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Showing off Your Social Capital: Homophily of Professional Reputation and Gender in Journalistic Networks on Twitter

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ABSTRACT

Social media like Twitter have become critical tools for public discourse and journalistic practice as they are assumed to enable equal conversations and engagement between different societal actors. However, recent studies have found that Twitter reproduces existing networks and hierarchies, indicated through homophily where dominant journalistic users with high symbolic capital tend to amplify and engage more with colleagues of similar symbolic status, which legitimizes their authority and dominance in the public sphere. Still, an in-depth understanding of how this manifests and might be rectified is lacking. To fill this gap, we explore the tweeting behaviour of 356 journalists in Austria, as social capital and personal networks are especially relevant to be recognized by peers. Our findings show strong homophilous tweeting behaviour for those with high professional reputation and for men. New entrants aim more towards gaining visibility in these tight-knit groups.

Journalistic work is increasingly moving outside the institutionalized bounds of legacy media, and profound institutional changes are reflected in the way journalists engage in the production, dissemination, and promotion of their work (Deuze 2007). In particular, as risk-taking and responsibility are gradually transferred to the individual (Cohen 2012), some embrace an entrepreneurial identity to increase their reputation within the profession. This includes self-branding and creating visibility for the content they produce within the journalistic field and beyond (Hanusch 2018; Molyneux and Holton 2015; Molyneux, Lewis, and Holton 2019). Social media are assigned a central role in this process and media corporations often expect, if not force, their employees to partake in this to bring audiences back to their outlets (Barnard 2016; Lewis and Molyneux 2018). Generally, it is assumed that social media platforms like Twitter enable anyone to build large audiences, gain peer recognition, and add to their

professional reputation, a notion which has long found its way into journalistic discourse (Langeder 2012) and journalism education (Sivek 2014). Assumingly, social media are a supportive space for marginalized groups with low social and symbolic capital, as might be new entrants to the journalistic field. Recent research, however, has shown that social media are not as egalitarian as they seem. Especially for women and minority journalists, active involvement on platforms such as Twitter carries the risk of being exposed to malicious actors and thus being confronted with hate speech, doxing, and harassment (Lewis and Molyneux 2018; Quandt 2018). Moreover, social media benefit the ones that are already visible, in a mode of "getting the rich richer" (Simon 2019). Studies investigating journalistic networks on Twitter have found that the platform perpetuates existing networks and hierarchies, indicated through homophily where dominant, mostly male, journalistic users with high symbolic capital tend to amplify and engage more with colleagues of similar symbolic status, which legitimizes their authority and dominance in the public sphere (Fincham 2019; Hanusch and Nölleke 2019; Parmelee et al. 2019; Usher, Holcomb, and Littman 2018). Hanusch and Nölleke (2019) highlight that this might have negative implications for diverse and credible news as homophilous networks with very similar group members can lead to uncritical consensus, groupthink, and pack journalism (Matusitz and Breen 2012).

While gender has been established as a factor in explaining homophily in journalistic networks, our understanding of other aspects that might contribute to them is still limited. Therefore, and in light of the increasing relevance of social media as a tool for journalists to garner peer recognition and visibility (Molyneux 2019; Molyneux, Lewis, and Holton 2019), we focus especially on professional reputation in this study.

Social Networks in Journalism and Homophily

From a field theoretical perspective (Bourdieu 1996), journalists compete for recognition in the journalistic field. The concept of field describes society as spaces of struggle over power in which social actors use their resources and capabilities (i.e., their economic, cultural, social, and symbolic capital [Bourdieu 1986]) to gain relevance. While specific knowledge and journalistic skills (cultural capital) are important to working as a journalist, relationships, status, and prestige—i.e., social and symbolic capital—are equally decisive to position oneself in the journalistic field. Symbolic capital grants legitimacy to dominance that often comes "in the form of credibility or good reputation" (Tandoc 2014, 562) and is frequently based on different editorial capitals such as professional experience, news beat, or journalists' positions within the hierarchy (Schultz 2007). Symbolic capital is also associated with peer recognition of professional excellence, for example through awards or praise (Willig 2013). In that sense, it is closely interlinked with social capital which encapsulates the social networks of informants (Vos 2016) as well as networks of other journalists (Hummel, Kirchhoff, and Prandner 2012). The larger these informal networks among journalists are, the more they provide (aspiring) professionals with information relevant for their careers, such as vacancies and other opportunities (Kapidzic 2020). Following Bourdieu (1996), social relationships strengthen the advantage provided through already accumulated cultural

