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Collegiality in Research within an Entrepreneurial University – An Activity-Context Model for Self-Assessment-Based Educational Improvement and Quality Assurance

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Abstract

Collegiality as cooperative relationship among employees strongly influences the productivity of research within higher education institutions. The entrepreneurial university and publication metrics generate pressure and are assumed to endanger collegiality. Traditional approaches on collegiality are highly diverse, fail to address individual research-based activities, and ignore the context of behavior evaluation. Here, an integrative theoretical model of collegiality in research is proposed which focuses on positive and negative research-based activities and its evaluation. The descriptive multi-dimensional model assigns 10 activities to the dimensions of involvement and relationship quality. It is also assumed that the evaluation of collegiality not only considers the activities of colleagues, but also the attributional context. In this context, the use of evidence, transparency, and intention play an important role. On the basis of this model, a rating-scale is proposed which can be used for self-assessment and multiple exploratory purposes.

Keywords: social interaction, collaboration, universities, faculty, measurement

Collegiality in Research within an Entrepreneurial University –

An Activity-Context Model for Self-Assessment-Based Educational Improvement and Quality

Collegiality concerns the quality of relationship between colleagues. It is significantly related to cooperation, decision making, and productivity in research and other activities within higher education institutions (e.g., Hesli & Lee, 2011; Stupnisky, Hall, Daniels, & Mensah, 2017). However, the widespread establishment of the entrepreneurial university, their educational improvement and quality assurance activities as well as publication metrics shape scientific communities because they have a strong impact on self-centered competitive behaviors, struggles for financial and other resources as well as on career opportunities (Leiber, 2019). Such a situation raises questions about whether collegiality can still survive in departments and faculties (Clark, 2001; Kaushal & Jeschke, 2013; Weinberg & Graham-Smith, 2012). In a recent review of research, Macfarlane (2016) has stressed the distinction between structural collegiality (e.g., with opportunities for everyone to contribute to decision-making within the faculty), cultural collegiality (e.g., with principles concerning a division between junior and senior faculty members), and behavioral collegiality (e.g., with a frequent and positive interaction between colleagues). On an activity-based level, "collegiality" can be seen as a norm or standard for activities and as an ability to work respectfully and actively with others towards common goals of intellectual and social growth (Kligyte & Barrie, 2014).

Considering an activity-based orientation and a theoretical perspective on collegiality, researchers have found typical activity patterns like collaborative interaction, involvement, intellectual support, informal interaction, or social support (Bode, 1996). Nebus (2006) has postulated in his contact model that perceived values, expectations for obtaining values, perceived costs, and perceived accessibility in social interactions are essential for collegiality.

Johnston, Schimmel, and O'Hara (2010) have identified in their model on collegiality six indicators: Altruism (e.g., sharing materials when needed), conscientiousness (e.g., displaying a generally positive attitude), sportsmanship (e.g., being not disruptive in meetings), courtesy (e.g., demonstrating respect towards co-workers), and civic virtue (e.g., suggesting improvements to the department or college). Recently, Miles, Shepherd, Rose, and Dibben (2015) have discovered three factors in faculty collegiality: Mutual support/trust (e.g., faculty members do respect each other), equity/politics (e.g., faculty members feel they must hide failures and mistakes), and shirking behavior (e.g., some faculty members fail to contribute when they can).

Overall, it can be concluded that existing conceptual approaches on individual activity-based collegiality in higher education are 1) highly diverse and not integrated, 2) not specific when it comes to research-related activities, and 3) overlooking the context dimension of collegiality. Firstly, existing models on individual activity-based collegiality represent approaches in very early stages. They list preliminary and unorganized features of collegiality without linking exclusive theoretical dimensions which allow to integrate research findings conclusively. Such dimensional models would provide more reliable scores and assist in understanding conceptual heterogeneity and boundaries between features (e.g., Trull & Durrett, 2005). Secondly, existing approaches are highly general in a way that they neglect the full range of specific and measurable research-related activities. Such activities concern trends in measuring scientific collaboration, productivity, and impact (e.g., citing colleagues) as well as the positive and negative side of activities and related consequences (e.g., considering dark personality traits with narcistic, Machiavellian, or psychopathological behavior) (e.g., Vedel & Thomson, 2017). Thirdly, collegiality refers not only to observable activities, but also on the context of this activity. People do not only see the activity of other people, but also try to

attribute causes or conditions of this activity (e.g., Försterling, 2001). The possible causes or conditions are essential for a positive or negative evaluation and as a consequence for assuming positive or negative collegiality. Therefore, the attributional context of collegial activities is important. Such a context refers to the underlying intentions of activities, their transparency, and the quality of the evidence on which they are based (e.g., Davis & Follette, 2002; Irlenbusch & Sliwka, 2005; Wu, Hua, Yang, & Yin, 2018).

