

MEDIÁLNÍ STUDIA

MEDIA STUDIES

JOURNAL FOR CRITICAL MEDIA INQUIRY

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To cite this article:

Dedecek Gertz, H., Süßer, F. (2022). Migration and educational projects online: A topic modelling approach of discussions on social media groups. *Mediální studia*, 16(2), 236–256.

ISSN 2464-4846

Journal website: <https://www.medialnistudia.fsv.cuni.cz/>

2/2022

MIGRATION AND EDUCATIONAL PROJECTS ONLINE: A TOPIC MODELLING APPROACH OF DISCUSSIONS ON SOCIAL MEDIA GROUPS

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ABSTRACT

This paper discusses the prevalence of topics relating to education in information exchanges on Facebook groups of Brazilians who live in – or wish to migrate to – Germany. Against the background of mediatisation theory, social networks and transnational education research, we conducted an explorative quantitative study based on a text-as-data approach. Concretely, we collected posts from 14 migrant groups and analysed them using topic modelling. Our results reveal that vocational education and training (VET) are prevalent in these debates and topics associated with language learning and certification. We contend that latent ties (Haythornthwaite, 2002) on migrants' social networks are relevant in migratory pathways involving education – regardless of educational level.

Keywords: Brazilian migration ▪ latent ties ▪ migrant's online communication
▪ migrant's media use ▪ transnational education

1. INTRODUCTION

Since the 1990s, social inequality and poverty have been important drivers of Brazilian migration, but specialists and students seeking higher education also make up for Brazilians who decide to leave the country. Migration for educational reasons has been mostly related to high and middle-class contexts since it requires a considerable amount of economic resources and academic certificates. However, studies about Brazilian migration to Germany have described how educational aspirations drive the migration of young people also in underprivileged socioeconomic contexts. For these migrants, transnational social networks are decisive, as they provide valuable resources for their pursuit of educational opportunities through migration (Carnicer, 2019, 2018; Fürstenau, 2019). As in other migratory contexts, these social networks are constituted mainly by rather strong ties between relatives and friends who usually maintain long personal relationships (Boyd & Nowak, 2012). In this

paper, we explore the role of online social networking sites (SNS). These networks can usually be accessed without a prior personal relationship. In this way, they offer not yet ‘weak’ but rather latent ties: technically available connections that have not yet been activated by social interaction but can be activated online at any time (Haythornthwaite, 2002, p. 385). An example of those ties is migrant Facebook groups: participants of such groups do not necessarily know each other but they gather online around a common nationality (implying a common language and similar bureaucratic procedures required to migrate, for instance) and interests (e.g. aspirations to migrate to Germany to pursue a degree). By posting a question in such online groups, participants activate connections with unknown people who can help solve doubts and provide valuable information about the migratory process (Jayadeva, 2020). As a first approach to evaluate the influence of SNS in migration and transnational educational pathways, we assess in this paper the relevance of education in communication through SNS. Concretely, we address the research question, what is the prevalence of education-related topics in Facebook groups of ‘Brazilians in Germany’? In a second step, we look at the ways how these topics are clustered in particular migrant Facebook groups. This allows a first characterization of the main topics addressed in the education-related discussions on SNS. This research aims to assess if SNSs provide latent ties that support migration pathways associated with educational projects. To do that, we resort to a topic modelling approach of posts written on those groups.

The next section places this paper within transnational migration, mediatisation and social network theory, with a focus on latent ties and Brazilian migrants’ SNS use, followed by an overview of studies relating education to migration. To contextualise the empirical data and justify the choice to analyse Brazilians in Germany, the fourth section provides information about the educational system in Brazil and the German educational system. After that, our decisions in regards to the topic modelling approach are explained and the results are presented. In the discussion, we contend that education is among the most prevalent topics debated in these groups, in particular vocational education and training (VET).

