

# **Interdisciplinary promises versus practices in medicine: The decoupled experiences of social sciences and humanities scholars**

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## **Abstract**

This paper explores social scientists' and humanities (SSH) scholars' integration within the academic medical research environment. Three questions guided our investigation: Do SSH scholars adapt to the medical research environment? How do they navigate their career within a culture that may be inconsistent with their own? What strategies do they use to gain legitimacy? The study builds on three concepts: decoupling, doxa, and epistemic habitus. Twenty-nine semi-structured interviews were conducted with SSH scholars working in 11 faculties of medicine across Canada. Participants were selected through purposeful and snowball sampling. The data were analyzed by thematic content analysis. For most of our participants, moving into medicine has been a challenging experience, as their research practices and views of academic excellence collided with those of medicine. In order to achieve some level of legitimacy more than half of our participants altered their research practices. This resulted in a dissonance between their internalized appreciation of academic excellence and their new, altered, research practices. Only six participants experienced no form of challenge or dissonance after moving into medicine, while three decided to break with their social science and humanities past and make the medical research community their new home. We conclude that the work environment for SSH scholars in faculties of medicine does not deliver on the promise of inclusiveness made by calls for interdisciplinarity in Canadian health research.

A rich body of sociological scholarship has begun to document the challenges faced by researchers engaging in interdisciplinary research. As this literature has demonstrated, collaborating across traditional disciplinary boundaries does not necessarily result in better research (see Albert et al., 2008; 2009; Barry et al., 2008; Jacobs, 2014; Jacobs & Frickel, 2009; Moore, 2011). Whereas existing research has largely focused on small-group research settings (e.g., Jeffrey, 2003; Rhoten, 2003; Stokols et al., 2003), organisational and policy issues (e.g.,

Brint, 2005; Holley, 2009; Sà, 2008; Woelert & Millar, 2013), and interdisciplinary peer-review evaluation (e.g., Huutoniemi, 2012; Klein, 2008; Lamont, 2009; Mallard et al., 2009), in this paper we explore interdisciplinarity in highly structured academic organisations: faculties of medicine. Specifically, our study is concerned with social sciences and humanities (SSH) scholars' integration within the academic medical research environment. Three questions guided our investigation: Do SSH scholars adapt to the medical research environment? How do they navigate their careers within a culture and reward system that may be inconsistent with their own research practices and views on academic excellence? What strategies do they use to gain legitimacy in the eyes of their medical colleagues and advance through the academic ranks?

Our goal is to shed light on interdisciplinary relationships among the different scientific communities in medicine, and to understand the conditions under which interdisciplinarity can deliver on its promises. While academics have built distinctions between inter-, multi-, and trans-disciplinary research (e.g., Rosenfield, 1992), interdisciplinarity is the most frequently used term in health research (Paradis & Reeves, 2012), and is often used as an umbrella term that includes the other subtypes of collaborative research. Thus, we use interdisciplinary here to denote the broader, more inclusive version of cross-disciplinary interaction.

## **1. The discourse of interdisciplinarity in Canadian health research policy and faculties of medicine**

In 2000, the Canadian government replaced its Medical Research Council with the Canadian Institutes for Health Research (Government of Canada, 2000) to promote interdisciplinary research on a wide range of health issues and to broaden the understanding of disease from the merely biological. The Canadian Institutes of Health Research Act states: “The objective of the CIHR is to excel (...) in the creation of new knowledge and its translation into improved health for Canadians” by “encouraging interdisciplinary, integrative health research” including “bio-medical research, clinical research, research respecting health systems, health services, the health of populations, societal and cultural dimensions of health and environmental influences on health, and other research as required” (Government of Canada, 2000, p. 3-4). While the CIHR Act does not explicitly mention the “social sciences” and “humanities,” the inclusion of the “societal and cultural dimensions of health” within CIHR’s mandate has been interpreted to apply to all scholars who conduct health research, including those who trained in traditional SSH disciplines (see Graham et al., 2011, and Plamondon, 2002). This also appears to be the interpretation of the CIHR Act by Canada’s Social Science and Humanities Research Council (SSHRC), which stopped funding health-related research projects in 2009.