and economic capital. However, this benefit only holds as long as the members of a social network possess relevant amounts of economic, cultural, or symbolic capital themselves, in essence whether they can offer something either in skills, financial resources, or recognition. Relationships can serve bridging purposes, i.e., connecting actors of different groups through weaker ties, or bonding purposes, which refer to the closeness of ties in long-standing, homogeneous groups (Vergeer 2015). In the journalistic field, these bonding relations can be thought of as what Zelizer (1993) conceptualized as interpretive communities, groups that share similar norms and role perceptions. As such, being part of a group can act as a coping mechanism to decrease uncertainty. According to Donsbach (2004), in lieu of strict professional rules, journalists seek social validation of their journalistic practice, and thus their belonging to the field, by peers. To reduce uncertainty, they look to other journalists to validate their decisions in "what is true (facts), relevant (agenda) and acceptable (opinions)" (Donsbach 2004, 140). This, however, not only occurs in the newsroom but also when observing other news media, and, crucially, through social interaction with journalists in non-professional settings, for instance among friends or on social media.

As these social relationships make up a central part of the ability to position oneself within a field, the premises under which they are formed need to be examined more closely. In a seminal study on friendships, Lazarsfeld and Merton (1954) showed that social networks are not formed by chance but are based on homophily, which denotes "the principle that a contact between similar people occurs at a higher rate than among dissimilar people" (McPherson, Smith-Lovin, and Cook 2001, 416). Accordingly, social relations are more likely to be formed between people with a similar sociodemographic background (status homophily) or like-minded attitudes and values (value homophily [Lazarsfeld and Merton 1954]). Status homophily can be further unravelled into shared ascribed and achieved characteristics. Ascribed characteristics such as ethnicity, race, gender, and age have been found to be the strongest markers for homophily, followed by achieved characteristics such as education, occupation, and religion (McPherson, Smith-Lovin, and Cook 2001). As a general rule for all sociodemographic dimensions, the bearers of a minority trait will always have more heterophilous networks; however, they can actively try to form even more homophilous groups, a phenomenon which McPherson, Smith-Lovin, and Cook (2001, 419) coin "inbreeding homophily". Research has found that in professional networks, homophily is not only common in achieved characteristics (status and education) but especially in specific ascribed characteristics—which means that even within occupations and organizations relationships are more likely to be formed on the basis of similar gender (McPherson, Smith-Lovin, and Cook 2001; Ruef, Aldrich, and Carter 2003).

In many professional contexts, however, women are still the ones carrying the minority trait (McPherson, Smith-Lovin, and Cook 2001).[1] Feminist scholarship in journalism studies has long described the vertical and horizontal segregation along gender in newsrooms, meaning that still to this day fewer women journalists occupy leadership roles and more women journalists are found working in less prestigious and lower-paid newsbeats—such as lifestyle—as well as media sectors (De Vuyst and Raeymaeckers 2019; Schultz 2007; Steiner 2019). Here, female gender can be conceptualized as negative capital, minimizing all existing volumes of cultural, economic, and

social capital (Djerf-Pierre 2007). What that means is that women journalists need to be better educated as well as better connected to garner recognition and reach dominant positions in the journalistic field. Many well-educated women journalists struggle to progress their careers because they lack social capital in the form of "long-standing male dominated networks" which women networks cannot provide them (Prandner 2013, 77). Unsurprisingly, recent studies have still found that women journalists try to internalize a masculine culture to advance in the field (Lobo et al. 2017).

Social Media and Journalistic Practice

Social media platforms and apps have changed journalistic practice profoundly, and Twitter is only one of them. While cultural and contextual factors as well as the affordances of the various social media shape their integration into journalistic routine (Goggin 2020), the specific characteristics of Twitter make it especially popular among journalists (Ausserhofer and Maireder 2013; Lewis and Molyneux 2018). For instance, it provides a continuous stream of publicly available information, which is ostensibly useful for breaking news (Vis 2013) and ideally enables users to reach a potentially large audience within a minimal time period. Journalists were early adopters of Twitter (Ausserhofer and Maireder 2013), followed by many joining the platform either because their peers did it (Powers and Vera-Zambrano 2018) or their employers demanded them to do so (Barnard 2016; Lewis and Molyneux 2018). Previous research has indicated that journalists mainly use Twitter to source information, monitor trends and peers, and connect with sources (Molyneux 2015; Powers and Vera-Zambrano 2018; Willnat and Weaver 2018). In addition, Twitter allows them to engage in sharing their opinion, which includes sharing news without prior verification while linking it to the origin of information (Lasorsa, Lewis, and Holton 2012). This also reflects the dynamic of journalistic practice embracing social media; while older affordances such as regular tweets and retweets have been found to be normalized into traditional norms and routines, newer forms like quote tweets allow journalists to include humour and organizational branding (Molyneux and Mourão 2019).

