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Between (contested) worlds:

An autoethnography of interdisciplinary research and teaching collaborations at the interface of sociology and veterinary medicine

Abstract

Interdisciplinary collaborations have become a relevant core variable in the analysis of complex issues in science. Shared research processes are also known as multidisciplinarity, crossdisciplinarity, and transdisciplinarity, which are all closely related to interdisciplinarity. This article traces the meanings, challenges, and benefits of interdisciplinarity on the basis of a lived interdisciplinary collaboration at the interface between sociology and veterinary medicine. An autoethnography of the authors' interdisciplinary work is presented to highlight the challenges and limits of this practice.

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Between (contested) worlds:

An autoethnography of interdisciplinary research and teaching collaborations at the interface of sociology and veterinary medicine

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1. Introduction

Interdisciplinary collaborations have become a key element in the analysis of complex issues in scientific research. For many years, various sciences have developed frameworks for interdisciplinary collaboration (Robb, 2011). Interdisciplinarity is therefore not a new phenomenon but has been described as an essential principle of teaching and research since the emergence of different scientific disciplines. Interdisciplinary research projects and alliances have shaped scientific disciplines and scientific cultures (Müller, 2018: 11). Although the debates on interdisciplinarity initially focused primarily on the area of research (Müller, 2018; Jungert et al. 2015; Bendix et al., 2017), holistically oriented teaching concepts are also currently emerging. Their implementation serves the further development and reorientation of degree courses.

A closer look at the current use of the relevant terminology shows that concepts describing interdisciplinarity are employed excessively in the theory of science, and almost exclusively in relation to research projects. Generally, the term interdisciplinarity is utilized to indicate that research or teaching work is carried out together by various people in a particularly innovative, ambitious, expert, and open-minded way (Bendix & Bizer, 2011: 1; Jungert, 2010: 1 ff.). On the one hand, interdisciplinarity describes successful alliances across sciences at colleges and universities. On the other hand, the term also points to the need to meet complex societal challenges by working together in the twenty-first century (Bendix & Bizer, 2011: 1).

Terms that are closely interwoven with interdisciplinarity are multidisciplinarity, crossdisciplinarity, and transdisciplinarity. Multidisciplinarity is often equated with pluridisciplinarity (Balsiger, 2005) and describes a coexistence of scientific disciplines that work on the same subject area and exchange relevant content and results. Within this notion, each scientific sub-discipline only deals with a specific area of the common problem, without establishing an interdisciplinary consensus (Bendix & Bizer, 2011: 1). Similarly,

crossdisciplinarity refers to the use of methods or research programs by an academic discipline without striving for a substantive fusion with another discipline (Jungert, 2010: 2 f.).

According to Jungert refers to Kockelmann (1979: 82), the transition from crossdisciplinarity to interdisciplinarity happens when an interdisciplinary basis is created that both disciplines can build on without giving up their own disciplinarity. Interdisciplinarity ultimately comes about through the joint development of new areas of research, which contributes to the differentiation of the specialist disciplines (Jungert, 2010: 3). Thus, an essential aspect of interdisciplinarity is “scientists who belong to different disciplines working together on a problem that is so general, so close to everyday life and so foreign to the subject that no representative of the disciplines involved has yet narrowed down and defined the problem under the aspects of their own discipline” (Heckhausen, 1987: 129). In contrast, doubts about the merits of interdisciplinarity arise when scientists from different disciplines deal with the same problem but stick to their disciplinary perspectives without creating anything new (Robb, 2011).

In conclusion, interdisciplinarity enables cooperation in terms of content and methodology, which blurs the boundaries between disciplines and thus allows for innovation (Bendix & Binzer, 2011: 1; Jungert, 2010: 7). Interdisciplinary cooperation is founded on a goal-oriented collaboration between at least two people who work together on making research and teaching tasks more effective, efficient, and humanly satisfying than either could do alone (Bauer & Kopka, 1996: 143.)

