in detail in Table 2. My resulting three main independent variables are *social*

capital similarity, human capital similarity, and innovation preference similarity.

TABLE 2		
Candidate Profile Attributes and Basis for Similarity with IE		
Profile Attribute	Attribute Levels	Basis for Similarity with IE
Social Capital	1 Few, tight connections 0 Many, loose connections	IE reports predominantly relying on: 1 Few, tight connections 0 Many, loose connections
Human Capital	1 Similar to your own (IE's) 0 Complementary to your own (IE's)	Built into candidate profiles
Innovation Preference	1 Trying new things 0 What has worked in the past	IE's responses to Innovativeness portion of IEO scale on 1-7 scale (Bolton & Lane, 2012) 1 if score > 4 0 if score ≤ 4

Level 2: Individual-level moderator variables. For my moderating variable of the IE's ability and extent of *perspective taking*, I relied on the 7-items from the general perspective taking survey from Davis (1983), which are measured on a 7-point Likert scale of how well each statement describes the individual (1=strongly disagree, 7=strongly agree). Two of these items were reversed, so I first reverse-coded these items, then added the 7 scores together, and divided by 7 to get an overall perspective taking score for each individual.

My second moderating variable of the difference in the Ease of Doing Business score between the IE's home and host countries is derived from the World Bank's Ease of Doing Business score from 2020 (Ease of Doing Business Score, 2020). In my study, I measure the relative distance (score of host country-score of home country) between the IE's home country and venture host country's ease of doing business index. I calculated this such that a negative difference indicates that the home country has a higher ease of doing business in relation to the host country. For example, IEs with a

negative difference in the ease of doing business score moved from an easier country (e.g. United States) to open a business in a more difficult country (Mexico). Since 2005, the World Bank scores each country annually on 41 economic and institutional indicators to determine the ease of doing business in each country. For example, Georgia and New Zealand have the lowest number of procedures required to start a business (1), New Zealand also holds the shortest time to start a business (0.5 days), and Rwanda and Slovenia have the lowest cost to start a business (0.0). For each indicator the regulatory best practice is determined, and each country's performance is benchmarked against regulatory best practice and is reflected on a scale from 0 to 100, where 0 represents the lowest and 100 represents the best performance. For instance, the regulatory best practice for time to electricity is set at 18 days and the Republic of Korea (13 days) and the United Arab Emirates (7 days) both meet this best practice threshold and thus both receive 100 out of 100 points on this indicator measure. In my sample, two IEs listed two host countries, and both were not their home country. In these cases, I assigned their score based on the host country with a lower ease of doing business score.

Controls. I control for IEs' *gender*, *age* and *marital status* which may indicate general knowledge and experience and are likely to influence decision-making (Mitchell & Shepherd, 2010; Murnieks, Haynie, Wiltbank, & Harting, 2011; Wood et al., 2014; Wood et al., 2017). I also control for the IEs' venture characteristics, which may also indicate experience including *venture age*, *number of employees*, *revenue*, and *industry* (Joardar & Wu, 2017). In response to the suggestion that the business objectives of the

IE may differ, because not every IE may intend to grow her venture, I measured and controlled for the IE's *growth objective*. There is also evidence that international experience affects decision-making in international contexts (Clark, Li & Shepherd, 2018; Xu, Drennan & Mathews, 2019; Zucchella, Palamara & Denicolai, 2007; Joardar & Wu, 2017). To control for how international the IE is, I include controls for the *sales in the IEs' host country* (as % of total sales), the number of *countries the IE has lived in longer than 6 months*, the number of *languages* in which the IE can hold a basic conversation, and 3-items regarding the IEs' self-assessment as a *global citizen*.

RESULTS

Main Analysis

My primary sample has 832 observations nested in 104 international entrepreneurs. I included a practice profile and a repeat profile that were the same for all respondents. I compared the observations from the practice with the corresponding observations from the replication profile. If participants responded reliably and understood the scenario and my manipulation of attributes, there would be no significant difference between the average responses for the practice profiles and the replicated profiles (Hair, Black, Babin, Anderson & Tatham, 2006). The mean for my dependent variable for the practice profile was 56.06 and the mean of the repeat profile was 55.04. I conducted a t-test and the difference is not significant ($t=-0.5005$, $p=0.6178$). These consistent findings suggest reliable responses from my participants and that respondents understood the attributes in the experiment.

Table 3 shows descriptive statistics and correlations for my variables. I conducted hierarchical linear modeling (HLM) to test my hypotheses. Table 4 shows the

HLM results for my sample.

TABLE 3
Descriptive Statistics and Correlations

Variables	Obs	Mean	s.d.	Min	Max	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17		
1. Hiring Likelihood	832	61.85	20.68	0	100	1																		
2. Innov Similarity	832	0.5	0.5	0	1	0.090***	1																	
3. SC Similarity	832	0.5	0.5	0	1	0.132***	0	1																
4. HC Similarity	832	0.5	0.5	0	1	-0.103***	0	0	1															
5. IE Perspective Taking	104	5.15	0.84	2.71	7	0.073**	0	0	0	1														
6. EoDB Difference	104	3.26	11.99	-37.4	42.4	0.051	0	0	0	-0.084**	1													
7. Gender	102	0.51	0.5	0	1	0.012	0	0	0	0.089**	0.038	1												
8. Age	104	38.17	11.11	20	63	-0.114***	0	0	0	0.143***	-0.269***	0.033	1											
9. Marital status	104	0.59	0.49	0	1	0.016	0	0	0	0.190***	-0.014	-0.023	0.310***	1										
10. Venture age	104	5.32	5.81	0	31	-0.123***	0	0	0	-0.027	-0.216***	-0.161***	0.441***	0.005	1									
11. Industry	104	6.07	3.13	1	10	0.011	0	0	0	0.018	0.073**	0.018	-0.006	-0.115***	0.163***	1								
12. Growth objective	104	1.06	0.7	0	3	0.044	0	0	0	0.02	0.215***	-0.099**	-0.278***	-0.014	-0.192***	0.102***	1							
13. Revenue	104	9.75	8.56	1	23	-0.137***	0	0	0	-0.005	-0.100***	-0.155***	0.176***	-0.019	0.200***	0.160***	0.026	1						
14. # of Employees	104	5.37	9.08	1	50	-0.072**	0	0	0	-0.071**	-0.012	-0.109**	0.116***	0.018	0.241***	-0.039	0.034	0.274***	1					
15. Host Country market share	104	64.7	33.34	0	100	0.049	0	0	0	0.01	0.101***	0.034	-0.115***	-0.011	0.054	0.257***	0.218***	0.226***	0.200***	1				
16. International experience	104	2.82	1.77	1	11	-0.132***	0	0	0	-0.014	-0.331***	0.150***	0.291***	0.057*	0.110***	-0.200***	-0.115***	0.130***	0.200***	-0.171***	1			
17. Global citizen	104	6.05	0.84	3.67	7	0.036	0	0	0	0.196***	-0.097***	0.031	0.055*	-0.022	0.032	0.014	0.088**	0.045	0.054	0.03	0.136***	1		
18. Language skills	104	2.71	1.16	1	6	-0.130***	0	0	0	-0.193***	-0.100***	-0.02	-0.018	-0.209***	0.003	-0.103***	-0.097***	0.173***	0.217***	0.058*	0.387***	0.164***	1	

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

EoDB Difference=Ease of doing business difference (Host Country-Home Country)

1=Female, 0=Male

Married=1, Not Married=0

TABLE 4 HLM Model Predicting IEs' Likelihood of Hiring Candidates (robust standard errors)							
Hiring likelihood	Model 1 Controls Only	Model 2 H1	Model 3 H2	Model 4 H3	Model 5 All Main Effects	Model 6 H4abc	Model 7 H5abc
Gender	-0.728 (1.95)	-0.728 (1.95)	-0.728 (1.95)	-0.728 (1.95)	-0.728 (1.95)	-0.874 (1.92)	-0.657 (1.95)
Age	-0.090 (0.10)	-0.090 (0.10)	-0.090 (0.10)	-0.090 (0.10)	-0.090 (0.10)	-0.097 (0.10)	-0.094 (0.10)
Marital status	0.478 (1.86)	0.478 (1.86)	0.478 (1.86)	0.478 (1.86)	0.478 (1.86)	0.161 (1.87)	0.515 (1.85)
Venture age	-0.328* (0.16)	-0.328* (0.16)	-0.328* (0.16)	-0.328* (0.16)	-0.328* (0.16)	-0.317* (0.16)	-0.336* (0.16)
Industry	0.011 (0.31)	0.011 (0.31)	0.011 (0.31)	0.011 (0.31)	0.011 (0.31)	0.003 (0.31)	0.014 (0.32)
Growth objective	-0.707 (1.43)	-0.707 (1.43)	-0.707 (1.43)	-0.707 (1.43)	-0.707 (1.43)	-0.731 (1.42)	-0.626 (1.45)
Revenue	-0.264* (0.12)	-0.264* (0.12)	-0.264* (0.12)	-0.264* (0.12)	-0.264* (0.12)	-0.270* (0.12)	-0.267* (0.12)
# of employees	0.033 (0.09)	0.033 (0.09)	0.033 (0.09)	0.033 (0.09)	0.033 (0.09)	0.036 (0.09)	0.037 (0.09)
Host country market share	0.042 (0.03)	0.042 (0.03)	0.042 (0.03)	0.042 (0.03)	0.042 (0.03)	0.043 (0.03)	0.042 (0.03)
International experience	-0.621 (0.56)	-0.621 (0.56)	-0.621 (0.56)	-0.621 (0.56)	-0.621 (0.56)	-0.624 (0.56)	-0.687 (0.60)
Global citizen	1.751 (1.11)	1.751 (1.11)	1.751 (1.11)	1.751 (1.11)	1.751 (1.11)	1.531 (1.14)	1.716 (1.10)
Language skills	-1.967* (0.99)	-1.967* (0.99)	-1.967* (0.99)	-1.967* (0.99)	-1.967* (0.99)	-1.794+ (0.93)	-1.950+ (1.00)
SC Similarity		5.449*** (1.46)			5.449*** (1.46)	13.566 (8.89)	4.888** (1.59)
HC Similarity			-4.257** (1.64)		-4.257** (1.64)	16.505* (7.87)	-4.068* (1.87)
Innovation Similarity				3.988* (1.70)	3.988* (1.70)	15.991 (11.75)	4.307* (1.77)
IE Perspective taking						5.146* (2.22)	
SC Similarity x IE perspective taking						-1.577 (1.71)	
HC Similarity x IE perspective taking						-4.034** (1.50)	
Innovation Similarity x IE perspective taking						-2.332 (2.20)	
EoDB Difference							-0.041 (0.12)
SC Similarity x EoDB Difference							0.169 (0.13)
SC Similarity x EoDB Difference							-0.057 (0.19)
Innovation Similarity x EoDB Difference							-0.096 (0.15)
Constant	64.047*** (7.35)	61.323*** (7.33)	66.176*** (7.43)	62.054*** (7.45)	61.458*** (7.49)	36.428** (12.74)	61.964*** (7.46)
chi2	47.94	75.06	63.34	53.57	98.92	108.25	115.91
log likelihood	-3607.29	-3599.21	-3602.38	-3602.98	-3589.72	-3584.39	-3587.95
df	12	13	13	13	15	19	19
observations (decisions)	n=832	n=832	n=832	n=832	n=832	n=832	n=832
observations (IEs)	N=104	N=104	N=104	N=104	N=104	N=104	N=104

