



**“WHAT MY PARENTS THINK I DO ...” – DOCTORAL
STUDENTS’ ASSUMPTIONS ABOUT HOW PRIVATE AND
WORK-RELATED GROUPS VIEW THEIR WORK**

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ABSTRACT

Aim/Purpose This study aimed at investigating whether doctoral students are already confronted with expectations that reflect a primacy of research and whether they adopt such views for themselves.

Background There is a consensus among academics in the university system that research is typically valued more strongly than teaching in terms of prestige, rewards, and career options. Such prioritization of research may hamper junior academics’ development as teachers, especially at the beginning of an academic career – the doctoral stage.

Methodology We measured the expectations that others put upon doctoral students ($N = 55$, all with teaching duties) in the discipline of psychology using pictures of research and teaching situations. Participants each chose one picture to illustrate what they anticipated their friends and their parents (private groups) as well as their colleagues and their supervisors (work-related groups) think they are doing. Afterwards, they described their own view of the research-teaching relationship.

Contribution The study expands the knowledge on how others in doctoral students’ networks might shape their development as researchers and teachers through the expectations they communicate. Moreover, it shines a light on doctoral students’ own views of research and teaching.

Findings There was a clear primacy of research in terms of the assumed expectations of others; yet, doctoral students assumed that private groups expect them to teach more strongly than work-related groups expect them to teach. For their own views, doctoral students described mainly positive types of research-teaching

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	relationships, whereby research and teaching were oftentimes seen as equally important.
Recommendations for Practitioners	In the face of a primacy of research in academia, teaching should not be left for private conversations, but naturally be a topic among colleagues and with the supervisor as well.
Recommendations for Researchers	These findings underline the need to include private relationships into models of junior academics' development as teachers, since these relationships can represent a counterpart to more research-focused expectations at work.
Impact on Society	We should not underestimate the relevance of doctoral students' own motivation and perspectives for the quality of their research and teaching in a system where the primacy of research narrative circulates.
Future Research	Future research could compare doctoral students' anticipations to the expectations the different groups in their networks really hold.
Keywords	doctoral students, research, teaching, expectations, primacy, private relationships, supervisor, colleagues, prioritization, academics

BACKGROUND

'Research first' – this is a frequently repeated claim illustrating that research is valued higher than teaching in the higher education system, and it coincides with more prestigious rewards for research, thereby making research more relevant for one's career as a university academic (Parker, 2008). This prioritization is not only observed by the higher education literature but is also noticed by academics themselves. Staff from various disciplines and in different higher education systems have reported that they experience an inequity between research and teaching. Imbalances encountered by academics concern rewards such as tenure and promotion (Young, 2006), the general culture of the institution such as a negative attitude towards teaching as it steals time from research (Lane, Hardison, Simon, & Andrews, 2019), or a lack of celebration for teaching success since it is seen as a private activity (Harland & Wald, 2018). The literature, and the affected academics, unanimously agree that research is valued over teaching in the university system. Still, the question of whether this prioritization really transmits on academics' personal views of research and teaching has not been fully answered yet. Lately, the argument has been put forth that academics' intrinsic motivation may even be more decisive for their research and teaching quality than the work environment (Cadez, Dimovski, & Zaman Groff, 2017). As such, academics may still set value on quality teaching in spite of poor incentives and high workloads (Hemer, 2014).

Nonetheless, the context of higher education, with its tension between research and teaching, remains a core factor discussed as being detrimental to the development of a teacher identity (van Lankveld, Schoonenboom, Volman, Croiset, & Beishuizen, 2016). The impression that the system is treating teaching as a second-class activity hampers one's self-esteem as a teacher and hinders role identification (van Lankveld et al., 2016). In contrast, the direct work environment, such as colleagues and supervisors, can have positive or negative influence on role identification. On the one hand, contact with teaching mentors and teaching-oriented peers is assumed to strengthen one's teacher identity (Lane et al., 2019). On the other hand, feelings of isolation and insecurity as a teacher are likely to arise when the attitude in a department is competitive and research-oriented (van Lankveld et al., 2016).