Interdisciplinarity in its most advanced form is described as transdisciplinarity (Sukopp, 2010: 26). Transdisciplinarity is understood as the “dissolution” of existing disciplinary boundaries and structures. For example, transdisciplinary research projects examine social problems by asking scientific questions that scientists from different disciplines have developed collaboratively by using disciplinary methods in combination with non-disciplinary approaches. Transdisciplinary collaborations are therefore also described as “problem-centered” research, as the research project is usually carried out with social actors and research findings are implemented by the social actors involved. New products, like medical devices, or competencies in basic and applied research allow for a closer connection to the social environment (Mainzer, 2009: VII; Bendix & Binzer, 2011: 1; Jungert, 2010: 7).

The multiple crises of the twenty-first century have made it clear that solutions for complex issues of our time can no longer be dealt with by just one discipline, but must integrate various areas of research and perspectives (Ameli, 2022). This process is underpinned, for example, by the One Health Approach, which understands human, animal, and planetary health as an interrelated construct. This interdisciplinary approach integrates medicine, veterinary medicine, and environmental sciences, which act together in the context of zoonosis, food safety, food security, and agriculture (WHO, 2017; Mackenzie & Jeggo, 2019).

Consequently, human-animal-nature relationships are located within these interfaces and analyzed in the research field of human-animal studies (DeMello, 2021) or in the field of naturecultures (Latour, 1995; Gesing et al., 2019), among other research fields.

Human-animal studies show the changing role of animals within society, generally characterized by complex and ambivalent relationships between humans and animals (Ameli, 2022). It is therefore only logical that the disciplines that focus on human and animal actors adopt competing as well as complementary perspectives.

Sociology and veterinary medicine are just two research areas in the field of human-animal studies. While the sociological discipline focuses on human actors for the analysis of human-animal interactions, cultures, or organizations (Pries, 2016), the veterinary discipline has a focus on animal life forms, their health, and protection (German Veterinary Association). Both disciplines seem to have little in common and are, metaphorically speaking, as far apart as the earth and the moon.

However, significant points of intersection and common research interests exist in human-animal studies. Consequently, veterinary medicine and sociology are forming a functioning unit in the analysis of human-animal relationships. For a holistic, interdisciplinary view to be created requires a change in habitus and expectations by both sciences (Bendix & Binzer, 2011: 1; Jungert, 2010: 2). This includes a discourse on their existing knowledge, theories, and methods, which may have effects on each discipline's self-image. As a result, a collaboration between the two disciplines in human-animal studies may result in relevant interdisciplinary findings and progress new theories.

This article discusses the meanings, challenges, and success factors of interdisciplinarity between sociology and veterinary medicine by presenting the Interdisciplinary Center for Animal Welfare Research and 3R (ICAR3R) as a case study. The ICAR3R was founded in October 2017 as one of the first German 3R centers and has been organized on an interdisciplinary basis since its inception. Although the collaboration was initially mainly characterized by the participating disciplines of veterinary medicine and medicine, close collaborations were also entered into with representatives of sociology, education, law, agricultural science, and biology. The center is headed by a specialist veterinarian, while the coordination is carried out by a senior sociologist and a historian. This constellation is unique in this form in Germany and provides relevant insights into interdisciplinary practice.

By way of an autoethnography, we—both staff at the ICAR3R—examine interdisciplinary practice in teaching in terms of content, methodology, and didactics at the interface of the two academic fields within human-animal studies.

The autoethnographic research approach permits a relevant and differentiated analysis of research and publication processes of an interdisciplinary center, particularly in terms of professional interactions, experiences, success factors, and challenges. The autoethnography of interdisciplinary cooperation in human-animal studies also draws conclusions from the lived experiences that we hope will progress theories of interdisciplinarity.

2. Autoethnography of interdisciplinary collaborations

The idea for an autoethnography of a long-standing interdisciplinary collaboration at the interface of sociology and veterinary medicine arose five years after we had embarked on an interdisciplinary journey together. The boundaries and bridges of the research and teaching program that became apparent during this collaboration inspired this article.

This was preceded by our discussions about interdisciplinary research and teaching projects and a negotiation of existing theories and models of the respective disciplines with regard to human-animal relationships. It became clear early on that the disciplinary approaches to human-animal relationships differ significantly (see DeMello, 2021). Conversely, this led us to take a differentiated look at these competing and overlapping aspects and perspectives of the specialist disciplines and to establish a relevant openness for the field of the other. Our joint experiences gained from this in the context of research projects, courses, and publication projects thus paved the way for an interpretative autoethnographic analysis of interdisciplinarity in human-animal studies and at the interface of sociology and veterinary medicine.

