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Productive Disagreement During Research in Interdisciplinary Teams:

Notes from a Case Study Investigating Pornography and Healthy Sexual Development

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Abstract: This article reports on an interdisciplinary project that conducted a series of systematic reviews of academic research about the use of pornography and sexual health. Academics from a variety of disciplines were involved; half of the team had a background in humanities and the other half a background in psychology. While working closely together, they realized that they disagreed on many different matters, such as how to ask questions, how to use definitions, what count as data, what counts as a good outcome in research, how to structure an academic article, and how to use other academics' work. This article reports on the team members' use of reflective practice to analyze their responses to these disagreements and suggests that such disagreements can be seen as positive and productive in interdisciplinary research as they may facilitate collaboration among those representing different disciplines.

Keywords: interdisciplinary research, disciplinary disagreement, reflective practice, sexual health

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Background

This article reports on a project conducted by an interdisciplinary research team that set out to understand why researchers from different academic disciplines have reached different understandings about the relationships between pornography use and sexual health. The project was driven by curiosity about the differences in the results of work done by those in social science and those in humanities. Within social psychology exists a strong tradition of research proposing that exposure to pornography can be harmful to healthy sexual development. Within media studies there is no such consensus—indeed, there exists a body of feminist work that points to possible positive effects of pornography consumption, particularly around the development of sexual agency and identity (McKee & Ingham, 2018). It is an issue that is of profound concern to many parents, journalists, policymakers, and public health practitioners. How could we explain—and hopefully, reconcile—these differences in data beyond simply brushing them off as reflective of "disciplinary differences"?

The findings from the project have been fascinating. We found from an interdisciplinary Delphi panel of researchers[1] that the most important aspects of sexual health to consider in relation to pornography consumption are competence in mediated sexuality (sometimes called "porn literacy"), an attention to sex as pleasurable, an understanding of consent, open communication, and agency. Yet in conducting the systematic literature reviews of published academic research we found that in many cases there was little research in these areas. Instead, there existed traditions of research into questions such as whether pornography use was correlated with engaging in kinky sex or having casual sexual partners. Also, surprisingly, in this literature, kinky sex and casual sex were presented as negative practices. We name this a "heteronormative" approach to sexual health—promoting only a "charmed circle" of sexual acts that are monogamous, vanilla, unpaid, unmediated and involving only two people who are in a committed, loving relationship (Rubin, 1992). We also found an interesting tendency in the research to confuse correlation and causation, an instance of the post hoc, ergo propter hoc logical fallacy. For example, if people who have more casual sex were found to also consume more pornography, this was often presented as evidence that pornography consumption leads to more casual sex, as is presented for example in Morgan (2011).

1 "RAND developed the Delphi method in the 1950s, originally to forecast the impact of technology on warfare. The method entails a group of experts who anonymously reply to questionnaires and subsequently receive feedback in the form of a statistical representation of the 'group response,' after which the process repeats itself. The goal is to reduce the range of responses and arrive at something closer to expert consensus. The Delphi method has been widely adopted and is still in use today"(Rand Corporation, 2020)

It was only possible for the team to thus discover how far from properly objective and academic much of the research in this area has been because our team involved researchers in both social sciences and humanities disciplines. Our experiences have made us all enthusiastic, albeit formally untrained, interdisciplinarians. The project was designed by professors AM and RI, two senior researchers who have practiced interdisciplinary research over the course of their careers. Professor AM was originally trained in literary studies and media studies, the latter of which is a portmanteau area of study, including psychoanalysis, economics, social psychology, and art history. He has identified himself as belonging to media studies and cultural studies, but over the course of his career he has led multiple interdisciplinary research projects, often seeking to establish definitional clarity across disciplines. He has co-authored research outputs with researchers from law, education, early childhood development, psychology, marketing, public health, gender studies, sociology, and queer studies among other disciplines. Professor RI has been hanging about on the fringes of different disciplines for many years, according to him. Psychologists don't really want him, but then neither does anyone else. So, in order to retain a modicum of self-esteem, he calls himself "interdisciplinary" since it sounds impressive—but he always feels like a little boy tapping on the window from the street outside while there is a fun-looking party going on inside. And it is raining.

AM and RI recruited two emerging researchers as research assistants. PB majored in sociology and gender studies for his undergraduate degree, worked as a health promotion officer while undertaking Honours in gender studies, and started his PhD in a social health research center, but eventually moved to a media research center, which later merged with an Arts and Media school. Throughout his education and research, his work has mostly orbited around media and cultural studies, with a strong focus on health, gender, and sexuality. He describes himself as cynical about research more committed to disciplinary principles than to social and health improvements. KL's work in this project is her first experience practicing interdisciplinary research. She is trained as a psychologist and as a sexologist, and she identifies herself as a sexual health researcher, having a social science perspective on conducting research.