2. TRANSNATIONAL MIGRATION, ONLINE SOCIAL NETWORKS AND THEIR LATENT TIES

Transnational migration theory relies on evidence from migrants’ activities, patterns of behaviour and network connections to claim that migrants build social fields spanning beyond national borders and thereby securing “cultural, social and economic bases” (Glick-Schiller et al., 1992, p. 9). Here we set the focus on transnational migrant networks, particularly those established in online environments, understanding networks as “a set of socially relevant nodes connected by one or more relations” (Marin & Wellman, 2014, p.11). These nodes represent members of a network – for the case of this paper, participants of Facebook groups. The connections

among these nodes are our patterns of interest, namely connections established by exchanging information about educational opportunities in Germany. Following, this section highlights the roles of online media within migrants' social networks, focusing on its uses among Brazilian migrants, and on the concept of "latent ties" (Haythornthwaite, 2002) found in such networks. The next section then draws the connection between education and migration.

Information exchange is a core aspect of the establishment and maintenance of transnational social networks. In migratory contexts, constantly developing media platforms and information and communication technologies (ICTs) are a means for parenting from a distance, providing financial and emotional support, and forming identity (Cabalquinto, 2019; Gomes & Yeoh, 2018; Leurs, 2019; Madianou & Miller, 2012). Among Brazilian migrants, the uses of SNS have been shown to serve as a source of "a variety of social capital ... which assists in the migration transition" (Schrooten, 2012, p. 1801). Analysing Brazilian migrants in Europe who participated in groups on the now deactivated SNS "Orkut", Mieke Schrooten (2012) and Martijn Oosterbaan (2010; 2013) report about mutual aid in regards to bureaucratic procedures and job-seeking, revealing the uses of such online connections for newcomers to establish themselves in the new settings. These groups are also used to arrange in-person gatherings (Oosterbaan, 2013; Schrooten, 2012), evidencing an interest in establishing or reinforcing ties with acquaintances made in SNS groups. After Orkut was shut down in 2014, new groups of Brazilian migrants were created on Facebook with the same purposes. Recent reports show that these groups are highly active, with a mean of 66.8 monthly posts in one group only (Foletto, 2018, p. 99) and some with more than 24 thousand participants (Dedecek Gertz, forthcoming). Those findings from different points in time (first Orkut, now Facebook) demonstrate the relevance of online networking in transnational migratory contexts regardless of the platform: when Orkut was no longer available, migrants gathered on Facebook and kept using the platforms for similar purposes. If Facebook was to be no longer active, migrants would likely re-organise on other digital platforms.

As of February 2022, 174 million Brazilians had a Facebook account and, of that total, almost 30 per cent are between the ages of 25 and 34 (NapoleonCat, 2022) – when people are more likely to migrate through and for educational opportunities (Kandel & Massey, 2002). With such a large number of users, these migrant groups are likely to be heterogeneous in terms of socioeconomic background and educational attainment. While the aforementioned studies provide an overall impression of what is discussed and of the uses of Brazilian migrant online groups, analysing information exchanges specifically about education helps map the roles of SNS in transnational educational projects across socioeconomic backgrounds.

2.1. Migrants' latent ties and mediatization of transnational education

Departing from an attempt to measure media effects on migration, the sensitising

concept of mediatisation serves to explain societal changes in connection to developments in media and technology. Mediatisation can be understood as the experience that “technological communication media saturate more and more social domains which are drastically transforming at the same time” (Hepp, 2020, p. 3). By putting human practice at the centre through the analysis of information exchange on SNSs, we produce empirical evidence that can build up arguments about how mediated connections may result in broader social transformations and consequences (Hepp, 2020; Couldry & Hepp, 2017). In other words, we are rather interested in how media use by humans transforms social practices than in how media developments provoke transformations in human behaviour and social practices. In that sense, an analysis of the prevalence of education-related topics in migrant Facebook groups provides insights into how mediated communication transforms migration pathways and contributes to the transnationalisation of education. In our analysis, we consider mediated communication as a process (Hepp, 2020) and focus on individuals’ interaction through media. Other analyses about the mediatisation of education focus on aspects of pedagogy (Friesen & Hug, 2009), policy (Rawolle & Lingard, 2014), or institutional perspective (Breiter, 2014). Here, we propose an analysis of the mediatisation of education that focuses on the implications of media use for migration and transnational educational pathways.