By way of an autoethnography we were able to adhere to relevant scientific standards of ethnographic research and to link those with our personal and scientific experiences from the two different disciplinary perspectives (Wall, 2008: 44).The intensive research and localization of theoretical approaches to interdisciplinarity and human-animal relations allowed us to counteract the pitfalls of “not seeing” in autoethnographic narratives, as described by Thomas (1993). At the same time, this method provided for the detailed documentation of interactions, behavior, personal emotions, and feelings (Wall, 2008: 44 ff.). This extensive description of our experiences of interdisciplinary practice seeks to showcase the process of interdisciplinarity between a sociologist-activist and a veterinarian in animal welfare and laboratory animal science (Richardson, 1994).

Following Hammersley and Atkinson (2007), it was assumed that the participants’ own actions should be regarded as external and reflexively related to and analyzed with interactions and the self. Although this procedure was largely adhered to, a complete emotional distance from the subject area cannot be conclusively guaranteed (Wall, 2008: 44). Nevertheless, the fact that this article illustrates both the interdisciplinary collaboration and the individual disciplinary perspectives in the interpretation of the results is thought to be conducive to its academic merit.

Writing about interdisciplinary collaborations at the interface of sociology and veterinary medicine requires the inclusion of personalized accounts in which authors draw on their own experiences to write and research that connect to the cultural perspective and place the self in a social context (Holt, 2003: 18). For this purpose, hard facts, such as memories in the form of written notes, were combined with the emotions and sensations experienced through “headnotes” (Wall, 2008: 45) and documented in the context of scientific findings.

In this way, autoethnographic research enables investigations into the construct of interdisciplinarity while including actions, feelings, emotions, and resulting consequences as an integral part of the research. To date, this approach to interdisciplinary collaborations has not yet been conclusively considered.

The aim of this autoethnography is therefore not only to map the history of an interdisciplinary process, but also to scientifically classify and analyze the strands of action and social interactions in the context of research, teaching, and publication practice. This specific approach is a "privilege," as experience flows into academic research and thus connects the personal with the political (Laslett, 1999: 392; Mendel, 2017: 27).

In contrast to Tedlock (2000: 468), who described the ethnographic intentions of women who often seek to persuade the reader in order to clarify and authenticate their self-image, this autoethnography pursues the positioning of interdisciplinarity in human-animal relations. It thus focuses less on taking a personal position and more on exploring interdisciplinary collaborations in a social world (Ellis & Bochner, 2000).

Autoethnography as a method has often been criticized (Ellis & Bochner, 2000; Coffey, 1999; Sparkes, 2000; Garrett & Hodkinson, 1999; Ploder & Stadtlbauer, 2013). For example, peer review processes show that this criticism focuses primarily on the researchers themselves. Holt has demonstrated this by using the example of his own review process, in which he was advised to keep his voice out of the article (Holt, 2003: 24). Review processes often prove to be a particular challenge for interdisciplinary teams, as will be shown below, as reviewers may be confronted with findings that could affect their own position in the contested arenas of the sciences. For reviewers, the question remains as to whether, for example, a cross-disciplinary approach in interdisciplinary collaborations is conducive to the contested arenas or not. Although these critical voices could also become relevant for the autoethnographic research presented here, the authors deem the discussion and visibility of the topic as essential and therefore seek to present their findings to a broader scientific community.

3. Challenges and success factors of interdisciplinary collaborations at the interface of cross- and interdisciplinary research on human-animal relations

In the context of human-animal studies, interdisciplinary collaborations between cultural studies, history, and the humanities have been described previously (Kompatscher et al., 2017: 26). Although Kompatscher et al. saw the collaboration of veterinary medicine with biology as essential, to date there appears to be no example of interdisciplinary practice of these academic fields (Kompatscher et al., 2017: 26).

Any successful collaboration relies on the existence of a functioning relationship between representatives of the specialist disciplines involved (Voigt, 2010: 43). As two vastly different disciplines, these fundamental professional relationships are difficult to obtain. Difficulties

arise at the interface of sociology and veterinary medicine from each discipline's distinct theoretical and methodological approaches.