This contrast emphasizes the point that every imbalance observed in a social system is shaped by those interacting and communicating in that system, negotiating its rules and values (Luhmann, 1986). A phenomenon such as the primacy of research in higher education is, therefore, likely to be

transported from one generation of academics to another. It is conveyed through the expectations the senior academics communicate to the newer academics and the behavior they exhibit in their function as role models (Austin, 2002; Weidman & Stein, 2003). This is especially crucial for those at the beginning of their academic career, namely doctoral students. Accordingly, both socialization and academic identity have been identified as important factors influencing the doctoral experience (Sverdlik, Hall, McAlpine, & Hubbard, 2018).

Based on these considerations, two questions stood out to us: What expectations do doctoral students receive from others concerning research and teaching? And, how do they, as newcomers, relate to research and teaching? Is a prioritization already expressed at this early stage in their academic career? In order to shed light on this complex topic, our aim was to disentangle doctoral students' own views from those messages they receive from others inside and outside the higher education system.

In the following, we outline how the expectations of different groups might impact on doctoral students' professional role identities and their understanding of the research-teaching relationship.

LITERATURE REVIEW

DOCTORAL STUDENTS' ROLES IN RESEARCH AND TEACHING

German doctoral students in staff positions typically have a limited teaching duty of two hours a week, alongside their own research projects and administrative tasks (Teichler, 2014). These doctoral students jump in at the deep end with regard to teaching, most of them having never taught before and just recently having been taught as university students themselves. Thus, they need to undergo a role reversal from the role of a student to that of a teacher (Hillbrink & Jucks, in press). Professional development courses in teaching are not required in advance but available at most German universities on a voluntary basis (Merkt, Schaper, Brinker, Scholkmann, & van Treeck 2016). In psychology, doctoral students indicate that they spend more time on teaching than their obligations would demand (Rentzsch, Harzer, & Wolter, 2017).

Turning to doctoral students' own views, graduate teaching assistants report that for them, the benefits of teaching outweigh the disadvantages (Jordan & Howe, 2018). Likewise, psychology doctoral students indicate high levels of motivation for teaching (Rentzsch et al., 2017). Identification with both roles, researcher and teacher, is high among German doctoral students in psychology, albeit researcher identities are more pronounced than teacher identities (Hillbrink & Jucks, 2019). Concerning the relationship between research and teaching, different types of relationships could be differentiated based on the two activities' compatibility and valence: doctoral students experience the combination of research and teaching rather as *commonality* than as *dissimilarity*; and the experience of research and teaching inspires feelings of *enrichment* more often than feelings of a *burden* (Jucks & Hillbrink, 2017).

Despite the high personal motivation for teaching among doctoral academics, the system they get socialized into may be one that favors research by means of career prospective and prestige. Nearly 20 years ago, Austin (2002) pointed out that graduate students receive mixed messages about teaching in the way that claims for high-quality teaching by institutional leaders were not reflected in the behavior and informal communication of the faculty around them. Beliefs such as the primacy of research are likely to be passed on through the expectations of different groups in higher education. For doctoral students, these groups can involve supervisors, colleagues, and peers.

In social psychology, roles are defined as the sum of all behavioral expectations that one receives in a specific function (Gollwitzer & Schmitt, 2009). Social role expectations can either be rejected or accepted by the individual. Through internalization, the accepted expectations become part of the identity (Stryker & Burke, 2000). Once they have been internalized, roles build cognitive frameworks for the interpretation of new experiences (Colbeck, 2008). Individuals typically identify with a variety

of private and work-related roles (Stets & Serpe, 2013). These can vary in the priority attached to them and their salience at any given point in time (Ashforth, Harrison, & Corley, 2008). Doctoral students' central task is to develop professional role identities as researchers and teachers in order to be able to contribute to the academic community (Austin & McDaniels, 2006). Based on the considerations of role theory, the expectations of work-related social groups such as supervisors and colleagues should take part in shaping doctoral academics' roles as researchers and teachers. It is important to note that it is crucial what expectations the doctoral academics themselves anticipate others to hold, and not whether others actually intend to hold these expectations. For example, some of the graduate teaching assistants in Jordan and Howe's sample (2018) had the impression that their supervisor disapproved of their teaching activities. This anticipated expectation of prioritizing research may affect them and their development as teachers, independent of the supervisor's actual intentions and values.