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001
EoDB (Ease of Doing Business)

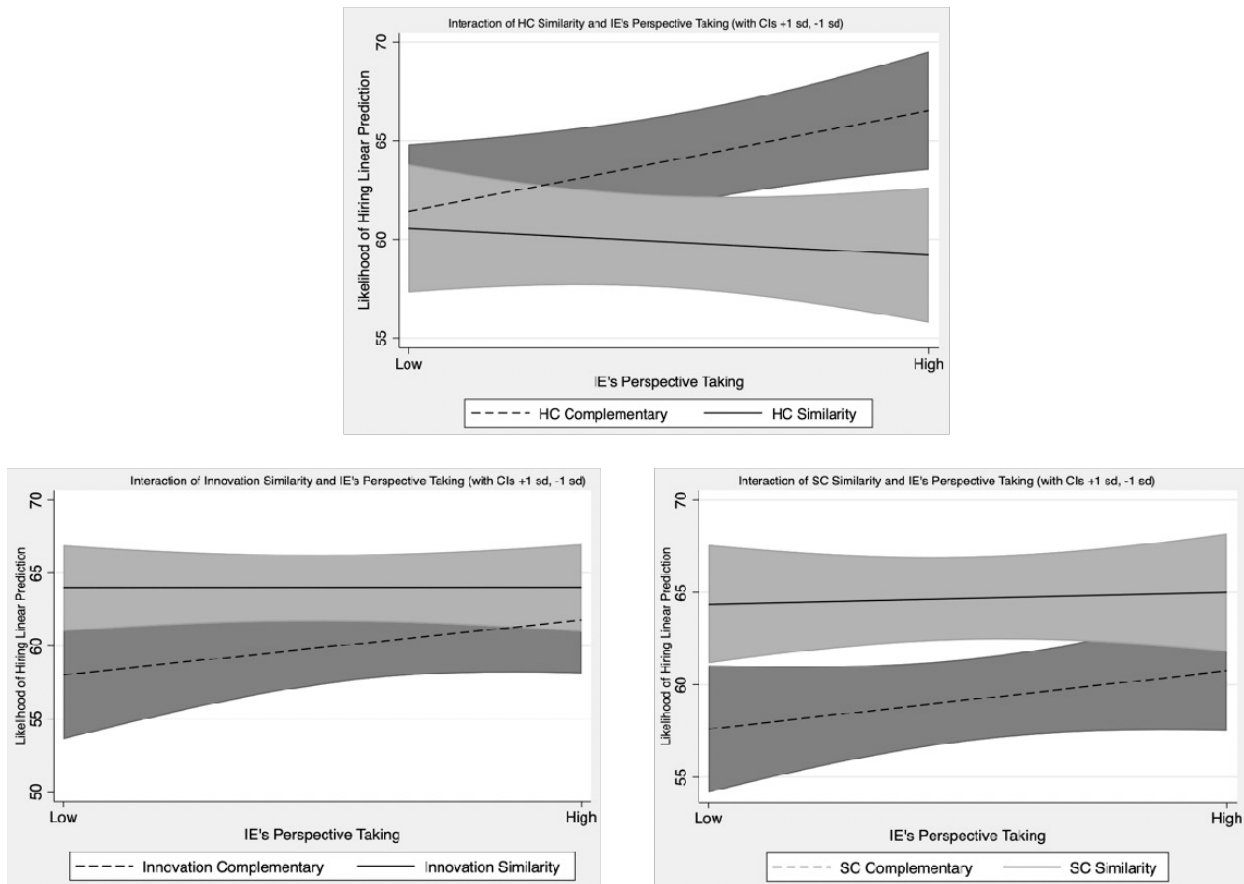
Model 1 shows the individual-level (level 2) control variables only. Venture age

(Beta=-0.328, p=.038), revenue (Beta=-0.264, p=.03) and language skills (Beta=-1.967, p=.047) have significant relationships with the likelihood of hiring, which indicate that when experience (business or international) increases, the IE's likelihood of hiring a particular candidate based on a 3-attribute profile is lowered, because these individuals have significant experience to rely on in establishing their decision heuristics. Models 2, 3, and 4 individually add the independent variables of social capital similarity, human capital similarity and innovation similarity, respectively. Model 5 includes all three main effects together in one model. The model statistics as measured by Wald Chi² improve notably and significantly (from 75.06 in Model 2 with social capital similarity to 98.92 in Model 5 with all three main effects). Social capital similarity is positively and significantly associated with likelihood of hiring (B=5.449, p=0.000). Human capital similarity is negatively and significantly associated with the likelihood of hiring (B=-4.257, p=0.009). Innovation similarity is positively and significantly associated with the likelihood of hiring (B=3.988, p=0.019). These results support my overall argument that IEs have different preferences for resource similarity and complementarity when hiring. Specifically, IEs prefer candidates with more similar social capital resources to themselves, yet also prefer candidates with more complementary human capital resources to themselves. In regard to innovation preference, IEs again prefer similarity between themselves and potential hires. These findings provide support for hypotheses 1, 2 and 3.

Model 6 shows the results of the interaction between the IEs' extent of perspective taking and the three (attribute) similarities. The coefficients of all the interaction terms in model 6 are negative; however, only the interaction with human capital similarity is significant. These results signal that the IEs' perspective taking negatively moderates

the relationship between human capital similarity and IEs' likelihood of hiring each candidate ($B=-4.034$, $p=0.007$). In other words, the more perspective taking the IE engages in, the weaker the relationship between the preference for human capital complementarity and likelihood of hiring. This provides support for hypothesis 4b, but no significant results are found for hypotheses 4a and 4c. I graph these interactions in Figure 2. The top graph in figure 2 reveals that the significant relationship is born out on high levels of perspective taking, whereas when perspective taking is low, the predicted likelihood of hiring between HC complementarity and HC does not appear to differ significantly. This graphical interpretation suggests careful interpretation of the interaction result.

FIGURE 2
Interactions with IE's Perspective Taking on Likelihood of Hiring



Finally, in model 7 I test the interactions of the difference in the ease of doing business with the attribute similarities on the IEs' likelihood of hiring each candidate. These results are not significant, indicating that I am not able to capture whether the institutional ease of doing business score affects the hiring preferences of IEs. In total, these findings prompted further host-hoc analysis beyond my hypotheses.

Post-hoc analyses

These post-hoc analyses are intended to ensure the robustness of my initial analysis and provide preliminary insights into directions for future research. In addition to asking respondents the likelihood of hiring each candidate, the instrument also asked respondents to assess their likelihood of offering the candidate an equity partnership (following a conditional trial period). As an initial robustness check, I replicated my analysis using this second dependent variable, because I would expect that the results would be in the same directions and possibly slightly weaker because I assume that the threshold IEs have for hiring someone is lower than their threshold for offering equity in their venture. Basically, to consider someone for equity partnership, the IE would at least be willing to work with that person. These results did instill confidence in my main analysis because the coefficients are in the same direction and statistical significance remained the same. The results from these analyses are available in Appendix C.

Second, because I got mixed results for the interactions between hiring preferences and the IE's perspective taking, I tested these in multiple ways to ensure my analysis is reliable. Regarding the interactions with IE's perspective taking, there may be multiple ways to capture how much an IE takes the perspective of her host

country. Therefore, I reran these interaction analyses replacing the Davis (1983) perspective taking survey questions with a 4-item scale used by Grant & Berry (2011) to capture perspective taking in the workplace. In this case, none of these interactions (or the main effects for social capital similarity, human capital similarity, and innovation similarity) are significant at $p < 0.1$. I also start to consider that there may be other, perhaps better, ways of capturing the extent to which international entrepreneurs take the perspective of their host country. This was not the focus of this paper, so I include these here as additional analyses for future research potential. For instance, country familiarity is one way to measure how familiar a person is with their host country (Clark, Li & Shepherd, 2018). Country familiarity is measured with 1 item on a 1-10 scale and my sample average for country familiarity was 8.22 (s.d. 1.54) and ranged from 3 to 10. When I used country familiarity scores as my variable for the perspective taking interaction, none of the results were significant at $p < 0.1$. I also considered that I could capture the IE's extent of perspective taking of their host country via their local friend network. For instance, if the IE has a higher proportion of local friends (to total friends), the IE may be more ingrained in the local host country. The average local friend ratio in my sample was .48, indicating that my sample had on average 48% local friends. Here I find that the interaction between the IE's local friend ratio and social capital similarity has a negative and marginally significant relationship with likelihood of hiring ($B = -14.28$, $p = 0.083$). I interpret this negative and marginally significant interaction to mean that as IEs increase their local friend ratio, their preference becomes weaker regarding hiring for similar social capital. I also measured the IE's perspective taking as their fluency of the local language in their host country. None of these interactions were significant. The

details of these analyses are available upon request.

Third, because I did not find significant results for the interaction between the difference in ease of doing business scores on hiring preferences, I also attempted to verify these findings through additional analysis. I replaced the difference in ease of doing business scores between home and host countries, with simply the actual ease of doing business score in the IE's host country, with the assumption that maybe it does not matter what institutional framework the IE came from. What really matters for their decision-making is the institutional context the IE is currently in. These interaction analyses, however, also did not provide significant results.