Brazilian migrants were already using SNSs in the early 2000s and their use of transnational latent ties has already been described a decade ago (Schrooten 2012, Oosterbaan 2013). What is new in the case of Facebook groups in comparison with participants of Orkut groups in the past relates to particular quantitative trends (Hepp, 2020, p. 40). The groups of Brazilian migrants on Orkut described by Oosterbaan (2013) and Schrooten (2012) were mostly general groups, gathering Brazilians in a given city or country. Nowadays on Facebook, those groups are still popular yet there is a differentiation process happening that gives way to the creation of niche groups with similar high amounts of participants and levels of interaction. Medias’ omnipresence is another quantitative aspect of mediatisation that shapes media use of migrants. To access Orkut, one had to be (media) literate and have to access a personal computer, internet connection, and free time to browse that SNS sitting in front of a computer. With the increase in digitalisation and the accessibility of gadgets with an internet connection, Facebook groups can be accessed from a smartphone on a bus on the way to work, for instance. Formally illiterate people are also able to use SNS on their smartphones, as described in an ethnography study in a rural area in Brazil (Spyer, 2017).

In this paper, we offer a snapshot of online information exchange on a specific topic: migratory projects involving transnational education. In that sense, this study contributes to analysing the mediatisation processes of transnational education by describing the relevance of education-related topics in migrants’ activation of latent ties on online forums.

3. MIGRATION AND EDUCATIONAL PROJECTS

Transnational education (TNE) is often associated with international private schools or university education. That association often results in analyses that highlight the role of TNE among socioeconomic strata that hold resources to access a global educational market (Adick, 2018). On the one hand, the transnational mobility of students within that socioeconomic context tends to be regarded as a strategy to gather social and cultural capital (Brooks & Waters, 2010). On the other hand, the transnational mobility of people from lower socioeconomic backgrounds pursuing educational pathways tends to be disregarded as TNE and associated with issues of “migration” and “integration” (Carnicer & Fürstenau, 2019). Nevertheless, recent qualitative data have highlighted that students from disadvantaged backgrounds also migrate to pursue educational aspirations and thereby contribute to the transnationalisation of education (Carnicer, 2019; Fürstenau, 2018).

Educational opportunities abroad and own educational aspirations are relevant factors in migration decisions. Both the lack of access to formal education in the country of origin and the possibility of securing a stable migratory status and a job by accomplishing a degree in the country of destination are both reasons and means to migrate (Carnicer, 2019; Fürstenau, 2019). Migrants from these backgrounds are likely to see in TNE “an educational strategy that is not directed towards a symbolic capital that legitimates an inherited social position, but towards overcoming social exclusion” (Carnicer, 2019, p. 22). Differently than trajectories of migrants from socioeconomic strata who can migrate autonomously (e.g. those accepted at universities and who thus have access to institutional infrastructures that provide information and assistance), migrants who may feel excluded from educational opportunities in their countries of origin and seek such opportunities abroad, are likely to rely on interpersonal social networks composed by strong and weak ties (Carnicer, 2019; Fürstenau, 2018). In this paper, we argue that SNS provide aspiring migrants with information and resources comparable to those of personal networks.

Within information exchanges among migrants in SNS, educational opportunities are present as topics for discussion, as seen in Facebook groups gathering migrants who wish to pursue university degrees abroad (Jayadeva, 2020). Even in groups in which the focus is not on education, but rather on specific cities, jobs, and other opportunities, such as Au Pair work, educational aspects are also mentioned, such as what aspects one has to be aware of when looking for a school for children, what options for vocational education and training (VET) are there, and what certificates are needed to navigate the job market (Dedecek Gertz, forthcoming). The centrality of education is clear within groups that gather migrants who aspire to pursue degrees abroad. Nevertheless, discussions about issues relating to education within other groups might be present as well and are likely to be more diverse, encompassing migrants interested in educational levels other than university degrees, such as VET. Putting in perspective how relevant educational issues are within these diverse

groups can help to map the role of SNS in migratory movements involving transnational education "from below" (Smith & Guarnizo, 1998).