Besides work-related relationships, doctoral academics' social networks are likely to include private relations, for example, spouses, parents, children, and friends. These groups, who are not associated with academia, nonetheless have expectations about doctoral students' roles, which may influence outcomes such as their professional selves (McAlpine, Amundsen, & Turner, 2014; Weidman, Twale, & Stein, 2001). In particular, private groups may form a counterbalance to the more research-oriented work-related groups, as the teacher role can be more salient and easier to grasp for them than the researcher role. People in private groups have likely had direct experience with teaching (or teachers) but probably have less familiarity with the often very specific and knowledge-demanding tasks associated with research. Indeed, in one study from Estonia, doctoral students had more conversations about teaching with their parents and friends than with their supervisors or colleagues (Karm, 2018). For a more holistic view on doctoral students' views on research and teaching and the expectations they anticipate others to have, private groups should be included in these types of studies along with supervisors and peers; however, such a practice is rare (Sweitzer, 2009). The first evidence that private relations can make a difference in academic role prioritization was found by Sweitzer (2009). Doctoral students whose academic developmental network included private relations frequently questioned the institution's prioritization of research and instead identified with both research and teaching. In comparison, doctoral students who solely relied on work-related contacts for their development were likely to adopt the institution's weighting of roles. The author concluded that communicated expectations by network partners, both private and work related, influence how doctoral students weigh their roles.

In order to address the identified gaps in knowledge, such as the possible influence of others' expectations on doctoral students' views of research and teaching and the lack of studies including private groups, we formulated the following research questions:

1. What do doctoral students assume other social groups, both private and work related, expect they are doing?

The following hypotheses were derived from the presented literature:

- a) Doctoral students assume research to be expected of them more strongly than teaching. (across groups)
 - b) Doctoral students assume teaching to be expected by private groups more strongly than by work-related groups. (between groups)
2. Is a primacy of research already reflected in doctoral students' views on the research-teaching relationship?

Visual material, such as metaphors, drawings, or photographs have already been successfully used in higher education research (Löfström, Nevgi, Wegner, & Karm, 2015). A visual approach is useful for examining issues that are 'hard to reach' and enables us to disrupt often-repeated stories on a topic (Reavey, 2011). Additionally, images provide a manifest context for abstract concepts and address

deep levels of consciousness (Harper, 2002). Thereby, this approach can prevent participants from responding in a socially desired way by allowing for more implicit measures. This renders pictures well suited for the investigation of doctoral students' anticipated expectations, especially given the narrative of the primacy of research circulating in academia. Therefore, in the present study, we assessed the anticipated expectations of private and work-related groups in doctoral students' environments using pictures of various research and teaching situations. Disciplines vary in their teaching loads for doctoral academics (Bloch, Lathan, Mitterle, Trümpler, & Würmann, 2014), as well as with regard to the research-teaching relationship (Jordan & Howe, 2018), and in the interpretation of visual material (Löfström et al., 2015). As these disciplinary factors may add unwanted variance to the results, our study focuses on the single discipline of psychology.

METHOD

The data to address the aforementioned research questions were collected as part of a larger online study which contained an experiment with three conditions (Hillbrink & Jucks, 2019). Only the data of the mixed condition, in which participants were exposed to both research *and* teaching pictures, were of interest here.

