Perceived Roles and Experiences of Social Scientists in Medical Education Research: A Narrative Study

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Abstract

Background: This narrative study explores the experiences of social scientists in medical education research (MER) units housed in Canadian medical schools. Although MER has been gaining recognition as an important area of research to facilitate the translation of medical education into medical practice, the need for social science research in MER remains poorly understood. Moreover, available literature on the career progression of researchers in MER – with regards to factors like academic promotion, funding opportunities, and job satisfaction – have been largely limited to clinician or biomedical researchers.

Purpose: To explore the experiences of social scientists in medical education research (MER) units housed in Canadian medical schools through the research question: How do social scientists experience the evolution of their careers into MER?

Research Design: Narrative study.

Data Collection and Analysis: This study involved semi-structured interviews with six faculty members of MER units in three medical departments in Canada.

Findings: My analysis revealed the following themes: 1) challenges are systematic in nature but rewards tend to be interpersonal; 2) the development of MER units have helped improve social scientists' experiences in MER; 3) interdisciplinary and interprofessional interactions act as both the greatest challenge and reward of a social scientist's career in MER; 4) social scientists' perceived experiences in MER are influenced by their perceived impact on institutional change; and 5) social scientists in MER retain and advocate for their identity as social scientists, but individual differences exist in the perceived gratification of advocacy work.

Keywords: Medical education research, social science in medicine, interdisciplinarity, career progression, productivity, tenure promotion

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I. Introduction

In this introductory chapter, I present an overview of the context and structure of my MA thesis, *Perceived Roles and Experiences of Social Scientists in Medical Education Research*. I first situate my study in the field of medical education research (MER), highlighting the gap in knowledge about the academic careers of medical education researchers trained in the social sciences. This leads to an explanation of the purpose of my study and the research questions I address throughout my thesis. I then illustrate how I became interested in my research topic, as well as my positionality as a researcher. Following that, I describe the methodologies and epistemology used in my inquiry, reflecting on how my findings may be interpreted and how they may contribute to the practice of MER. My thesis is organized in article format – this introduction is a preface to the article presented in chapter two.

Overview of my Topic and Rationale

The Problem

Research in medical education has, for a long time, been classified as a branch of medical research. The MER community has since advocated for an alternative consideration of MER beyond medical science to encompass the social nature of MER (Monrouxe et al., 2009). Indeed, social science researchers have posited that medical education deals with human interactions and is thus best explored using social science approaches that comprehensively consider theory, practice, and policies (Davis et al., 2015; Todres et al., 2007).

Despite this need, McKendree (2016) claimed that researchers who conduct social and educational research are "still undervalued, underfunded, and often invisible in medical schools," (p. 451). As Albert et al. (2014) revealed in an exploration of social science and humanities

researchers working in medical faculties in Canada, there is still much work to be done in establishing a supportive work environment for social science researchers in medical schools.

This may be rooted in a more fundamental problem regarding the nature of the knowledge social scientists wish to create in MER. With the ever-increasing demand for evidence-based practice and informed decision-making, institutions often attribute hierarchies to research findings through measures of 'truth' or 'validity' that imply controlled, quantified evidence are more 'legitimate' (Sandars & Patel, 2015). Consequently, the complex, personal nature of social science or educational research does not satisfy the type of research sought after by policymakers and providers of external funding.

Despite the successes of the field of MER as demonstrated through an increased number of publications, LaMantia et al. (2012) proposed that the quality of studies may have been undermined by a disregard for the development of research methodologies, as well as disproportionate amounts of institutional support granted towards medical science or clinical research. Perhaps due to these problems, the impact of MER in advancing medical practice has yet to be linked to patient outcomes (Varpio et al., 2014).

In fact, existing literature on MER is often limited to applied research and brief publications, as opposed to extensive discussions on developing theory (Brosnan, 2012). This may be attributed to the value placed on the volume of publications and grant applications in the current academic scene. Nevertheless, theory can serve to organize and interpret data in a way that allows one to "highlight commonalities and pattern and generate conceptual generalisability," (Cleland & Durning, 2019, p. 44). Benefits to using theoretical frameworks include the ability to develop robust explanations of the phenomena being studied and uncovering related assumptions, associations, and interactions.

The failure to recognize that MER is *educational* research undermines the demand for and value of MER. By not treating MER as a branch of social science research and embracing the 'soft' methodologies that it consists of, the research potential and academic legitimacy of MER may be impaired by the lack of a clear sense of purpose, strong theoretical frameworks, and epistemological discussions regarding research findings and their applications (Arnold, 2004; Bunnis & Kelly, 2010). Such assumptions may arise within medical departments, especially, due to the deviation of social science research from the quantitative, rigidly empirical, and often controlled methodologies typically accredited in clinical or biomedical research. Indeed, the potential of MER may have been undermined by the fact that the scope of its work is often restricted to clinicians or medical scientists (Monrouxe & Rees, 2009), despite suggestions that one of the most important success factors of MER is interdisciplinary collaboration (McKendree, 2016). In fact, regular interdisciplinary interaction between researchers is not easily established in practice due to differing career progressions of medical versus educational researchers.

Rationale

A review of the literature revealed that not much is known about the career evolution of non-clinician social science researchers in MER. Shortly after the emergence of the field of MER in the 1950s (Miller, 2013), research units dedicated to MER became institutionalized in Canadian medical schools (Varpio et al., 2014). These units, also known as 'Medical Education Research and Innovation (MERI) units', have successfully reshaped professional promotion tracks to acknowledge the important role of MER in medical education, developed graduate programs dedicated to MER or health professions education (HPE), and dedicated financial support in the form of teaching and research awards for those whose professional careers were

devoted to MER. For the purposes of this study, the term ‘MER’ units will be used to refer to all research units dedicated to MER within a medical faculty.

Nevertheless, two challenges were identified pertaining to the careers of non-clinician medical education researchers: 1) logistical issues such as the availability of funding and institutional support (Arnold, 2004; Sandars & Patel, 2015; Searle et al., 2011) and 2) the heavy emphasis on productivity (i.e., number of publications and research grants attained over a period) in academic promotion (Blazey-Martin et al., 2016). Considering that promotion within medical education is difficult even for their clinician colleagues due to a general lack of institutional recognition and detailed goals for faculty members to strive for (Beasley et al., 1997), the reality of academic promotion is likely more daunting for non-clinician medical education researchers who face the additional challenges discussed above.

Some of the challenges encountered by researchers making a cross-disciplinary shift into MER include the following: having to remove complex or theory-based analyses to cater to a medical audience; not feeling valued and respected; finding a compromise between two sets of rules; navigating foreign evaluation systems, approaches, writing styles that require not only immense amounts of cognitive flexibility but also time; and having to meet evaluation criteria designed for medical scientists, which involve an ‘objective’, one-size-fits-all assessment of productivity (Albert et al., 2014; McKendree, 2016; Todres et al., 2007). Overall, such challenges have left social scientists feeling dissatisfied and out of place in their careers in MER.

Thus far, there has been a lack of in-depth explorations that span social scientists’ careers within MER. Rather, much of the available literature offers a somewhat cross-sectional view of the issue, drawing upon conflicting research paradigms and institutional standards. As a next step, it may be worthwhile to explore the progression of social scientists’ careers within MER,

tuning into how their careers have evolved to better understand the disconnect between the presumed need for social science research in MER and the support and recognition it receives in practice.

Objectives and Research Question

The objectives of this study are as follows. First, I aim to illustrate the experiences of social scientists evolving their careers in MER, presenting insight from a perspective that is usually overshadowed by clinicians and biomedical researchers. Second, I wish to use this insight to better understand the disconnect between the apparent need for social science research in MER and the recognition and support it receives in practice. Third, I ultimately hope that my study will fill the existing gap in knowledge and provide practical recommendations – by the words of social scientists who are currently working in the field of MER – to further the development of MER units in Canadian medical schools. I thus referred to the following research question to guide my research: How do social scientists experience the evolution of their careers into MER?

Positionality

My interest in the experiences of social scientists in MER was fuelled by my curiosity about interdisciplinary and cross-disciplinary research efforts. With consideration of my own disciplinary transition from health sciences to HPE, I was fascinated by the idea of exploring the experiences of researchers who made a cross-disciplinary shift in their careers.

A quick review of the literature revealed to me that cross-disciplinary career shifts often led to challenges in promotion and overall occupational satisfaction. In the context of social science researchers navigating the realm of MER units housed under faculties of medicine in Canada (my population of interest), the challenges they faced were often associated with

evaluation standards and productivity markers developed for medical science or clinical research. Given the emphasis on productivity in academic promotion, being evaluated based on standards created for a different field of research may present as barriers to social scientists evolving their careers in MER. This barrier can lead to researchers having to make compromises in their research to meet the productivity standards imposed by their faculties, or vice versa (Albert et al., 2014). Indeed, such compromises can deprive social scientists of opportunities to explore topics that are of interest to them, but not of interest to their biomedical or clinical colleagues.

Based on such considerations, I found myself questioning whether the support they received adequately reflected interdisciplinarity. Although social science researchers are called into MER units in medical faculties to engage in interdisciplinary research, they often find themselves making compromises in order to meet the demands of medical faculties. That, to me, seems contrary to what interdisciplinarity stands for – bringing together experts from different disciplines to create a synergistic effect on learning and knowledge production. If, instead of being regarded as an expert on a subject matter, social science researchers are compelled to conform to a set of one-size-fits-all standards, that may detract from their potential to contribute to the field. Thus, I was interested in learning more about how social scientists perceived their career progression within MER. Given the emphasis on productivity for academic promotion within medical faculties, I wished to explore how social scientists' research practices, assumptions, and paradigms impacted their work in MER and vice versa.

As a graduate student who will pursue an academic career with an interdisciplinary background, I was naturally drawn to hearing about the experiences of social scientists navigating this cross-disciplinary shift. To me, exploring the question of how social scientists

experience their evolving careers in MER was important personally, as it offered a glimpse of what my future career could be.

Methodological Reflections

Epistemology

Learning Theories

The learning theories with which I have interpreted the participants' stories are constructivism and communities of practice (CoP). Constructivism was used to frame the participants' individual, subjective interpretations, while CoP was used to interpret their social interactions and context (i.e., the MER community).

Constructivism. Constructivism is a learning theory associated with Jean Piaget based on the idea that the construal of knowledge is tied to action and the assimilation of knowledge into action schemes through our experience as learners (Proulx, 2006; von Glaserfeld, 1982). An important consideration within constructivism is that "all knowledge is subjective and dependent on the learner" (Proulx, 2006). Indeed, constructivists reject the notion that we can know a universal, objective reality and instead place great emphasis on the concept of "fitting". That is, how compatible and viable knowledge about a topic or idea is in relation to the learner's experiential world.

Constructivist thinking, in the context of this study, frames the experiences and interpretations of social scientists in medical education research. Exploring and analyzing meaningful interpretations of their journey has allowed me to identify factors, such as challenges and rewards, that must be considered to make MER a more accessible and desirable field for social science researchers.

Communities of Practice (CoP). CoP is a philosophical perspective that frames communities to which individuals belong as a living curriculum for knowing and learning (Wenger, 1998; Wenger-Trayner & Wenger-Trayner, 2015). In contrast to traditional approaches to education that emphasize individual acquisition of knowledge in formal settings, it draws attention to levels of engagement and the informal learning that happens within different levels of participation (McMurtry et al., 2016).

