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## The power of social identity in shaping collaborative success in research teams

### – a discussion paper

**M. Roland Vils Pedersen<sup>1,2,3</sup>**

<sup>1</sup>Department of Radiology, Vejle Hospital, Beriderbakken 4, 7100 Vejle, Denmark

<sup>2</sup>Department of Regional Health Research, University of Southern Denmark, Campusvej 55, Odense, Denmark

<sup>3</sup>Discipline of Medical Imaging and radiation Therapy, University College Cork, Ireland  
e-mail address: [Malene.Roland.Vils.Pedersen@rsyd.dk](mailto:Malene.Roland.Vils.Pedersen@rsyd.dk)

### Abstract

Interdisciplinary research teams may from time to time face collaborative challenges due to many causes, e. g. various medical interests or professional background. Social identity theory offers a framework to understand these dynamics. Diverse interests or medical background can motivate and drive innovation and creativity in research projects but can also present challenges in term of communication and collaboration caused by different perspectives and traditions. This discussion paper focus on social theory related to team cohesion and collaboration, aiming to assist interdisciplinary teams in achieving collective and collaborative strengths.

### Introduction

Radiology research teams in clinical practice are often interdisciplinary, including radiologists, radiographers, nurses, research assistants, junior medical doctors and chiropractors to name a few. These interdisciplinary research team members will typically have expert knowledge in a wide range of areas, such as diagnostics, physics, radiography, radiation dose, image quality or social science. Scientific research papers in radiology and radiography often have a one-sided focus, concentrating either on e.g. radiography techniques or medical diagnostic. These one-sided papers are typically authored by research groups representing specific healthcare professions.

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Traditionally, research in radiology/imaging departments has been performed by radiologist, but in recent years many European countries have provided radiographers opportunity to obtain a PhD degree, and thus a research career in academia. But there is still a very limited number of radiographers that pursue a career in research. A recent study found that radiographers working in clinical practice feel motivated to start research projects if the projects are relevant for their clinical practice together with the possibility for research training and support. Overall, 77% of the radiographers reported to be interested in research (1). Nightingale emphasized that increasing the number of radiographers with doctoral degree is crucial for the profession's recognition. This advancement not only propels the next generation with innovative research projects (2), but also fosters a research oriented culture within clinical departments, aligning with its core values and ambitions (2). Knapp et al found an average research time provided ranging from none to 29% for diagnostic radiographers (3), indicating that many radiographers perform research without having any dedicated time. Simcock and colleagues advocate that by improving clinical academic careers more research will be performed, and the radiographer role will expand, and not least patient care will improve (4). Radiographers involved in research have proven to be very productive and bibliometric studies have found that radiographers have similar publication productivity as other health professions. Radiography research includes original articles, reviews, technical notes, case reports, CME, letters to editor, commentary, tutorial, and editorial work (5-7). A recently study by Jensen et al found lack of research integration in clinical practice for doctoral student across various health fields (8). This finding highlights the need for more research projects involving clinical staff.



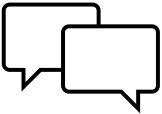

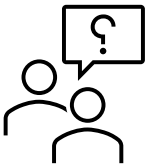

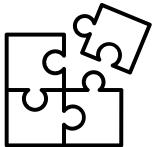

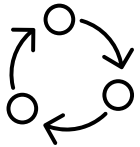

Radiography is still a young healthcare discipline (9), and the need for radiographers to be engaged and also to lead research projects. This is important now, as the profession is facing a potential revolution with increasing Artificial Intelligence (AI) opportunities.

Social structures and traditions influence radiographers' involvement in research, and social theory can help interdisciplinary teams to achieve collaborative and collective interdisciplinary strengths. Furthermore, social identity can provide valuable insights to understand barriers and improve collaboration. Also, group dynamics may play a pivotal role when initiating research projects. The aim was to explore social theory and interdisciplinary research teams to gain insights into the potential obstacles faced by radiographers participating in interdisciplinary research projects.

## **Social identity**

Social identity was originally developed as a method to comprehend the psychology behind intergroup discrimination. Why do individuals think that the group they identify with is better than other groups? Haslam's social identity theory (10) explores how individual's perceptions of their identity influence and shape their behavior and interactions within specific, defined groups. The theory suggests that individuals relate to specific groups to create, maintain, or enhance their social identity. Identity is present through comparison

between groups, or when an individual recognizes they are included in or excluded from a group. It is a dynamic and not static process, and it is possible to belong to multiple groups, and have multiple identities depending on format, context and relevance. During social categorization, groups are divided into “us” (the in-group) and “them” (the out-group). The out-group is typically seen as less desirable group, while the in-group is the preference, which foster a focus on differences between “us” and “them”. However, our individual group classification is not always similar, and what one person sees as in-group, another individual may see as an out-group.