SAMPLE

Doctoral students from 12 different German universities were invited via e-mail to take part in the online study, resulting in an overall sample size of $N = 167$. The subsample of interest (mixed condition) consisted of $n = 55$ psychology doctoral students (34 female) with a mean age of 27.69 years ($SD = 2.13$). On average, they had been working toward their PhD for 22.06 months ($SD = 15.21$, $MIN = 3$, $MAX = 69$). Most of them held junior academic staff positions (55%), others were funded by projects (42%) or grants (15%). The majority of the participants was part of a work group (75%). All of them were teaching at their respective universities, the average teaching duty was 2.09 hours per week ($SD = 1.92$). They had a mean teaching experience of 3.05 courses ($SD = 3.38$). About one third of the doctoral students (29%) were in training as psychotherapists in addition to their research and teaching tasks.

DESIGN AND PROCEDURE

The online study was conducted as within-subject design and implemented with EFS survey software. As part of the larger data collection, at the beginning of the study participants filled in the demographics and a questionnaire on professional role identification. All data were collected anonymously, and participation was rewarded with 10 euros transferred via Amazon or PayPal.

Picture task

First, participants were presented with a compilation of pictures from research and teaching situations. Then, each participant answered the question 'What XX think I do ...' by choosing one of the pictures. This was done consecutively for the following categories: *I thought I would do*, *I really do*, *my friends*, *my parents*, *my colleagues*, *my supervisor*. For each category, participants could choose between 10 pictures in all (five research and five teaching pictures), which means that single pictures could be used multiple times. In the end, participants were asked which situations they had seen depicted in order to ensure that the pictures had been looked at attentively.



Figure 1. Picture pool as sorted to research and teaching

Development of picture material.

In a prior study, pictures were identified that were shown to illustrate psychology research and psychology teaching from the view of doctoral students (Hillbrink & Jucks, in press). $N = 35$ doctoral students rated 15 research and 15 teaching pictures each according to their representativeness for both research and teaching on Likert scales. The validity of their ratings was confirmed by a second sample of $N = 25$ doctoral students from another university. The five most representative pictures for each field, as indicated by the samples in that study, were used here. At the same time, these pictures also exhibited high difference values, which means they had been rated quite typical for one field (research or teaching) while being rated as less typical for the other field. This was important, as we needed pictures to illustrate either research *or* teaching. Both picture pools contained situations with (interacting) persons (such as a lecturer in front of his audience or a testing session with a participant in a lab) as well as artefacts that symbolize processes connected with research (such as a folder labeled *under review*) or teaching (such as a seminar schedule). Both picture pools can be found in Figure 1.

Analysis. The anticipated expectation of each social group was operationalized as the field (research or teaching) that was represented by the picture the doctoral student chose for this group. For example, when the picture of the lecture hall was chosen for ‘What my parents think I do ...’, we understood this to mean that the doctoral student anticipated his/her parents to have a teaching expectation. This classification of pictures as symbolizing research or teaching was based on ratings by another sample of doctoral students in a prior study (see above). The amount of research versus teaching pictures chosen across participants was calculated per group. In order to compare frequencies between groups McNemar tests and Wilcoxon signed-rank tests were conducted. It became obvious that one picture, which showed a seminar group gathered around a table with their teacher, thereby intended to represent teaching, was sometimes understood as a team meeting. In these cases, the picture was not counted as a teaching expectation, but as an extra team-category, because in a team

meeting both research and teaching issues may be discussed. The team-category was coded for less than 4% of all decisions. These were excluded from the analyses.

Open-ended question

In a second step, participants completed open statements about their work life. One of them was “For me, research and teaching are ...” This question aimed at doctoral students’ experience of the research-teaching relationship. There was no word limit or any other prescriptions for the open answers.