Under the assumption that learning and knowing are functions of social dynamics throughout the different levels of participation, CoP classifies levels of participation within the community into core, active and peripheral participation (Wenger et al., 2002). Core participation is observed in members of the community who demonstrate the most active engagement in community discussions and activities and often hold leadership positions, while members in the active group demonstrate regular attendance without the intensity of the core group (Wenger et al., 2002). Peripheral participation, on the other hand, refers to the large portion of community members who observe the interactions that take place within the community. Although some may still participate, they have less extensive requirements to participate than their counterparts in core participation.

In this study, CoP framed the movement of social scientists from a peripheral to core participation within MER, and how the shift has developed their career. Observing the movement of social scientists through the different levels of participation has also added to my understanding of the role social scientists play within the field of MER.

Epistemological Position of the Researcher

In accordance with my generally constructivist and social constructivist orientation, I explored social scientists' stories on evolving their careers in MER, making sense of their

experiences through the lenses of constructivism and CoP. Reflexively, my position as a researcher can also be deciphered in terms of constructivism and CoP, based on the epistemological belief that I, as a member of the HPE research community, am offering my own interpretation of social scientists' career evolutions in MER to add to the existing body of research.

In the Discussion section, I present my interpretation of the data with recognition of the constructivist notion that my findings are essentially subjective, and that in the process of analyzing the data I am adapting myself to a new interpretation of an experience and modifying it in relation to my own ever-evolving thoughts (Proulx, 2006).

My engagement with the CoP of the field of educational research can be described as two types of participation according to Wenger (1998) – *personal participation*, in which I directly engaged in conversations with social scientists in MER, and *reification*, wherein I produced a conceptual artifact of my learning in the form of this paper. My exploration became more meaningful through the interplay between my participation and reification of my topic and as I engaged actively in the dynamic process of learning through my interactions with others in this CoP, namely the participants of my study.

Narrative Inquiry

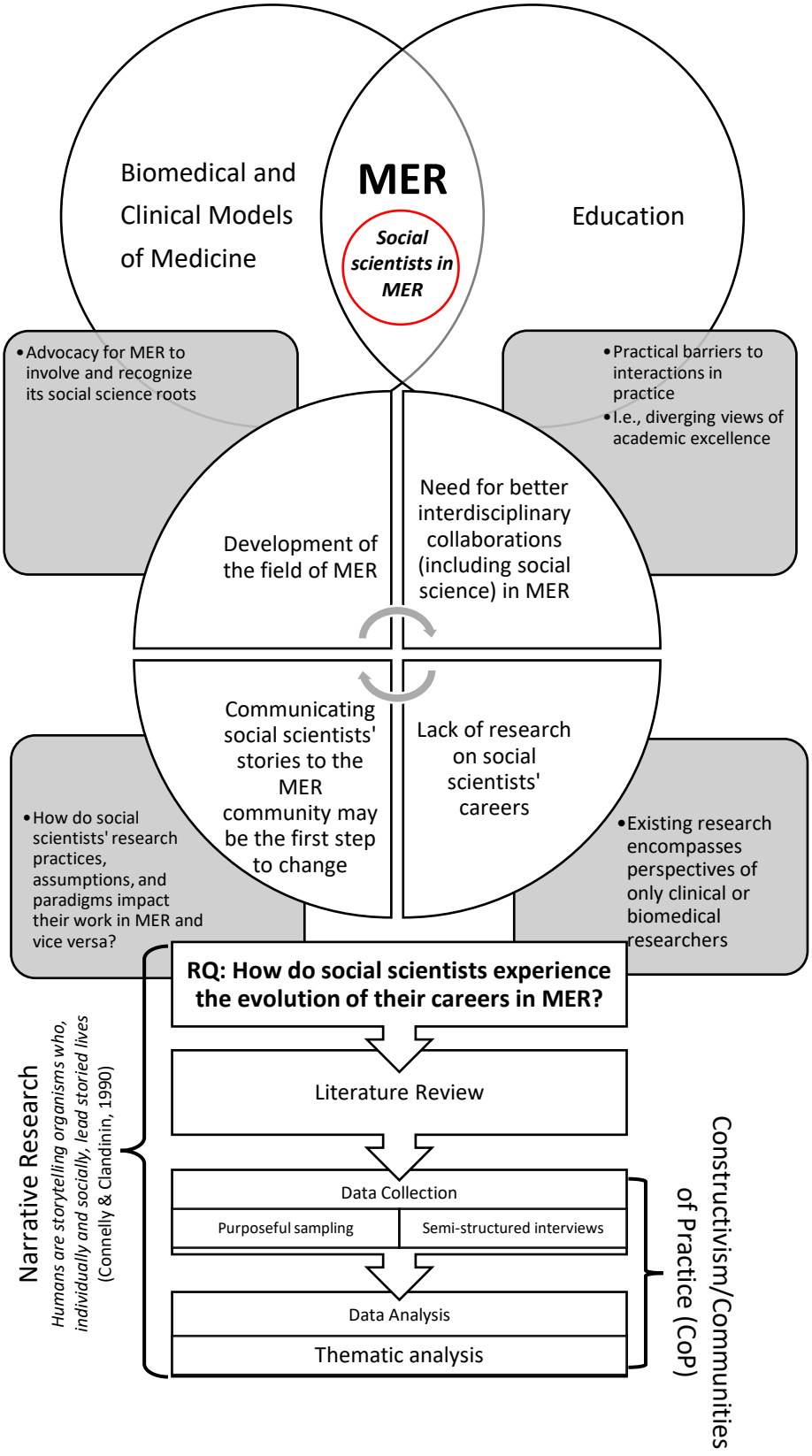
Broadly, my study involves a qualitative research methodology, which is defined by Creswell (2013) as a research methodology that "begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or human problem." (p. 44). It takes a reflexive approach that prioritizes the voice of the participants and reckons meaning as it is told in the participants' stories. As a methodology, qualitative research places value on the *process* of

research, integrating the philosophical foundations, interpretive lens, and the approaches to inquiry.

More specifically, the research method I chose for this study is a narrative inquiry. Narrative inquiry is a qualitative approach that involves data collection through stories on how humans experience the world (Creswell, 2013; Connelly & Clandinin, 1990). Working under the assumption that "humans are story telling organisms who, individually and socially, lead storied lives," (Connelly & Clandinin, 1990, p. 2) narrative inquiry serves to describe personal stories through collaborative research.

This design worked well with the context of my study, as it enabled me to collect stories of individuals who have undergone the process of developing their careers in MER as a social scientist. The power of storytelling in uncovering the participants' experiences was evident as it provided a wide-ranging, comprehensive description of the participants' careers, *as experienced by them*. I was then able to offer my own interpretations of the participants' stories based on the philosophical foundations of constructivism and CoP to add to the existing discussions on the realities of interdisciplinary practice in MER.

Conceptual Framework



Study Contributions

The contributions of my study are rather straightforward. First, it illustrates the experiences of social scientists evolving their careers in MER, offering a glance into a perspective that is usually overshadowed by clinicians or biomedical researchers in MER or related literature. Second, my study adds to existing discussions on the common barriers faced by social scientists navigating an interdisciplinary and sometimes cross-disciplinary practice, adding evidence to bridge the existing gap in knowledge on the realities of interdisciplinarity in research practice. Ultimately, I hope that the findings of this study will inform practical developments in MER to be more favorable for researchers who are experts in topics beyond medical science, and to facilitate true interdisciplinary research efforts. Finally, interpreting the lived experiences of social scientists in MER using a blend of constructivism and CoP offers a comprehensive understanding of their career evolution from both the individual and social level. This adds depth to our knowledge on the topic and demonstrates how learning theories can be used to enhance the quality of research findings in educational research.

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II. Perceived Roles and Experiences of Social Scientists in Medical Education Research: A Narrative Study

Overview

For years, the boundary between medical research and medical education research (MER) has remained unclear, raising concerns that research in medical education may not be translating into practice due to a lack of clarity and rigor in methodology (Cook et al., 2008). The abundance of studies that present purely statistical results, paired with a paucity of exploratory qualitative studies, have failed to provide practical guidance for the development of medical education practice (Wolf, 2004).

Although the need for evidence-based guidelines is recognized within the MER community, the lack of appreciation of MER beyond the field has challenged the advancement of research within (Todres et al., 2007). This lack of recognition may be attributed to the classification of MER as a branch of medical research (Monrouxe & Rees, 2009), leading to suggestions that taking a social science approach to MER would help advance the field. Nevertheless, social scientists have faced challenges navigating the realm of MER due to factors such as divergent views of academic excellence and research methods in MER (McKendree, 2016; Todres et al., 2007).

Despite the growing interest in MER, however, there has yet to be research in Canada on social scientists navigating the realm of MER (Canadian Medical Association [CMA], n.d.). Indeed, what is missing in current scholarly discussions regarding the state of the social science in MER are the stories of social scientists themselves. Understanding and communicating to the community of MER of how their careers develop may be the first step in ensuring that social science has a place within MER. Thus, this study aims to explore the experiences of social

scientists entering and developing a career within MER in Canada. Through their stories, I hope to enrich the understanding of the different facets of social scientists' career evolution in the field, such as rewards, perceived identity, and barriers. I used the following research question to guide my research: How do social scientists experience the evolution of their careers in MER?

Background

Discussions surrounding MER first emerged in the mid-1950s from an anecdote about a project in medical education that involved a workshop on educational topics such as the teaching-learning process, evaluation, and communication (Miller, 2013). As MER gained recognition as an essential component of developing medical education (Goldszmidt et al., 2008), the formation of research units dedicated to MER within medical faculties and institutions ensued (Varpio et al., 2014). These units are characterized by clear educational research goals, advocacy to broaden the scope of MER beyond the field of medical research, and interdisciplinary collaboration that involve non-clinician educational researchers, clinicians, basic scientists, and administrative staff (Arnold, 2004).

Indeed, interdisciplinary interaction has been cited as one of the key components of success in MER (Arnold, 2004; Goldszmidt et al., 2008). While it is true that the role of non-clinician faculty members whose academic careers focus on education scholarship have become more prominent in recent years, there remains a distinct lack of recognition of social science research among medical researchers, which act as barriers to regular interdisciplinary interactions in practice (McKendree, 2016). For the most part, literature on academic careers within MER are also limited to clinician (e.g., medical doctors, nurses) perspectives, which has limited our knowledge on the experiences of non-clinician researchers. Given that clinical faculty in MER face issues with promotion due to a culture that prioritizes productivity as

indicated by the number of publications and research grants attained over a period of time (Beasley et al., 1997; Blazey-Martin et al., 2016; Sánchez, 2020; Tootoonchi et al., 2014), the situation may be worse for non-clinician researchers who often have to "modify their research practices to gain recognition from their biomedical colleagues, which indicates the low value assigned to their research practices," (Albert et al., 2014, p. 24).

According to some, the potential and legitimacy of MER have been impaired by the lack of theoretical frameworks and epistemological discussions regarding the *nature* of the knowledge medical education researchers seek to create (Arnold, 2004; Bunniss & Kelly, 2010; Cleland and Durning, 2019). This issue is exacerbated by the fact that controlled, quantified evidence such as randomized controlled trials are often prioritized over theory, due to the demand for evidence-based practice and the tendency to attribute hierarchies to research evidence through measures of 'truth' or 'validity' (Sandars & Patel, 2015). Unfortunately, such tendencies have led to a dichotomy of evidence-based versus non-evidence based medical education – a poorly articulated and fruitless debate considering the definition of 'scientific' or 'empirical' research does not distinguish between quantitative and qualitative approaches (Hart & Harden, 2000; Otani, 2020). Although it is true that MER involves *educational* research that uses qualitative methodologies, that is not to say MER – or social science research in general – does not involve quantitative methods. In fact, one of the issues stunting the potential of MER may be that the scope of its reach is often restricted to clinicians or medical scientists, who may or may not understand the pillars of social science research on which MER stands (Monrouxe & Rees, 2009).