Include Figure 1 about here!

In Figure 1, a descriptive and multi-dimensional model of collegiality in research is depicted. The model is descriptive as it is about characteristics of collegiality without explaining why collegiality occurs or what causes it. It is multi-dimensional, because it classifies different activities and contexts on multiple organizing concepts. The model has been created by focusing on the mentioned evidence-based models of collegiality, related research and their shortcomings as well as on measurable activities of researchers (see the Researcher Development Framework from the Careers Research and Advisory Centre, 2011). Therefore, the model is based on empirical evidence on the issue of collegiality. For model building, "tactics for generating meaning" have been used like clustering, making contrasts/comparisons, partitioning variables, factoring, and making conceptual/theoretical coherence (Miles & Huberman, 1994). From an empirical point of view, the resulting model and related possible measurement attempts have some empirically not yet tested face validity (as subjective assumptions on whether they cover what they claim to) as well as construct validity (as they are organized on theoretical dimensions).

The model has two components: The activity component focuses on usual actions of scientists in research scenarios. The context component is on attributional information which is used for evaluating these actions.

Activities can be described on bi-polar dimensions ranging from positive to negative relationship effects as well as from low to high involvement. A certain activity by a scientist increases or decreases the probability that a supporting and promising relationship with a colleague can start or be maintained over time. Such an activity can also be classified on the low or high amount of time and effort which are devoted to these activities. Here, a bi-polar approach has been chosen, because a low positive behavior does not correspond with a negative behavior in social relationships. Negative behavior often has a stronger and also a different effect on relationships than a low or no positive behavior. For example, Zemp, Merrilees, and Bodenmann (2014) have found that the balance or ratio of positive and negative behavior is essential in relationship building. Also, for example, Rogge, Fincham, Crasta, and Maniaci (2017) have stressed that individuals in relationships simultaneously have both negative and positive sentiments towards partners which emphasizes the need to have a positive-negative focus.

Based on these assumptions, 10 types of activities concerning collegiality in science can be described. The five positive activities concern (ranging from high to low involvement):

- Being friends concern all activities which indicate a warm, supporting, and lasting relationship in and outside research institutions like spending work breaks together, joint leisure activities, or family gatherings;
- Cooperating means to work together in order to realize research proposals, publications, scientific meetings, study programs, courses, and other products of research;

- Positive citing is about acknowledging or praising colleague's research in one's own products of scientific work;
- Positive proposing refers to activities in which colleagues are suggested for research or other professional awards or grants (without neglecting research ethics); and
- Using ideas concerns the integration of goals, or other components from assumptions, theories, or methods of others in one's own research. Such an integration often occurs in early or diffuse stages of scientific development, and within informal or implicit scenarios in a way that clear quotation is not possible (e.g., as in incidental comments in conversations).

The five negative activities (ranging from low to high involvement) split up into:

- Ignoring ideas is about not using well-known research work from colleagues although it is relevant for one's own research;
- Negative proposing consists of naming or evaluating colleagues as being inappropriate for research or related tasks;
- Exaggerated negative citing means to quote publications from colleagues with damage by commenting them as having poor or insufficient scientific quality (of course, factual criticism is part of science, here, excessive and irrelevant negative evaluation is in the focus);
- Supporting opponents refers to all activities which strengthen research work of persons which are rivals, critics, or rejecters to research from colleagues; and
- Mobbing is about verbal and non-verbal devaluating, or sabotaging the work of colleagues in a way that violates human dignity and respect as well as related work ethics.

The second component of the model on collegiality is on the attributional context of activities. Attributional information for evaluating activities are referring to three dimensions: Intent, transparency, and use of evidence.

Activities of researchers vary in their intents. Sometimes, there is a conscious intention or goal to help or harm colleagues. Sometimes, things happen more or less randomly without a clear intention. For example, it is easy to apologize and to re-stabilize a relationship with a colleague when there were negative activities without the intention to harm colleagues. Sometimes, researchers are so deep in their thoughts on their own research that they are absent-minded and forget about feelings of colleagues.