Fourth, to measure innovation similarity between the IEs and candidates, I also considered using the international entrepreneurial orientation disposition survey (Clark & Covin, 2020). This survey provides measures of individuals' attitudes and disposition toward internationalization, and specifically measures international innovativeness, international risk-taking, and international proactiveness. In addition to working with the whole IEOD scale, I used the 5-items that compose the international innovativeness measure to derive my innovation similarity measure. I experimented with four different cutoff points (the mean of 4.89, 4 as scale midpoint, 5, and 3), to derive four slightly different binary variables from this scale to compare with the innovation preference of the candidate profiles. None of these differently composed similarities showed a clear relationship with hiring likelihood. In retrospect, this makes sense theoretically, because the IEOD survey is intended to measure attitudes towards internationalizing and individuals who want to internationalize their business. My sample of interest is international entrepreneurs who are already living abroad. These individuals are not

necessarily looking to cross more borders when they grow their ventures. They are international because they started a company outside of their home country, but many have settled in international settings because of life circumstances, not because their objective is to grow a multinational company.

Finally, I considered that there may be other significant attributes outside of social capital, human capital and innovation preference that might “fit” with IEs and contribute to their hiring decisions. From my verbal protocol interviews and other research, I identified three characteristics that could be particularly important: resource fungibility (Autio, George, & Alexy, 2011), personal relationships (Coad et al., 2017), and candidate nationality (Kulchina, 2016). I measured the impact of these three characteristics using the same repeated profile for all questionnaire participants after the main block of eight profiles was completed by respondents. After the repetition profile, I asked respondents to think about the same job role and profile, and to (separately) imagine this same candidate is A) “more of a generalist than a specialist,” B) “someone you know personally,” and C) “a local person from your host country.” In regard to resource fungibility, candidates who are primarily generalists have versatile skillsets and can do a variety of assigned job roles but do not specialize in any one particular area. The generalist candidate was positively and significantly related to hiring likelihood (Beta=.414, $p=0.001$). When the candidate had a personal connection with the IE, there was also a positive and significant relationship with the likelihood of hiring (Beta=.389, $p=0.002$). When the candidate was a local person from the IE’s host country instead of a foreign person (like the IE), there was also a positive and significant relationship with hiring likelihood (Beta=.335, $p=0.007$). These results suggest that

these attributes should also be included in future research on IEs' hiring decisions.

DISCUSSION AND CONCLUSION

Previous research lacks a comprehensive investigation of the resource fit preferences of international entrepreneurs when making hiring decisions, which are crucial decisions with lasting influences in the venture process (Zahra, 2005). In this research, I attempt to address this issue by investigating the types of resource fit that international entrepreneurs prefer in terms of the social capital, human capital, and innovation preferences of potential employees. I also propose and empirically study how both the IE's ability to take the perspective of others in the host country and the institutional context can influence IEs' resource fit preferences. My study makes a few important contributions to the entrepreneurship literature.

Theoretical Implications

First, previous studies have told a contradictory story of entrepreneurs' hiring preferences based on resource fit, and here I help advance a solution for this paradox by offering first evidence when resource similarity and resource complementarity are more preferred by IEs. Some previous research has emphasized that in general entrepreneurs hire employees who are just like them (Stewart & Hoell, 2016), relying significantly on family and close friends for early employees (Coad et al., 2017). Other research has emphasized the importance of entrepreneurs acquiring human resources based on filling their biggest need. By investigating this paradox directly, I provide empirical evidence that international entrepreneurs prefer similarity in terms of the

candidate's social capital and innovation preferences, and complementarity in terms of the candidate's human capital resources. My arguments in this regard support the recent theoretical model of Stewart and Hoell (2016), which posits that the entrepreneurs' preference for resource similarity or resource complementarity will depend on individual characteristics (in their case on the entrepreneur's central identity).

Relatedly, two prior studies have competing arguments that have overlooked resource fit as an important consideration in the value of social capital. Leung et al., (2006) argue that entrepreneurs must rely on tight social ties during the start-up phase of their venture out of necessity, whereas Stam, et al., (2014) argue that loose ties may be more beneficial at the beginning of a venture's life. My essay suggests that it may not be the venture's life cycle phase that is the most important consideration, as suggested by these two competing studies, but the type of resource fit achieved through hiring employees with similar social capital to the entrepreneur. This preference for the known and familiar is supported by both my empirical analysis, and anecdotally during my verbal protocol interviews. A focus on the match between decision-maker and candidate is also an important advancement compared to the singular perspective on the candidate himself or herself that has hitherto dominated the field (Cardon & Stevens, 2004; Hornsby & Kuratko, 2003).

In regard to human capital, entrepreneurs who have high self-efficacy (Bryant, 2009) may believe they do not need employees with similar education and experience to themselves, because they personally bring that knowledge and skills, and thus, they look for employees to bring something else, in the form of complementary education and experience. Essentially complementarity is a luxury or a strategic move to

anticipate future needs when there is comfort that the venture's necessities are covered, and entrepreneurs believe their skills cover the basics, so they have the luxury of bringing on employees with complementary skill sets.

Second, my study is an exemplary study of hiring decisions in general because it isolates the decision-making of IEs, and controls for the difficulties they experience on the supply side in recruitment. My study is able to focus solely on the preferences of the IE. This is a goal of all hiring studies (Fernandez & Fernandez-mateo, 2006). Here I importantly differ from previous studies of hiring in entrepreneurship that discuss the difficulties of attracting the right resource fit in employees and among founding team members (Forbes et al., 2006).

Thirdly, this study is important to expanding research on international entrepreneurship beyond the decision to internationalize. While this is a crucial first step, it has been suggested that the decision-making that occurs after this decision is just as important to understand (Reuber et al., 2018; Zahra, 2005). This can be difficult work, because international entrepreneurs are a difficult sample to identify, find, contact and learn from. Here I managed to build a first dataset to start understanding how IEs hire new employees in their ventures abroad.

Finally, I offer novel insights on the embeddedness of IEs in their host countries. While the presence and the impact of the liability of foreignness has been well-established in international entrepreneurship (Nachum, 2010; Zaheer, 1995), here I suggest that one way to lessen this liability is through the concept of perspective taking. I suggest that the IE's extent of perspective taking of their host country is crucial to understand in studies of international entrepreneurship, because it may reduce the

uncertainty IEs feel in the foreign environment. This perspective taking of the host country can be captured in multiple ways, including their general perspective taking ability, their local social network, language fluency, and country familiarity with their host country. While these all offer different angles on the same construct, the overarching theme is that future IE research would benefit from accounting for the extent to which IEs take the perspectives of others in their host country, or are embedded in their host countries, to understand their decision-making.

Limitations, Future Research and Conclusions

This essay has some limitations. First, my study design did not allow me to separate the impact of the job role controls to know whether certain job roles had different effects on the relationships I examined. I did randomize these in the online experiment, so they were equally distributed, and did adequately control for job roles, but I am not able to tease out more details from these data. Second, I did not find significant results based on the difference in the ease of doing business in IEs' home versus host countries. Previous research has focused on the importance of institutional differences between international settings for international entrepreneurship (Ge et al., 2019), yet despite using a comprehensive measure of multiple business aspects from a reliable source, I unfortunately find no significant relationship on IEs' hiring preferences. This particular aspect of the study could benefit from further nuance to understand exactly which aspects of international institutional settings typically matter to decision-making. Third, I could also imagine that future studies could include finer-grained measures of social capital, human capital and innovation mindset, instead of

operationalizing them as binary variables. There are tradeoffs here and while my binary operationalizations may be slightly artificial, they do force people to make a choice. In this respect, I followed the newest work in the field of equivocal forced choice conjoint analysis (Clark, Tietz, & Kumar, working paper).

Future research could follow my trajectory to examine other types of resource similarity and complementarity in hiring, such as general versus specific human capital and/or fungible resources or characteristics of employees. For instance, a flexible workforce gives ventures more fungible resources, which can be put to alternative uses as needs change (Sapienza, Autio, George, & Zahra, 2006) and the resource fungibility of employees may be especially salient in ventures with broader role specialization and role definitions among employees (Autio et al., 2011). There is also evidence that resource fungibility increases venture propensity to experiment because changing the way employees with fungible resources are utilized in the organization is of relatively low cost (Autio et al., 2011). Concerning candidate nationality, there is some evidence that IEs may make hiring decisions based on candidate nationality because Cuban entrepreneurs in Miami have been shown to use exclusively a Cuban workforce (Portes, 1987); and international entrepreneurs in Sweden are more likely to hire foreign employees than their Swedish counterparts (Andersson & Wadensjö, 2007). In my post-hoc analysis, I find initial evidence that there may be benefits to IEs hiring candidates from the local host country. Future research could for instance further tease apart these circumstances.

My robustness check using equity decisions as a dependent variable also suggests equity partnerships among IEs as a direction for future research. While I find

similar significant effects of IEs' preferences on the likelihood to offer equity partnerships as the likelihood to hire, there may be important circumstances under which these decision heuristics differ, and this could offer an interesting new research direction.

In conclusion, as the world economy becomes more tightly knit and venture operations move fluidly across borders, it is clear that more work is needed to understand IEs' decision heuristics. This study adds exciting work in this area, and I hope more scholars join me in working to understand the complexities of these unique individuals and settings.

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APPENDIX A

Lessons Learned from Verbal Protocol Interviews and Resulting Changes Made to Study Design

Lessons Learned

Confirmed job roles are an important consideration. Resource fungibility considerations were definitely position-based.

Why is this candidate being hired now? What is the company's need? This could definitely affect the decision, especially regarding innovation preference.

Personality and associated "fit" is a major consideration (IEs mentioned "trust," "attitude," and "coachable" specifically)

Candidates having an international mindset was also really important, which may be dependent on the type of business IEs run and their target market. None of my interviewees were targeting solely local sales. And some IEs have 100% "local" sales that comprised two target markets: the local population and the expat population living in their host country.

Other international characteristics may matter more than candidate nationality, such as international experience and speaking a common language with employees.

Education background of the candidates seemed to matter the least. Experience was very important.

Knowing people does not always mean IEs are more likely to hire them. Personal connections could actually be a negative. Current entrepreneurship research that finds that entrepreneurs tend to hire people who they already know may be subject to survival bias. When looking for personal connections, there are definitely cases where they exist, but they may not be as widespread as currently portrayed.

Rating the likelihood of hiring for personal connections was one of the hardest decisions for the IEs to make. First, work and personal connections are different considerations. Second, yes they all agreed that having a personal connection with someone would affect their decisions, but they did not have enough information to decide how. They would need to know more about their personal experience with this person.

While a 20 minute task is a tall ask for online surveys, I did receive feedback from my interviewees that my questionnaire was very user-friendly, and fun to complete.

Changes to Study Design

Provide a job role and profile for the personal connection, fungibility and local versus foreign questions. This change improve my confidence in the answers to these three questions by controlling for these considerations. And the importance that these IEs placed on knowing the job role and profile of the candidate, in terms of social capital, human capital and innovation preference, strongly supports my inclusion of these characteristics in the scenario design. I changed the job role for these questions to the Sales Manager for all participants, because this is a role where these characteristics could make sense.