The project was interdisciplinary, encompassing cultural studies, health promotion, media studies, and gender studies. It was undertaken by us four researchers, and it was made particularly interesting because of an historically adversarial relationship between media studies and social psychology, inspired in part by demarcation disputes over who is seen to have the best insights into media effects (Gauntlett, 1998). Psychology has traditionally been the favoured academic discipline of journalists and policy makers on questions of media effects, perhaps in part because of a strong consensus among practitioners about axioms, methods, questions, analysis, and writing style:

> One of the reasons why policy-makers ask psychologists (as opposed to humanities researchers) to work towards developing policy might be because they know that they will get some suggestions—even if they are way off beam and/or just plain wrong; their audience probably won't know they are wrong. On the other hand, asking 50 humanities researchers and getting back 51 answers will not help the policy-makers to sleep at night, even if these researchers had a whale of a time in devising their suggestions. (McKee & Ingham, 2018, p. 39)

Conversely, humanities researchers on media effects criticize

> a trend towards "policy-based evidence making": the process by which evidence is commissioned or selectively chosen to support policies which appear to have already been agreed on. In this context, academics whose work challenges the status quo may find their attempts at public engagement frustrated or compromised. (Attwood et al., 2012, pp. 69-70)

Despite the sometimes fractious relationship between practitioners of the disciplines involved in this project, the relationship between the two professors on our team, who met at a sexual health conference, has been friendly and entertaining. Over a period of three years (initially AM and RI, then PB and KL joined) the team worked together on a series of systematic literature reviews of academic research on the relationship between pornography consumption and healthy sexual development; throughout this process, they encountered and discussed disciplinary differences in their approaches to pornography and sexual health. This collaboration resulted in a series of journal articles. Two reflective articles were written early on in the process: McKee & Ingham (2018) and Litsou & Byron (2019). In the first of those, the two professors explained the differences between social psychology and media studies research into pornography use, and hypothesized about some of the disciplinary differences to be explored in the course of the project. In the second article (Litsou & Byron, 2019), the two research assistants provided their perspective on having begun to work together on a project they had not initially designed. In *this* article the four of us look back on the completed project and reflect on some of the points of tension that we experienced as we worked together across the many disciplines we represent.

Literature on Working in Interdisciplinary Teams

Machiel Keestra notes that, historically, the "primary focus" of research about interdisciplinarity focused on "the individual researcher's task of integrating multiple disciplinary perspectives . . . taking place within an individual's skull" (Keestra, 2017a, pp. 113-114). However, he notes that "with the new need for collaborative competencies in research . . . new questions have emerged" (Keestra, 2017a, p. 113). An "emerging literature" focuses on the

"challenges of cross-disciplinary research" (Looney et al., 2014, Abstract section) "that involves experts from multiple, diverse disciplines working together" (Bammer, 2013, p. 5).

O'Rourke, Crowley, Laursen, Robinson, and Vasko (2019) note that a team's readiness to conduct successful interdisciplinary research depends on both "epistemic and social dimensions" of readiness (p. 30)—not just the compatibility of those in the various disciplines involved, but also the team members' "disposition to support . . . a team culture" (p. 30). Interdisciplinary research has increasingly looked into ways to support both of these elements of interdisciplinary projects.

When addressing epistemic dimensions of teams of researchers from different disciplines, Repko and Szostak (2020) note there will always be conflicts: "the existence of conflict is not just an inconvenience that somehow keeps popping up when reading the literature on a problem; rather, it is endemic, inevitable and central to the interdisciplinary enterprise" (p. 245). Klein (1996) notes that boundaries between disciplines and resultant conflict "are determined more by method, theory and conceptual framework than by subject matter" (Klein, 1996, p. 46). People from different disciplines may not "speak the same language, they are not interested in the same topics, and their discourse patterns differ" (Klein, 1996, p. 46). Repko and Szostak suggest that epistemic disagreements can be organized under three headings: concepts, theories, and assumptions (Repko & Szostak, 2020, p. 248) and that assumptions can include "what constitutes truth, what counts as evidence or proof, how problems should be formulated and what the general ideals of the discipline are" (p. 250). In addition, researchers from different disciplines can find differences in language, including the way key concepts are understood (Szostak, 2013, p. 50). There also may be differences in beliefs and assumptions, differences in identifying the problem (p. 20), and differing *epistemologies—for example, critical/contextual or positivist/general* (p. 23). There may be further ethical differences between disciplinary approaches. Researchers can disagree on ontological assumptions such as "the rationality of individuals" and "whether people act autonomously or as a product of their culture." Those involved in interdisciplinary projects must then find "common ground" on the path to "integration" (Repko & Szostak, 2020).

Klein offers a series of principles to support interactions among members of interdisciplinary teams seeking to move beyond the differences their different disciplines generate towards integration. The "principle of variance" holds that "there is no universal formula for integration because the contexts . . . differ" (Klein, 2012, p. 293). The "principle of platforming" supports "actions aimed at building a foundation for integration," including "a common research object and a common analytical question," "bridge concepts and common foci" (Klein, 2012, p. 294). The "principle of iteration" requires "moving back and forth . . . triangulation . . . reflective balance and weaving

together perspectives" (Klein, 2012, p. 294). Finally, the "principle of communicative rationality" brings together "scientific and academic knowledge . . . [with] instrumental, ethical and aesthetic forms of knowledge" (Klein, 2012, p. 295). In her discussion of Repko's "key integrative activities," Klein notes that Repko includes "comparing and contrasting disciplinary insights, creating common ground, and creating a new and more comprehensive understanding of a problem" (Klein, 2012, p. 288) and his "key integrative techniques" include "redefinition, extension, organization and transformation" (Klein, 2012, p. 288).