4. EDUCATIONAL PATHWAYS: INEQUALITY IN BRAZIL, DISCRIMINATION AND OPPORTUNITY IN GERMANY

The Brazilian educational system faces inequalities across all its levels, from children's education to access and permanence at universities (Windle, 2021; Sampaio & Oliveira, 2016; Câmara & Almeida, 2012). In Germany, migrants who manage to access the educational system are likely to suffer discrimination. A central factor that shapes the access and successful conclusion of degrees in both countries is socioeconomic class.

With a Gini Coefficient of 53.4 as of 2019, it is not surprising that poverty has been the main driver of Brazilian migration since the 1980s, although labour migration of skilled professionals is also prevalent (Evans et al., 2013) and some young people from low-income backgrounds also migrate following educational aspirations (Carnicer, 2019; Fürstenau, 2018). One of the main reasons for Brazilians to quit formal education is the need to find gainful employment (IBGE, 2020). That is particularly the case for 'Black' and 'Brown' people who compose only 31% of university graduates in the country, while 'white' people comprise over 66% of that total (Silva, 2020, p. 23). Despite affirmative actions to facilitate the access of high school graduates to the public, tuition-free, and prestigious universities, access to tertiary education in Brazil is highly competitive and lectures schedules hardly allow students to accommodate studying with gainful employment - resulting in either a high drop-out rate or in the choice for less-prestigious, private universities (Pereira & dos Reis 2020; Trevisol & Nierotka 2016). Javier Carnicer (2019) and Sara Fürstenau (2019) describe how migrants who feel excluded from educational opportunities in Brazil and thus have fewer options for socioeconomic upward mobility, find ways to fulfil their educational and mobility aspirations in Germany, making use of social networks and some particularities of the educational systems.

In Germany, migrants, as well as non-migrants from low-income backgrounds, might have easier access to formal education in comparison to the Brazilian situation, however, these populations are still discriminated against within the German educational system (Dumont et al., 2014; El-Mafaalani, 2020). That is evidenced in German schools' selection pattern: at the age of 10, students are recommended to continue towards the prestigious *Gymnasium*, which allows direct access to university after completion of final exams, the *Abitur*, or to other school modalities that do not enjoy the same status as the *Gymnasium* (*Gesamtschule*, *Gemeinschaftsschule*, *Stadtteilschule*, *Realschule* or *Hauptschule*, depending on federal-state legislation). Students who complete their schooling within these other modalities can access VET (the *Ausbildung*) without constraints, however, their pathway toward university education is longer than that of *Gymnasium* graduates. Some areas of VET in Germany are

remunerated (e.g. hospital care work and children's nursing), however, university stipends are hardly available for non-German citizens with foreign school degrees and no residence permit. School students who migrated to Germany, or those born in Germany to migrant parents, are more likely not to be recommended to access the *Gymnasium*, which in turn results in a lower representation of this population in German universities (Hunkler, 2016).

In 2020, almost 31% of all Brazilian migrants lived in Europe (Ministério das Relações Exteriores, 2021, p.4) and, following a contemporary feature of the feminisation of migratory movements (Lutz, 2010), around 64% of Brazilians in Germany are women (Statistisches Bundesamt, 2022), what is likely due to the high labour demand in the care sector, which is still predominantly perceived as a female area. While the rate of women in Brazil who earn university degrees is higher than that of men, this does not reflect higher salaries for women (IBGE, 2021). In Germany, a pathway for some Brazilian women is to take advantage of the gendered perception of care-work and pursue paid VET degrees in that area, thus accomplishing a tertiary educational degree in the country leading to more chances of landing a job and a secure residence status (Carnicer, 2019; Fürstenau, 2019). These women rely first on Au Pair programmes and on personal connections to fulfil their educational and upward mobility projects (Carnicer, 2019; Fürstenau, 2019). Our focus on Germany as a destination country is due to the existence of such paid VET programmes and because German university fees are comparatively low, which attracts migrants who feel excluded from the Brazilian educational system (Carnicer, 2019).