Asking international entrepreneurs about their international perspective taking may be a bit redundant. These people have moved across the world and are embedded in another country. They clearly are embedded in a foreign environment, and this showed in their extremely high (and lacking variability) self-reports of international perspective taking. As a result, I decided that a more meaningful variable would be perspective taking as a general trait, and I decided to return to origins of perspective taking as a measured characteristic by using the Davis (1983) scale. I would expect individuals to vary in the amount of general perspective taking they engage in, even among a unique group such as international entrepreneurs.

I removed all open text box fields, except for home and host country.

I cleaned up my introductory script to explicitly include international entrepreneurs who might not have hired yet.

There was some discussion about using strong/weak ties versus tight/loose ties. With previous experience, it seemed that weak ties might always be read as a “negative” characteristic. I tried the tight/loose ties language with my interviewees and I was pleased that they easily understood my intended meaning of this language, and that I found variation in their responses. They could easily discuss the benefits of many, loose connections over a few, tight connections in certain circumstances. As a result, I maintained this wording.

Instead of making assumptions about IEs' social capital (as originally proposed in research proposal), I decided to ask the IEs which type of connections they rely on more predominantly. I originally had this as a slider scale ranging from few, tight to many, loose with a few levels in between. During my interviews, it was clear that successful IEs utilize both types of relationships, and most of them landed right in the middle with their self-assessment saying that they were comfortable with both types of relationships. I thus changed the wording to “I predominantly utilize...,” and made this a binary decision, removing the “sitting on the fence” option.

I changed the scenario from Vamos, Co. in Madrid, Spain to ABC Corporation in a capital city of a foreign country. This was in order to help respondents better see themselves in the scenario position.

To ensure business objectives were consistent, I expounded the scenario to explicitly say that their business objective is to grow. Also, because decisions could be affected by respondents' real-life business objectives, I also included a control variable in the questionnaire asking about their business objectives regarding growth (grow in same domain, grow in a new direction, maintain the size, or downsize).

Education and experience were the hardest areas to specify in order to calculate similarity and complementarity with the entrepreneur. To get around this, I revised the human capital characteristics to extensive education and extensive experience that is similar to your own, versus that is complementary to your own. In this way, I also moved away from using the terminology “limited education and limited experience.” IEs now always evaluate a candidate with extensive education and extensive experience, just varying in whether this is similar or complementary to the IE’s own.

I included a repeat job role and profile as a test-retest for consistency purposes. To ensure that everyone saw the same repeat combination, I used the responses to the practice job role and profile, before the actual decisions, and then repeated this after all decision combinations. Because all the other combinations came in between this test and retest, I am confident that respondents did not remember their exact answers.

In addition to hiring, I asked whether the IE would be willing to offer a minority (equity) partnership to the candidate after a successful trial period. This provided a second dependent variable that could be used as a robustness analysis.

I added three questions about global citizenship. Interestingly, when I asked about the behaviors that global citizens engage in, the IEs rated themselves high. But when I directly asked them if they consider themselves a global citizen, they rated themselves significantly lower.

To get to finer-grained experience, I followed other HR research in differentiating between years of experience in their specific job role, and years of experience in their industry. I also got to entrepreneurial experience by asking how many companies they had founded, and how many years since they started their company.

For my fine-grained measures of social capital, I measure the types of relationships (predominantly many loose, or predominantly few tight), and how many hours IEs spend each week networking with new contacts to build relationships and maintaining their existing network.

To improve my measure of the IE’s own innovative preferences, I used two precedented scales. I used the innovativeness component of the Individual Entrepreneurial Orientation scale (Bolton & Lane, 2012). I also collected the International Entrepreneurial Orientation Disposition scale (Clark & Covin, 2020).

APPENDIX B

International Entrepreneurs' Hiring Decisions

Conjoint Experiment Administered via Qualtrics

Introduction

Dear Participant,

Thank you for participating in this study. My name is Shelby Meek and I am a researcher affiliated with IE Business School in Madrid, Spain. I am studying how international entrepreneurs make hiring decisions.

This exercise will take you approximately 20 minutes to complete. You will read a hypothetical scenario and then be asked to make decisions about different hypothetical candidates. Following the scenario, I ask a series of survey questions and for some demographic information.

This study follows the highest standards of research ethics at IE Business School. I ensure complete confidentiality and I do not share any of your information with anyone outside my research team. All results, if and when published, will be aggregated in tables and figures to guarantee your anonymity. On the next page I share important information about the survey and ask for your formal consent. I look forward to learning from your insights.

Consent Statement

I would like to invite you to assist me in my investigation tasks by participating in a study. The following exercise is framed within a research project aiming to understand international entrepreneurs' hiring decisions (the "Study") prepared by PhD Candidate Shelby Meek. In this context, your contact information is processed with the purpose of inviting you to participate in this survey. I process your personal information on the basis of provided consent. I will process the data that you may provide me by participating in the Study for the purpose of data analytics and insights into the hiring decisions of international entrepreneurs. This processing will be based on the consent you give to me. These data may be maintained and used for other analysis or research projects. In the event that you do not want the data that you have provided through your participation in the Study to be used in other analyses or research, please send an email to shelby.meek@student.ie.edu Your participation is voluntary, you may withdraw your consent at any time or for any reason. To withdraw from the electronic survey before sending the final answers, you only have to click on "exit" in the upper part of the application. It is possible that the collected data may be transferred to, or stored and processed in, a destination outside the European Economic Area ("EEA"). For the online management and development of the Survey I commission the services of Qualtrics which has obtained the EU-US Privacy Shield - Information available under: <https://www.privacyshield.gov/list>. You can exercise your rights of access, rectification, erasure, restriction of the processing and portability or submit any query

about the processing of your personal data by email to "soportededatos@ie.edu". You may also withdraw your consent for the processing of your personal data by the same means. Please note that you may also file a claim before the corresponding supervisory authority: the Spanish Data Protection Agency in this case. Any question about the questionnaire can be directed to shelby.meek@student.ie.edu

Agreement

By agreeing to participate you are indicating that you are at least 18 years of age and you have read and comprehended the informed consent.

- Yes, I have read the informed consent and agree to participate in this study. (1)
- No, I do not consent to participate in this study. (2)

Lived Abroad Screening Question

Have you ever lived for an extended period (6months or longer) in a country other than the one where you are currently living?

- Yes (1)
- No (0)
- Rather not say (2)

Entrepreneurship

Have you engaged in entrepreneurship/run your own business?

- I have in the past (2)
- I am currently doing this (1)
- I intend to in the future (0)
- Does not apply (3)

International Entrepreneurs

Which of the following statements best describes you?

- I have started a business in my **home** country. (0)
- I have started a business outside my home country (in a foreign **host** country). (1)
- I have started a business in **both** my home country and a foreign host country. (2)
- I have not started a business. (3)

Scenario

Scenario Introduction

Imagine that you are the founding CEO of ABC Corporation based in the capital city of a foreign country (your host country), which is not your home country. As an international entrepreneur, you are living and running your company in your host country. Your company is a new venture that has been up and running for 3 years now. You have many ideas for where you see your company going over the next 10+ years. ABC Corporation has experienced some initial success and your current business objective is to grow your company to fulfill your long-term vision. To help you achieve your goals you have decided to hire four new employees: a senior operations leader, a sales manager, a functional professional (lawyer, accountant, etc.), and an entry-level administrative assistant. You will review and evaluate 2 qualified candidates for each position.

Conditions

All the candidates meet the qualifications to perform the job for which you are hiring. You will make your decisions based on the three following conditions. Each condition has two distinct manifestations.

1. In regard to the candidate's social network, the candidate has either:

predominantly a few (approximately 3) tight connections with people and organizations related to ABC Corporation.

OR

predominantly many (approximately 15) loose connections with people and organizations related to ABC Corporation.

2. In regard to the candidate's education and experience, the candidate has either:

Extensive education and extensive experience that is similar to your own.

OR

Extensive education and extensive experience that is complementary to your own.

3. In regard to the candidate's innovation preferences, the candidate either:

prefers consistency by delivering on what has worked in the past.

OR

prefers innovativeness by trying new things with unknown outcomes.

Example

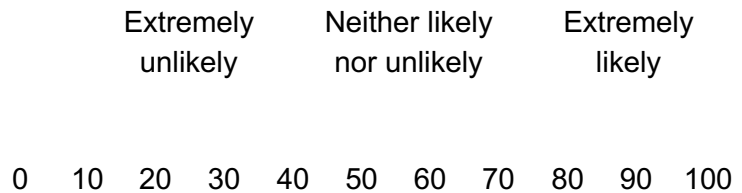
Here is an example to get comfortable with the survey format:

Position: Sales Manager

Consider this position and the candidate profile you see below. Please mark your decisions by sliding the scale marker.

Social network:	Few tight connections
Education and experience:	Similar to your own
Innovation preference:	What has worked in the past

What is the likelihood you would:



hire this candidate? ()	
offer a minority (equity) partnership to this candidate, conditional on a successful trial period? ()	

You will now start the actual exercise.

Position 1: Senior Operations Leader

Please consider 2 candidates for the Senior Operations Leader position and share your evaluation for each one of them.

Position 2: Sales Manager

Please consider 2 candidates for the Sales Manager position and share your evaluation for each one of them.

Position 3: Functional Professional

Please consider 2 candidates for the Functional Professional (lawyer, accountant, etc) position and share your evaluation for each one of them.

Position 4: Administrative Assistant

Please consider 2 candidates for the Administrative Assistant position and share your evaluation for each one of them.

Each randomized position was followed by two randomized candidate profiles (of the mix of 3 attributes with 2 levels each).

After the eight candidates were presented, a repeat profile (the same as the practice profile) was shown for a test-retest.

Further Candidate Attributes

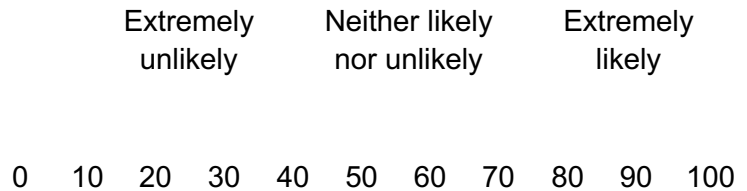
Using this repeat profile, respondents were asked to again consider this profile and the Sales Manager position.

Please consider 1 candidate for the Sales Manager position and share your evaluation for him/her.