Analysis. The corresponding answers were divided into their single content-carrying aspects and coded using deductive category assignment (Mayring, 2015). The coding scheme was developed earlier by inductive category formation (Jucks & Hillbrink, 2017) and contained four categories: research and teaching as *enrichment*, as *commonality*, as *dissimilarity*, and as *burden* (find examples for each category in the Results section). These categories also proved to be applicable to the present data. The whole data set was coded by two raters, and interrater reliability turned out to be satisfactory for both dividing the open answers into single content-carrying aspects, Krippendorff’s $\alpha = 0.91$, 95% CI [0.78, 0.99], and assigning these aspects to categories, Krippendorff’s $\alpha = 0.76$, 95% CI [0.66, 0.85] (see Krippendorff, 2004). Although asked for their own view, it became evident during the coding process that some participants explicitly commented on the primacy of research as communicated by colleagues or by the university system itself. These cases, where participants distanced themselves from others’ perspectives, were counted separately from doctoral students’ own views.

RESULTS

EXPECTATIONS (CHOICE OF PICTURES)

Research vs. teaching

Research pictures were significantly more frequent among participants’ choices than teaching pictures. Across all groups (self, private, and work-related groups taken together) the percentage of teaching pictures chosen was 16.67% in total, which was significantly lower than the percentage of research pictures with 83.33%, $z = -6.01$, $p < .001$. This was also true for each single group (all $p \leq .001$), except for the parents’ group, where the percentage of research and teaching pictures did not differ significantly, $\chi^2(1) = 2.77$, $p = .096$.

On the level of pictures, one was especially popular for illustrating expectations concerning an early-career academic’s work: the ‘computer screen’, a picture showing a person working in front of two computer screens. It was pre-classified as a research picture and was chosen in 60% of all decisions across participants and across groups. Two other pictures were only chosen for specific groups: ‘funding’ was chosen for the supervisor expectation, and ‘presentation case’ was chosen for doctoral students’ own expectations.

Differences between groups

The amount of research and teaching pictures differed between groups of people ($Q = 29.26$, $p < .001$), with a higher percentage of teaching pictures in both the friends and parents groups than in the colleagues and supervisor groups (4 p s $< .021$). Taking the two private and the two work-related groups together, there was a difference in the percentage of teaching pictures between work-related group (7% teaching pictures) and private group (33% teaching pictures), $z = -3.32$, $p = .001$.

On the level of pictures, a greater variety of pictures was used in the parents and friends groups than in the other groups; the parents and friends groups included research-related pictures such as ‘researcher in the lab’, ‘computer screen’, and ‘testing session’ as well as teaching-related pictures such as

'lecture hall' and 'seminar'. As an illustration of a typical result pattern, one exemplary collage is given in Figure 2.