Theoretical Framework

The theoretical frameworks through which I will interpret the participants' stories are constructivism and communities of practice (CoP). Constructivism will be used to frame individuals' subjective interpretations. CoP will be used to interpret the social dynamic that they describe.

Constructivism

Constructivism is a learning theory developed by Piaget based on the idea that the construal of knowledge is tied to action and the assimilation of knowledge into action schemes through our experience as learners (Proulx, 2006; von Glaserfeld, 1982). An important consideration within constructivism is that "all knowledge is subjective and dependent on the learner" (Proulx, 2006). That is, how compatible and viable knowledge about a topic or idea is in relation to the learner's experiential world.

In this study, constructivist thinking will frame the analysis of social scientists' lived experiences and their meaningful interpretations of their journey, offering insight into the types of knowledge each individual has constructed throughout their careers in MER.

Communities of Practice (CoP)

CoP is a philosophical perspective that frames communities as a living curriculum for knowing and learning (Wenger-Trayner & Wenger-Trayner, 2015). In contrast to traditional approaches to education that emphasize individual acquisition of knowledge in formal settings, it draws attention to levels of engagement and the informal learning that happens within different levels of participation (McMurtry et al., 2016).

Under the assumption that learning and knowing are functions of social dynamics that occur throughout various levels of participation, CoP classifies levels of participation within the community into core, active and peripheral participation (Wenger et al., 2002). Core

participation is observed in members of the community who demonstrate the most active engagement in community discussions and activities and often hold leadership positions, while the peripheral group encompasses the large portion of community members who simply observe the interactions that take place within the community (Wenger et al., 2002). In this study, CoP will frame the movement of social scientists from a peripheral to core participation within MER.

Methodology

This study is a qualitative research study involving a narrative approach. Qualitative research is broadly defined by Creswell (2013) as a research methodology that "begins with assumptions and the use of interpretive/theoretical frameworks that inform the study of research problems addressing the meaning individuals or groups ascribe to a social or human problem." (p. 44). The researcher remains reflexive, prioritizing the voice of the participants and reckoning meaning as told in the participants' stories. As a methodology, qualitative research places value on the *process* of research, integrating the philosophical foundations, interpretive lens, and the approaches to inquiry.

Narrative inquiry is one such qualitative approach that involves data collection through stories on how humans experience the world (Creswell, 2013; Connelly & Clandinin, 1990). Working under the assumption that "humans are story telling organisms who, individually and socially, lead storied lives," (Connelly & Clandinin, 1990, p. 2) narrative inquiry serves to describe personal stories through collaborative research.

Sampling Procedure

I conducted semi-structured interviews on six faculty members affiliated with MER units in three Canadian medical schools. The inclusion criteria of the participants included researchers

trained in social science research (e.g., sociology, education, or psychology) who had never received training as a clinician and were appointed to a MER unit in a Canadian medical faculty.

Purposeful sampling was used to identify and select participants to ensure they were eligible and had relevant experience to the research topic (Palinkas et al., 2015). As this study involves a qualitative narrative inquiry in which the depth of understanding is critical, it was important that the participants selected for the study deemed their experience as relevant and were willing to share their stories. Following a review of the faculty webpage of MER units selected for the study, a total of 14 researchers were identified based on their biography and research interests, among which five did not fit the inclusion criteria. Nine individuals were contacted via e-mail with information on the study (Appendix A). Two did not respond, and one did not self-identify as a social scientist. In the end, six researchers agreed to participate in the study. In order to protect the identity of the researchers selected for this study, the targeted MER units and schools will not be identified.

Data Collection

Prior to the interview, participants were sent a copy of the consent form (Appendix B) to review and were asked to share their curriculum vitae to allow for more personalized and fruitful discussions. The interviews were approximately 60 minutes long and the participants were asked a set of questions meant to explore their journey into MER, their experiences, their perceived identity as a social scientist, and the rewards and challenges they faced in developing their careers (Appendix C). Verbal consent was obtained at the beginning of the interview to record the Zoom session, and once again after the recording was started. All interviews were video recorded – this was inevitable due to the nature of the online communication platform the participants and I had chosen (Zoom). The participants were informed of this technological

peculiarity ahead of the interview. They were also informed that while they were free to turn off their cameras if uncomfortable, only the audio files would be saved for analysis. Informed consent was obtained from all participants regarding this process. This study has obtained ethics approval from the University of Ottawa Research Ethics Board (Appendix D).

Data Analysis

In advance of the analysis, I conducted a partial verbatim transcription of the audio recorded interviews. Although I followed an interview guide to gather key information regarding the participants' careers, the conversations often led to small talk irrelevant to my study, albeit helpful in allowing the interviews to unfold organically. Thus, I was recommended to transcribe only the parts of the interview that were relevant to the participants' career development and exclude discussions that involved myself, or those on personal topics that went beyond the scope of this inquiry in my verbatim transcription.

Upon completion of the interviews and prior to transcription, I listened to the audio recordings to familiarize myself with the data and to ensure the absence of technical difficulties. I then transcribed the interviews as described above and read over the transcripts at least two times. The initial read-through ensured that I had accurately transcribed the data and had included all relevant parts; a second read-through was conducted for me to review the transcript data in preparation for the main portion of my data analysis.

First, I engaged in a restorying process guided by Creswell (2013) wherein I used my interview guide to categorize my data, i.e., Background, Changes, Challenges, Rewards, and Other. I then coded the data into themes by identifying commonalities in my participants' response to each question. The generated themes, presented in the Findings section, span across the participants' careers in MER and serve to highlight various aspects of their experience.

Trustworthiness

In order to assess the trustworthiness of my findings, I shared with my participants my written interpretation of their narratives for member-checking. Member checking is a process of testing "'data, analytic categories, interpretations and conclusions' with members of the stakeholder group(s) from whom the original information was collected," (Lincoln & Guba, 1985, as cited in Doyle, 2007; Stiles, 1993). Participants were provided with their portion of the written narrative and informed of the exact quotes I had used to present my findings. They were asked to comment on any potential misinterpretations of their stories, which were then incorporated as revisions. The narratives can be found in Appendix E.

Findings

All six participants included in the interviews were affiliated with a MER unit and held a faculty position in a Canadian medical school. The participants were well-balanced in terms of gender, experience and departmental position – the participants' basic demographic information is summarized in Appendix F. As described above, the interviews tracked the participant social scientists' experience of their career evolution in MER.

For all of my participants, the evolution of their academic careers into MER were non-linear and unintentional, facilitated through a series of unexpected and well-timed opportunities described as "serendipitous" (Participant 5; hereafter 'P5'). The common motivations in entering the field of MER involved career opportunities (i.e., an opening for a faculty position) and a pre-existing interest for health-related topics.

My findings narrate various aspects of social scientists' careers in MER including their journey into MER, challenges, and rewards. The main themes around which I organized my findings are as follows: 1) *challenges are systematic in nature but rewards tend to be*

interpersonal; 2) *the development of MER units have helped improve social scientists' experiences in MER*; 3) *interdisciplinary and interprofessional interactions act as both the greatest challenge and reward of a social scientist's career in MER*; 4) *social scientists' perceived experiences in MER are influenced by their perceived impact on institutional change*; and 5) *social scientists in MER retain and advocate for their identity as social scientists, but individual differences exist in the perceived gratification of advocacy work.*

Challenges are Systematic in Nature but Rewards Tend to be Interpersonal

The main challenges identified in the participants' career progression were systematic issues that involved having their work evaluated according to criteria set up for clinical or biomedical research, having to justifying their selected readership or journals (especially those with lower impact factors) to their clinical departments, dedicating time and effort into translating their "disciplinary perspective," (P1) for their clinical or biomedical colleagues, and navigating "tons of [conflicting] opinions," (P6) regarding the quality of their work. One individual believed that his academic achievements were stunted "because [he] decided to stay a social scientist," (P1) as he believed his work did not receive the recognition it deserved in MER. Other challenges identified by some of the participants that added to their workload but was not considered 'burdensome', included learning to write up their research in a different style to suit the requirements of medical journals (P5), advocacy for social science research, and mentorship for incoming social scientists in MER (P2, P3, P5, P6).

On the other hand, the "big rewards" (P1) of being a social scientist in MER were interpersonal in nature. Most (5 of 6) participants stated that their work in MER was fulfilling and interesting in ways that would not have been possible in their home discipline due to the wide variety of topics and researchers they could engage with. Although a direct comparison was

not possible as they "ha[ve]n't been down that path," (P3) they did not feel as though they were 'missing out' by not having pursued a professional career in their home discipline.

The Development of MER Units Have Helped Improve Social Scientists' Experiences in MER

The development of research units dedicated to MER improved social scientists' perceived experience in the field. Although the systematic challenges addressed above remain, participants found their appointment in their MER units helpful as "support from fellow social scientists are available," (P3). Many of the participants agreed that it was initially difficult to find their identity, deal with having less academic freedom/voice, and establish their reputation as an academic, but they felt that "a strong foundation was already laid," (P5) in their MER units from "the superstars […] who opened up the field," (P6), which made the systematic challenges much easier to navigate for my participants.

Interdisciplinary and Interprofessional Interactions Act as Both the Greatest Challenge and Reward of a Social Scientist's Career in MER

Navigating interdisciplinary and interprofessional interactions are challenging. My participants often felt as though they were "forever trying to educate people on who [they were] and what [they] did," (P2) in MER. Indeed, "becoming a full professor [is] an adventure," (P2) as translating and educating clinician colleagues and departments would impact their productivity. After all, "it takes a tremendous time to build partnerships," (P4).

Researchers were also often faced with "tons of [conflicting] opinions," between their medical department and MER unit, which can be "consuming to navigate as a novice researcher," (P6). Indeed, the goal for support in MER units can "juxtapose against a university's

expectation for individual achievement," (P5), leaving some (especially early career) researchers feeling lost.

Navigating interdisciplinary and interprofessional interactions are rewarding. Despite the challenges of engaging in interdisciplinary and interprofessional interactions in MER, all six of the social scientists interviewed found it rewarding to work with clinicians "who bring [to them] knowledge of health professions that [they] didn't have," (P1). These interactions made the additional efforts worthwhile for my participants, as they felt like they could "help a lot of different kinds of people," (P5). Most (5 of 6) enjoyed the partnerships they had sought out with those who were "willing to have conversations in other languages," (P2) and cherished these partnerships as "golden when it comes to the mitigating of the problems associated with the climb into where [they] want to be in [MER] and the impact [they] want to have," (P2). Participants (4 of 6) identified MER units as a source of support, describing the community as "a critical mass of individuals who [were] all coming from different disciplines [who were] friendly to each other, collegial, […] and reinforcing each other's work by keeping each other abreast of opportunities," (P6).

Social Scientists' Perceived Experiences in MER are Influenced by their Perceived Impact on Institutional Change

Participants' perception of how their work contributed to institutional change, such as influencing departmental frameworks on evaluating academic productivity, acted as a decisive factor on whether they deemed their career in MER to be worthwhile. All participants mentioned how advocacy to prove the legitimacy of social science research to their clinical department was a lot of additional work, and one that gets "tiring" (P2). Nevertheless, they "actually never ultimately tired of having that extra layer of work," (P2); they had seen the advocacy lead to

institutional changes with "people embedded in different locations across the system with different leadership positions," (P6), and growing partnerships with clinician colleagues who were "willing to have conversations in other languages," (P2). Although frustrating and burdensome at times, advocacy was described as 'fun' when "people see the work and people get it," (P3).