Social Media as a Tool to Enhance Professional Reputation

Besides information-sharing, Twitter offers the opportunity to directly engage with the audience, which is an important asset for journalists in media environments of high economic constraints and uncertainty (Molyneux, Holton, and Lewis 2018; Powers and Vera-Zambrano 2018). In an age of on-going metrification of engagement as a valuable currency, tech-savvy journalists increasingly try to establish seemingly authentic intimate relationships with their readers (Molyneux 2015). Adapting to discursive strategies employed by micro-celebrities often found on social media (Abidin 2018), journalists attempt to commodify their online persona and tie their audience to themselves rather than their employer. These strategies include the sharing of personal information, connecting with important public figures to further enhance their legitimacy, and asymmetrical communication; that is, they do not reply to everyone equally on Twitter (Olausson 2018). In fact, journalists' Twitter engagement with others

seems to be highly informed by social capital. They are more often approached by users with large formal and informal group memberships and tend to engage with these "elite" users more as well (Barnidge et al. 2020). Moreover, studies show again and again that journalists have more meaningful engagement with other journalists or to some extent "elite" Twitter users, which might limit their insight into other social realities (Ausserhofer and Maireder 2013; Molyneux and Mourão 2019; Olausson 2018; Parmelee et al. 2019).

Thus, in contrast to common assumptions, engagement on social media rarely results in conversations *with* the audience, especially when journalists aim to broaden their reach: followers' voices are less important, and popularity on Twitter is shaped by retweeting and following only a few selected accounts (Parmelee et al. 2019; Simon 2019). Twitter's form of relationship is by default one-directional, and a follower does not necessarily need to be followed back or react when being mentioned in another user's tweet. Users can engage with each other through *mention*, *reply*, and *retweet* functions, all active requests and validations of recognition, as well as enhancement of visibility. Thus, the different forms of communication provide social capital as the number of followers alone is not necessarily key to be recognized within a network. Rather, to show belongingness to a specific group, it is necessary to repeatedly approach others and engage in conversations (Ausserhofer and Maireder 2013). Especially journalists with weaker ties to organizations, like freelancers and beginners, might employ Twitter as a tool to establish "associations with other journalists—perhaps promoting higher-status journalists in the hopes of attracting attention to themselves—as a way of gathering capital and demonstrating their affiliation to the profession." (Molyneux, Lewis, and Holton 2019, 851). Employed journalists mostly use it to disseminate news (Brems et al. 2017) and to garner peer recognition and professional reputation (Powers and Vera-Zambrano 2018) by chatting with Twitter users they perceive as important (Olausson 2018).

Social Media and the Perpetuation of Gender Disparities

In that sense, social media are rarely used to genuinely foster new connections but "to make visible their social networks" (boyd and Ellison 2007, 211), that is, to show one's social capital. These settings engrain existing structures in the journalistic field as well as society as a whole as recent studies have found (Hanusch and Nölleke 2019; Molyneux and Mourão 2019; Usher, Holcomb, and Littman 2018). For example, Usher, Holcomb, and Littman (2018) observed homophily particularly along gender, Hanusch and Nölleke (2019) found strong group formation along gender as well as journalistic beat, organizational context, and geographic proximity.[2] Similarly, Fincham (2019) found gender and political journalism to be strong predictors for homophily. All recent studies have reported that the general lack of female voices in journalism is reinforced on Twitter. Men journalists, especially the ones who are highly legitimated within the field, tend to amplify and engage more with male colleagues with similar symbolic capital, legitimizing their dominance in the public sphere and having a "disproportionately high presence in the news ecosystem" (Hanusch and Nölleke 2019, 37).

What might contribute to these disparities online is that women journalists, just like vocal and visible women and minorities in general, are at the focus of the toxicity on social media (Lewis and Molyneux 2018). As Chen et al. (2020, 889) showed with an international sample of women journalists, a majority of respondents are regularly harassed and receive threats based on their appearance, investigative reporting, or for covering topics "associated with men." What is more, women journalists report low or no support in dealing with online harassment by newsroom managers. As a consequence, many women journalists report avoiding engagement online to protect themselves from harassment even though they realize it is important to participate in discussions online and be visible (see also Bossio and Holton 2019).

While we know that homophily among journalists exists on Twitter, an in-depth understanding of how this manifests itself in the opportunities for both women and men journalists to garner peer recognition and visibility through *mentions*, *replies* and *retweets* is still lacking. Moreover, as professional reputation was a prerequisite to be included in the sample in previous studies, much less is known about its role in the homophily of journalistic networks. Social media are frequently described by journalists and journalism educators as a relevant tool to increase visibility both outside the field through self-branding for broader audiences and inside the field through garnering peer recognition. We therefore developed the following research questions:

RQ1: How does homophily in professional reputation predict journalists' Twitter interactions (mention, reply, retweet) to express peer recognition?

RQ2: How does homophily in gender predict journalists' Twitter interaction (mention, reply, retweet) to express peer recognition?