In addressing the same topic, Pohl, van Kerkhoff, Hadorn, and Bammer (2008) propose three modes of collaboration among experts from different disciplines that can lead to integration of knowledge—"common group learning," where team members learn from each other through the process; "deliberation among experts," where "team members with relevant expertise . . . amalgamate their views . . . during one or more rounds of exchange"; and "integration by a subgroup or individual," where one team member, or a subgroup, takes responsibility for the integrative aspects of the project (Pohl et al., 2008, p. 415). Pohl et al. (2008) also note that researchers can address differences in language by "deliberately using everyday language and avoiding scientific terms" (Pohl et al., 2008, p. 415), or by creating "formal or informal glossaries" (Pohl et al., 2008, p. 416), or by using "new and redeployed terminology" as the basis for a "working interlanguage or metalanguage . . . 'pidgin' . . . 'creole"' (Klein, 2012, p. 288).

The use of models can also be a useful way to help team members integrate insights from different disciplines (Pohl et al., 2008, p. 416), as can

> systems theory . . . integrated environmental assessment and risk management, Delphi and scenario building, simulation, concept mapping and computer synthesis of data and information flow . . . mental mapping of stakeholder views, consensus conferences, collaborative learning and collaborative workspaces . . . joint definition of a project . . . along with the core research problem, questions, research objects and goals. Role clarification and negotiation help members assess what they need and expect from each other . . . [and so do] ongoing communication and interaction. (Klein, 2012, p. 290)

The epistemic and social elements of interdisciplinary work are not, of course, separate. It is only through interactions among human beings that academic disciplines interact. As Klein notes, "simply bringing people together and coordinating conversations is not enough" (Klein, 2012, p. 296. See also McNeill et al., 2001; Muzur, 2018). Indeed, she goes so far as to suggest that working in an interdisciplinary team is similar to being in a polygamous marriage (Klein, 2014, Integration section, quoting Koepp-Baker), which necessarily involves increased levels of open communication and discussion of goals. Such communicative repertoires are important to consider,

as interdisciplinary team projects work better when they involve researchers with good communication skills (Nair, 2008). Keestra has noted that while "Interdisciplinary understanding requires integration of insights from different perspectives," "it appears questionable whether disciplinary experts are well prepared for this"; as he explains,

> psychological and cognitive scientific studies suggest that expertise can be disadvantageous because experts are often more biased than non-experts, for example, or fixed on certain approaches, and less flexible in novel situations or situations outside their domain of expertise. (Keestra, 2017b, p. 121)

Indeed, as Lyall, Bruce, Tait, and Meagher (2015) note

> deeply ingrained disciplinary commitments may make it difficult [for, say, some social scientists] to accept the saliency of alternative explanations from other social science disciplines. However, partners from distant disciplines may be aware of this distance and therefore pay more attention to the issues of communication. (Lyall et al., 2015, p. 30)

In interviews with members of interdisciplinary research teams (manifesting a range of levels of disciplinary expertise), Nair (2008) found one overriding theme: "It's all about relationships"(p. 4). Others have also emphasized that a project's success will depend as much on the attitudes of the team members involved as on their expertise (McNeill et al., 2001, p. 31). It is essential, McNeill et al. (2001, p. 18) argue, that team members are positively inclined towards interdisciplinary research. It is also important for research team members to have a high tolerance for the conflict that can characterize such research (Lyall et al., 2015, p. 29; McCoy & Gardner, 2012). They also stress that consensus is not always a virtue and that, properly handled, disagreement may be an important part of doing good interdisciplinary research (McNeill et al., 2001, p. 31). A mind open to ideas that challenge the socialization of one's own discipline—along with curiosity about other people's disciplines and experiences—can be useful (Guimarães et al., 2019; Lyall et al., 2015). Dieleman (2017) suggests that the practice of mindfulness is crucial in such research projects, helping to promote productive interaction similarly to Keestra's "metacognition" (Keestra, 2017b). Baccini and Oswald (2008) also point to the importance of team members just getting along—with what they call "warm sympathy" (Baccini & Oswald, 2008, p. 80).

Thankfully, an increasing number of interdisciplinary researchers are providing tools and strategies to help teams of diverse researchers work together on integrative projects. Lash-Marshall, Nomura, Eck, and Hirsch (2017) offer four strategies for collaborating across disciplinary boundaries: using external facilitators, identifying barriers to collaboration, writing operation agreements, and developing collaborative visualizations of the research process (Lash-Marshall et al., 2017). Keestra (2017b) provides a

list of questions to promote metacognition while Pohl, Fam, Hoffmann, and Mitchell (2019) offer a list of questions that form a "framework to analyse boundary work in interdisciplinary teams" (Pohl et al., 2019, p. 68). Looney et al. (2014) offer a "Toolbox" approach based on matters about which disciplines might disagree (as, for example, whether the principal value of research stems from the potential application of the knowledge gained) to support dialogue among team members from different disciplines in order to promote "cross-disciplinary research readiness" (Looney et al., 2014, The Toolbox Idea section).

This article adds to this burgeoning genre in the interdisciplinary literature. In interdisciplinary research, case studies often provide insights into the ways in which representatives of particular disciplines have interacted in order to integrate approaches to an issue under study (Hadorn et al., 2008). This article reports on the lessons we learned when we collaborated, with some of us from the "softest" ends of the humanities and some from the more rigorous social sciences, in order to study a controversial topic—pornography use—where there are significant benefits for those who can lay claim to having the "correct" information about this issue. We provide a series of "things you can disagree about when doing interdisciplinary research," operationalizing the insights we derived from our research on interdisciplinary teams through a series of "prompts" (Keestra, 2017b, p. 161) that help team members to think about issues that might arise in the conduct of a research project.