Social Scientists in MER Retain and Advocate for their Identity as Social Scientists, but Individual Differences Exist in the Perceived Gratification of Advocacy Work

All participants demonstrated great pride in their identity as a social scientist. None, except one who felt that she didn't "contribute to theory nearly to the depth and breadth as [her social science] colleagues," (P3) underwent a shift in their identity as a social scientist throughout their career. Another participant, however, did experience tensions which she described as "inevitable and requiring a lot of work on [her] part to negotiate," (P6).

Two participants (of 6) stated that if being a medical education researcher meant having to let go of their social science identity, they would "rather look for a different place than make [themselves] fit in what [they] don't," (P4). These participants felt frustrated when "people in MER self-identif[ied] as a social scientist when their perspectives are only situated within medicine," (P4). They speculated that as the field of MER advanced, it became harder to "remain a social scientist according to what it is to be a social scientist outside [of] medicine," (P1) due to the limited scope of research in MER. P1 described the field as becoming increasingly "insular."

Meanwhile, other participants embraced the education and translation of their work into applied medical contexts as *a part of* their identity as a social scientist in MER. They regarded this additional work not as a "sacrifice," but rather an "expansion" (P2). One participant framed it as a "deliberate choice," and felt "reassure[ed]" to push for "what the field needs," (P6) as she

now regarded the introduction of social science paradigms into MER as her responsibility. Participants who shared this opinion felt as though they "joined a very strong community of researchers," with "social scientists hav[ing] quite a dominant presence in [MER]," (P5).

Social Scientists' MER Experience in One Word: A Synopsis

During the interviews, I asked the participants to select one word to describe their career progression in MER to get a brief and consolidated overview of their perceived experiences in the field. Their synopses included the following words: *failure*, *opportunism, boundary-breaking*, *curiosity*, *fascinating,* and *fresh*. I present on Table 1 the reasoning the participants provided for each word selection.

Table 1. Word Choice and Reasoning

Word Choice	Reason
Failure	Academic promotion stunted due to decision to retain social science practice. The only way to succeed in MER is to convert to "the clinical way of publication". "I will never become full professor because I have decided to stay a social scientist." (P1)
Opportunism	"If I looked to the milestones of my career, most of them occurred due to two things. One, remarkable good fortune that came along, and two, the sense to know that it was an opportunity. And maybe three, having an idea of what to do to actually bring it to some kind of fruition." (P2)
Boundary-breaking	"I was the education person, so I felt like it was a lot of boundary-breaking. We forged a path where people now seek us, while before, they just didn't understand us or think that we were legitimate research." (P3)
Curiosity	"I went into it due to curiosity. I'm still very curious. Curiosity is a value for me. If curiosity disappears for me, I have to look at something else to do." (P4)
Fascinating	"I've been encouraged to dance around many different problems and phenomena that interest me, and there's so many in the context of medical education and clinical practice, so I've had a tremendous amount of flexibility to choose projects that interest me. […] I've never felt bored, I've never felt pigeon-holed. I've always just felt like I'm growing and that my ideas are always of interest to others and it's just been extremely fascinating." (P5)

Fresh	"The thing that makes me very happy is the capacity to feel fresh and new because there is so much more that we can be doing, there are so many openings in the field. So being able to contribute in different ways, that's very exciting to me." (P6)

Discussion

The participants' stories provided insight into social scientists' experiences in navigating a career in MER units housed in medical schools across Canada. My findings both concurred and contrasted with previous literature, which suggested that social scientists often struggle to progress their research within medical faculties due to differing standards and the limited availability of funding (Albert et al., 2014; McKendree, 2016; Todres et al., 2007).

Systematic Challenges Remain but MER Units Help to Maximize Rewards

As depicted through the first three themes, overarching performance standards and funding still challenge social scientists' career progression. The development of MER units, however, have alleviated the degree to which such systematic challenges impact social scientists' careers in MER, acting as a community of support for both experienced and novice faculty members. Such findings support Arnold's (2004) observation that successful MER units implement strong mentorship for newly recruited researchers and additional support such as teaching academies and awards. Further, my findings highlight the significance of interprofessional relationships in the development of social scientists' careers in MER, supporting the notion that social capital – the network and social relationships an individual has that helps to advance their position in society – plays an important role in professional development within the academic context (Hu et al., 2015; LaMantia et al., 2012).

Social Scientists' Experiences in MER: A Constructivist Interpretation

My findings present one way to interpret Albert et al.'s (2014) description of social science and humanities scholars' experiences in medical schools. As depicted in last two themes,

a group of researchers who share the same identity can have differing views on their career progression. The social scientists I interviewed could be classified into the following cohorts identified by Albert et al. (2014): *reaffirmation* (those who were able to maintain their research practices in MER); *conversion* (those who adopted to the style of applied research more commonly used in medical schools); *partial adaptation* (those who modified their research practices to align with the standards and expectations of their medical departments); and *resistance* (those who did not adjust their research practice but did so at a cost in career development). Despite the apparent differences between the cohorts in the way they adapted to a career in MER, my interpretation of the participants' stories revealed how their perceived impact on institutional change – usually towards a more amiable environment for interprofessional and interdisciplinary collaborations – dictated their level of satisfaction in pursuing a career in MER.

Indeed, from a constructivist perspective, how each social scientist experiences their career progression through MER depends heavily on their meaningful interpretation of their work in relation to their career accomplishment (Proulx, 2006). That is, the degree to which an individual social scientist engages in meaningful work – and thus makes their work in MER worthwhile – may shape their perception of their career. The fact that most (5 of 6) of my participants regarded the additional time and cognitive flexibility dedicated to advocacy and knowledge translation as *worthwhile* attests to the fact that there is great potential for MER to support interdisciplinary and interprofessional collaborations, so long as social scientists (or more broadly, non-clinician researchers) feel that their efforts are being recognized and utilized to create an inclusive research environment.

Social Scientists' Experiences in MER: Communities of Practice

My findings can be explained using the theoretical paradigm of CoP, as well. Traditionally, the CoP of medical education researchers were largely divided into medical science research and research from other disciplines such as the social sciences. Such a divide had led to the dichotomy discussed in previous literature between the medical and social science researchers and rendered social scientists 'invisible' in medical schools (Albert et al., 2014; McKendree, 2016; Todres et al., 2007). The systematic challenges discussed in my interviews, as well as by Albert et al. (2014), may be attributed to such a dichotomy.

Nevertheless, the recent advancement and institutionalization of MER units have led to the development of a CoP specific to MER, creating a sense of support and opportunities for collaborations both within and outside of MER and alleviating some of the challenges previously identified by Albert et al. (2014), McKendree (2016), and Todres et al. (2007). These changes helped to shift social scientists' perception of their careers from being 'burdensome' and 'conflicting' to 'worthwhile' and 'rewarding'. Indeed, most (5 of 6) of those interviewed found it rewarding to work alongside their MER colleagues who share a domain of interest – situating interdisciplinarity in MER and challenging the systematic barriers that exist in their medical departments (Wenger-Trayner & Wenger-Trayner, 2015). As social scientists engage with others in their MER units, they shift from peripheral to core participation within the CoP of MER, while shifting away from core participation in their home disciplines. Meanwhile, as social scientists gain more recognition for their research in MER, they tend to become more actively involved in advocacy and mentoring for the co-existence of social science paradigms and methodologies within their medical departments. As such, core participation in the MER CoP not only helps social scientists adapt to MER, but also negotiate the CoP in medical research, extending their

impact to cultivate more diversity and interprofessional interactions within the medical departments to which MER units belong (McMurtry et al., 2016; Wenger et al., 2002).

Limitations

Although my narrative study design granted me access to thoughtful, comprehensive accounts of social scientists' experiences in MER, there were some limitations pertaining to sampling. First, I used purposeful sampling and thus individually contacted researchers whom I believed, based on their online profiles, would be a good fit for my study. Although this approach successfully gave me access to an eligible group of individuals, my findings may not be transferable across settings or contexts given the specificity of my targeted cohort and sampling process. Second, clinicians were excluded from the study regardless of whether they had a social science background, as clinical training would have given them an advantage(s) (i.e., recognition) that their social science colleagues would not have access to. Although this ensured that I captured the perspective of a *foreigner* navigating the tensions described, beyond a researcher's educational background in the social sciences, the specificity of the background of my participants limits the transferability of my findings. Lastly, the sample size of my study was quite small, involving only six medical education researchers from three different MER units. Although a small sample size is usually preferred in narrative studies to allow deep, case-oriented analyses, having more participants and including other MER units may have improved the richness of the data generated through my study. This is especially true given that MER units, depending on the medical school they belong to, can have different characteristics such as institutional structure.

Conclusion

This study provides insight into a previously understudied cohort of medical education researchers using a narrative methodology framed by constructivism and CoP, facilitating an in-depth exploration of social scientists' careers in MER. The combined use of learning theories reinforced the complexity of human experience and enabled me to capture a more multi-dimensional interpretation of the participants' career evolution, while my methodology served as an example of how personal narratives could be used to justify a research problem.

The participants' narratives revealed several interesting points. My findings revealed that the presence of MER units have helped social scientists feel supported, although systematic challenges such as low funding and productivity measures geared to medical science researchers, remained. Furthermore, interdisciplinary and interprofessional interactions were identified as both a challenge that negatively impacts their productivity, and a reward that led to positive institutional changes and kept them motivated. Social scientists seemed to perceive their work as more worthwhile when they believed their work influenced their department to become more interdisciplinary, although not everyone appreciated the amount of advocacy they had to partake in to preserve their social science identity.

Overall, my findings suggest the need for more interprofessional collaborations within and outside of MER to support systematic change in favour of an inclusive research environment. Involving social scientists in leadership and decision-making roles within medical departments (beyond their MER units) may be one practical implication to mitigate the issues pertaining to measures of productivity. Moreover, my findings may serve as a call for action for medical departments to implement standards to recognize the additional efforts medical education researchers – particularly the non-clinicians – are putting into knowledge translation and mentorship.

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Appendix A: Recruitment Email

Hello [Title and Last Name],

My name is Nia Kang, and I am a second-year master's student working under Dr. Angus McMurtry in the Faculty of Education at the University of Ottawa, along with my thesis committee members, Dr. Doug Archibald and Dr. Katherine Moreau.

I am currently working towards my MA degree in Health Professions Education on the topic, "Perceived Roles and Experiences of Social Scientists in Medical Education Research". I am contacting you from the list of faculty members on the [DIME/CHES/Wilson Centre] website, to see whether you would be interested in taking part in my study.

I am looking for faculty members in [DIME/CHES/Wilson Centre] who come from a social science background and has never received training as a clinician. Participation in this study involves attending a virtual one-on-one interview over a telecommunication platform of your choice (i.e., Zoom, Microsoft Teams, etc.) where you will be invited to share your experience developing a career in MER.

During the interview, you will be prompted to answer questions on your educational and professional background, your transition into medical education research, and your reflections on your career in medical education research thus far. The interview will be audio-recorded with your permission. Participation in this study would take approximately **one hour** of your time and

be conducted in **English**. Because this is a one-on-one interview, the date and time remains flexible.