Social Theory: overview of in-groups and out-groups	
In-group	Out-group
 <p>Feeling of in-group may provide shared identity and trust, which will enhance intern collaboration in the local research team</p>	 <p>Risk of skepticism, and therefore potential for reduced collaboration</p>
 <p>Shared communication and norms within the research group</p>	 <p>Potential communication barriers caused by different norms and misunderstandings</p>
 <p>Support, mentorship, and sponsorship</p>	 <p>No or limited support between groups, and potential isolation from out-group members</p>
 <p>Potential for innovations based on teamwork</p>	 <p>Reduced innovation caused by lack and misunderstanding of diverse and opposite perspectives</p>
 <p>Conflicts is minor, and can be resolved through shared goals and understanding within the team</p>	 <p>Conflicts can be more challenging with higher risk of being unresolved</p>

**Table 1:** Overview between in-group and out-group enablers and barriers.

Stets and Burke sees identity as an activation, that happens during self-categorization (11). During this self-categorization individuals perform a comparison process, to identify persons that are similar (or different) in e.g. attitudes, beliefs, values, behavioral norms, education level, prestige, status, and much more. Therefore, social identity implies that individuals within a group share similarities and views from a group perspective. Those out-side the group may perceive its members as stereotypical. A stereotype is an oversimplified and generalized belief about a group of people, which can lead to misconceptions and unfair judgments. Being part of an in-group tend to foster greater commitment to the group, making members less inclined to leave, even if the group's status is relatively low (10, 11).

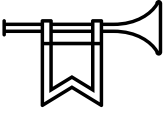


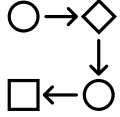




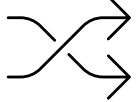

## Discussion

Social theory plays a pivotal role in how research groups interact and collaborate. However, if research group members has a sense of out-group for example, if no one shares same educational level, or if the rest of the group has a different professional background or interest, there is a risk of internal conflicts and low overall group productivity. A sense of isolation can make it difficult to join interdisciplinary research team, especially if other group members hold stereotypical views.

Jensen et al detected that junior researchers often has a wish to belong, but often feel torn between clinical duties and research activities (8). This feeling of division is common among young researchers, such as doctoral students, who may experience loneliness and isolation, particularly if they lack adequate support from supervisors or mentors. Achieving success at the research senior level typically involves collaboration, network, and strong professional relationships. Jensen et al found that researchers recognized the influence of being part of a research group during development for becoming a researchers (8).

Research leaders can benefit from understanding social identity theory and using this knowledge to support their local research teams. Group continuously emerge, dissolve, or evolve over time, based on research task and interest. Group formation and development are typically shaped by the needs or motivations of group members. This highlights the need for effective communication and trust within the group.

Organizational research management decisions may involve different groups, and these groups may have clear and sharp values. This can potentially lead to internal conflicts, if there are dissimilar values. During intergroups conflicts, it is important to emphasize the potential losses resulting from failed collaboration, and to encourage negotiations that create mutual benefits for group members. Overconfident groups can create an illusion of dominance (and superiority) of the in-groups. Overconfident groups can provide a hazard and make poor decisions based on group-thinking, especially if the group includes individuals with similar perspectives (12) (see table 1).

Focus	Description
 <p>Build common language for group members</p>	<p>Shared language assists effective communication with team members working interdisciplinary. Reduction of misunderstandings and enhance sense of belonging and mutual respect.</p>
 <p>Promote a shared vision, mission and goal for the group</p>	<p>The vision must be inclusive and reflect the contribution of all disciplines involved in the team. Goal must align the vision and be achievable for all team members.</p>
 <p>Celebrate achievements</p>	<p>Recognize the team members and celebrate both individual and team achievements or milestones. Celebrations can have a wide range (e.g. praise, cake, champagne etc.)</p>
 <p>Promote inclusivity and diversity</p>	<p>By promoting diversity in research projects, we limit stereotyping and instead adopt an environment that value difference.</p>
 <p>Provide collaboration opportunities for the group</p>	<p>The leader must help find project that can advance if the team is interdisciplinary. The research leader can support this process. This may also be part of the vision or goals.</p>
 <p>Consider providing mentorship</p>	<p>Young researcher can benefit from participating in mentorship program to develop resilience, and this will also create network to other groups (potential collaborators)</p>
 <p>Consider organizing and participate in social activities (e.g. teambuilding, social dining etc.</p>	<p>Spending time with team members – work related as well as social helps the team to develop and build trust both professional and on a personal level.</p>
 <p>Support professional development</p>	<p>Continuous professional development can provide new insights and new ideas, which also can benefit the team.</p>
 <p>Handle conflicts fairly</p>	<p>Conflict occurs all the time. The research leader must ensure that the team members all feel respected and handle all conflicts gentle, instantly and fair.</p>
 <p>Lead by example</p>	<p>The research leader must also fulfill the vision and goals by demonstrating behavior and values the leader would like to promote. Leading through example, the leader sets standard for the team, and start building collaboration and commitment.</p>