The collaboration began with an approach to the topic of animal-assisted interventions. The significance and effects of animals on humans on the one hand are closely related to the well-being and effects of humans on animals on the other. It is not surprising that the topic was largely ridiculed by fellow sociologists, as animals are largely forgotten in German-speaking sociology (Wiedenmann, 2008). In contrast, veterinary colleagues showed an openness and willingness to participate, which can be explained by the professional code of veterinary medicine.

However, in our case, purpose (research question, time period), a particular openness, and curiosity for the unknown territory of interdisciplinary collaboration, as well as mutual trust and respect, made it possible to build positive professional relationships (Bendix et al., 2017; Dietrich, 2006: 26). Crucially, stepping back from the perception that we were working in a contested academic space enabled a lived interdisciplinarity.

Curriculum and teaching as a starting point for interdisciplinary collaboration

The starting point for the interdisciplinary collaboration described here was a teaching-learning cooperation, which initially focused on teaching and was later complemented by joint research.

When we look back at our first conversations, in which we approached each other, there was initially a great deal of respect for the other discipline on both sides. At the same time, there was also a sense of waiting to see whether and how this new type of collaboration would succeed. When planning the curriculum and individual courses, the common denominator and goal was always the same, namely that the human and animal perspectives should be taken into account equally.

The different perceptions and perspectives were therefore particularly clear and demonstrated the importance of this interdisciplinary collaboration. While the sociological representatives focused in particular on the professionalization of specialists, the veterinary perspective was characterized by an emphasis on animal welfare, animal behavior, and the importance of zoonoses from animals to humans.

The teaching collaboration, and the initial joint planning and discussions in particular, provided a good opportunity, firstly, to get to know the perspectives of specialist disciplines and to explore overlaps. Secondly, interdisciplinarity, as has been shown above, requires good cooperation between people. In our case, the opportunity arose to explore on an interpersonal level whether we could work together and create a shared academic environment based on transparency and mutual respect.

This exploration ultimately made it possible for both parties to assess whether further steps toward interdisciplinarity could be taken or whether the distance between the two disciplines was too great (Bendix & Bizer, 2017). We went on to build a constructive and stable basis for our collaboration. However, we too experienced the many challenges of a functioning interdisciplinary relationship. We found that a great amount of knowledge and acceptance of complex issues were required. Moreover, recognizing the competing and collaborative aspects of our work was key to shaping our interdisciplinary collaboration.

The different habitus of the specialist disciplines, but also any hierarchical structures, can present stumbling blocks for collaboration. This becomes particularly clear when misunderstandings and overconfidence make constructive communication, and therefore collaboration, difficult (Vollmer, 2010: 61). Although we did not experience these challenges described in the literature within our one-on-one relationship, problems in communication still became apparent to us, particularly in the context of research and publication projects carried out with other colleagues, reviewers, and research institutions. The greatest challenges we encountered were related to bringing together interdisciplinary knowledge. We experienced considerable issues in the communication between representatives of different disciplines. Obstacles to our interdisciplinary approach were also created by the strict professional characteristics of each discipline. The publication of interdisciplinary research results, approaches, and visions therefore presented particular challenges.

Publication processes in interdisciplinary networks

Interdisciplinary publications provide excellent opportunities to make new and transformative concepts of scientific projects accessible to the scientific community. In fact, it is the publication of results that completes any research project (Tumin & Tobias, 2019). This academic reality has previously been described as “publish or perish” (Coolidge, 1932), implying that there is enormous pressure to publish in the specialist disciplines (Rawat & Meena, 2014). This pressure is underpinned by the increased use of bibliometric indicators (such as those provided by Web of Science or SCOPUS), as this has a negative influence on interdisciplinary publications. This results from the fact that citations are evaluated on a discipline-based basis. Interdisciplinary researchers can therefore easily be disadvantaged (Robb, 2011).

In addition to these structural challenges, individual challenges can be observed in the peer review process of articles in the context of interdisciplinary publications. These can be seen in the visualization of intersections between widely divergent disciplines. In particular, the presentation of methods or approaches from other disciplines or a combination of these has repeatedly brought us up against systemic limitations, leading to a sense of frustration. A reason for these limitations is the lack of interdisciplinary knowledge, including the distinct scientific approaches, as well as research methodologies that may be contrary to those employed in one’s own discipline (Jungert, 2010: 10; Sukopp, 2010: 14).