Activities also have a different degree of transparency what is important for the evaluation of these activities. Some activities are open and can be perceived by the colleagues in focus. Activities can also take place in a way that they are hidden from colleagues. For example, many researchers would agree that their work is not perfect and needs continuous improvement. However, many of them would not accept a colleague who criticizes their work in a covert manner behind closed doors.

Finally, activities in relation to other people are based on evidence. Sometimes, such an evidence is faked, sometimes not. Information on the quality of evidence is important when evaluating the activities of colleagues. For example, it is particularly negative for a relationship when colleagues invent negative information just to harm the colleague. However, colleagues can rather accept a negative evaluation from a colleague when it is well-founded on more or less objective data like publication metrics or similar evaluation indicators.

The activities and contexts of the model can be used to classify the behavior of colleagues or one's own behavior. Here are some hypothetical examples of collegiality based on the two components of the model:

- The best colleague: Such a person shows activities which ranges from being friends to positive citing. The person's context of behavior is intentional, open, and not fake.
- The good colleague: Here, the activities range from positive citing to using ideas within an open and not fake context. Intents might not always be clear and could be both intentional and unintentional.
- The average colleague: This person shows a wide variety of behaviors without extreme forms. Behavior could range from cooperating to positive citing up to negative proposing and supporting opponents. The context of behavior might contain all forms of intents and transparencies. In case of evidence, there might be more not fakes than fakes.
- The bad colleague: The behavior of this person ranges between ignoring ideas to negative citing. In the context of activities, there is more hidden and intentional than open and unintentional. Some evidence might be faked.
- The worst colleague: Here, the behavior ranges from negative citing to mobbing. The context of behavior is most of the time intentional, hidden, and sometimes faked.

Discussions

Here, a descriptive and multi-dimensional model of collegiality in science has been presented for the first time. The model integrates given approaches and expands their applicability on individual research-based activities and their attributional contexts. As it is a descriptive model, it does not explain why collegiality occurs or not.

In a next step, this descriptive model could be linked to models on psychological mechanisms of interpersonal relationships in order to explain the occurrence of collegiality (e.g., Berscheid & Regan, 2005). For example, a promising perspective might be one on the motivation for knowledge sharing between colleagues in organizations and related variables like trust, identification, reciprocity, altruism, or reputation (e.g., Chang & Chuang, 2011).

In addition to theoretical perspectives, the model could be used to design and test measurement instruments on collegiality. For example, Baporikar (2015) has listed "signs of non-collegiality" in departments which could give first ideas for operationalization. Such signs concern, for example, lack of collaboration between and among faculty members, lack of department celebrations or social alliances, increased absenteeism and tardiness, older seasoned faculty worn down, or increasing faculty isolation and alienation. Such attempts can deliver basics for higher education practice when assessing or self-assessing collegiality (Cipriano & Buller, 2012).

Considering such ideas on the assessment of collegiality and the mentioned model, it is possible to produce a self-rating scale for measuring collegiality in research, in a short version (see Table 1) and a long version (see Table 2). The short 14 items-scale for self-assessment is based on the 10 activities and the transparency and evidence dimensions of the model. For the intent-dimension, two items have been formulated as strong intentions can increase and decrease collegiality at the same time. In contrast, it is assumed that transparency (as a confidence-building measure) and an evidence-based information use (as objectification of social problems) are positive for collegiality. By adding up the points (0 to 4) from the selected answer alternatives, the overall collegiality towards one or more colleagues can be computed. The score limits or divisions of the overall collegiality are based on an (theoretically assumed)

approximately uniform distribution. The long version is related to the short version, is more specific, and can be handled in a similar way.