This study has been reviewed and received ethics clearance through the University of Ottawa Research Ethics Board.

If you are interested in participating, please contact me at [my email address] and indicate the date and time that would be most convenient for you to participate in the virtual interview. I will then send a confirmation email indicating that you have been signed up for the interview and provide you with further information regarding the study, in addition to the consent form, which you will be asked to review prior to [my email address].

Sincerely,

Nia Kang

Master's student

Health Professions Education | Enseignement aux professionnels de la santé

Faculty of Education | Faculté d'éducation

University of Ottawa | Université d'Ottawa

Appendix B: Consent form

[UNIVERSITY OF OTTAWA LETTERHEAD]

Title of the study: ***Perceived Roles and Experiences of Social Scientists in Medical Education Research***

Researcher	***Supervisor***
Nia Kang	Angus McMurtry
M.A.(Ed) Candidate	Associate Professor
Faculty of Education	Faculty of Education
University of Ottawa	University of Ottawa
E-mail :	E-mail :

Invitation to Participate: I have been invited to participate in a research project conducted by Ms. Nia Kang under the supervision of Professor Angus McMurtry as part of her master's thesis project at the University of Ottawa.

Purpose of the Study: The aim of the study is to explore the experiences of social scientists entering and developing a career within the field of medical education research (MER) in Canada. Ultimately, the findings of this study will enrich the understanding of the different facets of social scientists' journeys into MER (i.e., perceived identity, barriers).

Participation: My participation will consist of participating in a one-on-one interview with Ms. Kang, where I will be invited to share my experience developing my career in MER. The

interview will take approximately 1 hour and will take place virtually on *Zoom* at a time agreed upon by myself and the researcher. The session will be audio-recorded.

Assessment of Risks: My participation in this study entails no foreseeable risks. However, if I experience any discomfort during the interview, I have received assurance from the researcher that every effort will be made to minimize this discomfort. I may choose to terminate and withdraw from the interview at any time.

Benefits: By sharing my experience within MER, I will be contributing to a more comprehensive understanding of social scientists' career evolutions within MER.

Confidentiality and Privacy: I have received assurance from the researcher that the information I share will remain strictly confidential, and that my identity will be protected at all times. I understand that the contents will be used only for the purposes of this research project and that the audio recording will be stored in a secure manner on the researcher's password-protected laptop. The contents will be kept for 6 months following the researcher's completion of her studies in April 2022. In October 2022, all electronic data will be deleted from storage.

Voluntary Participation: I am under no obligation to participate in this study. If I choose to participate, I can withdraw from the study at any time and/or refuse to answer any questions, without suffering from any negative consequences. If I choose to withdraw, all data gathered until the time of the withdrawal will be promptly removed from the dataset and not used in the study.

If I have any questions about the study, I may contact the researcher or their supervisor. If I have any questions regarding the ethical conduct of this study, I may contact the Office of Research Ethics and Integrity via email (ethics@uottawa.ca) or telephone (613-562-5387).

It is recommended that I save a copy of this consent form for my records.

Acceptance: By signing my name below, I agree to participate in this research study.

Participant's name: _____ Date: _____

Participant's signature: _____ Date: _____

Researcher's signature: _____ Date: _____

Appendix C: Interview Guide

Good afternoon, _____, thank you again for agreeing to participate in this interview. Whatever you have to share with me today will be a valuable addition to the discussion on the topic of my master's thesis, *Perceived Roles and Experiences of Social Scientists in MER*.

A) Consent:

Before we get started with this interview, I was wondering if you are alright with having this Zoom meeting recorded for me to transcribe later. Unfortunately, Zoom only allows me to take video recordings of the entire window. If you are uncomfortable with a video recording you may turn your video off at any time. [If yes, start recording. If no, acknowledge their non-consent proceed the interview without recording.]

- *Upon obtaining pre-recording verbal consent and assuming that the participant has had a chance to read over the consent form shared in the pre-interview email*: To give you a rundown of how the recorded data will be managed, I will be deleting the video recording immediately once the recorded files start downloading following the end of this Zoom session. I will then save the audio recording on my password-protected laptop. This information will only be used for the purposes of my thesis, and I will be storing this data for no longer than five years. When transcribing your story, I will also be using pseudonyms to ensure confidentiality. Do I have your permission to record this interview?

B) Background:

I noticed from your CV that... [reflect on an aspect of the participant's curriculum vitae that indicates their social science background.]

1. What drew you to MER?

Prompts

- Was the transition intentional or non-intentional?
- Were you looking for an opportunity within MER when you entered the field?

C) Career progression:

2. What has changed throughout your career progression in MER?

Prompts

- Has the way you conduct research changed at all?
- Has there been change in the way you perceive your identity or role in MER?
- How has your perception of your identity as a social scientists changed throughout your career in MER?

3. What are some of the challenges you have encountered in your MER journey as a social scientist?

Prompts

- Do you think these challenges are associated with the fact that you are a social scientist in training? In other words, are they different from what your clinical or biomedical colleague may face in their research practice?
- How do you navigate these challenges?
- Do you feel as though these challenges act as a burden in your academic career?
- How have these challenges evolved throughout your career? [If the participant is a senior researcher: How does it compare from early career to now, when you are more experienced?]

- Do you feel challenged from your interaction with your colleagues, or by your research?

4. On a brighter note, what do you find rewarding about being a social scientist in MER?

Prompts

- Do you think these rewards are associated with the fact that you are a social scientist in training?
- Do you feel as though these rewards make up for the challenges you face as a social science researcher navigating the realm of MER?
- Do you feel rewarded from your interaction with your colleagues, or by your research?

5. How would you describe your career progression within MER in one word or a phrase?
6. Do you think you would have had a more – or less – productive or fulfilling career working within your original discipline of _____?

Prompt

- If you could go back in time and have a choice to pursue an academic career in your home discipline, would you take it?

Appendix D: Ethics Approval Notice

05/11/2021

Université d'Ottawa
Bureau d'éthique et d'intégrité de la recherche

University of Ottawa
Office of Research Ethics and Integrity

CERTIFICAT D'APPROBATION ÉTHIQUE | CERTIFICATE OF ETHICS APPROVAL

Numéro du dossier / Ethics File Number	S-10-21-7443
Titre du projet / Project Title	Perceived roles and experiences of social scientists in medical education research
Type de projet / Project Type	Thèse de maîtrise / Master's thesis
Statut du projet / Project Status	Approuvé / Approved
Date d'approbation (jj/mm/aaaa) / Approval Date (dd/mm/yyyy)	05/11/2021
Date d'expiration (jj/mm/aaaa) / Expiry Date (dd/mm/yyyy)	04/11/2022

Équipe de recherche / Research Team

Chercheur / Researcher	Affiliation	Role
Nia KANG	Faculté d'éducation / Faculty of Education	Chercheur Principal / Principal Investigator
Angus MCMURTRY	Faculté d'éducation / Faculty of Education	Superviseur / Supervisor

Conditions spéciales ou commentaires / Special conditions or comments

Appendix E: Narrative Stories

Participant 1 (P1)

My first participant, P1, an associate professor who comes from a background of sociology, first entered the field of MER during his search for a faculty position. P1 had not intended to enter the field of MER but applied for the job simply because it was available. He said that "at that time, medical education was absolutely not what [he] wanted, [he] did not know what that was." Although he had never meant to pursue a career in MER, he accepted the job offer and has been in the field since.

Changes. When asked whether his research methodologies changed in his journey in MER, he responded that:

> for social scientists like me who wanted to… who *believed* it is important to stay a social scientist, a sociologist, [the institutionalization] meant creating some norms, some expectations, a reward system, that is not good for someone like me. It is impossible for a sociologist or an anthropologist to remain a social scientist in that system anymore. [My MER unit] will not hire someone like me – and now, I will not even apply to that job.

Identity. As mentioned in the above quote, P1 was always adamant on his identity as a social scientist, even if it conflicted with the development – and institutionalization – of the MER field.

Challenges. Despite the institutionalization and development of graduate programs, which indicate an advancement of the field, P1 had concerns that the field was becoming very "insular." That is, he felt that the students who graduate from these medical education programs were only exposed to knowledge produced within the context of MER and not necessarily the broader disciplines such as sociology or anthropology. Furthermore, he felt that his potential as a

researcher was stunted as his readership was limited to those in MER, mainly clinicians who often do not share the social science perspective.

According to P1, MER "has become a field *for* the doctors," with clinicians holding the decision-making power within the medical faculties in which MER units belong to. He felt that the departmental standards that have been put in place throughout the institutionalization of MER were "cultural barriers that cement into structure," involving "barriers for social scientists to remain a social scientist according to what it is to be a social scientist outside medicine." In this regard, he referred to the lack of opportunities to publish in social science journals and questioned how one could truly remain a social scientist without publishing in them. Barriers he identified included the limited capacity to publish in non-medical education (e.g., sociology) journals or books, conforming to expectations on the yearly number of publications, and the lack of recognition for non-clinical or non-medical education research conferences.

Although P1's perceived identity as a social scientist has never faltered, he acknowledged that he was "paying the price" by failing to reach his goal to become a full professor. He attributed this to his dedication to social science and stated that "there is no excellent or cutting-edge social science to publish in medical education journals," one of the reasons being that "science is categorized into quantitative research and qualitative research." This simplistic and dichotomous view of research within MER as fitting neatly within quantitative and qualitative categories has worked to his disadvantage as "sociologists use all kinds of methods to collect data." He expressed frustrations in that he has had to "use a lot of contortions to try and fit into the qualitative research box," then accommodating his work to conform to labels such as 'constructivist' or 'positivist'. Furthermore, to "convince the reviewer and the editor that my research was good and was meeting the criteria," also requires additional effort. P1 viewed such

medical education journals as "not really interdisciplinary," as pure social scientists such as anthropologists or sociologists would not publish in them. His biggest frustrations regarding the journals were best summarized by the following statement:

> It's not me not fitting with quantitative, it's me, as a sociologist, not fitting with the *two* categories. I don't define myself as a qualitative researcher, I don't define myself as a quantitative researcher. I have a *disciplinary perspective*. I'm not saying it's good or not good. I'm just saying that I have a perspective. Like anthropologists have a perspective. Like [people] in political science have a perspective.

He blamed the one-size-fits-all evaluation criteria used to assess productivity in MER as the main source of the issue, that "if a centre hires a social scientist of any kind, the department or the centre should not expect that person to look like a clinician doing medical education research, publishing in clinical journals or even publishing in MER journals." Instead, he felt that his integrity as a social science researcher should be maintained through contributions to social science literature.

Promotion. Perhaps more specific to the MER unit he belongs in, P1 noted as a substantial barrier to his career the lack of tenure from being affiliated to a medical faculty. Finding it "insulting" that he has had to reapply to his job every three years, he attributed this once again to a system that only considered clinicians, who do not necessarily need tenure alongside their clinical practice. However, for a full-time scholar like P1, the lack of tenure has led to the absence of "total academic freedom because if you don't have tenure, there are things that you better not say." He mentioned the presence of censorship in that regard, albeit often unconscious or indirect.

Rewards. Despite the frustrations of navigating MER as a social scientist, P1 found

it rewarding to meet and teach students. As most students in medical education are clinicians, he said that "they bring to me their knowledge of health professions that I don't have, and I give them my knowledge of sociology. I know that they enjoy that, and I enjoy that." He identified as "big rewards" the interesting conversations they would have, sometimes even going overtime in class.