Human-animal studies as an interdisciplinary field particularly illustrates this potential area of tension. In pure laboratory animal research, for example, the focus is solely on producing knowledge through biomedical research. Ethical questions or critical social classifications in regard to the use of animals in this research are largely ignored. By contrast, the 3R concept according to Russel and Burch (1959), for example, combines aspects of veterinary medicine and sociology—within the framework of an interdisciplinary text. Following in-depth research, we can identify a new, critical approach that fundamentally questions the use of animals in scientific research. However, this approach, which is innovative for us, appears to be a potentiation of criticisms in the perception of a scientific community. Firstly, the construct is received differently by one's own specialist discipline; secondly, disciplines outside human-animals studies scrutinize the critical approach results in an additional reassessment.

It is therefore not surprising that the peer review process for publications in this area poses particular challenges for cross-border projects. Nevertheless, the peer review process is regarded as an essential quality criterion that ensures scientific quality. As part of a peer review process, publications are evaluated by disciplinary experts. The feedback from reviewers is intended to support authors in communicating and significantly improving their own research findings (el-Guebaly, 2023). In discussions for the improvement of peer review procedures, little consideration is given to the challenges that exist in the context of interdisciplinary publications (el-Guebaly, 2023; Riley & Jones, 2017; Schroter et al., 2020). The following example illustrates this point:

The particular challenge in writing and publishing interdisciplinary articles in the field of human-animal studies lies in misunderstandings about methods and approaches that are frowned upon in one's own discipline or are seen as contested worlds. One example of this is the distinction between qualitative and quantitative approaches, which, particularly in the context of veterinary medicine and sociology, highlights structural differences between the disciplines and has feedback effects on interdisciplinary publishing. In addition, the choice of suitable publication media poses challenges for interdisciplinary groups of researchers and teachers, as both the one and the other discipline cannot classify the results as suitable for the respective discipline. This leaves a gap in the possibilities and potential in the publication of results that are highly complex and cannot be clearly assigned to one discipline. In practice, we often experienced the demand for a simplification of disciplinary content so that the facts from the other discipline could be understood at all. Sometimes the biggest challenge was learning a new disciplinary language and combining different approaches.

Although the demand for a simplification of disciplinary content in review processes may initially seem absolutely plausible, this proves to be a highly detrimental criterion for functioning interdisciplinarity. A drastic simplification of disciplinary content causes a distortion of the final results (Vollmer, 2010: 61) and thereby excludes competing perspectives of the respective disciplines (Heckhausen, 1987; Sukopp, 2010: 17). This does not affect the need to find a common language. It can be helpful to approach the research

topic thematically and not in a disciplinary manner (Robb, 2011). Publications that do not fit into a disciplinary pigeonhole inevitably come up against the limits of the scientific community. At the same time, these limits illustrate what developments are still needed in the publication of interdisciplinary results in order to see, present, and promote research between (widely divergent) disciplines.

Research

Research-related collaboration between distinct academic disciplines requires special resources due to their different knowledge systems, histories, and perceptions (Bendix & Bizer, 2017). Following on from this, it is not surprising that research projects between two widely divergent disciplines must be characterized by cooperation on a “long leash” and require a high degree of tolerance and an interest in otherness (Bendix & Binzer, 2011: 4). Interdisciplinary cooperation can only succeed if all parties involved benefit. This means that the visibility of a cross-border process or product is evident for all participants (Jungert, 2010; Bendix & Bizer, 2011: 1).

Interdisciplinary projects require twice as much time and resources and particularly committed and motivated researchers (Bendix & Bizer, 2011: 5). In the context of interdisciplinary cooperation, researchers are confronted, even more so than within their own fields, with gaps in their scientific identity and knowledge. This can cause a feeling of mental overload not only in early career researchers but established researchers as well, which may lead to an identity crisis. The willingness, appreciation, and communication of all parties involved are essential elements for successful collaboration. Conversely, the boundaries of one’s own discipline must be recognized and traversed together with the other discipline(s) in order to produce relevant research results for both the shared and the individual disciplines (Jungert, 2010: 10; Sukopp, 2010: 14).

Successful interdisciplinary collaborations represent excellent opportunities to build on diverse intellectual and social resources and to creatively enhance the research process (Bendix & Binzer, 2011: 5).