This candidate has:

Social network:	Few tight connections
Education and experience:	Similar to your own
Innovation preference:	What has worked in the past

What is the likelihood you would:



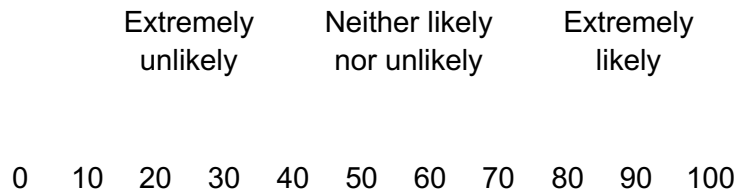
hire this candidate? ()	
offer a minority (equity) partnership to this candidate, conditional on a successful trial period? ()	

Personal Connection

Now, please think about the same job role and profile. Imagine you know this candidate personally. How does this personal connection affect your decisions?

Now that you know this candidate is a **personal connection**,

What is the likelihood you would:



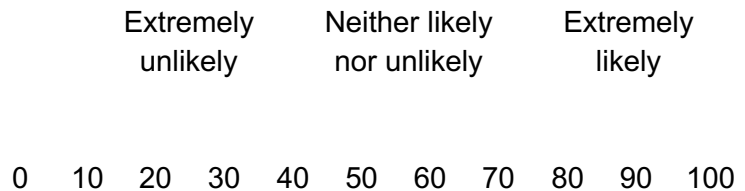
hire this candidate? ()	
offer a minority (equity) partnership to this candidate, conditional on a successful trial period? ()	

Generalist

Again, please think about the same job role and profile. Imagine this same candidate is more of a generalist than a specialist. As predominantly a generalist, this candidate's skillset is versatile and this candidate can do a variety of assigned job roles, and does not specialize in any one particular area. How does this generalizability affect your likelihood of hiring?

Now that you know this candidate is a **generalist** rather than a specialist

What is the likelihood you would:



hire this candidate? ()	
offer a minority (equity) partnership to this candidate, conditional on a successful trial period? ()	

Local

Again, please think about the same job role and profile. Imagine this same candidate is a local person from your host country where you operate your business. How does this local nationality affect your likelihood of hiring?

Now that you know this candidate is a **local person** rather than a foreign person,

What is the likelihood you would:

	Extremely unlikely	Neither likely nor unlikely	Extremely likely								
	0	10	20	30	40	50	60	70	80	90	100
hire this candidate? ()											
offer a minority (equity) partnership to this candidate, conditional on a successful trial period? ()											

The next questions are about your own business.

Industry

Which of the following best describes the industry in which you have your business?

- Construction (1)
- Education and Healthcare Services (2)
- Financial Services (3)
- Information Technology (4)
- Leisure and Hospitality (5)

- Manufacturing (6)
- Natural Resources and Mining (7)
- Professional and Business Services (8)
- Trade, Transportation and Utilities (9)
- Other Services (10)
- I do not have a business (11)

Venture Start

When did you start your venture?

▼ 2021 (1) ... Before 1972 (51)

Growth objective

What is your current business objective regarding growth?

- Growing the business in the same domain you are currently in (1)
- Growing the business in a new direction (2)
- Maintaining the size of the business (0)
- Downsizing the business (3)

Host Market Share

What is your % of sales that are within your host country (the country where your business is located)?

0 10 20 30 40 50 60 70 80 90 100

% of sales within your host country ()

Revenue

If you are comfortable sharing, what was your business's approximate revenue for the last full year of operations (in US dollar equivalents, 1.00 EURO=1.20 USD approximately)?

▼ Less than \$10k (1) ... I prefer not to share (23)

Number of Employees

How many employees (including yourself) does your venture currently have?

▼ 1 (1) ... 50 or more (50)

Hiring problems

According to Entrepreneur magazine, all entrepreneurs struggle with these 7 staffing challenges. Which of these problems are your biggest challenges regarding hiring employees for your venture (multiple selections are allowed)?

- Determining your needs (1)
- Finding the right culture fit (2)
- Balancing experience and cost (3)
- Timing initial hires (4)
- Achieving flexibility (5)
- Growing manageably (6)
- Retaining talent (7)

Other, please specify: (8)

Home country

What is your home country?

Host country

What is your host country where you have your business?

Move to host country

When did you move to your host country?

▼ 2021 (1) ... Before 1972 (51)

Country Familiarity

On a scale of 1 (low) to 10 (high), how familiar are you with your host country?

Low Familiarity

High Familiarity

1 2 3 4 5 6 7 8 9 10

Country familiarity with your host country ()

Local fluency

What is your local language fluency level in your host country?

- A1: Beginning (Everyday language: greetings, personal details) (1)
- A2: Low-intermediate (Survival language: family, shopping, routines) (2)
- B1: Intermediate (Practical language: work, school, travel) (3)

B2: Upper-intermediate (Conversational language: in-depth discussion, opinions, spontaneity) (4)

C1: Advanced (Proficient language: complexity, sub-text, near-fluency) (5)

C2: Native (6)

Language skills

In how many languages can you hold a basic conversation?

▼ 1 (1) ... More than 5 (6)

International experience

How many countries have you lived in longer than 6 months?

▼ 1 (1) ... More than 10 (11)

Local friends

Approximately how many native friends from your host country do you have ?

▼ Less than 5 (1) ... More than 30 (7)

Foreign Friends

Approximately how many friends do you have who are **not** native to your host country?

▼ Less than 5 (1) ... More than 30 (7)

Attention Check

If you are paying attention, please select "Motivated" from the options below. How did moving abroad make you feel?

Excited (0)

Motivated (1)

Humbled (2)

Prefer not to say (3)

International PT

Please rate how well each of the following statements describes you in regard to your host country (the country where you operate your business, that is not your home country).

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree Nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I frequently try to take the perspective of people in my host country. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often imagine how people in the country where I operate my business are feeling. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make an effort to see the world through the eyes of people in my host country. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I regularly seek to understand others' viewpoints in the country where I operate my business. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Davis 1983 PT

Please rate how well each of the following statements describes you.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree Nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)

Before criticizing somebody, I try to imagine how I would feel if I were in their place. (Davis 1983 PT_1)

If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (Davis 1983 PT_2_reversed)

I sometimes try to understand my friends better by imagining how things look from their perspective. (Davis 1983 PT_3)

I believe that there are two sides to every question and try to look at them both. (Davis 1983 PT_4)

I sometimes find it difficult to see things from the "other guy's" point of view. (Davis 1983 PT_17_reversed)

I try to look at everybody's side of a disagreement before I make a decision. (Davis 1983 PT_18)

When I'm upset at someone, I usually try to "put myself in his shoes" for a while. (Davis 1983 PT_19)

Global citizen

Please rate how well each of the following statements describes you.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree Nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I consider myself a global citizen. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I enjoy learning about different cultures (reading books, watching movies, listening to podcasts, etc.). (2)

I seek out opportunities to interact with people from a different country than myself. (3)

Education

What is the highest level of education you have completed?

High School Education (1)

Some College (2)

Associate's Degree (3)

Bachelor's Degree (4)

Master's Degree (5)

Doctorate Degree (6)

Experience years

How many years of experience do you have in:

0 5 10 15 20 25 30 35 40

your venture's industry? ()

your current job role? ()

Companies founded

How many companies have you founded?

- 1 (1)
- 2 (2)
- 3 (3)
- 4 (4)
- 5 or more (5)

IEO_innovativeness (Bolton & Lane, 2012)

Please indicate to what extent you agree (or disagree) with the following statements.

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Neither agree nor disagree (4)	Somewhat agree (5)	Agree (6)	Strongly agree (7)
I often like to try new and unusual activities that are not typical but not necessarily risky. (IEO_innovativeness_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
In general, I prefer a strong emphasis in projects on unique, one-of-a kind approaches, rather than revisiting tried and true approaches used before. (IEO_innovativeness_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I prefer to try my own unique way when learning new things rather than doing it like everyone else does. (IEO_innovativeness_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I favor experimentation and original approaches to problem solving rather than using methods others generally use for solving their problems. (IEO_innovativeness_4)

IEOD (Clark & Covin, 2020)

Please indicate the extent to which you agree or disagree with each of the following statements for an organization where you have decision making authority.

	Strongly Disagree (1)	Disagree (2)	Somewhat Disagree (3)	Neither Agree Nor Disagree (4)	Somewhat Agree (5)	Agree (6)	Strongly Agree (7)
I believe that I would be able to accept the risk inherent in expanding my operations internationally (R1) (IEOD (Clark & Covin)_1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
It is a high priority to develop new products specifically for international markets (I2) (IEOD (Clark & Covin)_2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The risk involved with exporting is acceptable (R4) (IEOD (Clark & Covin)_3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be competitive we need to stay ahead of the international expansion of the competition. (P1) (IEOD (Clark & Covin)_4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Developing new processes is critical for international success. (I5) (IEOD (Clark & Covin)_5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

I believe that I can be faster in pursuing exporting opportunities than my competition. (P1) (IEOD (Clark & Covin)_6)

I believe that I would be able to accept the risk inherent in exporting. (R5) (IEOD (Clark & Covin)_7)

Firms that internationalize are more innovative than those who do not. (I1) (IEOD (Clark & Covin)_8)

I would rather not wait to enter a new international market. (P4) (IEOD (Clark & Covin)_9)

Investing in new technology is key to international success. (I3) (IEOD (Clark & Covin)_10)

I believe that international risk would not deter me from expanding operations internationally. (R2) (IEOD (Clark & Covin)_11)

The risk involved with international expansion of business operations is acceptable. (R6) (IEOD (Clark & Covin)_12)

Early internationalization is a better strategy than waiting to internationalize. (P3) (IEOD (Clark & Covin)_13)

If I were going to expand internationally, I'd rather do it sooner than later. (P5) (IEOD (Clark & Covin)_14)

International environments require new technologies to be successful. (I4) (IEOD (Clark & Covin)_15)

I am comfortable navigating the uncertainties of international expansion. (R3) (IEOD (Clark & Covin)_16)

Social Capital

Which statement best describes your social network in relation to your business?

I predominantly rely on a few, tight connections with people and organizations in my field. (1)

I predominantly rely on many, loose connections with people and organizations in my field. (0)

Network Hours

How many hours a week do you spend...

0 10 20 30 40 50 60 70 80 90 100

networking with new contacts to build a connection? ()	
maintaining your existing network of contacts? ()	

Gender

What is your gender?

- Male (0)
- Female (1)
- Non-binary / third gender (2)
- Prefer not to say (3)

Age

What is your age?