Comparison to a Career in Home Discipline. P1 felt that if he had stayed in his original discipline of sociology, his career would have been "more satisfying for sure." He elaborated on how his work had won an award in the sociology community, but that "in medical education, it is worth zero," despite recognition "from the experts". He believed that success in MER as a social scientist involves "a lot of compromise" and that "it's very hard at one point to admit that your successes are based on a lot of compromises you [made]."

One-Word Synopsis. P1 chose the word *failure* to describe his career progression in MER. His reasoning was this:

> I will never become full professor because I have decided to stay a social scientist. And to become full professor I would have to… [have] hundreds of publications with five names, six names [and be] in the middle somewhere. Means that [I] did nothing. That's the way to be in this field. This is the clinical way of publication. So yeah, failure.

Participant 2: P2

P2 is a Professor Emeritus who comes from a background of psychology. He described his journey into MER as "the old, 'you had me at hello'," as a series of opportunities led to his membership in a MER unit. He was offered by a clinician colleague to join her in the establishment of a MER unit based on his previous work in pioneering educational scholarship

within the university and accepted the offer as MER "married both – well, many – of [his] interests." He summarized his journey as such:

> an opportunity that came along that I wasn't necessarily even looking for, but it was perfectly aligned with my interests. So you've got this multi-dimensional approach to one's career and an opportunity that kind of fell onto my desk at the same time. […] It's tremendously fortunate.

Changes. P2 was one of two participants (out of six) who had experienced a "significant shift" in his research methodology following his transition into MER. As a previously self-identified empiricist, he described his shift as follows:

> I had my eyes opened much more thoroughly to the potential of qualitative research and research that didn't just have an experimental group and a control group or random assignment to one or the other, et cetera… And so it became clear to me that the number of questions that I wanted to answer, whether that may be in medical education research or the scholarship of teaching and learning generally, could not be adequately answered through numbers. […] I can still collect numbers and I still love numbers, but for the vast majority of my [MER] work, we were doing interviews [and] qualitative analysis. […] Your question about identity is a very astute one, because there is a shift there – [not just] away from empirical approaches to qualitative approaches, but an *expansion* from purely quantitative – mostly quantitative – work to quantitative and qualitative mixed methods work with a greater emphasis on qualitative approaches now.

Identity. Even though he has willingly undergone an expansion of his research methodology, P2 stated that his perceived identity as a social scientist "remained remarkably stable". He recognized that his social science identity could be "challenged as being limiting"

given the rather narrow reach and scope of knowledge produced in MER. Nevertheless, P2's beliefs regarding his identity were firm:

> To say I'm something else would be a lie. While my methods could change, and my understanding of how research works could change and expand, I'm a social scientist. That's how I understand the world. To pretend that I'm understanding the world from other perspectives is to pretend I'm somebody else.

Challenges. P2 identified several challenges in navigating the realm of MER as a social scientist. Although he himself had never doubted his identity as a social scientist, he said that one big challenge is "to have other people understand that identity." In fact, throughout his career in MER, he was "forever trying to educate people on who [he] was and what [he] did," having to label his curriculum vitae in an attempt to explain and justify to his colleagues the multifocal nature of his research. His curriculum vitae "had to teach people about [his] career as much as describe it," as many of his clinical and biomedical colleagues whose work was not situated in an "applied field" like MER had a hard time understanding why his work stretched across multiple domains and topics. Due to the applied and multifocal nature of his research program, he reflected that "from a very pragmatic point, becoming a full professor was an adventure for me, as it is for a lot of people who go down the path." Nevertheless, he seemed proud of his career and described his additional work justifying and translating his work as an essential part of his job as a medical education researcher bridging the gap between disciplines. He described the applied nature of MER and his responsibility as a researcher producing knowledge in the field as follows:

> I better recognize my work is going to be applied and that means if I don't understand the people who are meant to be translating that work into practice, if I couldn't understand their realities and their daily lives, that was pompous, ill-directed and useless.

He admitted that "it gets tiring," but that "for the most part, it's pretty understandable that [his colleagues] have those questions." Even though the additional work seemed burdensome at times, he also felt motivated by "the fact that [his colleagues] care to want to know what [he was] doing in [MER]."

He pointed out that:

> you're not working with everyone when you're in [MER]. You're working with a subset of colleagues who have the kind of patience, who have the kind of open mind, who either immediately see value in various forms of [MER] or simply have questions they couldn't answer through their own methods.

Having this mindset has helped P2 have a more positive outlook on the challenges he faced in MER. He shared that he has learned to be grateful of individuals who are "willing to have conversations in other languages," to understand a different perspective, describing such individuals as "golden when it comes to the mitigating of the problems associated with the climb into where you want to be in [MER] and the impact you want to have."

Promotion. With regards to the metrics of productivity used in MER to determine one's eligibility for promotion, he emphasized differences in impact. For instance, medical departments "would want to know the impact factor of journals [when] actually, the most impactful thing [he had] written was a chapter in a book." P2 elaborated on this discrepancy by alluding to an interaction with one of his colleagues who was a pediatrician and a full professor publishing high-impact papers, who realized one day that "he was having virtually no impact on

the phenomenon." P2 believed that such "sense of impact" is a critical factor in "convincing people that [social scientists'] careers actually amounted to something," that is not necessarily viewed the same way across disciplines and often prompts "conversations that may take a little while to sort out."

Rewards. P2 felt that the biggest reward from the expansion of his work into more applied areas – especially the healthcare context – came from his interprofessional interactions. He said that "[his] sense of respect for the practitioners with whom [he's] worked is something [he] could hardly put into words." Although the additional work P2 had had to put in to explain and justify his research foci to his clinical colleagues or department can be tiring, he "never ultimately tired of having that extra layer of work," because of "some of the people whom [he] was fortunate enough to work beside."

Comparison to a Career in Home Discipline. When asked whether he would have a more – or less – productive career in his home discipline of psychology, P2 responded, "that's the easiest question you've asked. For me there is no question that my career became more fulfilling and rewarding as I expanded into more applied areas and especially as I began to work in a healthcare context." He felt that "the big 'so what'" addressed by qualitative MER was something that was not so explicitly discussed in the broader social science discipline.

One-Word Synopsis. P2 described his career in MER as *opportunism*. He realized throughout the progression of his career that the way individuals fashion their careers could be broadly categorized into two approaches – one that is highly strategic and another that is "much more opportunistic." He described himself as the latter type:

> If I looked to the milestones of my career, most of them occurred due to two things – one, remarkably good fortune that it came along, and two, the sense to know that it was an

> opportunity. And maybe three, having an idea of what to do to actually bring it to some kind of fruition. […] One person's sidetrack is another person's excitement and great – as I would call it – opportunity.

Participant 3: P3

P3 is an associate professor who comes from a background of sociology. She described her path into MER as "one of falling into things by accident." She had taken a sociology course in university, which "opened [her] eyes to a whole new world," inspiring her to pursue training as a medical sociologist. She was first introduced to the field of MER as an education scientist at a hospital. At this point, she was not affiliated with an MER unit, but wanted one as she "wanted support to say no, that's not what success looks like in medical education or health professions education." Her journey into an MER unit was not a straightforward one, even facing rejection as she was not deemed experienced enough – she described this experience as "devastating". Fortunately, P3 was able to later reconnect with the MER unit and has been affiliated as a medical education researcher ever since.

Changes. Once P3 joined the MER community as an education scientist, she found that the way her work was situated was completely different and had to get accustomed to presenting her work in "2500 words or less," to which she exclaimed – "*explaining* qualitative research takes 2500 words!"

Identity. When asked about her identity, P3 described her experience as follows:

> The choice that you make when you leave sociology and become a social scientist in [MER]… You are no longer a sociologist. The work that I do in a hospital is not considered sociological in the depth and breadth of sociology that my sociology colleagues bring to theory. I don't think I contribute to theory nearly to the depth and

> breadth as my colleagues. And you're losing your identity when you leave your home discipline to go into this field of HPE.

She described the way to write in under medical standards as "thoughtful but applied, thoughtful in an applied way," and felt that due to the changes her writing and research had undergone in MER, she could no longer go back to her home discipline of sociology even if an opportunity presented itself.

Challenges. P3 identified as one of the challenges of pursuing a career in MER as having to justify in lower impact social science journals. She explained how her medical department expected her to publish in higher-impact journals, or otherwise explain why her choice in publishing in a lower impact journal on her curriculum vitae. In having to justify her selected readership, she described how "there's always a justification – you're always justifying why you need to do the things you do." She attributed this challenge to her position as a social scientist, as "[she is] required to justify the things [she does], while others don't."

Another major challenge P3 identified was situated in the context of collaboration:

> We talk about collaboration, but academically we don't recognize it. A lot of times when I collaborate, I'm not first or last, I'm in the middle. In international collaborations, I don't want to perpetuate this inequity with people from high-income countries always getting first or last author. […] I purposely try and put myself in the middle.

In navigating such challenges, she also drew upon the shortfalls of the existing (organizational) measures of academic productivity, excellence, and the legitimacy of research. To truly support interdisciplinarity within the field, she believes that there is a need for weighted equivalency in value in research, regardless of the amount of funding that is granted to a researcher:

> If I get a grant – an educational grant – for ten thousand dollars and I write papers out of that and I have students and I have people presenting it across the world at conferences, that should be just as valid and important as my colleague who got a million dollars for his PET scan project. […] I feel like I do a whole lot more with a whole lot less, and that's harder to do.

Promotion. With regards to academic promotion, P3 expressed the need to be strategic. She said that the factors that impact promotion – like first and last authorship – are "always in the back of [her] head." She described the need to think about numbers (in terms of productivity) as the point at which barriers emerged and identified it as "a systems issue":

> If we say we value collaboration, then [that] has to be measured as well. But we don't. I don't think we have to burn the house down, but if we truly work towards our values and we don't [count collaboration], then there's no point in saying that it's a value. Don't pretend that it's a value. That's the part that gets me – the hidden curriculum.

Rewards. Despite the challenges, P3 described her career in MER as "amazing." She especially appreciated the "opportunity to be exposed to so many different disciplines, different professionals, different types of research, different opportunities." While her work had diversified, she felt like she had "still been able to carve out a theme," developing the "cognitive flexibility" to navigate different theories in a wide range of contexts. She said that her appointment at her MER unit helped as "support from fellow social scientists [was] available."

Comparison to a Career in Home Discipline. When asked about whether her career progression would have been more fulfilling or easier to navigate in her home discipline of sociology, P3 pondered on whether she "would have taught more" or be "writing more books," but said she would not know for certain as she "hasn't been down that path." Ultimately, she said

that she has "a lot of fun" in MER and "wouldn't trade it for the world," given the opportunities she had come across as a medical education researcher to travel.

One-Word Synopsis. When asked to describe her career progression in MER in one word, she chose the word "boundary-breaking," reflecting on the initial years of her career where she had to advocate for the recognition of education research. She reasoned as such:

> Previous medical institutions didn't have quite a knowledge of qualitative research. Or if education research really is research. In the beginning of my career, I was trying to apply to REB for research and they were like, this isn't research – they wouldn't even look at it. […] I was the education person, so I felt like it was a lot of boundary-breaking. We forged a path where people now seek us, while before, they just didn't understand us or think that we were legitimate research.