Approach

The data for this article were gathered through our team members' deliberate adoption of a process called "reflective practice"[2] by which we sought to make explicit our tacit views about working in an interdisciplinary team. This approach aims to understand research practice better by exploring how researchers make decisions and solve problems (Schön, 1983), accessing one of the key issues in academic research, namely, that often much of the knowledge professionals possess about their own practice is unspoken (or, in the language of reflective practice, "tacit") and may never have been articulated in so many words (Gray & Malins, 2004, p. 8). A reflexive-practitioner consciously stops and thinks about elements of practice that are so familiar they seem given. In being a reflexive-practitioner, a researcher must first "be open and curious about her practice" and ask, "Why is this the present state of affairs?" and "How is it that things could be done differently, or better?" Suitable methods of recording data for self-reflective analysis (and then

2 There is a substantial body of literature on this subject that people working in interdisciplinary teams could benefit from. Some work on this field can be found in the references list at the end of this article.

discussion by members of a research team) include journaling, note-taking, portfolios, video recording, and diaries.

Our commitment to reflective practice was written into the project design from the start as part of the process of data-gathering. During our regular meetings, when a point of disagreement arose, we would explicitly note that a disagreement had arisen, and take some time to talk about our different perspectives on it, what deeper issues the disagreement might illuminate, how our various disciplinary trainings might have led us to disagree, and ways in which we might move forward. In particular, we did a lot of what we might call "shared journaling." Whenever we were struck by an idea emerging from the practice of the project, we would write it down in the form of an email to the other members of the team, which could then be shared, discussed, and revisited. As we came to write up the project, the materials for reflection also included minutes from meetings, notes taken during the process, and the multiple drafts of research outputs emerging from the project. Based on analysis of all these materials, our aim here is to present some of the problems we encountered during our project and how we managed to work around them or at least learn to live with them. A key point, which we hope is illustrated in this article, is that—as Repko and Szostak (2020) and McNeill et al. (2001), note above—disagreements among researchers from different disciplines are not something to be feared and suppressed; indeed, they should be welcomed. It was only through the process of identifying and reflecting upon the disagreements as they arose in the course of our project that we were able to produce the data that addressed our fundamental research interests and yielded publishable results.

Discussion

By means of our reflective practice, our research team identified some key points of disagreement during the research process. Below, we present a series of questions that teams might consider if such points of disagreement arise.

Should you ask questions that have been asked before, or should you ask new questions?

We found that representatives of different disciplines have different attitudes towards the relative balance of accretion versus originality in the development of research questions. In psychology the questions being asked about pornography and its audiences now are quite consistent with those that were asked fifty years ago when this topic of research emerged in its modern form. There remains a strong focus on the possible deleterious effects of pornography—particularly whether depictions of violence lead to negative attitudes towards women, thereby promoting sexual violence. By contrast,

the representatives of the humanities disciplines like those involved in this project—media studies and cultural studies, which did not exist fifty years ago—encourage and strongly value originality in the development of research questions. In this project we thought we wanted to start with a definition of healthy sexual development and work backwards from there, to investigate the relationship between aspects of sexual health and the consumption of pornography. However, one of the researchers had previously completed a project that took this untraditional approach and, in submitting articles emerging from the project to journals using a psychological approach, had been told by reviewers that it was necessary to put more emphasis on the questions that were traditionally asked about pornography than on generating new angles on the subject (McKee, 2009).

KL, who, as noted earlier, is a psychologist, expressed concern when the team was starting the systematic reviews that they might exclude a lot of previous writing. An agenda item from our meeting on the 8th February 2018 notes that our first point of discussion was KL's question "Is it right we'll be excluding most research into porn?" She later raised this issue again when coding started:

> I will need some clarifications as I have read many articles about pornography and not a single one of them was specifically about healthy sexual development and its domains. Does this mean that we will end up excluding many articles? (email from KL, 19 February 2018)

In response, AM, who emerged from a humanities background, embraced this as an interesting finding, not a concern:

> We will . . . exclude a LOT of articles about porn effects . . . A lot of research into pornography effects is about effects that aren't actually part of healthy sexual development. That's one of the innovations of this project—that it starts with a definition of healthy sexual development and works from there, rather than randomly picking out topics to investigate. There's a great example in the recent issue of *Journal of Sex Research* devoted to pornography, which provides data on the relationship between consuming porn and whether or not married couples get divorced. Whether people stay married bears no relationship to healthy sexuality, healthy sex lives—or even healthy relationships (conservative Christians are most likely to stay married, but it doesn't mean that they have the healthiest sex lives). So that article won't show up in our analysis, because it isn't about healthy sexual development. (email from AM, 19 February 2018)

As part of the process of thinking through these differing approaches to the formulation and pursuit of a research question, the researchers involved in this project began by constituting a multi-disciplinary global Delphi panel of leading pornography researchers who were asked to determine which aspects of healthy sexual development and pornography should be investigated

(McKee et al., 2020). In this way the more innovative approach of some disciplines to generating research questions—ask something different—could be reconciled with the more rigorous approach of other disciplines that demand that each piece of research must be strongly related to—and build upon—what has been done before. If a global Delphi panel of experts points to new avenues for research, this is suitably rigorous for representatives of a social scientific discipline such as social psychology, while still allowing research to move in innovative directions, deemed important by those in humanities. This finding makes a good starting point for this article—an example of a point where you may not know what you do not know. For researchers trained in a discipline encouraged to be radical and creative in coming up with questions to be researched, working with researchers who closely follow questions that have been evolving for several decades can be surprising and revealing. It helped us to clarify a fundamental difference in attitudes towards research that the humanities researchers were not previously aware of. Humanities disciplines value originality in approach and in the data used that could help answer a new question in a research project—for example, the way feminist analysis can be applied to a certain text—while psychologists value originality in methods used in a research project (Guetzkow, et al., 2004). Such originality could involve the use of a new theoretical framework or the use of a new research design (Guetzkow et al., 2004).