Echoing CIHR, Canadian faculties of medicine have also become fervent promoters of interdisciplinarity. Among the 17 faculties of medicine in Canada, 12 have firmly committed themselves to interdisciplinarity. Their current strategic plans abound with statements such as: “we foster intra- and inter-professional/disciplinary collaboration and collegiality” (University of

British Columbia, 2011); and “the foundation of the research enterprise must be [...] researchers capable of building and sustaining interdisciplinary research groups” (University of Saskatchewan, 2012). This call for interdisciplinarity is grounded in the assumption—verbalized by the National Institutes of Health (NIH), CIHR’s American equivalent—that using multiple lenses to study problems will generate research capable of addressing “health challenges that have been resistant to traditional research approaches” (NIH, 2007) and is likely to lead to innovative and holistic solutions (see also National Academy of Science, 2004; Hadorn et al., 2010; Hall et al., 2012). Another assumption is that researchers from all disciplines will *equally* contribute to the research enterprise, as “no single discipline can or should have a monopoly on the search for creative solutions” (Armstrong, 2006, p.761), and “it is the amalgamation of disciplinary knowledge that adds the value” to the interdisciplinary approach (Canadian Academy of Health Sciences, 2005, p. 19).

This paper questions what we believe to be an embellished story. We argue that there are real barriers to the full and equal contribution of scholars across disciplines in health research. We focus on the story of SSH scholars in faculties of medicine to show how calls for interdisciplinarity have resulted in unidirectional change. These scholars had to adapt to the pre-existing rules, or *doxa*, of the medical research field. Meanwhile, the field did not adapt to include or incorporate their different research cultures, or epistemic habitus. To put it differently, SSH scholars’ particular ways of doing research have mostly been misinterpreted and misrepresented rather than legitimated within the field. Building on previous findings on the structural obstacles to interdisciplinarity in health research (Albert & Paradis, 2014), this paper uses data from interviews with SSH scholars to explore the realities of their everyday professional experiences.

A distinctive feature of our study is its environment: faculties of medicine. Several studies of interdisciplinarity have focused on emerging or temporary interdisciplinary teams, for example the creation and functioning of new teams or interdisciplinary research centres (e.g., Jeffrey, 2003; Rhoten, 2003; Stokols et al., 2003). Because of their short history, these environments are typically only partly institutionalized. Power relations among disciplines, while present (MacMynowski 2007; Williams et al., 2002), have nevertheless not fully been cemented into an established social order. In contrast, faculties of medicine are highly institutionalized, hierarchical organizations. The social order within them is maintained through various structural mechanisms such as standardized evaluation criteria, explicit expectations to engage in collaborative research and write multi-authored articles with colleagues and students. Social science and humanities researchers who join faculties of medicine thus enter symbolic and material spaces that were structured prior to their entry and that are foreign to, if not dissonant with, their research cultures. Consequently, the interdisciplinarity-related challenges these scholars face are likely to be different from those they would face in emerging or transient contexts. To our knowledge, this study, in which we ask if a symbolic and organizational

structure that has been historically dominated by one group can accommodate another group, is the first to examine interdisciplinarity from the perspective of SSH scholars in medicine.

## 2. Theoretical framework

To make sense of the gap between the inclusive discourse on interdisciplinarity and the challenges faced by SSH scholars working in faculties of medicine, we turn to several concepts: the neo-institutional concept of decoupling, Pierre Bourdieu's concept of doxa, and our Bourdieu-inspired concept of epistemic habitus (Albert & Paradis, 2014).

Neo-institutional theories stress that formal organizations respond to both legal and normative external pressures in their attempts to be seen as legitimate organizations (Bromley and Powell 2012; Ramirez, 2006, 2010). Universities, as formal organizations, adapt to their environment through the adoption of policies and practices that align with the imperatives of the broader discourse in which they are embedded. Decoupling or loose coupling happens when the connection between policies, practices and outcomes is nonexistent or weak. It can occur when the course of action dictated by policies clashes with pre-existing practices or has no clear causal link to outcomes (Bromley & Powell, 2012).

In the case of interdisciplinarity, we see “policy” as the initiatives of governments, funding agencies and faculties of medicine to promote interdisciplinarity as well as the content of these policies, which frames interdisciplinarity as a privileged way of finding solutions to “real-world” problems; “practices” as the daily enactment of interdisciplinarity (collaborative research/problem-solving, multi-disciplinary evaluation of research activities, etc.); and “outcomes” as the putative increased knowledge production and research leading to innovative or more holistic solutions. The data presented here support the existence of decoupling in interdisciplinary research—a gap between the discourse of inclusiveness characteristic of interdisciplinarity policy and the actual experiences of SSH scholars in medicine—raising questions about the connection between the policies and practices of interdisciplinarity, and between these practices and their purported outcomes.