She described advocacy as "a lot of work" that can be frustrating, but also "fun, especially when you get on the other side." When faced with purely biomedical grant opportunities, she and her colleagues would "*en masse*, submit everything [to] bombard them as much as [they could] with [their] work, because they have to recognize it." She reflected on these moments as follows:

> People wouldn't know what to do with it. I would submit it knowing it would get rejected to make a point that our work is here, and if you don't understand it then you need to get external examiners to review this kind of research because it is here. […] I'd put them on the spot like, well, if you don't have expertise then you should be bringing in expertise. And they did. And things started to shift. […] I did a lot of stuff that was just about breaking through, or having people go, 'what is this and what do we do it with it?' – and

> if you do that enough times, they have to pay attention. […] People see the work and people get it.

Participant 4: P4

P4 is an assistant professor from a sociology background who has "always been interested in health issues." He was first introduced to MER through a connection made at a conference. He compared the opportunity to join MER to a "lottery" which triggered his interest, after which he gradually worked towards transitioning into the field.

Changes. P4 described himself "as one of the lucky ones who is embedded in a department of medical education […] with a traditional academic structure" (tenure-track). He felt that he could continue to develop his line of research and pursue his own interests because he was not faced with the constraints other social scientists face in other institutions who may not have guaranteed tenure. With regards to his research, he did not face any dramatic changes. What did change for him, however, was "how to do the translation," which was "the part [he] wasn't prepared to do," as he was accepted into the MER unit "as a pure social scientist […], not as a medical education person."

Identity. When asked about his identity as a social scientist, P4 was unwavering about his positionality as a sociologist. Regarding his profession, he claimed, "I don't want to make myself fit by force. I don't want that. I'd rather look for a different place than make myself fit in what I don't." Despite the challenges of navigating the realm of MER as a social scientist – a "stranger" as he described – he made it clear that he doesn't "want to produce an image or an idea of me that is divorced from reality. The reality is what I actually do and can bring to the table." While addressing the tenure-evaluation process, he explained:

> I want to be useful for sure, and I am convinced that properly understood social sciences can be incredibly useful in MER. And I believe that if people take medical competencies seriously – if they *really* take them seriously – […] they have to realize that a very slim part of that is technical and medical knowledge. A lot of that has to do with understanding how institutions work, how culture works, how the economy works, [etc.]. They need sociologists. They need anthropologists. They need political scientists. They need these people if they take this seriously. So, if they end up telling me they don't need me, that's fine, but for me, that means they don't take this competency seriously. […] When you are talking about medical advocacy, you're talking about a sociopolitical process. I am a medical sociologist that understands political sciences very well, because that is a part of my training. I am a sociologist that understands how human interactions and values change over time. And I can help you understand that. If you care about those things, you will use me. You will see how my work contributes to that.

Challenges. P4 identified as the greatest challenge in MER the need to translate his work for clinician or biomedical colleagues. He explained how it "impacts [his] productivity, because it takes a tremendous, tremendous amount of time […] to build partnerships because the field thrives with partnerships." When explaining his work to clinical colleagues, he often finds the need to explain both what social science research entails as well as what constitutes a social science epistemology. Given the abundance of medical education researchers he had encountered who "self-identify themselves as a social scientist when their perspectives are only situated within medicine," he regarded the unclear distinction on epistemological perspectives as a challenge:

> There are many people in the field who describe themselves as social scientists. I'm not debating whether or not they are, but they are more by trade than by training. It's very different if you are a medical doctor that happens to have a master's in education – you were a medical doctor throughout the process of getting a master's in medical education. And you were a doctor even when you went into the PhD. […] That gives you a very different vision of the world. It's difficult for people to grasp the fact that if you're trained in an area i.e., sociology, it does not automatically make you a sociologist unless you bring that perspective to the table. You could be trained in a research methodology but what makes you a sociologist versus a clinician who uses social science research methods depends on how you perceive and understand the issue at hand – that's not good or bad.

Promotion. In terms of productivity, P4 admitted that his "everyday interactions are very difficult […] because the gap is profound." He described difficulties in translating and situating his work within MER through "those interprofessional interactions," while "hav[ing his] hands in three thousand papers at the same time," to keep up with the demands of his department. He publishes mostly in "very specialized, theoretical sociological journals," which he "hope[s] is read fairly," considering his work will be reviewed by clinician researchers for tenure promotion. He described himself as feeling "a little bit lost" when asked about undergoing evaluation for promotion, as he found it challenging to navigate standards set up for methodologists when he himself is more interested in epistemological discussions that are less methodological. He expressed concern in being "compared to colleagues in biomedicine who have hundreds of publications, while having to justify why [he] "only ha[s] ten – that's a very important question for you to contextualize – are we comparing apples to apples?"

Rewards. P4 enjoys the intellectual challenge of "playing th[e] role of a stranger," in MER, doing applied work that takes sociological concepts "beyond the academic sphere." He reasoned that:

> We have these concepts that, when they hit the road, they do things. When you are a sociologist in sociology, you never see it. You are never forced to see it. When you are a sociologist outside of sociology, you are forced to see it. And we grapple with it. And I love that.

Comparison to a Career in Home Discipline. When asked whether he would have had a more or less productive or fulfilling career in sociology, he responded, "oh no, there is no way. I think that this is way more interesting. I would have been bored out of my mind agreeing with everybody [in a traditional sociology department]."

One-Word Synopsis. P4 chose the word, "curiosity," when asked to describe his career progression in MER in one word. Indeed, curiosity fueled his passions. While he enjoyed research, for P4, the idea of progressing his academic career motivated him less than how much more he felt he had to learn and contribute to the field. He explained, "I went into it due to curiosity. I'm still very curious. Curiosity is a value for me – if curiosity disappears for me, I have to look at something else to do. That's the bottom line."

Participant 5: P5

P5 is an associate professor with a background in literacy. Prior to joining MER, she had already gained practical experience in adult education and had a strong foundation in health education, health literacy, and sociocultural theories. She described her path into MER as "sort of serendipitous."

Changes. P5 did not undergo any major changes in methodology or identity as a social scientist throughout her career in MER. She believed that "social scientists have quite a dominant presence in [MER]," and felt that she "joined a very strong community of researchers," where a "strong foundation was already laid." She claimed that in MER, "qualitative research isn't marginalized anymore – it could even be one of the more dominant forms of research you see in [MER]." As a matter of fact, she believed the notion that social science was not valued in MER was outdated:

> Nowadays, you can't even get a paper published in a medical education, or health professions education journal without a strong presence of theory traced throughout the whole paper. It would be pretty outdated to say that theory is uncomfortable for people in the field. If you're not using theory, your work wouldn't even stand a chance in going up for review.

Identity. P5 believed that drawing boundaries between medical science researchers and social science researchers in MER was, once again, an "outdated concept." Rather, she described how she doesn't "even know now what you would call a medical educational researcher because everyone has such broad and dynamic backgrounds." Personally, she had not "had to make a case for why the kind of research [she does] is important in [MER]" – her role as a medical education researcher is to "join teams [and] introduce and work with different [social] theoretical perspectives[,] moving across a lot of different landscapes and topics in different areas." She regarded the field as "already interprofessional," where the "shared content is medical education or health professions education, but the team is always very diverse in terms of the background people bring."

Challenges. P5 identified as one challenge having to cater to two different sets of expectations between her clinical department and the MER unit – "a systems problem where the goal for support in the [MER unit] juxtaposes against a university's expectation for individual achievement," especially in the beginning of her career:

> I was just figuring out how to strike that balance and make everyone happy without overextending myself. […] I've had to sort of make my department happy, and the [MER unit] happy. And of course, my department is a little more traditional when it comes to looking for grants. And they go by, you know, that standard criteria for tenure promotion, which is of course important, but then [the MER unit] is more about collaboration.

After the first couple of years of her academic career, she "could turn more to mentorship," which enabled her to "have quite a portfolio of productivity," which was recognized by both her MER unit and clinical department.

Promotion. With regards to promotion, P5 learned to be "strategic in terms of writing up grants that [she] knew would be compelling and fundable and of interest to perhaps a multidisciplinary audience, but also that would sustain [her] interest." She admitted that "medical education is underfunded," and that "it can be challenging for new researchers to outsmart these systems and figure out how to get funding." She believed that "a lot of medical education grants wouldn't be enough […] to get tenure promotion at [a university]," and that although it "is challenging, you have to work within the system to find safety, which is to get promoted."

One strategy she used to improve her productivity for promotion was "learning to write compelling scientific articles," which helped her publish. Although she "prefer[s] writing in a more creative way," she learned to "adapt to communicate to the [community she is in]." She found that "as you become more senior and your voice gets more recognized, you can insert

more – or play around more – with your way of talking." She also explained that her broad collaboration has given her "quite a strong portfolio in terms of publication records, almost as strong as someone who brings in millions of dollars of professional funding and runs big labs."

Rewards. P5 finds most rewarding about her job in MER the process of introducing social theoretical perspectives into clinical problems. She has found MER to be a "very interesting field that is open to new ideas and hungry for learning about different ways of seeing an issue or a problem." Although it can be challenging to explain theory to her clinical colleagues, she understands that "they're not trained in theory […] in general, people seem willing to learn and are very, very intelligent." Throughout her career, she had engaged in a "lot of mentoring and supporting others," which has "been an amazing experience for [her] to feel like [she] can help a lot of different kinds of people."

Comparison to a Career in Home Discipline. She believed that her research "might have been more narrow [in literacy]." She "didn't appreciate how limiting that stance is" in literacy and found it fascinating to see how "cognitivists and social theorists and so on interact and expand on how each group or individuals are thinking about a problem." She described the applied nature of MER it as "freer and more enriching."

One-Word Synopsis. P5 described her career in MER as "fascinating":

> The thing I like about it is that stability. […] You're never expected to sit in a very narrow program of research and only do that. I've been encouraged to dance around many different problems and phenomena that interest me, and there's so many in the context of medical education and clinical practice. So I've had a tremendous amount of flexibility to choose projects that interest me. […] I've never felt bored, I've never felt pigeon-holed, I always just feel like I'm growing and that my ideas are always of interest

> to others and it's just been extremely fascinating. […] I feel like I'm where I'm meant to be. It was good fortune, and everything lined up and it's just been an amazing journey, really."

Participant 6: P6

P6 is an associate professor who had training in the sociology of higher education, as well as medical education. She joined the MER community as "the job came up in MER first […] and [she] was not going to turn down an academic position." She also liked the MER community, where she could get involved with "the work of bringing in new ideas to a field that might not actually know about them," and "watching the decision-making unfold and actually being a part of the decision-making circle."

Changes. P6 did not experience changes in her research methodology when she directed her career towards MER. Nevertheless, she did struggle navigating the difference in culture between medical and social science research, which initially made her feel as though she was "taking the harder path."

Identity. Perhaps as a product of her previous research interests, P6 was expectant of the tensions she would feel when joining MER as a social scientist. Instead, she regarded them "as inevitable and requiring a lot of work on [her] part to negotiate." Even as her work in MER became more established, the issue of identity continued to emerge through feedback she would receive from her clinical department (e.g., that her work is "all over the place"). Despite the lack of understanding of her work in some of her immediate surroundings, however, P6 "was still getting a lot of validation," through the attention her work was receiving, which helped her to become "very settled by [her] choice" to pursue MER.

Challenges. One challenge P6 faced in her journey into MER was the lack of knowledge regarding social science research among her clinical colleagues. She explained that "you end up doing a lot of service work in order to ensure that you have a better playing field for your own work and the work of your students."