Can you proceed with your project using an imperfect definition of a key concept, or must you attempt to lock down a perfect definition—which some disciplines might argue is a logical impossibility?

Previous researchers have noted that interdisciplinary teams face the challenge of ensuring that they agree on the definitions of key concepts. Going further than this, we would note that representatives of different disciplines have different attitudes towards the very status and nature of definitions of concepts (Baccini & Oswald, 2008). For psychologists, historically, it has been seen as important that there is an agreed definition for the concepts being investigated (Sell, 2018) although many of the psychological research articles reviewed throughout this project did not in fact offer such definitions about pornography. By contrast, humanities researchers often do not focus on reaching an agreed definition when they are researching or writing about concepts. Indeed, there exist venerable traditions of authors in some humanities disciplines who point out that life is not simple and that using definitions restricts creativity and originality. In our case, as the team conducted the analysis of the existing academic literature on the relationship between pornography consumption and "competence in mediated sexuality" (sometimes

called "porn literacy"), the question of what is meant by "perceived realism" became a point of focus. It was raised in an email by PB:

> I feel very strange about the "perceived realism" measurement because it seems to lack correlation to humanities discussions of mediation. It seems like it reduces mediation (or how I understand that term) to a cause and effect situation—i.e. if you think porn's real then this will have x effect on you. It does nothing to question the stability of representation, which seems to be a media studies rule for many decades now, and it avoids any engagement with the complicated space of fantasy/pleasure/identity (e.g. where porn can be understood as not-real yet have real influence on one's identity). For me, this reads as simplification/abstraction. I know my job is to be interdisciplinary about this, but just flagging that can be really difficult when the core principles of your field are ignored to make claims that seem ridiculous. Obviously, you can also argue that much media studies discussion has a total disregard of what social science already knows :). (email from PB, 20 October 2018)

Following a discussion on the nature of "perceived realism" and the way in which the term privileges certain disciplinary approaches, RI wrote,

> So, you (AM) and PB will become social scientists in disguise very soon? Better brush up on those operational definitions. (email from RI, 1 November 2018)

Throughout our disagreement, we had come to realize that a different orientation towards the need for "operational definitions" was a key distinction between our disciplines. This became a source of entertainment and relationship-building throughout the project. Once, after KL wrote "There is no space for shame in our project! It is a safe space for everyone's ideas, thoughts and reactions" (email, 11 November 2018), RI responded with the following:

> Recent discussions all depend on what we mean by
> sense
> and
> humour
> and
> safe
> and
> space
> and
> shame. (email from RI, 12 November 2018)

In this project we disagreed not only about the definition of pornography, but also about how important it was to have a single, agreed definition of pornography. The data gathered from members of the Delphi panel supplied a surprising solution—at least, surprising to the social science researchers. We decided to use not one but two definitions of pornography (McKee et al., 2020). The first—sexually explicit materials (SEM) intended to arouse—works for

disciplines that gather empirical data and want to be able to reassure the reader that data in different projects are comparable. The second definition is different in nature:

> Pornography is not a thing but a concept, a category of texts managed by institutions led by powerful groups in society in order to control the circulation of knowledge and culture, changing according to geographical location and period. (McKee et al., 2020, p. 1088)

This definition works for disciplines that do not need to gather empirical data, but that are interested in keeping discussions about definitions open. Our point here is once again to draw attention to a disciplinary difference in approaches to research projects that is so fundamental that it might not even be visible to many. Researchers from a discipline where it is important to start with an agreed definition might find themselves in irresolvable disputes with researchers from disciplines that resist locking down definitions, and it might not be obvious to those on either side that they are seeking different things from their discussions and working within quite disparate discourses that generate such disputes—and that discussion appropriately focused might help to resolve those disputes.

What count as data?

Another point of disagreement among the researchers on our team that we did not anticipate was different understandings about what count as data. We found that those in some of our disciplines understand data as involving only empirical work with humans; those in others of our disciplines also see information gathered from analysis of documents and texts gathered for content analysis as useful data. The disagreement became apparent when we began to undertake our systematic literature reviews. Given that we knew that not everybody in the team would have the same assumptions about research methods, we ended up developing an extensive—three and a half thousand word—"Search and Analysis Protocol" document to specify every step in the process—which databases to use, what search terms, what data to capture in which spreadsheets, how to include and exclude articles, and so on (McKee et al., 2019). One of the inclusion criteria for articles was the apparently uncontroversial criterion that the article had to offer original qualitative or quantitative data about the relationship between the consumption of pornography/SEM and the healthy sexual development of consumers. However, we discovered in our reflections and discussions about this criterion that team members were making different assessments about whether or not an article included "original . . . data."