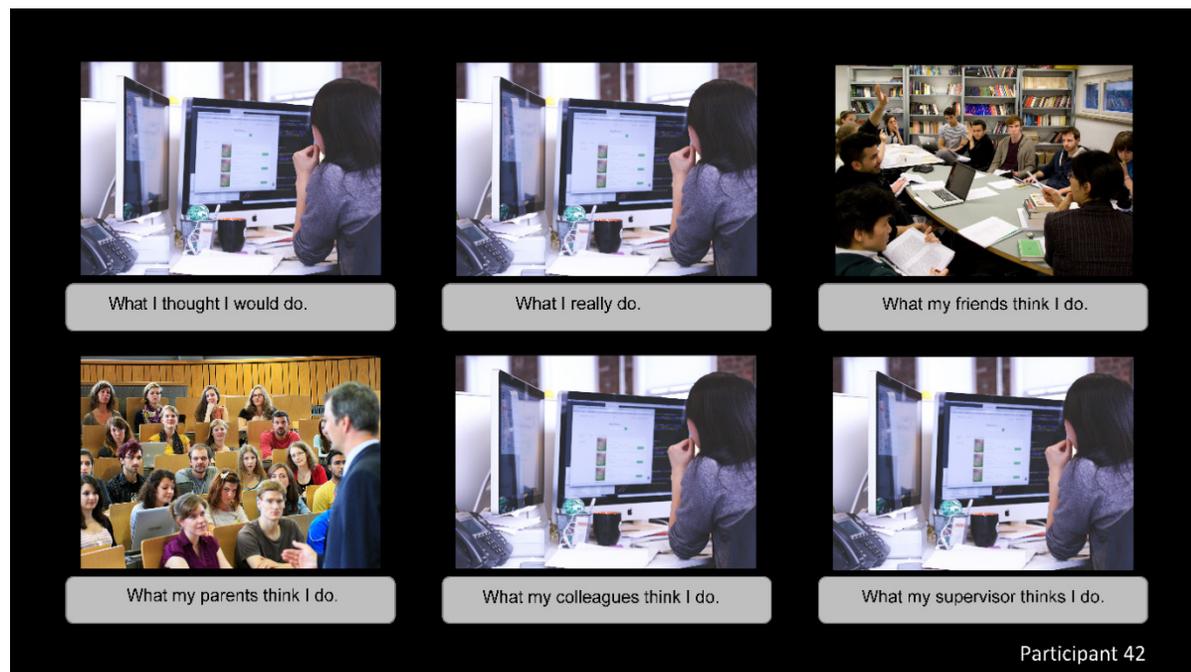


Figure 2. Exemplary collage by one participant

RESEARCH-TEACHING RELATIONSHIP: PRIMACY OF RESEARCH?

In 39% of all aspects, doctoral students described their relationship between research and teaching as *commonality*, reflecting a view that research and teaching share similar attributes and occur together. The opposite kind of relationship, *dissimilarity*, was mirrored in 25% of the aspects. This quarter described research and teaching as being different in nature and independent from each other. Another 26% of the aspects indicated the relationship was seen positively as *enrichment*, where research and teaching are united and stimulate each other. *Enrichment* exceeds *commonality* in the way that research and teaching are experienced as mutually enriching and synergistic beyond their similarity and co-existence. Less often, doctoral students described the relationship negatively as a *burden* (11%), where research and teaching are thought of as inharmonious and wearing. Examples for each category of viewpoints are shown in Table 1.

It can be noted that, according to doctoral students' own views, negative relationships between research and teaching (dissimilarity and burden) were named less frequently (35.15%) than positive relationships (commonality and enrichment, 64.85%), $\chi = -2.37, p = .018$. Here, it is striking that although not asked for importance, about one third of all participants (49% of aspects in the *commonality* category) stated that research and teaching are of the same importance. Examples of such answers are ('For me, research and teaching are ...') '...both important', '...of the same value', '...equally important', and '...equally important parts of my job'. In these cases, the primacy of research over teaching is explicitly negated in doctoral students' own views. Nevertheless, the primacy of research was mentioned with regard to the views of others. Five participants first described their own viewpoint and then commented on the imbalance of research and teaching as communicated in the system, for example by colleagues '...for my colleagues, teaching is of low importance and is more of a necessity (compared to the actually more pivotal research)', or more generally '...the system often is incompatible' and '...teaching is attributed a subordinate priority'.

Table 1. Examples for each category describing the research-teaching-relationship

COMMONALITY	DISSIMILARITY	ENRICHMENT	BURDEN
“two important parts of university” “(…) both are fun and take one further”	“two quite different fields of work” “two very different things, which have little overlap”	“complementing each other well” “(…) students as well as teachers can benefit from each other”	“a daily challenge” “oftentimes hard to reconcile”

DISCUSSION

WHAT DO DOCTORAL STUDENTS ASSUME THAT OTHER SOCIAL GROUPS, BOTH PRIVATE AND WORK-RELATED, EXPECT THEY ARE DOING?

Literally, doctoral students assumed others to expect that they are working on their research in front of computer screens, as this was the most chosen picture in general. The ‘computer screen’ picture was pre-classified as showing a research situation. Its popularity reflects the overall tendency that there was a clear primacy of research in terms of anticipated expectations, meaning that the majority of pictures chosen to illustrate doctoral students’ own expectations as well as those of work-related and private groups were research-related. This confirms our hypothesis that doctoral students generally assume research to be expected of them more strongly than teaching. Psychology doctoral students’ impression that research rather than teaching is expected by others is in line with findings from other disciplines, such as the life sciences (Lane et al., 2019).