While the concept of decoupling is useful in highlighting the discrepancy between the call for interdisciplinarity and its actual practice, it does not help us understand why SSH scholars find their work experiences challenging. Bourdieu's concept of doxa (1987) may help to shed light on these challenges. Doxa is for Bourdieu “a set of fundamental beliefs which does not even need to be asserted in the form of an explicit, self-conscious dogma” (Bourdieu, 2000, p. 16). Bourdieu (1994) adds that doxa is the particular worldview of the dominant group that is imposed onto all members of the group and perceived as legitimate and universal, even by subordinates. Therefore, when SSH scholars enter the medical research field, they step into a work environment structured around its own particular doxa: its taken-for-granted assumptions regarding research practices, productivity, academic excellence, funding, student supervision, etc.

Those assumptions have real effects on the players within the field as the value of their academic activities—and consequently their access to resources—is based on the ranking scheme intrinsic to the field's pre-existing doxa. Decoupling results here from the gap between the call for inclusiveness (pro-interdisciplinary policies) and the enduring field structure (its doxa and associated practices). Interdisciplinary policies facilitate the entry of SSH scholars into health research but confront them with a doxa that clashes with their own.

Building on Bourdieu's concept of disciplinary habitus, the concept of epistemic habitus (Albert & Paradis, 2014) emphasizes that scientific practices are the result of a socialization process. The concept of epistemic habitus retains from Bourdieu's original concept the notion that scientists internalise a system of schemes of perceptions, judgments and practices through their academic training and professional experience. This internalization provides scientists with a practical sense of the game played in their field that orients their actions (Bourdieu, 2004): a set of tacit assumptions about the nature of science and how it should be carried out, including selection of pertinent research problems, concerns with methodological validity and the legitimacy of evaluation standards, and definitions of academic excellence. Epistemic habitus varies amongst disciplines and research fields (as do doxa). As such, unacknowledged differences contribute to the decoupling of interdisciplinary policies, practices and outcomes by inadvertently inducing epistemic clashes between scientific communities (see Albert et al., 2008; 2009; Bauer, 1990; Lélé & Norgaard, 2005)

### **3. Methods**

#### *3.1. Sampling procedure*

We conducted semi-structured interviews with 29 SSH scholars working in 11 faculties of medicine across Canada. To be included in our study sample, participants had to hold a doctoral degree from a social science or humanities department or program (e.g., Anthropology, Sociology, Geography, Education, History) and have held a primary academic appointment in a faculty of medicine for at least two years. To increase the likelihood that participants' research cultures were characteristic of SSH scholars' schemes of thought and research practices, we excluded faculty members who had been trained in departments or programs such as Nursing, Epidemiology, Biostatistics, and Health Promotion. Faculty members with clinical degrees (e.g. MDs, RNs) plus SSH PhDs were also excluded for this reason; this also ensured that none of our participants held a privileged or legitimated position within a faculty of medicine accorded to them by a medical degree. In more practical terms, we targeted participants whose research cultures would predispose them to value standard SSH scholarly practices such as theory-based research, critical research, and the publishing of books, book chapters and peer-reviewed articles in SSH journals. Resumes and publications were perused prior to in-person and phone-based interviews that lasted between 60 and 90 minutes and were audio-recorded with the participants'

consent. Follow-up interviews were conducted when further clarification was needed. Table 1 summarizes the main characteristics of the sample.

**Table 1**

Main characteristics of the sample

Gender	Women	20
	Men	9
Academic Rank	Professor	8
	Associate Professor	11
	Assistant Professor	10
Years on Faculty	Minimum	2
	Maximum	23
	Average	11
	Median	10
Disciplines		13
Faculties of medicine (out of 17)		11

Participants were selected through purposeful and snowball sampling. Non-probability methods used when the desired sample characteristic is rare or participants are difficult to locate (Lincoln & Guba, 1985). We first conducted searches for the names of faculty members who potentially met our inclusion criteria on the CIHR database of successful grant applicants between 2005 and 2013, as well on the websites of potentially relevant departments and programs within Canadian faculties of medicine. This strategy was supplemented with snowball sampling, wherein each participant was asked to provide the names of other potential interviewees. Snowball sampling proved extremely useful as it allowed us to track down participants in unanticipated clinical departments. According to the Association of Faculties of Medicine of Canada, there are 35,002 faculty members in the Canadian system (Association of Faculties of Medicine of Canada, 2014: Table 65). SSH scholars would be scattered across clinical departments and institutes and would constitute a minuscule minority of all faculty members, making them exceedingly difficult to sample probabilistically. Two individuals declined our invitation to participate in the study. One feared retaliation from colleagues in his department; the other was reluctant to talk about work-related issues he described as “distressing”. We interviewed new participants until we reached data saturation and no new ideas emerged. To preserve participants’ anonymity, we are not sharing the list of targeted departments and programs. An analysis of respondents’ experiences by gender found it to be insignificant. Ethics approval was obtained from the University of Toronto Research Ethics Board.