Data and Methods

The present study relies on the application of network models to examine and test homophily as one type of a network structure. It builds on a unique dataset of Twitter interactions of journalists affiliated with Austrian news media. These interactions consist of mentions, replies, and retweets that were sent among the journalists from October 6, 2018 to February 4, 2019. Austria's media system resembles many of those in Western democracies (Steinmaurer 2009). With a population of 8.7 million, the media market in Austria is relatively small; however, the profession has been called "overcrowded" (Hummel, Kirchhoff, and Prandner 2012, 730). The discourse around the need for journalists to use social media to brand themselves has been present in Austria for quite some time (Langeder 2012). While general Twitter use in Austria is relatively low with 150,000 active users in 2017 (Artworx 2018),[3] journalists have been early and avid users of this social media. Throughout recent years, especially well-known public broadcast journalists and editors-in-chief have dominated the rankings of the most popular Twitter accounts. Unlike in the United States and other countries, Austrian celebrities and politicians have only lately started to use Twitter; thus, journalists are the dominant actors in the political Twittersphere (Ausserhofer and Maireder 2013). What is more, a study from 2013 found that most political networks within the

Austrian Twittersphere are male, only two women journalists were prominent, and "no noteworthy women's network exist[ed]" (Ausserhofer and Maireder 2013, 303).

Data Collection: Journalist Selection, Journalists' Attributes, and Twitter Interactions

To provide a substantial representation of the journalistic Twittersphere in Austria, we first drew on a list of 400 Twitter accounts of Austrian journalists that was provided by the Austrian Press Agency and is here referred to as APA list.[4] As the APA list only includes renowned journalists, we supplemented this sample with 207 followers of three industry-specific Twitter accounts hosted by an association for freelance journalists (@freischreiber_AT), the Austrian journalists union (@GPA_djp), and the Austrian Journalists' Club (@OeJC).[5] Journalists detected in this second step were only included in the sample if they self-identified as "journalist" or "editor" and mentioned their affiliation with an Austrian news outlet in their Twitter bio. In a last step, we cleaned the dataset by manually removing all journalists who were not (or are no longer) working for an Austrian news outlet and those with a protected Twitter account. Our initial sample consisted of Austrian journalists ($n = 567$) working at various Austrian news outlets across all media genres.

Using the Twitter REST API, we gathered the provided metadata (i.e., account verification, number of followers, location) and timelines from October 6, 2018 to February 4, 2019 (in total 132,036 tweets) for the 567 Twitter accounts.[6] Other necessary journalist attributes that were not part of the metadata were manually coded (i.e., gender, being featured on the APA list). Intercoder reliability was assessed with a minimum agreement of Krippendorff's alpha of 0.94 (Krippendorff 2013).

Several steps were applied to the collected timelines: We reduced the collected tweets to only those directed to the journalists within our sample, excluded loops, i.e., tweets in which a journalist mentions (replies to, retweets) themselves, and subsequently recorded who mentions whom, who replies to whom, and who retweets whom.

Measures

We looked at three different types of Twitter communication:

1. *Mention*: A tweet that is meant to be seen by the mentioned account, which is accomplished by linking to the receivers' @handle. It is used to request interaction, draw attention, alert the receiver that "they are being talked about" (boyd, Golder, and Lotan 2010, 2), or as shoutouts (Usher, Holcomb, and Littman 2018). The request for interaction can be rejected, and the mention can remain one-way communication (Brems et al. 2017).
2. *Reply*: A mention that reacts to a tweet and is in that sense an explicit interaction (Hanusch and Nölleke 2019). A reply also validates the initiated engagement of a mention (Brems et al. 2017).

Table 1. Characteristics of journalists active in the mentions, the reply, and the retweet network.

	Mention network	Reply network	Retweet network
	%	%	%
Professional reputation			
Featured on APA list	56	55	58
Not featured on APA list	44	45	42
Verified account	8	10	11
Unverified account	92	90	89
High number of followers	25	28	27
Lower number of followers	75	72	73
Gender			
Men	60	61	61
Women	40	39	39
Total N of journalists	356	246	264

3. *Retweet*: A tweet that is resent by an account other than the initiator, by which the original content is curated and amplified (Molyneux 2015). Retweets can act as gatekeeping and are driven by content value (Meraz and Papacharissi 2013).

Independent Variables

To assess the *professional reputation* of journalists, we evaluated (1) whether they were seen as relevant actors by peers (featured on the APA list), (2) whether their account had been considered of public interest by Twitter (verification[7]), and (3) whether they had large numbers of followers in relation to all Austrian journalists on Twitter. As the number of Twitter users who followed the journalists within our sample varied greatly (min. = 8, max. = 405,564), we use the 3rd quartile of 3272 followers to form two groups: journalists with a high number of followers (with more than 3272 followers, the top quartile), here conceptualized as journalists with a high professional reputation and those with a lower number of followers (with 3272 followers or fewer, the 1st, 2nd, and 3rd quartiles), representing the group of journalists with a comparably lower professional reputation.