- ▼ 18 (1) ... Over 65 (49)

Marital status

What is your marital status?

- Married (1)
- Widowed (2)
- Divorced (3)
- Separated (4)
- Never married (0)

APPENDIX C							
HLM Model Predicting IEs' Likelihood of Offering Equity Partnership (robust standard errors)							
Equity likelihood	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
	Controls Only	SC Similarity	HC Similarity	Innov Similarity	All Main Effects	PT Interaction	EoDB Interaction
Gender	8.028* (3.97)	8.028* (3.97)	8.028* (3.97)	8.028* (3.97)	8.028* (3.97)	7.561+ (3.96)	8.497* (4.07)
Age	-0.104 (0.23)	-0.104 (0.23)	-0.104 (0.23)	-0.104 (0.23)	-0.104 (0.23)	-0.128 (0.23)	-0.129 (0.22)
Marital status	6.644 (4.32)	6.644 (4.32)	6.644 (4.32)	6.644 (4.32)	6.644 (4.32)	5.632 (4.44)	6.894 (4.33)
Venture age	0.183 (0.38)	0.183 (0.38)	0.183 (0.38)	0.183 (0.38)	0.183 (0.38)	0.219 (0.38)	0.133 (0.37)
Industry	0.437 (0.63)	0.437 (0.63)	0.437 (0.63)	0.437 (0.63)	0.437 (0.63)	0.410 (0.61)	0.456 (0.63)
Growth objective	1.589 (3.01)	1.589 (3.01)	1.589 (3.01)	1.589 (3.01)	1.589 (3.01)	1.513 (2.95)	2.135 (2.91)
Revenue	-0.843*** (0.23)	-0.843*** (0.23)	-0.843*** (0.23)	-0.843*** (0.23)	-0.843*** (0.23)	-0.862*** (0.23)	-0.860*** (0.23)
# of employees	-0.025 (0.22)	-0.025 (0.22)	-0.025 (0.22)	-0.025 (0.22)	-0.025 (0.22)	-0.013 (0.22)	0.004 (0.21)
Host country market share	-0.020 (0.07)	-0.020 (0.07)	-0.020 (0.07)	-0.020 (0.07)	-0.020 (0.07)	-0.019 (0.07)	-0.019 (0.07)
International experience	-2.204+ (1.24)	-2.204+ (1.24)	-2.204+ (1.24)	-2.204+ (1.24)	-2.204+ (1.24)	-2.215+ (1.22)	-2.649* (1.28)
Global citizen	-1.544 (2.27)	-1.544 (2.27)	-1.544 (2.27)	-1.544 (2.27)	-1.544 (2.27)	-2.249 (2.21)	-1.782 (2.28)
Language skills	-1.133 (1.95)	-1.133 (1.95)	-1.133 (1.95)	-1.133 (1.95)	-1.133 (1.95)	-0.582 (1.88)	-1.021 (1.97)
SC Similarity		3.444** (1.15)			3.444** (1.15)	2.241 (7.61)	3.038** (1.17)
HC Similarity			-2.669* (1.28)		-2.669* (1.28)	6.781 (7.72)	-2.407+ (1.41)
Innovation Similarity				3.929** (1.27)	3.929** (1.27)	-0.801 (6.93)	3.433** (1.26)
IE Perspective taking						4.096+ (2.42)	
SC Similarity x IE perspective taking						0.234 (1.43)	
HC Similarity x IE perspective taking						-1.836 (1.47)	
Innovation Similarity x IE perspective taking						0.919 (1.34)	
EoDB Difference							-0.315+ (0.16)
SC Similarity x EoDB Difference							0.122 (0.11)
SC Similarity x EoDB Difference							-0.079 (0.14)
Innovation Similarity x EoDB Difference							0.149 (0.11)
Constant	64.387*** (16.97)	62.666*** (16.91)	65.722*** (16.99)	62.423*** (17.01)	62.036*** (16.96)	45.612* (18.64)	65.552*** (17.11)
chi2	54.84	59.64	63.01	66.73	78.23	89.26	91.23
log likelihood	-3534.23	-3529.33	-3531.29	-3527.83	-3519.80	-3517.34	-3516.31
df	12.00	13.00	13.00	13.00	15.00	19.00	19.00
observations (decisions)	n=832	n=832	n=832	n=832	n=832	n=832	n=832
observations (IEs)	N=104	N=104	N=104	N=104	N=104	N=104	N=104

+ p<0.10, * p<0.05, ** p<0.01, *** p<0.001
EoDB (Ease of Doing Business)

CHAPTER SIX

CONCLUSION

Perspective taking is a “new and powerful” cognitive variable to entrepreneurship research (Prandelli et al., 2016: 297). Although this construct is well-established in development and organizational psychology literature (Parker & Axtell, 2001), entrepreneurship scholars have yet to realize its full potential in our own field of study. “Significant improvements in our understanding of entrepreneurship may come from analyzing how entrepreneurs accumulate and update knowledge--that is from the study of entrepreneurial learning” (Minniti & Bygrave, 2001: 8). In this dissertation I have argued for the inclusion of perspective taking as one particular mechanism to help us understand entrepreneurial learning. The overarching aim of this dissertation has therefore been to contribute to advancing research on perspective taking in entrepreneurship. To this end, this dissertation contains a literature review synthesizing relevant research to date, and three essays that advance the topic of perspective taking in entrepreneurship.

As a recap, essay 1 examines how regional entrepreneurial activity creates knowledge spillovers that differently affect the objective quality and subjective perceptions of quality of local public service institutions. I theoretically argue that at the macro-level, perspective taking plays a role in this knowledge transfer when these relationships are influenced by the collective perspectives of the regional population. Then, essay 2 examines perspective taking as an outcome of employee cognitive adaptability, beneficiary contact and a lack of job burnout in corporate entrepreneurship. This essay also enhanced previous work on perspective taking as an antecedent to

opportunity identification. Essay 3 focuses on untangling the theoretical tension that exists around the type of resource fit international entrepreneurs seek in their hiring decisions. In this essay, I examine perspective taking as a potential moderator variable and suggest that the more international entrepreneurs take the perspective of their host countries, the weaker the relationships between resource fit and hiring likelihood.

Theoretical Contributions

So, what do we now know about perspective taking in entrepreneurship as a result of this dissertation? Above and beyond the individual contributions of each paper, I hope to make four overarching contributions with this dissertation as a whole.

First, perspective taking is relevant and important across a number of entrepreneurial topics, settings, and roles, and this dissertation embodies this versatility. Initial research on perspective taking in entrepreneurship has focused on the construct's role as an antecedent to opportunity identification (Prandelli et al., 2016; Frederiks et al., 2019; Khalid & Sekiguchi, 2018). With this dissertation, I purposefully move away from the discussion of opportunity identification to show the variety of influence that perspective taking can have, from the very macro, regional level (essay 1), to the micro level as an important outcome variable itself (essay 2), to perspective taking's moderating influence on decision-making (essay 3). Not only can perspective taking play different roles and operate at different levels, but its applicability also spans a variety of subtopics within entrepreneurship, including regional entrepreneurship, corporate entrepreneurship and international entrepreneurship. In this way, this dissertation shows the ubiquitous applicability of perspective taking across entrepreneurship settings, which is a necessary advancement for perspective taking to

truly take on a substantial place in entrepreneurship work. I encourage other scholars to continue experimenting with other ways in which considering the world from other viewpoints can importantly influence entrepreneurship.

Second, at the same time that perspective taking can be broadly studied, I also offer some initial boundaries to focus future perspective taking work in entrepreneurship. I position perspective taking in the entrepreneurial learning literature, so that future scholars can utilize perspective taking as an important learning mechanism. I also highlight where perspective taking begins and specifically the concepts of cognitive adaptability and beneficiary contact end, by positioning perspective taking as an outcome that can result from these concepts. For instance, previous research has suggested that cognitive adaptability enhances opportunity identification (Haynie, Shepherd, Mosakowski, Earley, 2010). In this dissertation, I suggest and support empirically that, more proximally, cognitive adaptability is associated with enhanced perspective taking, and this may be one reason why employee cognitive adaptability is an important influence in organizations. Additionally, while we previously knew that job burnout reduced employee engagement at the workplace (Maslach et al., 2001), here I also find an inverse relationship between job burnout and perspective taking, suggesting that when employees are dissatisfied, they are less able and willing to take the perspective of others. Taken together, my work gives a more holistic view of the components necessary for entrepreneurial learning (Minniti & Bygrave, 2001), by suggesting that perspective taking, is one crucial learning mode, in addition to the previously identified mode of critical experiences (Cope, 2005). I also identify that perspective taking in entrepreneurship is importantly influenced by

knowledge, motivation and contextual factors. Future research should continue to go deeper into understanding the boundary conditions between these constructs and others.

Third, this dissertation offers an empirical contribution by directly measuring perspective taking in two of my essays and by offering multiple ways of measuring it. Other recent perspective taking work in entrepreneurship has used experiments to induce short-term perspective taking (Prandelli et al., 2016; Frederiks et al., 2019). Yet, we know that perspective taking is a long-lasting cognitive trait (Davis, 1983; Grant & Berry, 2011), and thus, we should operationalize perspective taking also with the established stable trait scales developed by Davis (1983) and Grant & Berry (2011). In this way, I am better able to measure perspective taking as an ongoing cognitive trait, and not as a result of an induced exercise. Ku et al. (2015) also argue that there are still many unknowns about how perspective taking affects organizational outcomes, because most of the perspective taking research has been conducted with student samples or in laboratory settings, instead of in actual workplace settings with real employee interactions. For example, Prandelli et al. (2016) utilize a student sample, and Frederiks et al. (2019) utilize both a student sample, and Amazon Mechanical Turk respondents (who are not all identified as entrepreneurs). I extend and improve on these previous empirical efforts by studying perspective taking among corporate entrepreneurs (essay 2), and international entrepreneurs (essay 3).

Fourth, the contents of this dissertation help to bridge distinct fields of research with entrepreneurship. I significantly relied on work originating in organizational psychology (Grant & Berry, 2011; Ku, et al., 2015; Parker & Axtell, 2001). This bridging

is particularly important because organizational psychology has been well-established for longer than entrepreneurship as a field, and thus, there is much that entrepreneurship scholars can learn by looking outside of our own circles (Shepherd, 2011; 2015). In this dissertation, I also bridge distinct fields by combining the domains of entrepreneurial activity and public service institutions. Specifically, the healthcare management field is rife with experts attempting to understand how to improve the quality of the healthcare system in the United States (Kennedy, Berry & Caselli, 2013; Cunningham et al., 2012) and we have seen some early work bridging healthcare management and entrepreneurship (Gulbrandsen et al., 2016; Philips & Garman, 2006). I advance this previous work by positing that knowledge spillovers exist in regions and taking the perspective of others in the region is one method for successful knowledge transfer. Examining a phenomenon in one domain through the lens of another domain is ultimately the heart of perspective taking itself.