Another challenge she identified involved the conflicting opinions she received between her MER unit and her department:

> Tons of opinions – good-intended opinions, but tons of opinions. You are also drowning in markers of rigour and symbolic representations of success – material ones too – but that symbolic piece that people want to very quickly show, like do you have the right kind of awards, do you have the right kind of publications, do you have publications, are you attracting the right kind of students… Those things, depending on who you're talking to would [differ] like, 'wow, you're doing great,' while other people would say, 'well, you could be doing a little bit better, you could have published in x, y, and z.' You know, you have to pick your battles in the end. […] Can you imagine hearing half the time that you're doing a terrible job and half of the time that you're doing okay, and being stuck in the middle? Like whoa okay, which one is it now, right?

She described these opinions as "consuming to navigate as a novice researcher," and that it felt "a little bit [like] being pulled through different waves and opportunities, but not being in control."

Promotion. In terms of promotion, P6 agreed that in doing the additional work educating and advocating for social science research to be understood by the field, "knowing how to document [her efforts], knowing how to get credit for it so it's not invisible work, […] developing appropriate markers for judging the quality [and impact] of that [work]," became

critical. Such efforts "evolved hand in hand with the growth of the [MER unit], as "developing that international reputation as someone who has something to say of relevance […] still matter[ed] for promotion." Over the years, she has learned to take opportunities as they come to build her career and advance the field of MER for social scientists:

> In the beginning, when I started, there was less interest in tracking the effects [of curriculum change]. Now, my work has much more emphasis. It just goes in waves, and you need to know how to read the waves. And that's what I found very early on in my career. [I] followed the waves, wherever the opportunities were. I don't think I ever said 'no' to anything. I'm just starting to say 'no' now. But anything that seemed like an opportunity, I said yes to. So that's work. That's a lot of work.

In strategizing and making "deliberate choice[s]" for her work to be better received in MER (e.g., using less theoretical language and making sure to demonstrate the *impact* of her work in various ways), P6 faced criticism that her work was "watered down". As she became more experienced, however, she has now come to realize that "the amount of 'water' [she] has had to put into [her] writing in the beginning of [her] career has decreased. And it continues to decrease," as she has developed her research program and her reputation as a researcher.

Rewards. What P6 found the most rewarding throughout her career in MER was "making headways" in the field and knowing "that [she] can make helpful insertions to a lot of [her department's] educational programming,":

> We have made such progress in consolidating to outside stakeholders what it means to be an education scientist. And I've benefitted so much from the superstars in our field – especially around qualitative work – who opened up the field. I am a beneficiary of that. […] We have the structures in place. We have people embedded in different locations

> across the system with different leadership positions. We have the [MER unit], we now have a research institute that is HPE-focused. So these things validate, right? […] I think that anyone who has put effort into breaking into medical education has to give back by opening doors and creating opportunities for others and I see that as a responsibility just as other have done for me.

Another factor that helped to keep P6 motivated and feel as though her efforts were worthwhile was the support she has received from the MER community, whether it was within her MER unit or outside:

> The [MER community] is immensely supportive. First of all, there's a critical mass of individuals who – maybe they're not all social scientists – are all coming from different disciplines, and we are friendly to each other, collegial. And I wasn't going through it alone and we were helping each other, too. We were reinforcing each other's work by keeping each other abreast of opportunities. […] We don't try to out-compete each other. We want to bring everyone up together.

Comparison to a Career in Home Discipline. Compared to what the career she would have pursued in social science research, P6 felt that she would "probably be writing more books," and work with more graduate students based on what she has observed from her social science colleagues. Nevertheless, she would "never know what it would have been like on the other side." Fortunately, she "feel[s] valued by [her] department and by [her MER unit]," which has been reassuring as she could "put all [her] energy to professionalize in [MER]," and push for "what the field needs," as opposed to feeling like she was "compromis[ing] by doing bad work."

One-Word Synopsis. When asked to choose one word to describe her career in MER, P6 chose the word, "fresh":

What it felt to me, was that it was fresh. The thing that makes me happy is the capacity to feel fresh and new because there is so much more that we can be doing, there are so many openings in the field. So being able to contribute in different ways, that's very exciting to me.

Appendix F: Demographical Characteristics

Participant Characteristics

Gender	Women	3
	Men	3
Academic Rank	Professor Emeritus	1
	Associate Professor	4
	Assistant Professor	1
Years on Faculty	< 5 years	1
	5-10 years	2
	> 10 years	3
	Maximum	20 years
	Minimum	3 years
Years of Appointment (Scientist) at MER Unit	< 5 years	2
	5-10 years	2
	> 10 tears	2
	Maximum	20 years
	Minimum	3 years

III. Conclusion

This final chapter will summarize the findings of my study, situating it in a set of broader implications for the field of MER. Here, I will reflect on the lessons learned throughout this study pertaining to my methodology and theoretical frameworks. Lastly, I conclude my thesis with a discussion of potential topics for future exploration on the career progression of non-clinicians in MER.

Summary

My study aimed to bring to light the experiences of social scientists navigating a career in MER to fill a gap in knowledge regarding the perspectives of non-clinician medical education researchers in MER units, who were hired as faculty members within medical departments. The participants' narratives revealed that the presence of MER units have helped social scientists feel supported, although systematic challenges such as low funding and productivity measures geared for medical science researchers, remained. Furthermore, social scientists identified interdisciplinary and interprofessional interactions as both a challenge that impacted their productivity and also a reward that led to institutional changes and kept them motivated. Social scientists seemed to perceive their experiences as more positive when they believed their work influenced their department to become more interdisciplinary, although not everyone appreciated the amount of advocacy they had to partake in to preserve their social science identity.

Implications

Practical Implications

Overall, my findings suggest the need for more interprofessional collaborations within and outside of MER to support systematic change in favour of an inclusive research environment. Actively involving social scientists in leadership and decision-making roles within

medical departments (beyond their MER units) may be one practical step to mitigate the issues pertaining to measures of productivity.

As according to my findings, many social scientists in MER are willing to spend more time and effort on advocating and translating their research if the additional work is met with institutional change. Meanwhile, hidden or invisible work is met with feelings of frustration. Given that the organizational standards on academic productivity, excellence, and the legitimacy of research have mostly been generated by clinicians who assume the leadership roles in the field, granting decision-making power for non-clinician medical education researchers will facilitate the institutional changes needed to measure productivity fairly across disciplines.

Moreover, my findings may serve as a call for action for medical departments to implement standards to recognize the additional efforts medical education researchers – particularly the non-clinicians – are putting into knowledge translation and mentorship. These standards should aim to redefine impact. In an applied field of research like MER, which thrives on interdisciplinary and interprofessional collaboration, there are many more considerations that must be given to a researcher's impact or productivity than the traditional reductionist approach involving number of publications, citations, funding, et cetera. Only when such standards of evaluation embrace the measures of excellence in other disciplines such as social science can MER truly advance towards supporting interdisciplinary and interprofessional research activities.

Theoretical Implications

In addition to the practical implications outlined above, my study also presents implications for theory. The use of constructivism and CoP for interpreting my participants' narratives helped to explain the discrepancies in *how* social scientists regard their career in MER. That is, from a constructivist lens, the degree to which a social scientist engages in what they

consider ‘meaningful work’ may shape their perception of their experience in MER. Meanwhile, CoP framed the advancement of MER-based CoPs in mitigating the dichotomy between the practices of medical science and social science research.

The combined use of these learning theories helped me understand the sheer complexity of human interactions and our understanding of the world. Exploring the experiences of social scientists in MER through not one, but two theoretical lenses made me realize that knowledge is constructed through multiple dimensions of experiential learning in our individual and group interactions. For instance, how each of my participants perceived their MER experience constituted their individual interpretations of the world based on the knowledge that they, as an individual, had constructed in relation to their previous or ongoing experiences. Each of those interpretations or experiences participated in the emergence or evolution of a broader MER CoP, in which individuals came to share a common domain of interest at varying levels of participation. From this perspective, knowledge was being formed through the participants’ movement throughout the community. It is interesting to see that while individuals are each composing construals that inform the CoP, the emergent community norms are also simultaneously shaping the individuals. In the case of my study, such construals were then interpreted by myself, the researcher, and elucidated through the lens I have generated through my lived experience and knowledge of the world.

As such, knowledge is generated through a complex web of interrelated interpretations that span both individual and social interactions. While a plethora of theoretical paradigms exist to help decipher the complexities of human knowledge, it may be important to recognize that a single theoretical lens is likely not enough to fully encompass the knowledge generated through a

research study. Thus, the use of theoretical frameworks that involve multiple theories may be key in developing a coherent understanding of a phenomenon or belief.

Lessons Learned

Beyond the insight I have gained throughout this study on the experiences of social scientists in MER, the experience of planning and conducting a research project from beginning to end has been eye-opening in many ways.

First, this was my first attempt at doing educational research *and* research using a qualitative methodology. There were several novelties I had to navigate, the main ones being the introduction of a theoretical lens and situating my positionality as a researcher. Coming from a background of health sciences, having only had opportunities to engage in heavily quantitative genetics or genomics research, the idea of introducing a theoretical lens had never occurred to me prior to this journey. In fact, in science research, I had regarded my identity as a researcher as irrelevant to the research process. Nevertheless, throughout the process of writing my thesis, I slowly came to understand the kinds of knowledge qualitative educational research was intended to generate and why my role and position as a researcher mattered. I also came to consider the epistemology behind my work. I now recognize that my role as a researcher involves much more than simply carrying out the interviews and writing up my findings; it involves maintaining the integrity of my research and the research question(s) I seek to answer, while engaging in deep, organic conversations with my participants and striking the balance between acknowledging that my findings are mine and my participants' interpretation of the world. I found this balance through the process of analyzing my data using theory and engaging in the process of member checking to ensure the trustworthiness of my research.

I also realized that as a researcher, I need to be both flexible and meticulous when it comes to the planning and execution of the research process. I need to be open to working with unexpected changes or circumstances, while thinking ahead and having a plan for how I intend to carry out my research. Holding myself accountable to keep things progressing meant I had to set my own schedule and stick to it as much as possible, even if I felt like I was not making progress. Because there were no "deadlines" given to me, as is done when taking courses, I found myself having to be disciplined and constantly thinking ahead, while knowing when to pause and reflect on the current stage of my research. This concurrent need for flexibility and meticulousness struck me as I conducted my interviews, as well. I found it more challenging than anticipated to stay focused on drawing out the information I needed to answer my research question during an hour-long conversation, especially as I was trying so hard to make the process feel 'natural' for the sake of enhancing the depth of the discussion. I thoroughly enjoyed all of these conversations, which, on one hand, made it easy for me to engage in deep conversations with my participants. On the other hand, however the amount of organization it took to inconspicuously guide the discussion in a certain direction involved a learning curve that I have come to appreciate.

Next Steps

Although the systematic changes proposed in this article will not likely result in drastic changes to MER and affiliated departments in the near future, it is evident that more social scientists are finding their way into leadership positions. This may be a beginning of change that, perhaps in the next decade or two, will result in changes in systematic standards and the scholarly discussions surrounding educational topics within MER. In this regard, future research

on the career progression of social scientists in MER may involve the following research questions:

1. What kinds of evaluation standards have been implemented for academic promotion in medical departments in the past ten years that deviate from traditional measures of productivity such as impact factor or number of publications?
2. In what ways have social scientists advocated for the legitimacy of social science research within departments dominated by biomedical and clinical research?

Approaches that may guide future studies could include wider-scale case studies and mixed-methods approaches involving quantitative measures to examine the proportion of mentoring social scientists partake in both inside and outside of their MER units, in comparison to their time spent teaching or writing. Such approaches would offer a clearer understanding of the hidden curriculum within medicine, the gap in which social scientists' efforts may go unnoticed.