We manually coded for *gender* as a binary by examining the public profile data (name, picture, Twitter bios). As we had no other means of identifying the journalists' gender, we had to apply this normative dichotomous definition but we acknowledge that it is problematic to ascribe it this way.

Network Construction and Description

We constructed three separate networks: one for mentioning, one for replying, and one for retweeting interactions. A tie in a network represented an interaction between two journalists (i.e., initiating and/or receiving a mention, reply, or retweet). Each of the three networks was constructed as a directed journalist-journalist binary matrix (mention network: 356 × 356, reply network: 246 × 246, retweet network: 264 × 264). Here, each entry field was defined as one if journalist i mentions (replies to, retweets) journalist j at least two times within the selected timeframe, and as 0 if this occurred

Table 2. Density table for ties between journalists that are part of the same or different groups with regard to professional reputation indicators and gender.

		Mention network		Reply network		Retweet network	
Professional reputation							
Featured on APA list		Yes	No	Yes	No	Yes	No
	Yes	0.045	0.018	0.035	0.017	0.022	0.010
	No	0.024	0.012	0.021	0.013	0.017	0.010
Verified account		Yes	No	Yes	No	Yes	No
	Yes	0.173	0.050	0.094	0.038	0.072	0.023
	No	0.076	0.022	0.051	0.020	0.042	0.012
Number of followers		High	Lower	High	Lower	High	Lower
	High	0.108	0.019	0.072	0.015	0.048	0.008
	Lower	0.033	0.008	0.026	0.007	0.018	0.006
Gender		Men	Women	Men	Women	Men	Women
	Men	0.036	0.026	0.031	0.022	0.023	0.013
	Women	0.025	0.031	0.022	0.029	0.014	0.017

Note. Tie densities among and across groups.

less than two times. This decision ensured a focus on intentional and truly targeted communication.

Table 1 depicts the number of involved journalists overall, grouped according to the journalist' characteristics (i.e., indicators of professional reputation, gender) examined.

To point out a few noteworthy observations regarding professional reputation (with little variation across networks), around 56% of involved journalists were featured on the APA list, about 10% had a verified account, and about 27% had high numbers of followers. The share of women journalists was generally lower in each of the three networks.

Comparing the three networks' overall densities, the mention network with overall 3816 ties was the densest (density 0.030), followed by the reply network with 1586 ties (density 0.026), and the retweet network with 1208 ties (density 0.017). How densities were distributed within and across groups of journalists are depicted in Table 2.

From looking at the observed densities, it was, for example, evident that men journalists had a higher probability of being tied to one another (.036) than women journalists to form within-group ties (.031). Whether such an observation reflects only the generally higher involvement of men journalists within the network (see Table 1) or whether this exemplifies a significant gender homophily effect was investigated through the application of the following modelling framework.

Analysis Strategy

To examine homophily within the networks, we made use of statistical models designed to test whether the similarity of two actors in a network increased their probability to form a tie (Hanneman and Riddle 2005). Using this modelling approach, the density of ties was assumed to be greater within each group than between groups. All analyses were based on ANOVA density models as implemented in UCINET (Borgatti, Everett, and Freeman 2002). We tested differences in group-tie density,

Table 3. Variable homophily of professional reputation and gender.

		Mention network	Reply network	Retweet network
Professional reputation (RQ1)				
Featured on APA list		Estimate	Estimate	Estimate
	Intercept	0.021	0.019	0.017
	Yes-Yes	0.024***	0.016**	0.009**
	No-No	−0.009	−0.006	−0.004
	R^2	0.006	0.003	0.001
Verified account		Estimate	Estimate	Estimate
	Intercept	0.063	0.044	0.032***
	Yes-Yes	0.110***	0.049**	0.039***
	No-No	−0.042***	−0.025**	−0.020***
	R^2	0.015	0.007	0.006
Number of followers		Estimate	Estimate	Estimate
	Intercept	0.026	0.021	0.013
	High - High	0.082***	0.051***	0.035***
	Lower - Lower	−0.018***	−0.014**	−0.007**
	R^2	0.036	0.021	0.014
Gender (RQ2)		Estimate	Estimate	Estimate
	Intercept	0.026	0.022	0.017
	Men-Men	0.010*	0.009+	0.010**
	Women-Women	0.005	0.007	0.004
	R^2	0.001	0.001	0.001

$+p < .1$; $*p < .05$; $**p < .01$; $***p < .001$.
Note. Estimates are unstandardized regression coefficients. Homophily was tested based on a ANOVA Density model as variable homophily; Significance Test: $N = 5000$ trials used in the permutation test. The reference group (intercept) refers to ties between women journalists that differ regarding the attribute examined here.

relying on the variable homophily model and the structural blockmodel. Variable homophily was used to test whether ties within group 1 (e.g., men journalists) and within group 2 (e.g., women journalists) differed from all ties that are not within-group ones (e.g., men journalists interacting with women journalists and vice versa). The structural blockmodel is less specific. The model allows the patterns of within and between group ties to differ across groups. The statistical significance of both models was assessed by running random permutations ($N = 5000$ trials) of the absence and presence of ties between pairs of actors.