Practical Considerations

From a practical perspective, as academics, we need to ensure that entrepreneurship education provides training in perspective taking. Training less experienced entrepreneurs in perspective taking could help them develop a more entrepreneurial mindset in order to identify better opportunities to pursue (McMullen, 2010). Experienced entrepreneurs can also enhance their opportunity identification by combining their reliance on knowledge from their prior experience, with seeking to understand the perspectives of their stakeholders (Prandelli et al., 2016; Frederiks et al., 2019). In our quest as academics to develop the entrepreneurial mindset in students, we can also develop training that incorporates the development of cognitive

adaptability, and perspective taking, while also discussing the role of contextual variables (such as beneficiary contact and job burnout).

Secondly from a practical standpoint, my work can be an example for other professionals and scholars to actively seek out opportunities to practice perspective taking as a lot can be gained for organizations as we knit together seemingly unrelated fields. My experience as a healthcare professional provided me with unique insights as I delved into perspective taking research. As a result of combining my experience as a healthcare professional and my studies in entrepreneurship, I can now better communicate with both entrepreneurs and healthcare professionals about their respective fields. Just as Mohrman, et al. suggest, "Research is more likely to be seen as useful if there are opportunities for researchers and members to take each other's perspectives and to jointly participate in interpreting the results of the research" (2001, pg. 357).

Future research on perspective taking in entrepreneurship

I hope that this dissertation excites other scholars to pursue future work on perspective taking in entrepreneurship. Here I offer four suggestions for this future work. First, Prandelli et al. (2016) recommend that perspective taking work should be extended to other stakeholders in entrepreneurship, not just focused on users, and specifically, the authors recommend venture capitalists as an important stakeholder group. Hence, one could imagine that the more perspective taking of investors an entrepreneur engages in, the better her chances of being funded, for the same reasons that crowd-funders prefer videos and frequent updates (to show dedication and

preparedness) (Mollick, 2014). One potential research direction is therefore to examine the effects on funding outcomes of entrepreneurs taking the perspectives of investors.

A second suggestion for future research would be to examine the role of perspective taking while comparing the effects of self-efficacy, or belief in oneself, and power, among entrepreneurs. There is a theoretical tension between the consequences of perspective taking in terms of valuing feedback from others and power over others. On the one hand, research shows that when individuals with high self-efficacy engage in perspective taking, they are more likely to value the feedback of others (Sherf & Morrison, 2020). On the other hand, scholars have also shown that people in high-power positions, such as entrepreneurs, are less likely to take the perspective of others (Galinsky et al., 2006). Self-efficacy and power are related concepts, and both relevant for entrepreneurship research, so further understanding the relationships between self-efficacy and perspective taking, as well as between power and perspective taking could prove to be a fruitful research path.

Third, research involving time in entrepreneurship is new and interesting (McMullen & Dimov, 2013; Mitchell & James, 2001; Chandra, 2017). Since perspective taking is expected to remain relatively stable but can still change over time and due to differences in context (Galinsky, et al., 2008) similar to other cognitive concepts, there is an opportunity to examine how perspective taking changes in regard to time factors. There may be an important time dimension to perspective taking, since we know that prior knowledge interacts with perspective taking to effect opportunity identification (Prandelli et al., 2016; Frederiks et al 2019), and it is not yet clear exactly how this interaction occurs. For instance, the benefits of perspective taking occur may be

greatest when the perspective is first introduced to the perspective taker. Because perspective taking is a cognitive ability, it can be enhanced or dampened, and the content of perspective taking may develop over time. This may occur in both content of the perspective taken (as you get to know someone better, you can engage in more in-depth perspective taking of that person), as well as in the form of a general trait (the more frequently you are introduced to new viewpoints, the sharper your perspective taking ability becomes).

Fourth, my work in Chapter 4 separately examines the antecedents and consequences of perspective taking among corporate entrepreneurs, and shows promise by identifying cognitive adaptability, beneficiary contact and a lack of job burnout as such potential antecedents to evoke perspective taking. This initial work invites the question of whether perspective taking plays a mediating role in the direct relationships between these antecedents and opportunity identification. I find the strongest effects in regard to cognitive adaptability, so I would suggest to start by more deeply examining perspective taking's role as a mechanism for cognitive adaptability to impact the quantity and creativity of opportunities identified by corporate entrepreneurs.

In conclusion, to "complicate yourself!" by trying to see and understand events from several perspectives (Weick, 1979: 261) is helpful to achieve effectiveness in complex situations, such as entrepreneurship. The literature review together with the three essays represent my investigations thus far into different ways that individuals and organizations related to entrepreneurship can complicate themselves through perspective taking and the consequences this can have. Learning from others' perspectives represents a natural life philosophy for me and my future research

interests lie in continuing to apply the concept of perspective taking to studying different scenarios in entrepreneurial decision-making in the healthcare, organizational and international contexts.

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CAPÍTULO SEIS

CONCLUSIONES

La toma de perspectiva es una variable cognitiva "nueva y poderosa" para la investigación del emprendimiento (Prandelli et al., 2016: 297). Aunque este concepto está bien establecido en la literatura de la psicología del desarrollo y de las organizaciones (Parker y Axtell, 2001), los investigadores del emprendimiento aún no se han dado cuenta de todo su potencial. "El análisis de cómo los empresarios acumulan y actualizan sus conocimientos, es decir, el estudio del aprendizaje empresarial, puede suponer una mejora significativa en nuestra comprensión del espíritu empresarial" (Minniti y Bygrave, 2001: 8). En esta tesis he defendido la inclusión de la toma de perspectiva como un mecanismo particular que nos ayuda a entender el aprendizaje empresarial. El objetivo general de esta tesis ha sido, por tanto, contribuir al avance de la investigación sobre la toma de perspectiva en el espíritu empresarial. Para ello, esta tesis contiene una revisión de la literatura que sintetiza la investigación relevante hasta la fecha, y tres ensayos que avanzan en el tema de la toma de perspectiva en el espíritu empresarial.

Recapitulando, el ensayo 1 examina cómo la actividad empresarial regional crea desbordamientos de conocimiento que afectan de manera diferente a la calidad objetiva y a las percepciones subjetivas de la calidad de las instituciones locales de servicios públicos. Argumento teóricamente que, a nivel macro, la toma de perspectiva desempeña un papel en esta transferencia de conocimientos cuando estas relaciones están influidas por las perspectivas colectivas de la población regional. A continuación, el ensayo 2 examina la toma de perspectiva como resultado de la adaptabilidad

cognitiva de los empleados, el contacto con los beneficiarios y la ausencia de agotamiento laboral en el ámbito empresarial. Este ensayo también mejora los trabajos anteriores sobre la toma de perspectiva como antecedente de la identificación de oportunidades. El ensayo 3 se centra en desentrañar la tensión teórica que existe en torno al tipo de ajuste de recursos que buscan los empresarios internacionales en sus decisiones de contratación. En este ensayo, examino la toma de perspectiva como variable moderadora y sugiero que cuanto más adopten los empresarios internacionales la perspectiva de sus países de acogida, más débil será la relación entre la congruencia de los recursos y la probabilidad de contratación.

Aportaciones teóricas

Entonces, ¿qué sabemos ahora sobre la toma de perspectiva en el espíritu empresarial como resultado de esta tesis? Más allá de las contribuciones individuales de cada artículo, espero hacer cuatro contribuciones generales con esta tesis en su conjunto.

En primer lugar, la toma de perspectiva es relevante e importante en una serie de temas, entornos y roles empresariales, y esta tesis encarna esta versatilidad. La investigación inicial sobre la toma de perspectiva en el emprendimiento se ha centrado en la toma de perspectiva como antecedente en la identificación de oportunidades (Prandelli, et al., 2016; Frederiks, et al., 2019; Khalid & Sekiguchi, 2018). Con esta tesis me alejo a propósito de la discusión de la identificación de oportunidades para mostrar la influencia tan variada que puede tener la toma de perspectiva, desde el nivel muy macro, regional (ensayo 1), hasta el nivel micro, como una importante variable resultante (ensayo 2), hasta la influencia moderadora de la toma de perspectiva en la

toma de decisiones (ensayo 3). La toma de perspectiva no sólo puede desempeñar diferentes funciones y operar a diferentes niveles, sino que su aplicabilidad también abarca una variedad de subtemas dentro del espíritu empresarial, incluyendo el espíritu empresarial regional, el espíritu empresarial corporativo y el espíritu empresarial internacional. De este modo, esta tesis muestra la aplicabilidad ubicua de la toma de perspectiva en todos los entornos empresariales, lo que constituye un avance necesario para que la toma de perspectiva ocupe realmente un lugar sustancial en el trabajo empresarial. Animo a otros estudiosos a seguir experimentando con otras formas en las que considerar el mundo desde otros puntos de vista puede influir de forma importante en el espíritu empresarial.

En segundo lugar, al mismo tiempo que la toma de perspectiva puede estudiarse ampliamente, también ofrezco algunos límites iniciales para centrar los futuros trabajos sobre la toma de perspectiva en el espíritu empresarial. Sitúo la toma de perspectiva en la literatura sobre el aprendizaje empresarial, para que los futuros estudiosos puedan utilizar la toma de perspectiva como un importante mecanismo de aprendizaje. También destaco dónde empieza la toma de perspectiva y, concretamente, dónde terminan los conceptos de adaptabilidad cognitiva y contacto con el beneficiario, situando la toma de perspectiva como un resultado que puede surgir de estos conceptos. Por ejemplo, investigaciones anteriores han sugerido que la adaptabilidad cognitiva mejora la identificación de oportunidades (Haynie, et al., 2010). En esta tesis, sugiero y apoyo empíricamente que, de forma más próxima, la adaptabilidad cognitiva se asocia con una mayor toma de perspectiva, y esta puede ser una de las razones por las que la adaptabilidad cognitiva de los empleados es una influencia importante en las

organizaciones. Además, mientras que anteriormente sabíamos que el agotamiento laboral reducía el compromiso de los empleados en el lugar de trabajo (Maslach, et al., 2001), también aquí encuentro una relación inversa entre el agotamiento laboral y la toma de perspectiva, sugiriendo que cuando los empleados están insatisfechos, son menos capaces y están menos dispuestos a tomar la perspectiva de los demás. En conjunto, mi trabajo ofrece una visión más holística de los componentes necesarios para el aprendizaje empresarial (Minniti y Bygrave, 2001), sugiriendo que la toma de perspectiva es un modo de aprendizaje crucial, y que complementa el modo previamente identificado de experiencias críticas (Cope, 2005). También identifico que la toma de perspectiva en el emprendimiento está influenciada de manera importante por el conocimiento, la motivación y los factores contextuales. Las investigaciones futuras deberán seguir profundizando en la comprensión de las limitaciones entre estos conceptos y otros.