Here, it must be stressed that these rating scales have not been fully validated yet. A first exploratory test within a college student sample (n=196) with the long and adapted version of the instrument revealed good reliability and validity (Astleitner & Zumbach, 2021). At the current status, they represent measurement instruments for self-assessment and for exploratory purposes on multiple goals: Both self-rating scales on collegiality can be seen as an instrument for personal screening with exploring and identifying individual strengths and weaknesses, for stimulating exploratory qualitative studies, or for designing quantitative empirical studies. As an application of the rating scales, researchers can, for example, carry out a self-assessment and link the ratings per item with lines. These lines then form a profile of your own collegiality which can be used for individual faculty development (e.g., Blankenship-Knox, Platt, & Read, 2017). In the context of exploratory qualitative studies, the rating scales can, for example, be used for stimulating to focus on issues or serve as basis for formulating key questions for interviewing. In case of carrying out a quantitative study on the issue of collegiality in research, the rating scales could be used for validating other instruments, or for measuring collegiality in research activities itself. In both cases, previous tests must provide information on the reliability and validity of these scales.

In case of having found low levels of collegiality, strategies of facilitating collegial research activities could be discussed and implemented (Cipriano, 2011). For example, a first step in improving collegiality could be to change individual communication strategies with colleagues in research activities. Based on Yates and Holloman (2013, p. 728), such a collegial communication style could include typical questions like: How can I help now? (as an expression

of a generally supportive orientation), What are the personal reasons for decisions or behaviors? (to avoid negative labeling and show respect), How can we solve the problem? (to avoid attributing blame and stimulating an active approach), What are the alternatives to reparation? (to reduce penalties or devaluations), Should this be dealt with publicly or not? (to protect privacy), What would be a prudent reaction? (to show self-discipline and to be a good role model), What options and scope are there? (to promote autonomy), How do we want to be treated in this matter? (to convey equality and reciprocity), What are your goals, needs or experiences? (to lessen ratings, commands relative to others, and express own concerns), or What has been done to achieve this? (to promote cause attribution on effort).

Include Table 1 about here!

Include Table 2 about here!

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Table 1

A Self-Rating Scale for Collegiality in Science – Short Version

I	(Almost) Never	Rarely	Some-times	Often	Very frequently
1. have a warm, supporting, and lasting relationship with my colleague(s).	0	1	2	3	4
2. cooperate with my colleague(s) for grants, publications, or presentations.	0	1	2	3	4
3. cite the work of my colleague(s) with praise and acknowledgement.	0	1	2	3	4
4. suggest my colleague(s) for research awards or grants.	0	1	2	3	4
5. use assumptions, theories, or methods of my colleague(s) in my own research.	0	1	2	3	4
6. ignore research from my colleague(s) although it is relevant for my own work.	4	3	2	1	0
7. call my colleague(s) as inappropriate for research tasks.	4	3	2	1	0
8. quote publications of my colleague(s) and comment them not justified as having low quality.	4	3	2	1	0
9. support researchers who are rivals, critics, or rejecters of my colleague(s).	4	3	2	1	0
10. devaluate or sabotage the work of my colleague(s).	4	3	2	1	0
11. am open and honest with my colleague(s).	0	1	2	3	4
12. fake information when evaluating or communicating on my colleague(s).	4	3	2	1	0
13. have strong intentions against my colleague(s) I don't like.	4	3	2	1	0
14. stand up for my colleague(s) I appreciate.	0	1	2	3	4

Overall collegiality towards a colleague (or multiple colleagues):

very low: 0-10, low: 11-21, moderate: 22-34, high: 35-45, very high: 46-56.

Table 2

A Self-Rating Scale for Collegiality in Science – Long Version

I	(Almost) Never	Rarely	Some-times	Often	Very frequently
1.1 have a warm, supporting, and lasting relationship with my colleague(s).	0	1	2	3	4
1.2 spend work breaks at the department with my colleague(s).	0	1	2	3	4
1.3 meet my colleague(s) privately.	0	1	2	3	4
1.4. assist my colleague(s) when they have personal problems.	0	1	2	3	4
2.1 cooperate with my colleague(s) for grants, publications, or presentations.	0	1	2	3	4
2.2 take on tasks for which my colleagues are prevented.	0	1	2	3	4
2.3. assist my colleague(s) when they need advice in research issues.	0	1	2	3	4
2.4. share significant materials (manuscripts, lecture notes, etc.) with my colleague(s).	0	1	2	3	4
3.1 cite the work of my colleague(s) with praise and acknowledgement.	0	1	2	3	4
3.2 discuss with my colleague(s) how they can improve their research impact.	0	1	2	3	4
3.3 invite my colleague(s) into networks which improve research productivity.	0	1	2	3	4
3.4 try to make the work of my colleague(s) known outside the university.	0	1	2	3	4
4.1 suggest my colleague(s) for research awards or grants.	0	1	2	3	4
4.2 recommend the work of my colleague(s) as role models for quality management.	0	1	2	3	4
4.3 recommend publications of my colleague(s) to other colleagues and/or students.	0	1	2	3	4
4.4 inform my colleague(s) about where to find exclusive sources for research funding.	0	1	2	3	4
5.1 use assumptions, theories, or methods of my colleague(s) in my own research.	0	1	2	3	4
5.2 listen to my colleague(s) when they talk about new trends in science.	0	1	2	3	4
5.3 follow goals of my colleague(s) in my own research.	0	1	2	3	4
5.4 try to learn from my colleague(s) how to avoid errors in research.	0	1	2	3	4