Results

We focus first on the tested *variable homophily models*, i.e., whether the tie likelihood (mentioning, replying, retweeting) for two journalists being in the same group (similar professional reputation level, same gender,) was higher in contrast to the tie likelihood across groups (intercept). Table 3 presents estimates for all research questions.

Starting with the findings for RQ1 concerning the impact of professional reputation on mentioning behaviour on Twitter, we observed significant effects for all three indicators. Journalists featured on the APA list, with verified Twitter accounts, and with a high number of followers were more likely to mention members of their own respective groups. In contrast, the likelihood for this type of interaction to occur was much lower among journalists with unverified accounts (i.e., negative estimate = −0.042, $p < .001$) and among journalists with a lower number of followers; the effect was also negative but not significant among journalists not featured on the APA list. With

Table 4. Structural blockmodels of professional reputation and gender.

		Mention network	Reply network	Retweet network
Professional reputation (RQ1)				
Featured on APA list		Estimate	Estimate	Estimate
	Intercept	0.012	0.013	0.017
	Yes - Yes	0.032***	0.022*	0.013*
	Yes - No	0.006+	0.004	0.000
	No - Yes	0.012**	0.008+	0.007*
	R^2	0.006	0.003	0.002
Verified account		Estimate	Estimate	Estimate
	Intercept	0.021	0.020	0.012
	Yes - Yes	0.151***	0.074**	0.059***
	Yes - No	0.029**	0.018**	0.010*
	No - Yes	0.055***	0.031***	0.029***
	R^2	0.016	0.007	0.007
Number of followers		Estimate	Estimate	Estimate
	Intercept	0.008	0.007	0.006
	High - High	0.101***	0.065**	0.042***
	High - Lower	0.011**	0.008**	0.002
	Lower - High	0.025***	0.019***	0.012***
	R^2	.037	0.021	0.014
Gender (RQ2)		Estimate	Estimate	Estimate
	Intercept	0.031	0.029	0.017
	Men-Men	0.005	0.002	0.005
	Men-Women	−0.005	−0.007	−0.004
	Women-Men	−0.005	−0.006	−0.004
	R^2	0.001	0.001	0.001

$+p < .1$; $*p < .05$; $**p < .01$; $***p < .001$.
Note. Estimates are unstandardized regression coefficients. Homophily was tested based on a ANOVA Density model as Structural Blockmodel; Significance Test: $N = 5000$ trials used in the permutation test. The reference group (intercept) refers to ties between journalists with lower number of followers.

respect to the reply network, journalists featured on the APA-list with a verified account and a high number of Twitter followers were more likely to reply to each other than to journalists who were not part of these groups (baseline). Effect directions and levels of significance for the professional reputation indicators were highly similar to those of the mention network. Again, no homophily but the opposite effect was observed for two of the three indicators of lower professional reputation. The likelihood to reply to each other was less likely among journalists with unverified accounts and among journalists with fewer followers. Turning to the retweet network, we examined to what extent homophily in professional reputation influenced journalists' Twitter interaction to amplify their peer visibility through retweets. Interestingly, we found the same result patterns. The test of the variable homophily model indicated a significant homophily effect for journalists on the APA list, for journalists with verified accounts, and for journalists with a higher number of followers. The model estimates further indicated that journalists with unverified accounts and a lower number of followers were significantly less frequently connected through retweeting.

Moving on to RQ2 looking at homophily effects among men and women journalists for the mentioning network, we found no significant effect for women journalists but a significant homophily effect for men journalists. Thus, while men journalists were more likely to mention each other, women journalists' likelihood to mention each other was not significantly different from mentioning across groups. For the reply

network, the effects by gender were minimal. Yet, a homophily effect (marginally significant) was found for men journalists. Finally, the estimate for men journalists retweeting each other was also positive and strongly significant; among women journalists no significant homophily effect was identified.

We now consider the results for the *structural blockmodels* (Table 4) and look more closely on effects across groups. With respect to RQ1 again, while the results echo once again that journalists with lower professional reputation had no significant tendency to form ties among one another (non-significant estimates for all intercepts), they were found to be more likely to interact with journalists with a higher professional reputation ("No –Yes").