En tercer lugar, esta tesis ofrece una contribución empírica al medir directamente la toma de perspectiva en dos de mis ensayos y al ofrecer múltiples formas de medirla. Otros trabajos recientes sobre la toma de perspectiva en el emprendimiento han utilizado experimentos para inducir la toma de perspectiva a corto plazo (Prandelli, et al., 2016; Frederiks, et al., 2019). Sin embargo, sabemos que la toma de perspectiva es un rasgo cognitivo de larga duración (Davis, 1983; Grant & Berry, 2011), y por lo tanto, podemos medirla utilizando escalas previamente desarrolladas en la literatura (i.e., Davis, 1983; Grant & Berry 2011) para capturar la toma de perspectiva como una característica estable de la personalidad. De esta manera, puedo medir mejor la toma de perspectiva como un rasgo cognitivo continuo, y

no como resultado de un ejercicio inducido. Ku et al. (2015) también argumentan que todavía hay muchas incógnitas sobre cómo la toma de perspectiva afecta a los resultados de la organización, porque la mayor parte de la investigación sobre la toma de perspectiva se ha llevado a cabo con muestras de estudiantes o en entornos de laboratorio, en lugar de en entornos de trabajo reales con interacciones reales de los empleados. Por ejemplo, Prandelli et al. (2016) utilizan una muestra de estudiantes, y Frederiks et al. (2019) utilizan tanto una muestra de estudiantes como encuestados de Amazon Mechanical Turk (que no están todos identificados como empresarios). Extiendo y mejoro estos esfuerzos empíricos anteriores estudiando la toma de perspectiva entre los empresarios corporativos (ensayo 2), y los empresarios internacionales (ensayo 3).

En cuarto lugar, el contenido de esta tesis contribuye a unir distintos campos de investigación con el espíritu empresarial. Me basé en gran medida en trabajos originados en la psicología organizacional (Grant & Berry, 2011; Parker & Axtell, 2001; Ku, Wang & Galinsky, 2015). Este puente es particularmente importante porque la psicología organizacional ha estado bien establecida durante más tiempo que el emprendimiento como área de investigación, y por lo tanto, hay mucho que los estudiosos del emprendimiento pueden aprender mirando fuera de nuestros propios círculos (Shepherd, 2015 Party on; Shepherd, 2011). En esta tesis, también establezco un puente entre distintos áreas de investigación al combinar los dominios de la actividad empresarial y las instituciones de servicio público. En concreto, el área de la gestión sanitaria está plagada de expertos que intentan comprender cómo mejorar la calidad del sistema sanitario en Estados Unidos (Kennedy, Berry y Caselli, 2013;

Cunningham et al., 2012) y hemos visto algunos de los primeros trabajos que han tendido un puente entre la gestión sanitaria y el emprendimiento (Gulbrandsen et al., 2016; Philips y German, 2006). Añado a este trabajo previo al plantear que los desbordamientos de conocimiento existen en las regiones y que tomar la perspectiva de otros en la región es un método para la transferencia exitosa de conocimiento. Examinar un fenómeno en un ámbito a través de la lente de otro ámbito es, en última instancia, el núcleo de la propia toma de perspectiva.

Consideraciones prácticas

Desde un punto de vista práctico, como académicos, tenemos que asegurarnos de que la educación empresarial ofrezca formación sobre la toma de perspectiva. Formar a los empresarios menos experimentados en la toma de perspectiva podría ayudarles a desarrollar una mentalidad más emprendedora para identificar mejores oportunidades que perseguir (McMullen, 2010). Los emprendedores experimentados también pueden mejorar su identificación de oportunidades combinando su confianza en el conocimiento de su experiencia previa, con la búsqueda de la comprensión de las perspectivas de sus interesados (Prandelli et al., 2016; Frederiks, et al., 2019). En nuestra búsqueda como académicos para desarrollar la mentalidad emprendedora en los estudiantes, también podemos desarrollar una formación que incorpore el desarrollo de la adaptabilidad cognitiva, y la toma de perspectiva, al mismo tiempo que se discute el papel de las variables contextuales (como el contacto con los beneficiarios y el agotamiento del trabajo).

En segundo lugar, desde un punto de vista práctico, mi trabajo puede ser un ejemplo para que otros profesionales y académicos busquen activamente

oportunidades para practicar la toma de perspectiva, ya que las organizaciones pueden ganar mucho al unir campos aparentemente no relacionados. Mi experiencia como profesional de la salud me proporcionó una visión única a la hora de profundizar en la investigación sobre la toma de perspectiva. Como resultado de la combinación de mi experiencia como profesional de la salud y mis estudios sobre el espíritu empresarial, ahora puedo comunicarme mejor con los empresarios y los profesionales de la salud sobre sus respectivos campos. Tal y como sugieren Mohrman, et al. (2001), "es más probable que la investigación se considere útil si existen oportunidades para que los investigadores y los miembros adopten las perspectivas de los demás y participen conjuntamente en la interpretación de los resultados de la investigación" (pág. 357).

Futura investigación sobre la toma de perspectiva en el espíritu empresarial

Espero que esta tesis anime a otros investigadores a seguir trabajando en el futuro sobre la toma de perspectiva en el espíritu empresarial. Aquí ofrezco cuatro sugerencias para este trabajo futuro. Primero, Prandelli et al. (2016) recomiendan que el trabajo sobre la toma de perspectiva se extienda a otras partes interesadas en el emprendimiento, y no solo se centre en los usuarios, y específicamente, estos autores recomiendan a los capitalistas de riesgo como un grupo importante de partes interesadas. Entonces, se podría imaginar que cuanto más la emprendedora tome la perspectiva de los inversores, más posibilidades tendrá de recibir financiación, por las mismas razones que los crowd-funders prefieren los vídeos y las actualizaciones frecuentes; (para mostrar dedicación y preparación) (Ethan Mollick, 2014). Por lo tanto, una posible dirección de investigación es examinar los efectos en los resultados de la financiación de los emprendedores que adoptan las perspectivas de los inversores.

Una segunda sugerencia para futuras investigaciones sería examinar el papel de la toma de perspectiva al comparar los efectos de la autoeficacia, o creencia en uno mismo, y el poder, entre los empresarios. Existe una tensión teórica entre las consecuencias de la toma de perspectiva en cuanto a la valoración de la retroalimentación de los demás y el poder sobre los demás. Por un lado, las investigaciones demuestran que cuando los individuos con alta autoeficacia participan en la toma de perspectiva, es más probable que valoren la retroalimentación de los demás (Sherf y Morrison, 2020). Por otro lado, los estudiosos también han demostrado que las personas en posiciones de alto poder, como los empresarios, son menos propensas a tomar la perspectiva de los demás (Galinsky et al., 2006). La autoeficacia y el poder son conceptos relacionados, y ambos son relevantes para la investigación sobre el espíritu empresarial, por lo que entender a profundidad la relación entre la toma de perspectiva y autoeficacia, y también entre la toma de decisiones y el poder, podrían resultar en una investigación fructífera.

En tercer lugar, la investigación sobre el tiempo en el emprendimiento es nueva e interesante (McMullen y Dimov, 2013; Mitchell y James, 2001; Chandra, 2017). Dado que se espera que la toma de perspectiva permanezca relativamente estable, que sin embargo podría cambiar con el tiempo y debido a las diferencias de contexto (Galinsky, et al., 2008), de forma similar a otros conceptos cognitivos, existe la oportunidad de examinar cómo cambia la toma de perspectiva con respecto a los factores temporales. Puede haber una importante dimensión temporal en la toma de perspectiva, ya que sabemos que el conocimiento previo interactúa con la toma de perspectiva para afectar a la identificación de oportunidades (Prandelli et al., 2016; Frederiks et al 2019), y aún

no está claro exactamente cómo se produce esta interacción. Por ejemplo, los beneficios de la toma de perspectiva pueden ser mayores cuando la perspectiva se presenta por primera vez al tomador de perspectiva. Dado que la toma de perspectiva es una capacidad cognitiva, puede potenciarse o atenuarse, y el contenido de la toma de perspectiva puede desarrollarse con el tiempo. Esto puede pasar tanto en el contenido de la perspectiva tomada (por ejemplo, a medida que se conoce mejor a alguien, se puede participar en una toma de perspectiva más profunda de esa persona), pero también como en un rasgo general (por ejemplo, cuanto más frecuentemente se le presenten nuevos puntos de vista, más aguda será su capacidad de toma de perspectiva).

En cuarto lugar, mi trabajo en el capítulo 4 examina por separado los antecedentes y las consecuencias de la toma de perspectiva entre los empresarios corporativos, y resulta prometedor al identificar la adaptabilidad cognitiva, el contacto con el beneficiario y la falta de agotamiento laboral como posibles antecedentes para evocar la toma de perspectiva. Este trabajo inicial invita a preguntarse si la toma de perspectiva desempeña un papel mediador en las relaciones directas entre estos antecedentes y la identificación de oportunidades. Los efectos más fuertes los encuentro en relación con la adaptabilidad cognitiva, por lo que sugiero empezar a examinar más profundamente el papel de la toma de perspectiva como mecanismo para que la adaptabilidad cognitiva influya en la cantidad y la creatividad de las oportunidades identificadas por los empresarios corporativos.

En conclusión, complicarse tratando de ver y comprender los acontecimientos desde varias perspectivas (Weick, 1979: 261) ayuda a lograr la eficacia en situaciones

complejas, como en la actividad empresarial. La revisión de la literatura junto con los tres ensayos representan mi investigación realizada hasta el momento sobre las diferentes formas en que los individuos y las organizaciones relacionadas con el emprendimiento pueden complicarse a sí mismos mediante la toma de perspectiva y las consecuencias que eso puede tener. Aprender de las perspectivas de los demás representa una filosofía de vida natural para mí, por lo que mis intereses de investigación a futuro consisten en seguir aplicando el concepto de la toma de perspectiva al estudio de diferentes escenarios en la toma de decisiones empresariales en los contextos sanitarios, organizativos e internacionales.