### *3.2. Data collection*

To capture participants’ professional experiences, adaptation to their new milieu, and strategies for gaining legitimacy, the interview script addressed several aspects of participants’ work experience and steps taken to build their scientific reputations. One series of questions

focused on the definition of legitimate research and on the evaluation criteria used by their department and faculty of medicine. Participants at the rank of Associate and Full Professor were asked to describe the criteria used to assess their productivity for promotion. Assistant Professors were asked to describe the criteria used by their chair for their annual reviews. This strategy anchored the conversation in decisive episodes of participants' academic life and triggered reminiscence beyond those episodes. A second set of questions delved into participants' perceptions of, and judgments on, the criteria upon which their productivity is assessed: Were they consistent or in conflict with their disciplinary research practices? Were they nurturing or restricting their scientific creativity? A third set of questions assessed participants' career satisfaction: What was gained and what was lost from being in a faculty of medicine? Did they think they would have had more or less productive or fulfilling careers working within their disciplinary departments?

### *3.3. Data Analysis*

The data were analyzed by thematic content analysis. First, after careful reading of all interviews, categories were generated reflecting the various experiences expressed by participants with respect to their work experience in a faculty of medicine. Second, each interview was analyzed based on these categories (vertical analysis). Third, data were compared across participants (transversal analysis). Two investigators analyzed the interviews (MA, EP). Each one independently read and coded all interviews. Their respective coding structures were then compared. Any differences in interpretation were resolved through discussion until a consensus was obtained. To organize our findings and highlight the diverse narratives of SSH scholars, we developed analytical categories inspired in part by Jennifer Todd's (2005) typology of individuals' identity responses in the face of social change and shifting collective identities.

## **4. Findings**

Our findings suggest that for the large majority of our participants (23 of 29), moving into medicine has been a challenging experience. As many reported, their research practices and views of academic excellence collided with the doxa of the medical research field. In order to achieve some level of legitimacy in the eyes of their medical colleagues, more than half of our participants (18 of 29) altered their research practices (Partial adaptation in Table 1). This resulted in a dissonance between the standards of academic excellence inherited from their training and their new, altered, research practices. Five participants deemed the discrepancy between their epistemic habitus and the medical research doxa too wide to attempt any bridging (Complete rejection in Table 1). These participants either resisted the medical research doxa (Resistance) or withdrew, dismayed by the rules and standards of their new work environment (Self-exclusion). Only six participants experienced no form of challenge or dissonance after moving into medicine (Unproblematic integration). Among those, three declared they never felt

any pressure to modify their research practices (Reaffirmation), and three decided to break with their SSH past and make the medical research community their new home (Conversion). Although our sample size is too small to be conclusive, the number of years our respondents had been in academia does not seem to be related to their response type (see Table 2).

As these results suggest, the work environment for SSH scholars in faculties of medicine does not deliver on the promise of inclusiveness made by calls for interdisciplinarity in health research in Canada. Indeed, almost all of our interviewees felt they had to change their research practices to be successful in their work environment. We see this as an indication of a decoupling between policies encouraging interdisciplinarity and their actual implementation in faculties of medicine.

**Table 2.**

Social sciences and humanities scholars' response to the doxa of the medical research field

Type of Response	Sub-type	Number of participants	Average years on faculty
Unproblematic integration	Conversion	3	13
	Reaffirmation	3	16
Partial adaptation		18	10
Complete rejection	Resistance	2	13
	Self-exclusion	3	16
<i>Total</i>		<i>29</i>	<i>11</i>

## 5. Social sciences and humanities scholars' experiences in faculties of medicine

In what follows, we explore in more detail key aspects of participants' responses to the doxa of faculties of medicine: the challenges confronting them, the strategies they use to achieve legitimacy, and how they navigate their careers in this unfamiliar terrain. We first focus on participants whose integration was unproblematic, then turn to partial adapters, and finally give voice to participants who rejected the new social order completely.