More specifically, journalists not featured on the APA list were more likely to mention, reply to, and retweet journalists that were featured on the APA list than members of their own group (i.e., mention: estimate = .012, $p < .01$; reply: estimate: .008, $p < .1$; retweet: estimate = .007, $p < .05$). Journalists with unverified accounts were more likely to mention, reply to, and retweet journalists with verified accounts than other journalists with unverified accounts. Journalists with lower numbers of followers were more likely to mention, reply to, and retweet journalists with a high number of followers than other journalists with lower numbers of followers.

It is important to note that journalists with a higher professional reputation (verified account and a high number of followers) appear to be more likely to interact with journalists with a lower professional reputation than journalists with a lower professional reputation are likely to interact with each other (the intercepts). To put these results into context, all effect sizes across groups were smaller than those among the respective group with a higher professional reputation.

Moving to the other independent variable (RQ2), we found no significant effects for gender (applies to the mention, reply, and retweet network). Thus, women journalists were, for example, not more likely to interact with male colleagues than among one another.

Discussion and Conclusion

This study contributes to a further understanding of how homophily in networks affects the opportunity to gain social capital and visibility on Twitter, a key aspect for the self-branding of new entrants and less established journalists. We examined Twitter interactions among Austrian journalists for about four months, focussing on how *professional reputation* and *gender* drive their mention, reply, and retweet behaviour. While the literature suggests that mentioning (asking for recognition), replying (recognizing this request and direct interaction), and retweeting (making others visible) have different functions, we found that replies and retweets were similarly employed in our networks when it came to making others visible.

Regarding gender, our study supports overall previous work that observed a divide in journalistic behaviour on Twitter (Hanusch and Nölleke 2019; Usher, Holcomb, and Littman 2018). The data suggests that men journalists are significantly more proactive in gaining recognition from their male peers. In particular, they are more likely to mention and retweet each other, which means that they use Twitter to make others

visible and also to acquire visibility for themselves; that is, they anticipate some reciprocity and use these interaction opportunities to be perceived as receptive peers. For women journalists, no such interaction behaviour was found; that is, we cannot find any inbreeding homophily among the actors with the "minority" trait (McPherson, Smith-Lovin, and Cook 2001). The structural blockmodel further showed that women are not more likely to engage with their male colleagues than with each other. This is noteworthy, as previous research suggested that men journalists are ascribed higher social capital and engaging with them could strengthen women's social capital (Prandner 2013). In general, women journalists' tweeting behaviour could be explained with the risk of being exposed to hostility and harassment associated with increased visibility in the network (Lewis and Molyneux 2018), or with a strategic professional use of social media through disconnection (Bossio and Holton 2019).

However, altogether, our results show that the structure of the mention, reply and retweet networks is explained less by journalists' gender and more by their professional reputation. We identified a distinct tight-knit group of journalists with a high professional reputation who were more likely to mention, reply to, and retweet their peers with a similar reputation. From a field theoretical perspective, it appears that journalists are more likely to initiate and acknowledge a conversation if the receiver is perceived as important because by being connected to this person, their social capital—on Twitter and in real life—increases as well. Regarding the retweet behaviour, it might be that journalists with a higher professional reputation are more willing to make visible information that comes from a legitimate source (i.e., from a journalist with a high professional reputation) to contribute to their professional reputation as objective, fact-oriented gatekeepers. Moreover, a retweet by a verified account authorizes the content, which is why verified accounts might be more cautious to retweet non-verified accounts. These findings reiterate those of previous studies (Olausson 2018; Powers and Vera-Zambrano 2018) that found interaction on Twitter to be asymmetrical, thereby reinforcing established journalists' authorities (Mourão 2015).

As we look at peer recognition as a form of social capital, which is crucial to enter the journalistic field, we are particularly interested in the groups that have a lower professional reputation. This means, in our case, that they are not perceived as important by the field (not featured on the APA list), their accounts have not been deemed to be of public interest by Twitter (unverified accounts), and they have a low number of followers. Here, we found negative homophily effects on all levels of communicative behaviour, indicating that overall they were less likely to mention, reply to, and retweet members within their own group; again, we could not observe inbreeding homophily. The structural blockmodels even showed that they sought to engage with journalists of a higher professional reputation to broaden their network and to be recognized by the important players of the field, as this social validation of their practice makes them part of the group (Donsbach 2004). This is especially relevant for freelancers who have been found to use Twitter more for networking and relationship building (Brems et al. 2017; Molyneux, Lewis, and Holton 2019).