As KL wrote at one point, "We all decided that we will include only articles that offer original data. The issues you mention at 2 and 3 sound a bit philosophical to me" (email from KL, 20 November 2018). KL initially

excluded articles from the discipline of history where a researcher had discovered and reported archival data. From her perspective this was not original data—it was already published knowledge. Conversely, those of us from the humanities disciplines argued that, although the information in these articles had already been "published" in other forums, gathering, synthesizing and reporting that information in an academic context makes it original data. We also disagreed about the value of the data that we have drawn upon for this article, such as notes kept in journals and meeting minutes. Some members of the group advocated that we could use those as valid data, while others vigorously disagreed. This disagreement drew our attention to the fact that researchers from different disciplines can disagree about what count as data. Without addressing this fact in the team, and explaining what are considered as data in each discipline, we might have dismissed information that some members of the group might regard as data.

What qualifies as a good outcome versus a bad outcome?

Previous researchers have noted that it is important to establish at the start of a project what outcomes are desired. In this project we found that, even with agreed outcomes established, we were continually surprised by disagreements among researchers from different disciplines about what counts as a desirable outcome. We knew that in this project we wanted to better understand the relationship between the consumption of pornography and sexual health. But, somewhat surprisingly, disagreements about what counts as sexual health emerged. For example, the psychologists among us stated that it is well-accepted in their discipline that a good sexual health practice is to use condoms in order to protect oneself from sexually transmitted infections and unplanned pregnancies. The humanities members of the group argued, though, that sexual health cannot be defined this simply. They pointed out that for example, condom use (where possible) might be "risky" in certain contexts and that there are also other ways to manage sexual safety.

The team also had to negotiate the ways in which the language used in their disciplines implied (without stating explicitly) that certain forms of sexual conduct are better than others. For example, at one point, while preparing an abstract for a conference, AM reviewed the data gathered to date and wrote in his first draft of the abstract,

> In this paper I report on preliminary results from a systematic literature review of academic research into the relationship between the consumption of pornography and healthy sexual development. One important domain of healthy sexual development is the awareness and acceptance that sex can be pleasurable. A surprising number of academic articles in this area condemn "permissive" attitudes and suggest that casual sex is risky, and the only positive form of sex is sex within marriage—or at the very least, within

> long-term, committed, loving, dyadic relationships.

KL, drawing upon her background in psychology rather than humanities, responded to this point in an email on 20 November 2018: "In our articles, researchers do not state clearly that the only acceptable way to have sex is through a committed, long-term relationship".

Thinking through KL's response led AM to produce a revised abstract that said the same thing as earlier, but through slightly different wording:

> We did notice a recurring theme in the articles—that they kept referring to risks involved in consuming pornography. These included the risk that pornography might promote "risky" sexual behaviour (such as having multiple sexual partners), the risk of addiction, or risks to monogamous binary relationships.

KL responded to this in an email on November 23:

> What do you mean by "risks to monogamous binary relationships?" Do you mean it as for example pornography being a threat to monogamous binary relationships? Challenging people's faithfulness in the relationship and openness between partners about sexual stuff they like and dislike? In this case I would agree, we have stuff about that.

In humanities-oriented disciplines such as cultural studies, there is no assumption that committed, monogamous, loving relationships are the ideal to which everyone should aspire. Indeed, in some aspects of queer theory such "heteronormativity" is seen as politically problematic. Members of our team had to engage in dialogue until we all understood each other's perspectives on what counted as a desirable end point of healthy sexual development. We believe that the nature of our project, where we started with an explicit definition of fifteen domains of sexual health (McKee et al., 2010) and worked back from there, helped to ensure that these issues involving outcomes were regularly brought up and discussed. We note here for future teams that you must never take for granted that everyone agrees on the same desirable outcomes for the people being studied.

How flexible can you be in the structure of academic articles?

The article structures that representatives of different disciplines expect in publications constrain what they can say. This points not only to the differences among researchers from different disciplines in the structures they use to report their findings, but also to the way that different structures enable the presentation of different kinds of findings. It became evident to us early in this project that psychologists and humanities researchers structure their articles differently. As discussed elsewhere (Litsou & Byron, 2019), psychologists usually follow a standard *introduction-methods-results-discussion* structure. On the other hand, those in humanities usually structure their articles around

an argument. Moreover, articles in humanities disciplines, which may have a section called "Introduction" and may have a section called "Conclusion," may not have any other standardized subheadings. In humanities articles, each article can have its own unique set of subheadings. Furthermore, for some humanities scholars, the idea that you would—or even could—present the data separate from the discussion might seem strange. For many researchers in humanities disciplines, the discussion is the data and vice versa. This points to a fundamentally different way of thinking about "data" (even that word can be suspect to researchers in humanities disciplines). The psychologists' division of articles into a "Results" section and a "Discussion" section suggests their belief in a separation between the data (presented in "Results") and the author's interpretation of those data (reported in the "Discussion"). To humanities researchers this division appears artificial. All results are the result of interpretation, and the interpretation produces the data. The idea that there is something neutral or objective called "data" that can be separated out from the discussion is seen as simply wrong.