### 5.1. Unproblematic Integration

Six participants experienced an unproblematic integration into medicine. Three fall under the reaffirmation category and three under the conversion category.

#### *Reaffirmation*

Reaffirmationists were able to maintain their research practices primarily because their work environment was welcoming to SSH research. One participant stressed that he has never been asked "to be different than a sociologist in a sociology department" (R17). A second emphasised that his department "is receptive to different ways of thinking" and "the chair is



really happy to have somebody saying different things” (R22). A third participant stated that the “very applied” (R25) nature of his research facilitated his integration into his current unit.

However, as much as the reaffirmationists may have benefited from a receptive work environment, further description of their realities revealed some ongoing challenges. One reported that he has been able to sustain his social science practice because SSH scholars in his department form a cohesive group and coordinate efforts to advance one another’s career:

We make sure we’re on the committees that matter, especially on the promotion committee. We have to be strategic. Fifteen years ago things were different, but now we’ve succeeded in being heard. (R17)

In the context of this participant’s work environment, “being heard” means educating biomedical colleagues about SSH research and publication patterns in order to be fairly assessed:

Our colleagues in the biomedical sciences publish in very different journals than the ones we publish in, and their publication patterns are different than ours. We have to educate them about what we do so that they get a sense of a different model. (R17)

Another reaffirmationist tempered this enthusiasm when asked if his colleagues’ receptiveness meant a genuine understanding and support of his research. While he reiterated not feeling ostracised, he expressed some uneasiness associated with being a social scientist in a medical research environment:

Medicine is a different world. We don’t share a lot of the same language. The reference points, theoretically and topically, are often very different. I do grounded community-level participant observation. I can see some of my more traditional medical colleagues discounting that perspective because it’s not generalizable to the population at large. (R22)

### *Conversion*

The other subgroup that experienced an unproblematic integration into medicine includes those in the conversion category. These participants broke with their past and unequivocally adopted the medical research community as their new academic home. The following illustrates this epistemic repositioning:

I moved away from anthropology on purpose. I don’t want to teach undergraduate anthropologists, I don’t want to write to and with anthropologists. (...) It wasn’t an accident; I wanted to be in a clinical department. (R14)

All three converts attributed their move into medicine to their desire to engage in applied research. They perceived medicine as an environment where they could “make a difference in

people's lives" (R23). This aspiration "to be relevant" (R23) came along with the desire to break away from what they described as their disciplines' propensity to be insular. A comment from one participant exemplifies their shared view: "I wanted to make a difference in the world, not just do navel-gazing for the sake of having fun [with my peers]" (R14). In line with this applied-research orientation, interdisciplinarity unsurprisingly stands out as a central feature in the converts' narrative for moving away from their disciplines:

I am quite critical of sociology because I think sociologists need to be more interdisciplinary. Coming to medicine was the best thing that ever happened to me. I had to learn not to write like a sociologist, meaning I had to write intelligibly. I recognized that I had to learn how to bridge the dialogue to people that were approaching the world in different ways. And I came to really value that. (R24)

## *5.2. Partial adaptation*

In contrast to the reaffirmationists and the converted participants, most of our interviewees found moving into medicine challenging. All 18 participants in the partial adaption category modified their research practices to conform to the field's doxa and gain recognition from medical colleagues. Adaptation, for these participants, meant engaging in research work and publication patterns often in contradiction with their epistemic habitus and definition of academic excellence, which often led to dissonance.

### *Diluting social analyses*

Partial adaptation to the medical research doxa meant watering down their social analyses and adopting a predominantly descriptive style when writing for a medical audience. One participant summarized his experience publishing in clinical journals as "almost as a public outreach" (R21). Echoing this view, another participant stressed that he sees those kinds of publications primarily as a form of knowledge translation activity:

We have to do a translational job in health. We can bring in our social science perspectives but it has to be done in a fairly light way because editors, reviewers, and clinical journals really struggle if you're too thickly social science in your approach. So we translate, and as I say, I do this lighter version of social science which I think colleagues in a sociology department would just laugh at. (R20)

Similarly, many participants explained that they remove theoretical constructs from work intended for their medical colleagues. Many pointed out that theory is something they develop fully only for research targeted to SSH scholars. The following quote exemplifies this dichotomous publication pattern:

I divide my efforts between more theoretically-oriented work and more applied empirical work. I want to have some measure of respect within the social science world, but I also do more empirical papers that are more oriented to traditional health research audiences. (R07)