Taken together, these findings emphasize the unequal opportunities to gain visibility in networks on social media like Twitter. In particular, professional reputation appears to be a key variable when it comes to gaining peer recognition in journalism,

reiterating work on peripheral actors and boundary work in journalism (Belair-Gagnon and Holton 2018; Eldridge 2018; Tandoc 2019). Our data suggest that there is a dominant core of respected journalists on Twitter to whom everyone is reaching out in a bid to be part of the group themselves. While the actors with less professional reputation all self-identify as journalist or editors in their Twitter bio and follow industry accounts, they and their journalistic identity are not necessarily recognized by those with higher professional reputation (Eldridge 2018). By contrast, and similar to van Dijk's (2012) reasoning on social media networks in general, Twitter's one-directional form of relationships favours established journalists, as the ones with the most followers are also the ones that are long-established in the journalistic field (e.g., television or famous investigative reporters). This, in a sense, also contradicts the prevalent discourse in the journalistic community, and even more so in journalism education, that for new entrants to the field, self-branding on social media is a crucial part of being successful, as it gets more and more difficult to reach visibility. It is also in a sense reminiscent of Simon's (2019) finding that media organizations should not rely on social media metrics to evaluate their journalists, as they might enhance existing structural inequalities. Twitter manifests existing structures in the field (Usher, Holcomb, and Littman 2018), compelling marginalized groups to adapt to and adopt the dominant form of behaviour. In a highly competitive and monopolized environment like the Austrian journalistic field, more marginalized journalists are less oriented to building networks with journalists who are similar to them but instead direct their communication towards the bigger players in the field to garner their recognition. In this way, they try to transform this interaction into social capital, which in the long run might translate into symbolic capital if they are not only connected to important persons in the field but are also able to show their journalistic skill. However, given that especially women and minority journalists are frequently facing hostility and harassment online, branding via social media must also be examined in light of potential dangers (Lewis and Molyneux 2018; Quandt 2018).

In this study, we have extended previous research on journalistic homophily in social networks by systematically investigating Twitter interactions among Austrian journalists for about four months, taking into account their reply, mention and retweet behaviour. Interestingly, our data show highly similar results for all three interaction modes. As existing research suggests that replying, mentioning, and retweeting refer to different intentional behaviours, future studies might take a closer look at them to further conceptualize their specific functions for Twitter users. To put our results into perspective, it is also important to note that our data were collected shortly after the studies by Usher, Holcomb, and Littman (2018) and Hanusch and Nölleke (2019), which raised some awareness about gender inequality in the Austrian Twitter community. It is therefore important to observe the phenomenon of journalistic homophily over time as the current status may be subject to repeated change. In this vein, it may be worthwhile to cease focussing on Twitter and to broaden the scope by investigating social capital among journalists on social networks more generally. What is more, future research should consider the beat, the medium type, the geographic location of a journalist, the network-endogenous measures (e.g., reciprocity), and the concrete content of Twitter messages, all of which were not within the scope of the

current analysis. This is not only relevant to identify tangible patterns of communication to garner peer recognition but also to further examine homophily by looking at textual similarity or the topical focus of tweets (aspects suggested, for example, by Song, Cho, and Benefield 2020). Moreover, while it paid off that we had a more nuanced measurement of professional reputation by using three aspects with different functions, further studies should look more into their complex interrelation.

Despite these limitations, this study provides a valuable contribution in that we could support findings from qualitative studies by introducing network analysis to examining homophily induced inequality in the journalistic field. Specifically, we highlight the relevance of professional reputation as an underrepresented factor for the emergence of homophilous structures and shed light on the behaviours and strategies of new entrants as a particularly vulnerable group given today's institutional changes.

Notes

1. For journalism, the *Worlds of Journalism Study* (2019) showed that in the majority of the countries examined, women journalists made up the minority.
2. No study examined homophily along race and ethnicity.
3. Twitter does not require users to disclose age, gender, or place of residence, and it announces global user numbers only once a year. Thus, any analysis is reliant on external algorithms of social media marketing firms, which are not transparently disclosed, making all numbers not entirely reliable.
4. The list relevant here (https://twitterlist.ots.at/journalistinnen-und-journalisten/) includes, as noted on the website, important persons of the Austrian Twittersphere from the fields of media/journalism. It is managed editorially and does not claimed to be complete. We collected the information from the constantly updated list in July 2018.
5. We assume that these accounts are followed by rather non-established journalists who are of particular importance for the scope of this study.
6. We gathered the data on December 18, 2018 and February 4, 2019. Duplicated tweets that were part of both data sets were removed. As we were interested in the network of Austrian journalists and its German-speaking actors, we further selected only German-language tweets. The Twitter's REST API returns up to 3,200 of a user's most recent Tweets. The API restriction meant that October 6, 2018 was defined as the start date for the examined time frame, as this was the most recent day for which we were able to collect tweets from all journalists within the sample.
7. Users could apply for verification by Twitter, but as of November 2017, (https://twitter.com/TwitterSupport/status/930926225517719552) Twitter has put public submissions on hold and only verifies accounts of users who are already of public interest (see https://help.twitter.com/en/managing-your-account/about-twitter-verified-accounts).

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Disclosure Statement

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