Regardless of this overall tendency in favor of research, the amount of research and teaching pictures differed between the groups. Assumed teaching expectations were higher for friends and parents than for colleagues and the supervisors. Here, our second hypothesis is confirmed, that doctoral students assume teaching to be expected by private groups more strongly than by work-related groups. In fact, parents were the only category for which research pictures did not significantly outnumber teaching pictures. In a nutshell, our results show that doctoral students assume different social groups to have different expectations about what they are doing, where teaching plays a marginal role in colleagues’ and supervisors’ expectations but a more obvious role in parents’ and friends’ expectations.

Our findings strengthen the relevance of private relations for doctoral students’ development as teachers (see McAlpine et al., 2014; Sweitzer, 2009). Teaching as a topic is often experienced as private endeavor compared to the more public activities of research (Harland & Wald, 2018), and some doctoral students talk about it rather with their family than with their supervisor (Karm, 2018). These prior findings fit well with our results, which were that doctoral students assume that private groups have higher teaching expectations than work-related groups. As private groups are keener to see doctoral academics as teachers, these contacts can build a counterpart to the research-oriented contacts at work and, in the long run, influence doctoral academics’ development of a teacher identity through transmitting an appreciation of teaching. As private relations and their relevance for doctoral students’ professional development have not gotten much attention yet, these relationships are still lacking in models of teacher identity development (e.g., in the review of van Lankveld et al., 2016). We recommend that private relationships and their assumed expectations should be taken into account for doctoral students’ development as teachers.

One should keep in mind, though, that the effect of expectations on role identities needs further investigation. Psychology doctoral students’ identification with the researcher role is higher than with the teacher role (Hillbrink & Jucks, 2019), which is consistent with the pattern of their own expecta-

tions and the anticipated expectations of others shown here. Taken together, the two studies speak to the point that internalized expectations of others take part in shaping doctoral academics' role identification, as proposed by identity theory (Stryker & Burke, 2000). Nevertheless, an empirical relationship between anticipated expectations and measures of role identity in doctoral students still needs to be shown. Another group holding expectations about doctoral students' roles are the (undergraduate) students they teach. There are hints that students see junior staff more as teachers than as researchers (own unpublished data; Robertson, Teoh, McMurray, Roberts, & Sochos, 2011). Moreover, contact with students in terms of teaching experience has a positive impact on doctoral students' teacher identity (Hillbrink & Jucks, 2019; van Lankveld et al., 2016) and should therefore not be neglected as forming their understanding of roles.

To sum up, doctoral students in this study assumed that others expect them to mainly do research. The generally low teaching expectations were more pronounced with parents and friends than with colleagues and supervisors.

IS A PRIMACY OF RESEARCH REFLECTED IN DOCTORAL STUDENTS' STATEMENTS ON THE RESEARCH-TEACHING RELATIONSHIP?

Doctoral students' experience of the research-teaching relationship was mixed; four different types of relations could be replicated in this sample (see Jucks & Hillbrink, 2017). The combination of research and teaching was two times more often described as a *commonality* and *enrichment* than as a *dissimilarity* and *burden*. Interestingly, in the commonality category, one-half of all answers clearly stated that research and teaching are of equal importance. Most striking about these frequent statements is that we did not ask for importance at all, as the question was open ended. These participants must have seen a need to emphasize the parity of research and teaching, which speaks to the point that they have encountered the primacy-of-research phenomenon at university but negate such prioritization in their own view. In addition to describing their own view, a few participants also explicitly commented on the primacy of research as communicated by others such as colleagues or the university system in general. Taken together, these findings mirror that doctoral students observe a prioritization of research in the university system but refuse to adopt such views for themselves.