Social networks based on personal ties are central to migration pathways associated with educational projects. As latent ties are also formative of social networks, they are likely to be relevant for such projects as well. While that is the case within SNS groups of migrants and aspiring migrants who wish to pursue university education abroad (Jayadeva, 2020), little is known about information exchanges surrounding educational aspirations and education-related migratory projects in SNS groups that gather migrants with more diverse backgrounds. To fill up that gap, we investigate the prevalence of topics relating to education in discussions within these diverse groups. A further question relates to the clustering of these topics: that provides indications about what professional areas, degrees or levels of education are more discussed and in which particular groups. To address these questions, we resort to a topic modelling approach, which is detailed in the next section.

5. TOPIC MODELLING

To select relevant groups for analysis, first, we searched Facebook for the terms “Brazilians” and “Germany” (in Portuguese). After that, all groups relating to migration were selected and these were once again filtered according to their level of interaction: using the information provided by Facebook itself, one of the authors joined 14 groups with at least a thousand participants and three selected made in one week.

Brazilian migrant groups are varied and highly active, ranging from the general “Brazilians in Germany”, to the many “Brazilians in [German city]”, and to niche groups, such as “Brazilian women in Germany”, “Brazilian IT professionals in Germany”, “Brazilian nurses in Germany”, “Brazilian Au Pairs in Germany”, “Brazilians seeking VET in Germany” – and even “Gardening for Brazilians in Germany”. Brazilian migrants’ fondness for SNS groups is not new, as its use has been reported already over a decade ago (Oosterbaan, 2010; Schrooten, 2012), nevertheless its use for educational projects has not been studied.

Our research design is based on a text-as-data approach (Grimmer & Stewart, 2013). Text-as-text approaches (as used in qualitative analyses) are organised according to the rules of language and are used for analysing the meanings of what is being communicated. Processing text-as-data involves imposing some abstraction and structure that summarises large amounts of text which can be used to uncover patterns (Benoit, 2020, p. 463-465). Based on this text-as-data logic, we follow a structural topic modelling (STM) approach (Roberts, Stewart & Tingley, 2019), which allows assigning metadata to the documents to be analysed. That way we can correlate posts with the groups where they were written.

The data we analyse is composed of posts and their comments written in the selected groups on Facebook. We collected posts written between December 2020 and January 2021 using the WebDriver API Selenium, which allows automatic control of a web browser. The software was programmed to copy and save what users wrote in the groups: because only visible data was collected, a human could do the same procedure, however with a more significant investment of time and effort. In other words, automation sped up the process of data collection.

In the data cleaning phase, we subsumed relevant multiple-word expressions, words, and acronyms that have the same meaning, so that the weight of the topic could be properly accessed (for instance, “Ausbildung” is sometimes misspelt like “Ausbilung” and the Portuguese expression “curso técnico” is also used in the groups to refer to the “Ausbildung”, hence both the misspelling and the Portuguese translation were assigned as equal to the German word “Ausbildung”). We also removed diacritics (e.g. “ç” and “ã”), punctuation, numbers, hyperlinks, symbols (like emojis), and stopwords both in Portuguese, German, and English, as these languages are the most used ones in the groups. The first results revealed that our code included other irrelevant words for topic clustering such as greetings, pronouns, proper nouns, and expressions used in SNS communication such as “haha” or abbreviations. We manually included these in the list of words to be ignored. The remaining words were then stemmed so that words like the noun “escola” and the adjective “escolar” would be clustered together.

In topic modelling, a topic is “a mixture over words where each word has a probability of belonging to a topic” and a document is “a mixture over topics, meaning that a single document can be composed of multiple topics” (Roberts, Stewart & Tingley, 2019, p. 2). In our case, documents are each post and comment made on each group.

We have 7,389 documents. The content of these documents can be composed of one or more topics, a mixture of covariate words. For STM “the sum of the topic proportions across all topics for a document is one, and the sum of the word probabilities for a given topic is one” (Roberts, Stewart & Tingley, 2019, p. 2). In simplified terms, word clustering on STM occurs through a process similar to Latent Dirichlet Allocation (LDA) distribution, accounting for covariate words across documents which affect the “proportion of a document devoted to a topic ... and the word rates used in discussing a topic” (Roberts, Stewart & Tingley, 2016, p. 989).