Table 2

A Self-Rating Scale for Collegiality in Science – Long Version (continuation)

I	(Almost) Never	Rarely	Some-times	Often	Very frequently
6.1 ignore research from my colleague(s) although it is relevant for my own work.	4	3	2	1	0
6.2 do not attend scientific meetings in which my colleagues do presentations.	4	3	2	1	0
6.3 do not attend celebrations in which my colleague(s) are honored.	4	3	2	1	0
6.4 try not to meet my colleague(s) in daily research work.	4	3	2	1	0
7.1 call my colleague(s) as inappropriate for research tasks.	4	3	2	1	0
7.2 interrupt my colleague(s) violently at meetings.	4	3	2	1	0
7.3 speak with others negatively about my colleague(s).	4	3	2	1	0
7.4 criticize my colleague(s) in view of students.	4	3	2	1	0
8.1 quote publications of my colleague(s) and comment them not justified as having low quality.	4	3	2	1	0
8.2 write exaggerated negative reports about the work of my colleague(s).	4	3	2	1	0
8.3 disqualify the work of my colleague(s) or co-workers at meetings or in courses in an unbalanced way.	4	3	2	1	0
8.3 make fun of the work of my colleague(s) with bad jokes or derogatory statements.	4	3	2	1	0
9.1 support researchers who are rivals, critics, or rejecters of my colleague(s).	4	3	2	1	0
9.2 have formed strategic partnerships against my colleague(s).	4	3	2	1	0
9.3 have collaborations that limit the efficiency of my colleague(s) in research.	4	3	2	1	0
9.4 encourage students to be critical against the research of my colleague(s).	4	3	2	1	0
10.1 devaluate, sabotage, or destroy the work of my colleague(s).	4	3	2	1	0
10.2 talk about personal problems of colleagues in public.	4	3	2	1	0
10.3 spread rumors about scientific misconduct by my colleague(s).	4	3	2	1	0
10.4 make decisions that put my colleague(s) at a disadvantage in their resources.	4	3	2	1	0

Table 2

A Self-Rating Scale for Collegiality in Science – Long Version (continuation)

I	(Almost) Never	Rarely	Some-times	Often	Very frequently
11.1 am open and honest with my colleague(s).	0	1	2	3	4
11.2 do inform my colleague(s) about important information.	0	1	2	3	4
11.3 tell my colleague(s) what I think, even when it is uncomfortable for them.	0	1	2	3	4
11.4 keep confidential if my colleague(s) want me to.	0	1	2	3	4
12.1 fake information when evaluating or communicating on my colleague(s).	4	3	2	1	0
12.2 exaggerate when it comes to problems with my colleague(s).	4	3	2	1	0
12.3 do not provide a balanced assessment of the work of my colleague(s).	4	3	2	1	0
12.4 cheat my colleague(s).	4	3	2	1	0
13.1 have strong intentions against my colleague(s) I don't like.	4	3	2	1	0
13.2 dislike or even hate my colleague(s).	4	3	2	1	0
13.3 wish my colleague(s) bad things.	4	3	2	1	0
13.4 fight my colleague(s).	4	3	2	1	0
14.1 stand up for my colleague(s) I appreciate.	0	1	2	3	4
14.2 adore my colleague(s).	0	1	2	3	4
14.3 defend my colleague(s).	0	1	2	3	4
14.4 coach or mentor my colleague(s).	0	1	2	3	4

Overall collegiality towards a colleague (or multiple colleagues):

very low: 0-42, low: 43-85, moderate: 86-138, high: 139-181, very high: 182-224.

Figure 1. A model of collegiality in science.