The impression that research is valued over teaching in psychology is in accordance with results from the life sciences (Lane et al., 2019), where doctoral students also see themselves confronted with a primacy of research. It is questionable whether this imbalance, as nourished by academia and the promotion system, is desirable. In spite of Hattie and Marsh's famous zero correlation between research and teaching productivity (Hattie & Marsh, 1996; Marsh & Hattie, 2002), newer data, which focus on quality rather than quantity, indicate that graduate students' research skills can benefit from their teaching (Feldon et al., 2011), or at least that teaching does not impair their research preparation (Shortlidge & Eddy, 2018). This fits well with the self-reported positive relationships between research and teaching here and high identification with both roles among doctoral students (Hillbrink & Jucks, 2019). The early stage of the academic career, as a crucial phase of socialization, should definitely offer academics the chance to experience possible synergy between research and teaching. Here lies a chance for the whole system to be renewed by a generation of academics who do not necessarily step into academia with the idea that research and teaching are a trade-off. We should not underestimate the impact that individual teaching motivations can have even in a research-favoring work environment (Cadez et al., 2017), and, in such an environment, specific activities to promote teaching are needed all the more. Professional development courses and other spaces where faculty can talk about teaching convey appreciation for teaching and are capable of moving teaching from a private to a professional endeavor among academics.

To sum up, doctoral students' anticipated expectations of others clearly reflected a primacy of research, but this primacy was less pronounced for private contacts such as parents and friends. Such prioritization was not mirrored in doctoral students' own views of the research-teaching relationship,

where the majority reported positive relationships and one-third of the sample spontaneously stated that research and teaching were equally important to them.

LIMITATIONS AND OUTLOOK FOR FUTURE RESEARCH

One has to keep in mind that expectations were only assessed by a single picture per group, forcing participants to choose between research and teaching. This does not reflect the possibility that all of the considered groups may hold expectations for both research and teaching in varying proportions. Moreover, using a visual approach means that pictures can be interpreted in different ways. To minimize such variance, the pictures used here had been tested with doctoral students in a pre-study and checked for misunderstandings in the present sample. In particular, the research picture ‘computer screen’ could also have been interpreted as preparation for teaching, but in fact it was understood by most participants as showing data analysis. Ultimately, a visual approach is just as much subject to interpretation as any other modality (Reavey, 2011). Another issue is that this study was based on a cross-sectional design. By taking into account that doctoral students’ own and others’ expectations may differ across time, for example, due to socialization processes, longitudinal studies covering different phases of doctoral study could be informative.

More research is definitely needed to explore how doctoral students’ role identification is related to the expectations put upon them by different groups inside and outside academia. Additionally, future studies should assess which expectations the different groups really hold and compare these to doctoral students’ anticipations (as already done in the literature on doctoral supervision, e.g., Pyhältö, Vekkaïla, & Keskinen, 2015). Here, it would be beneficial to measure research and teaching expectations on two independent dimensions analogue to role identification, which can also be high for both research and teaching at the same time. A visual approach has proven to be useful in this study on expectations, and the set of pictures can be valuable to study diverse topics related to research and teaching in psychology, including role identities (Hillbrink & Jucks, 2019) and perspectives (Hillbrink & Jucks, in press).

CONCLUSION

This study has shown that in the German higher education context, doctoral students in psychology assume that others expect them to mainly do research. Expectations of teaching were low; yet, this primacy of research on the level of expectations was less nuanced for private social groups, such as parents and friends. Although teaching has been reported to have low priority within the university system in general, this prioritization was not simply adopted by the doctoral students themselves. To the contrary, many participants claimed the same importance for research and teaching, and frequently the participants described they had a positive, even enriching, view of the relationship between research and teaching. These findings are new in the way that they confirm the primacy of research also in terms of anticipated expectations. At the same time, they emphasize the independence of doctoral students’ own views from the prioritizations of others. As a result, efforts should be made to preserve such positive attitudes towards teaching exhibited at the doctoral stage. One strategy deriving from our findings would be to make teaching a natural topic among colleagues and with supervisors as well, preventing teaching from manifesting as a conversation topic only in private contexts. At the same time, private relations should not be neglected regarding their power to positively influence doctoral academics’ development as teachers. Additionally, professional development activities can provide places for doctoral students where appreciation for teaching is transported and teaching motivation and skills can be preserved and refined.

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