In order to avoid failure, it is necessary to be aware of potential stumbling blocks, for example by jointly reflecting on patterns and routines in methodologies and publication strategies (Sukopp, 2010: 22). This also entails that the disciplinary perspectives of those involved in the joint working process initially need to recede into the background in favor of interdisciplinarity. As a result, social interaction is designed in such a way that excessive (disciplinary) self-centeredness is set aside and interdisciplinary cooperation is strengthened. This highlights the issues and phenomena of the research topic as well as the relevant discourse. It also allows for the perspectives of the disciplines to be brought in to complement each other at a later stage in the research collaboration (Bendix & Bizer, 2011: 5).

In other words, this mutual (collegial) consultation challenges one's own discipline while it proves itself in an unfamiliar specialist field. In addition, in the case of mutual consultations, other perspectives of one's own discipline arise from one's own point of view. This is achieved by the participants "putting on the glasses of another discipline" in the course of the mutual exchange and consultation, thereby looking at their own discipline in a new way. Core elements of each discipline may be discussed in a new light, gain visibility, and encourage change. This makes it possible, for example, to reflect on existing structures, methods, and approaches in the context of human-animal relationships and to rethink the attribution of animals as subjects or objects.

The aforementioned challenges represent a significant opportunity for the analysis of complex problems. The capacities of scientists are crucial, as intellectual and social resources are required for time, space, and resource planning in interdisciplinary work. Only the sum of the results enables the emergence and application of innovation (Bendix & Binzer, 2011: 5).

4. Pathways to interdisciplinary collaboration among distant disciplines

As has been shown in this article, their differing, sometimes opposing, academic languages and cultures pose particular challenges to sociology and veterinary medicine working together in an interdisciplinary way (see Hamilton & Taylor, 2017; Jungert, 2010). Holistically considering research and teaching on teaching/learning processes with animals in interdisciplinary collaborations requires complex organizational and planning processes (Sukopp, 2010: 15 f.; Bendix & Bizer, 2011: 1 ff.). However, various theoretical frameworks exist that may assist in identifying pathways to successful interdisciplinary collaboration.

According to Heckhausen (1987), a first step toward a convergence of disciplines may be the practice of what is known as composite interdisciplinarity. In composite interdisciplinarity neither the subject areas of the respective disciplines nor their methods or theoretical levels of integration overlap (Jungert, 2010, 5). A specific scientific research question can therefore be examined from different perspectives while it is obvious to all those involved that more than one discipline is required to develop any tangible solutions (Jungert, 2010: 8). If this first step of cooperation is successful, relevant synergy effects may contribute to a modification of viewpoints and perceptions in regard to the research question by the participating disciplines.

Eventually, Heckhausen argues, this may lead to an expansion of theories and methods forming a bridge between the two disciplines. Similarly, Little (1990) suggested that stages of collegiality in teaching/learning processes can be applied and transferred to interdisciplinary collaborations in research and teaching. The five stages are briefly outlined below:

1. “Storytelling and scanning for ideas”: This stage is characterized by a high degree of academic autonomy and independence. Ideas are collected and informally exchanged without any official arrangements. This stage can assist in creating early impressions of each other’s specialist disciplines.
2. “Aid and assistance”: The second stage allows for a mutual offer of help and support. This stage usually deepens relationships and creates trust.
3. “Sharing”: In stage 3, an exchange of methods and materials takes place. This stage is a time-consuming and resource-intensive step in interdisciplinary cooperation, as content is shared that is still “foreign” to the other specialist discipline.
4. The rapprochement and understanding of the other discipline is deepened.
5. “Joint work”: The most elaborate form of interdisciplinary collegiality or collaboration takes place when the scientists involved share a common goal and practice joint responsibility, producing research results based on both disciplines’ input (Bondorf, 2013: 22).

5. Conclusion

The complexities of the modern world require holistic solutions based on interdisciplinary cooperation in research. Interdisciplinary collaboration is equally important in teaching and publishing practices. This can be achieved through transformative academic concepts, in which the dialogue of different disciplines with their contrasting and complementary perspectives takes center stage. As a result, knowledge systems may expand and the social impact of research can be strengthened (Mirmohammadi, 2024; Robb, 2011).

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