For some participants, the expurgation of social theory from their work to make it palatable to traditional health researchers results in a conflict between their definition of “good” SSH research and the work they are actually getting published in clinical journals. For these participants, having to align their research practices with the medical field’s doxa is difficult to swallow:

I think what I feel is almost alienated from myself doing that kind of work [publishing in clinical journals]. I feel like the work I’m doing is irrelevant. What am I adding to, what am I contributing, what am I helping to develop around social thought or theory? Nothing. So I feel irrelevant, and almost empty. And it hurts, right? It’s painful. (R10)

Echoing this perspective, another participant emphasised that he lost his “critical thinking” since he started working in a faculty of medicine: “I became an applied researcher. I don’t use theory anymore and I don’t do critical work. This is something I miss.” (R11)

The fact that some of our participants had to use a dilution strategy to gain legitimacy in medicine is somewhat unsettling, and raises questions about how the doxa of the medical field comes to generate what David Hess called “undone science” (2007; see also Frickel et al., 2010). What types of research questions do SSH scholars refrain from asking, and what types of theorizing do they avoid engaging in to build their scientific credibility? More broadly, what don’t we know about the socio-economic and cultural aspects of health because SSH scholars need to get recognition from their biomedical colleagues?

### *Restoring internal coherence*

In order to restore some sense of coherence between their standards of quality and their research practices, several participants maintain an active connection with their home disciplines through the publication of articles in SSH journals. Although publishing in these journals may be less valued in faculties of medicine than publishing in clinical journals (including because of their lower impact factors), participants felt the need to be recognized as SSH scholars and thus be reassured that their work still meets the standards of their disciplines. For these participants, endorsement from “true” peers is an indication of their academic worth and identity. Such endorsement is as important to them as building a reputation in medicine, if not more so. The following quote exemplifies participants’ rationales:

For my own professional development, for my own sanity, for my own self, I need to go to the core journals in my sub-field, medical

anthropology. It's part of that kind of value element where it's an indication of having a certain kind of symbolic capital from my home discipline. Also, I don't want to say in a couple of years that I haven't published in an anthropology journal since I came to the faculty of medicine, because I can't go on calling myself an anthropologist if I don't ever publish in these journals. (R04)

This dichotomous publication strategy means that several participants find themselves running two careers in parallel. They must juggle two sets of rules, two evaluation systems, two ways of approaching research problems, two writing styles, etc. Publishing in journals from two contrasting epistemic traditions implies being familiar with two research fields' doxai and having the cognitive flexibility to espouse the logic of both. The following quote illustrates the challenge:

I'm trying to balance two worlds. I have to have credibility in this department and satisfy certain requirements to get tenure. But I still think of myself as an anthropologist and measure my own progress in relation to different markers that don't necessarily get recognized here. So, I end up feeling stressed out about it and I probably work more hours. (R26)

Exhibiting cognitive flexibility is necessary but not sufficient to be successful in two fields. This strategy also requires a major time investment:

There has been no weekend that's gone by that I haven't been in my office, to sort of not just meet the department requirements, but meeting my own as well. I basically have two careers; one in which I do what I'm asked to do to meet the department evaluation criteria, and the other one I truly believe in. I'm still trying to craft and build a career as a sociologist. There'd be no reason for me to come in every day if I gave that up entirely. (R10)

In addition to publishing articles in journals from their home discipline, some participants seek peer recognition by getting cross-appointed in a SSH department:

In order to maintain my links with my home discipline I've developed a connection with the department of [removed] purely out of my own interest. They have a program in a field of research similar to my own. So I'm an adjunct professor there. (R16)

### *Meeting biomedical evaluation criteria*

Our participants also faced another critical challenge: meeting biomedical scientists' evaluation criteria. In many, if not most, faculties of medicine where our participants are appointed, productivity is assessed following a one-size-fits-all template, regardless of the

distinctiveness of knowledge production of the SSH. Therefore, SSH scholars are accountable to the same standards in terms of number of articles as are biomedical scientists:

I've been advised by my department chair that I need to publish between 5 and 7 articles per year. I was told that's what I need to do because that's the kind of number of publications biomedical scientists usually have yearly and I need to compete with them. I've tried for weeks to negotiate something else to evaluate me, but it has been useless and I gave up. (R29)

As one participant pointed out, this evaluation scheme has had the unexpected consequences of lowering of his own quality standards to meet his department's expectation; a paradoxical situation shared by many participants:

I'm cutting corners, and I'm not producing always the quality of work I'd like to because I've always made a point of having multiple studies on the go. So there's been some compromise there. There's not a lot of work in the last ten years I've done where I've been doing most of the interviews myself, and there's definitely something I gave up; I felt that in terms of distance from the material and in having to rely more on what my research assistants produce. But, I can still pump out the papers from those studies, but it's less satisfying because I don't have a direct experience of the material. (R07)

Biomedical evaluation schemes get institutionalised in promotion criteria, and therefore become an "objective" threshold for everyone to meet in order to advance their career. As these criteria favour short pieces in clinical journals over other, longer dissemination formats, they have a direct impact on the nature of the research of SSH scholars and its analytical depth:

When I get frustrated it's because I can't do the knowledge advancement piece, the book writing. I would love to be able to do more of the knowledge advancement but it's really hard to do that and stay on the tenure-track treadmill. It's a lot easier to write a 2,500-word paper and churn it out with six co-authors than to sit down and write the 15,000-word intellectually engaged paper. (R13)

This participant's account, along with those illustrating the dilution strategy used by SSH scholars, provides another example of how the doxa of the medical research field may become a catalyst of "undone science" (Hess, 2007). Some research questions, deemed relevant by SSH scholars, remain un-investigated because of the field's dominant evaluation culture.

Some participants who have reached a comfortable level of security in their academic position (usually after getting tenured or obtaining an unlimited-term contract) were inclined to

transition into a more reaffirmationist approach, thereby regaining a sense of coherence between their research practices and epistemic habitus. However, as a participant stated, choosing to deviate from the biomedical knowledge production model and reaffirm one's SSH research practices may result in both lower recognition from medical colleagues and an increased workload:

I can't just sit with transcripts and write about people I haven't spoken to and whose cultural world I do not understand. I can't do that. But I end up doing a lot of work my biomedical colleagues would dismiss as being the kind of work research assistants should do. I'm very aware of that. When I spend time doing field work, it's not contributing to the productivity of papers that other people are getting out faster. This is something I worry about. I end up trying to compensate by just working more hours. (R26)

### 5.3. *Complete rejection*

Five participants deemed the discrepancy between their academic standards and the medical research doxa too wide to attempt bridging. These participants either resisted the expectations in their unit (Resistance) or withdrew from the field, dismayed by the rules and standards of their new work environment (Self-exclusion).

#### *Resistance*

Participants who resisted the new rules and standards did not change their research practice to integrate medicine. In this sense, they are similar to the reaffirmationists. In contrast with the latter, however, these participants did not find a welcoming environment, but rather chose to keep up their practice to fight the dominance of the medical research doxa. For these participants, adaptation to the medical research model meant compromising their quality standards, which was seen as impossible. Resisting the standards of their research environment came at a cost:

Staying a sociologist was the biggest challenge of my career. Because it's so easy to get sucked up into the application end of social science by medicine. I personally was never interested in betraying my discipline. So I tried to achieve promotion by other means [teaching and service] so that I didn't have to compromise my integrity, because that would have been a horror to have to turn out junk. And so I knew I either had to persuade people that I was worthwhile on some other grounds, or I was finished, because I couldn't do it. (R05)

For this participant, "staying a sociologist" meant being able to ask the kind of questions sociologists have been trained to ask. Because these questions often draw on deep conceptual work, they often appear out of phase with the applied orientation of medical research:

The world I'm operating in doesn't even remotely understand the notion of basic social science research and its usefulness for understanding the nature of a research problem. They're interested in what the solutions are: "what are the recommendations?", "what flows out of it?", "how can it inform practice?" and they don't see that basic social science can inform practice, that there's really important relevance to it. So, much of my career has been devoted to showing the relevance of basic understanding. (R05)

For the other participant in this category, resisting the medical doxa was a moral imperative. He could not accept the rules of the game in medicine which do not include giving back to the communities who participate in research projects:

For the benefit of me getting a research grant or a publishable paper, I go and suck the life out of the populations that I'm researching, and they get nothing out of it and I get another line on my CV. Many of us who have a social justice perspective find this to be highly problematic and we won't do it. So we are effectively sabotaging ourselves because we are refusing on principle to do the things [accumulating papers] that would promote us. The price I may have to pay is that I may not get my promotion. (R08)

### *Self exclusion*

Finally, three participants reacted to the doxa of their new work environment by withdrawing. One main source of alienation and associated withdrawal were evaluation criteria, as this respondent explained:

The criteria used to evaluate us turn me off. In some senses there's a lot stacked against us, and do I want to fight it? For what, exactly? That's the other thing. So it's not only these criteria and the culture. What is it I'm fighting for? Do I need to be legitimated according to those criteria, do I need to become a full professor? What would it give me? (R15)

For this respondent, the illegitimacy of evaluation criteria and of the reward structure led to a rejection of the academic game played in medicine:

I don't believe in the game anymore, but I'm not fully out of it, and I wish I were fully out of it because I suffer still. It bugs me, it just bothers me. (R15)

Still embedded in the faculty of medicine, he sorely felt the dissonance between his own standards of excellence and those imposed onto him by his new field. Another participant shared

feeling marginalised by his colleagues' lack of understanding of his research. Once he obtained tenure, he changed his approach to his work, with dire consequences:

I'm creating a new niche for myself, which is actually making me increasingly marginal in my department. People don't understand what I'm doing, and they're not interested. I feel increasingly frustrated. I have fewer and fewer colleagues that I can discuss my ideas with. I'm increasingly becoming sort of alienated from my own environment.  
(R03)

The price of his return to research that aligns more closely with his epistemic habitus has been increased isolation. Another respondent shared the same frustration with a loss of intellectual community stemming from isolation in his department:

I lost collegiality, intellectual stimulation, intellectual debate and a clear group of colleagues to work with. I have to work really hard to find them. The most intellectual stimulation and the most debate that I get is actually at national conferences where people from other places meet up. That's where I'm actually respected as a colleague. (R27)

## 6. Discussion and conclusion

The results of our study show that the promise of inclusiveness at the heart of pro-interdisciplinary research policy has yet to materialize for many SSH scholars working in faculties of medicine in Canada. Only three participants (Reaffirmationists) in our study were welcomed in their new milieu without having to align their research practices to standards inconsistent with their own. All other participants—with the exception of three converts who wholeheartedly espoused the medical research doxa—had to alter their research practices against their will to build their academic reputation (23 out of 29). Those who refused to do so (Resistance) had to prove their worth through alternatives means such as teaching and service, or, at the time of the interview, feared failing to meet their promotion criteria. The other participants who refused to modify their practices (Self-exclusion) withdrew from the academic game or distanced themselves from their colleagues to work in isolation. These participants were disheartened by their milieu and the course taken by their career. In sum, for many of our participants, interdisciplinarity primarily meant living a frustrating or disappointing academic life: they experienced dissonance between their epistemic habitus and the doxa of faculties of medicine where they work, and between their internalized quality standards and their modified research practices. We argue that this challenging situation results, at least in part, from the decoupling between research policies favouring interdisciplinarity—which disrupt the stability of the medical research field—, and the enduring epistemic habitus of biomedical scientists—the inertia of which impedes SSH scholars' successful integration in medicine (see Albert et al.,



2008; 2009, on biomedical scientists' predominantly unfavourable disposition toward social science).

While our results could appear to challenge Bourdieu's view of doxa as something that is taken for granted, unseen and unrecognized, we see them as reinforcing his view. When SSH scholars take positions in faculties of medicine, they enter a structured field, or "market" (Bourdieu, 1971), where any form of knowledge production and research practice holds a symbolic value. Their own epistemic habitus was structured by norms and interactions in a different field—a discipline from the social sciences or humanities—, and this is why it aligns poorly with the doxa of medicine. It is because they are outsiders within medicine that our participants can perceive this difference and verbalize the dissonance. The epistemic clash they experience allows them to better see the assumptions that other members of the field (the biomedical scientists) cannot perceive as clearly because they have been socialised into science through these assumptions.

As our study shows, most participants had to modify their research practices to gain recognition from their biomedical colleagues, which indicates the low value assigned to their research practices. In order for SSH scholars to fully participate in the health knowledge production enterprise, faculties of medicine should develop a better awareness that various criteria are needed to fairly assess works from various disciplines (Huutoniemi, 2012; Mallard et al., 2009; Lamont, 2009). Leaving it to SSH scholars to alter their practice to meet the medical doxa contradicts the principles behind interdisciplinarity: that experts from different disciplines collaborate to create better solutions to enduring problems. With this awareness, it is necessary to implement multidisciplinary evaluation criteria and develop committees with adequate representation of the doxa of the social sciences and humanities. The current decoupling between policy and practice is not likely to be resolved until interdisciplinarity is fully a two-way street; interdisciplinarity will fall short of its potential as long as apples need to turn into oranges in order to succeed.

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