Such differences in our views became apparent early in our consideration of article structures. AM wrote to the team on 18 March 2019,

> I'm going through our . . . article and preparing another draft drawing on feedback from [PB] and [KL].
> I've just reached a point where I'm not going to follow a suggestion from [KL]—and I thought it might be worth sharing this with the team as we continue to think about the differences between our disciplinary approaches.
> In the current version of the article, in the discussion, it currently says: "We argue that the articles in this sample which privilege relationship quality over sexual pleasure are taking a heteronormative approach."
> [KL] suggests: "Last paragraph begins as 'We argue that.' Please erase that and make it into 'The articles in this sample.'"
> If I did that then the sentence would read as an objective fact—"The articles in this sample . . . are taking a heteronormative approach."
> But it isn't that simple. I suspect that the authors would be APPALLED at the suggestion that they are heteronormative. It's like being called a "racist." NOBODY accepts the label "racist"—no matter how egregiously racist their views. So, we can't present it as objective fact. Rather we have to present it as OUR position.
> I suspect that there is a deeper difference between us here than simply expression. Humanities articles are typically structured around an argument rather than reporting data. And the whole point of an argument is to try to persuade somebody of your position. There is extensive rhetorical work involved to show the reader why you think the way you do. We can't just report things as objective facts in the humanities.
> At least, I think that's a difference . . . .

RI responded to this by saying,

> Very interesting.
> One point is that oftentimes social scientists are using a cloak of seeming objectivity to present an argument which is (often not well) heavily disguised as "truth."
> Humanities are more naked in their work.
> So, a phrase such as "We argue that the articles in this sample . . ." may be capturing a combo of an interpretative approach to an apparent set of truths.
> Not challenging on the basis of poor study design, wrong statistics, illogical links, etc. but on the basis of discursive frameworks and taken-for-granted assumptions about what is "good" and what is "bad." (email from RI, 18 March 2018)

We thus faced the problem of finding suitable article structures that would seem meaningful to researchers from a number of different disciplines. Our solution in this project was to author a number of articles with different structures, depending on the results we were emphasizing, some of which were suited for journals of psychology, and some for humanities journals. If an article was designed more for a humanities journal, then the researchers from psychology would be less comfortable with what was presented under their name while the same was true in reverse. Once again, different disciplinary expectations of how to structure an academic article might not be immediately obvious as a problem for a team starting on an interdisciplinary research project, but knowing up front that this is something you could find yourself disagreeing about might save you some time working out how to deal with the problem. Finding a mutually agreeable solution becomes increasingly important in these days of research assessment metrics.

Should you quote directly from previous researchers (and cite those quotes) when writing up research findings?

Another point where some of us found ourselves surprised—and surprised that we were surprised—was the discovery that the authors in some disciplines do not use page numbers when quoting and citing other literature. For those in other disciplines, giving page numbers so the reader can check the exact wording used is a vital part of the research-and-report process. None of us were previously aware that this is done differently by those on the "other side." In her notes on a draft article, KL wrote, "At number 14 there are references (16-18). I don't understand what is happening with the references here. Why is this coming up as numbers 16-18?"

AM responded,

> This is a really interesting disciplinary difference. In most cases a humanities researcher, when they refer to a previous researcher's work, will give

> you the page numbers so you can go and check the wording and expression for yourself and check that the author isn't misrepresenting the previous researcher.
> It struck me as totally bizarre when I started working with social scientists that they, as a rule, DON'T give the page numbers so that you can check on the expression for yourself. (email from AM, 11 March 2019)

KL wrote,

> This is all new info to me! I had no idea that those in humanities like to mention page numbers and I literally thought it was the EndNote being dodgy!
> It makes sense that someone would give the page numbers so that the readers could go back and check for themselves. But we in psychology never do that, we just reference the article and to be honest it is more convenient! (email from KL, 11 March 2019)

RI then commented that

> We use page numbers if we make a direct quote—and one of the reasons we don't normally is that there is often not one specific page on which an argument is made. (email from RI, 11 March 2019).

Similar to the previous points of difference, this difference in how representatives of different disciplines handle publication practices suggests a deeper epistemological divide. As AM noted,

> I suspect there is a fundamental difference here around our orientation to language; not giving page numbers—to me—represents a trust in the neutrality and transparency of language—if I summarise the findings of an article you can just trust that it accurately represents how the author intended to report on the findings of an article. Whereas in the humanities, the language that is used in the original article is vitally important—did they say "effects" of pornography or "use" of pornography? For example—so you need to be able to find the exact quotation on the exact page to review it and consider it . . .(email from AM, 11 March 2019)

In some, primarily humanities disciplines, researchers quote extensively from previous writers as they write about the background to their research, and then continue to quote throughout the whole article, citing page numbers, often not including a literature review section. Humanities researchers sometimes paraphrase too, but often with page numbers. In other disciplines, such as psychology, authors use little direct quotation. Instead, the authors will summarize the findings of a previous article in their own words. References are always included, but page numbers are only added when direct quotation is used, which is not done very often.

As AM has suggested, this difference seems to signal a different orientation towards the neutrality of language. In humanities disciplines like literary studies, cultural studies, and media studies, it is axiomatic that no two words

mean exactly the same thing nor does the same word when used in different contexts. In spite of denotations that might make two words seems synonymous, each word has its own connotations, implications, and discursive systems. Hence, for researchers in humanities, it matters profoundly whether a previous article says that people "use" pornography or "consume" it or "are exposed to" it or "learn from" it. The word "use" etc. is comparatively neutral; "consume" reflects the preferred language of Business disciplines and implies a model of "consumers" who are seen to have agency in those areas of research. To say that people are "exposed to" something implies that they are powerless, that the material is dangerous, and that they did not make a choice to be exposed to it. To say that people "learn from" pornography implies not only that they have agency, but also that they may experience a possible benefit from engagement with the material, intentionally or not.