**Table 2** brings 10 ideas to focus on as a research leader to enhance social identity for team members.

In contrast, dissimilar perspectives have the potential to enhance a group's overall performance because they may be better at finding innovative solutions and analyze problems from more than one angle during group discussions. Furthermore, there is less risk of waste in research if the research question is investigated from more than one healthcare professional perspective. This needs to be implemented before becoming successful, and we may not be able to find clinical research group with true interdisciplinary roles yet. Some of the very large funds and grants have emphasized that research projects need to be addressed interdisciplinarity, ideally by including multiple partners.

To enhance in-group feelings in interdisciplinary research groups the research leader can enhance the group's resilience by 10 strategic key points seen in table 2. All individuals can feel insecure, and the feeling of not belonging to a group can potentially enhance insecurity and vulnerability.

## Conclusion

Social identity affects how we experience the world around us, shaping our opinions, perspectives, and behaviors. If radiographers have a strong identity as a researcher and feel they belong to a research group, the greater research outcome will hopefully be achieved. Research managers and leader must take this into account and help create interdisciplinary groups, because such groups have much more potential to produce novel research and secure large grants.

## References

1. Pedersen MRV. What motivates radiographers to start working with research? *Radiography* (Lond). 2023;29(1):215-20. <https://doi.org/10.1016/j.radi.2022.11.003>
2. Nightingale J. Establishing a radiography research culture - Are we making progress? *Radiography*. 2016;22:265-6. <https://doi.org/10.1016/j.radi.2016.09.002>
3. Knapp KM, Wright C, Clarke H, McAnulla SJ, Nightingale JM. The academic radiography workforce: Age profile, succession planning and academic development. *Radiography*. 2017;23:548-52. <https://doi.org/10.1016/j.radi.2017.05.012>
4. Simcock IC, Reeve R, Burnett C, Costigan C, McNair H, Robinson C, Arthurs OJ. Clinical academic radiographers - A challenging but rewarding career. *Radiography* (Lond). 2021;27 Suppl 1:S14-S9. <https://doi.org/10.1016/j.radi.2021.06.008>
5. McKellar C, Currie, G,. Publication productivity in nuclear medicine. *Journal of Nuclear Medicine Technology*. 2015;43:122-8. <http://dx.doi.org/10.2967/jnmt.115.156307>
6. Snaith BA. An evaluation of author productivity in international radiography journals 2004-2011. *Journal of Medical Imaging Radiation Sciences*. 2013;60:93-9. <https://doi.org/10.1002/jmrs.21>

7. Pedersen, M. R. V., Rusandu, A., Sanderud, A., & Johansen Reidunsdatter, R. (2023). The Peer Review Process - a Tutorial . *Radiography Open*, 9(1), 76–83.  
<https://doi.org/10.7577/radopen.5702>
8. Jensen JF, Jensen, C.F, Pedersen, M.R, Leth-Larsen, R, Christensen, M, Høgsgaard D. Lack of Integration of Research in Clinical Practice: A Qualitative Study of Clinical Academics' Challenges in the Workplace Environment of Danish Hospitals. *International medical education*. 2024;3:331-45. <http://dx.doi.org/10.3390/ime3030025>
9. Knapp KM, Courtier N. The future role of radiographers. *Radiography*. 2021;27:S1-S2.  
<https://doi.org/10.1016/j.radi.2021.08.005>
10. Haslam AS. Psychology in organizations: The Social Identity Approach (Chapter 2): Sage Publications, Limited; 2004.
11. Stets JA, Burke, P.J. Identity Theory and Social Identity Theory. American Sociological Association. 2000;63(3):224-37.
12. Haslam AS. Psychology in organizations: The Social Identity Approach (Chapter 6 Grop decision making): Sage Publications 20024.