Similarly, for humanities researchers it would be vitally important whether somebody has written about "The relationship between pornography consumption and sexual attitudes" or "The relationship between sexual attitudes and pornography consumption." For those disciplines that are concerned with the subtlety of connotation in language use, it is apparent that although the denotation of these two clauses is identical, they offer different implications of causality through the simple fact of the words being placed in a different order. The first formulation implies—without saying so explicitly—that pornography consumption causes changes in sexual attitudes. The second formulation implies that sexual attitudes cause changes, or lead to patterns, in pornography consumption. Because of the way that word order changes meaning, when humanities researchers discuss the findings of previous researchers, they see it as vital to quote the actual words they use in their actual order and give the page number so that readers can go and check for themselves that authors are not being misrepresented. By contrast, in psychology it is acceptable to summarize previous researchers' work in one's own words, confident that there is sufficient agreement across the discipline that the authors of that work are likely to agree with the way their work is being summarized. In addition, it is also worth noting our realization that in psychology research, the way statistics are presented is very important; generally, psychologists need to state which of the variables is the independent one and which is the dependent one. This does not allow much flexibility in the way results are reported and may imply causality where none is actually being claimed.

Like the other points of difference among disciplinary practices we discuss above, these differences in the handling of text from previous researchers surprised us. They could become a problem when new researchers begin to write up their findings, and we encourage future researchers to have this risk in mind when they begin projects. Doing so may limit some of the emotional responses that can emerge from situations where researchers are disagreeing

with each other without being clear just why they are disagreeing with each other.

Conclusion

This article has sought to provide a series of prompts to help researchers working in interdisciplinary teams recognize some of the points of disagreement they might encounter when working on a project, adding to the genre of tools that might help those researchers navigate the epistemic and social challenges of working in such teams.

As noted above, this article reports on a particular case study we undertook—one that set out to try to explain why different disciplines, including those we ourselves represent, disagree about the same object of study, resulting in a history of a fractious relationship with publications competing in a demarcation dispute to establish a powerful speaking position about the relationship between the consumption of pornography and healthy sexual development. We hope that the points of potential disagreement we have identified will have at least some level of generalizability for researchers working in other disciplinary mixes. We also hope that knowing in advance what kinds of tensions may underlie issues that rise among them will help them to be more productive, at least by helping them to identify useful disagreements. As we noted above, disagreements need not be something to be avoided or feared. Instead, we can embrace them as a vital part of interdisciplinary work that makes visible to us, as reflective practitioners, tacit assumptions that we might not otherwise have stopped to think about. Disagreements can help us to understand how things might be done differently and challenge us to find creative and innovative ways to work together.

Several previous researchers have noted that interdisciplinary projects take longer than projects that sit within a single discipline precisely because of the extra work that must be done addressing points of disagreement. Working within single disciplines means that in every stage of the project everyone involved typically is in agreement about language, methodologies, methods, results analysis, interpretation of results, and writing articles. But when it comes to interdisciplinary projects, there may have to be discussions about such matters at literally every stage of the project. The team members will have to spend a lot of time explaining to one another what they see as important and how they expect things to be done.

Given that fact, it is not surprising that, as we noted above, a number of human qualities have been identified as being useful for facilitating interdisciplinary work—good communication, mindfulness, and "warm sympathy." We would add that having a sense of humor can be very useful, too. Disagreements such as the ones wehave been discussing mean arguments

and setbacks are guaranteed when people are working within an interdisciplinary team. Laughing about them can help researchers come to a point of agreement—or even, an agreement to disagree—and move on.

> On proposing a conference abstract to the team, AM wrote,
>
> > I'd like to do something based on our project. It's a very humanities conference, so this will be a very humanities take on the ideas we're discussing. But given that it does emerge from our project I'd like to name all members of the team on the paper.
> > But I'm also aware that given how humanities it is, RI and KL in particular might not be comfortable having their names associated with this kind of nonsense.
> > Would you mind casting your eyes over the abstract, offering any suggestions for improvement, and telling me if you want your name removed from this embarrassing failure to be rigorous? (email from AM, 16 November 2018)

In response KL wrote,

> > I don't see that emerging from our analyses so far. Are you sure you want to mention that? At the same time, I understand that you have a humanities perspective and that you like these issues, which is fine. I do not mind being mentioned as long as I am mentioned as a psychologist and as a rigorous-happy person! (email from KL, 17 November 2018)

One of the most endearing elements of interdisciplinary research is that it places the focus squarely on the fact that research is conducted by human beings, with particular characters, desires, passions, attitudes, and personalities—not to mention particular disciplinary backgrounds. By now it is—or perhaps, should be—common sense to understand that academics are not computers, and that their research is always partial—both in the sense of being incomplete, and in the sense of tending in some directions rather than others. But there still remains a risk of forgetting the human element in all academic research, insisting on a return to old (and often disciplinary) models of supposed objectivity and neutrality in research practice. Interdisciplinary teamwork, where the ability to have a good laugh is a key research skill, puts the human element of research front and center. That must be a good thing.

Biographical Notes

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