We defined relevant words to be selected to compose topics as those that appear at least 20 times and in 5 or more documents. That decision was useful also in cleaning the data given that texts from social media tend to be short, sometimes consisting of only one word, which can skew the results of topic modelling (Albalawi, Yeap, & Benyoucef, 2020). The number of topics must be established by the researcher and the appropriateness of that number depends on the interpretability of the outcome. A high number of topics gives a fine-grained insight into the data, but at the cost of being less precise. After running the code with a different number of topics, ranging from 5 to 25, we found that 7 topics resulted in a model with good interpretability. With fewer topics, the contents are condensed and the relevance of the topic is clearer. The assignment of words to topics is arbitrary: Topic 1 is not necessarily more relevant than Topic 7. In Figure 1 (p. 14), in the results section, we see the top 14 words that compose these seven topics.

Our data collection approach brought problems with it. First, since the human interface to Facebook, which we used, does not order groups’ posts by time, we could not arbitrarily set the time frame of posts we wanted to have. For example, posts with high activity are promoted by Facebook and thus jump up in the timeline. Second, the human user interface to Facebook is limited in requests per time. Therefore, our data collection was inhibited, and as a result, we collected about 26,000 posts (by their ID), but could only retrieve the text body of 7,389, which are the ones that went into our analysis here. Nevertheless, that amount is still significant as posts with high activity are likely to be more representative of the interests of group participants.

6. RESULTS

In this section, we first describe which are the most prevalent topics found in our data, particularly those relating to education. Then we comment on the estimated proportion of these topics across all 14 groups.

Of the seven topics from all groups, two relate to education. One of these two is among the top three most prevalent. The three most discussed topics (Topics 5, 2, and 4) have no similarity among themselves. Topic 5, the most discussed one, contains words such as “need”, “Brazil”, “speak”, “help”, “to get/to reach”, “health”, “person”, “father”, “document”, “payment”, “receive” and “arrive”. This topic is likely related to requests for information regarding bureaucratic procedures and family relations.

Topic 2, contains words such as “buy”, “sell”, “live”, “friend”, “know/meet”, “to find”, “pretty”, “share”, and “shop”. This topic most likely relates to commerce, as it implies people offering products or services and recommendations by friends. The verb “to share” probably relates to those users who are offering their products or services inviting those interested in it to share the information, following a common logic of SNS.

The most relevant topic relating to education is the third most prevalent topic of all seven. Topic 4 contains words like “German”, “class”, “Portuguese”, “English”, “learn”, “exam”, “course”, “teacher”, “know”, “Brazilian”, “speak”, “online”, “book”, and “information”. This topic covers information exchanges about learning languages. It encompasses both people seeking information about language certificates needed to enrol in formal education courses or to request a residence permit and language teachers who offer their services on these migrant groups. Some language teachers who participate in the active groups offer online classes as well.

In the fourth position appears a topic relating to job and apartment search (Topic 1), which contains words like “search”, “help”, “message”, “company”, “apartment”, “work”, “job”, “live”, “rent”, “pay”, and “contract”. The words clustered in this topic, and also on Topic 5, are aligned with Oosterbaan’s (2013) and Schrooten’s (2012) descriptions of newcomer migrants’ using SNS to look for jobs and navigate bureaucratic procedures.

The fifth most prevalent topic is Topic 7, which contains words such as “Ausbildung” (VET), “school”, “search/look for”, “course”, “experience”, “vacancy”, “need”, “diploma”, “begin”, “company”, “get”, “work”, “process”, and “recognition”. This topic encompasses questions regarding access to VET, as words are either explicitly related to educational levels (“VET”), institutions (“school”), studies area or teaching situation (“course” in Portuguese can relate both to “class” and to “subject”), or degree outcomes (“diploma”). Other words relate to educational requirements to access higher levels of education or to exercise certain professions, such as nursing. That is the case of nouns like “diploma” and “recognition”: having certificates, diplomas, and school records that have to be recognised by German educational authorities is an issue, especially for nurses who obtained their training in Brazil. The connection between education and the interest in landing a job is also revealed through the relevance of words like “get”, “work”, “vacancy”, “experience”, or “company”.

The last two topics relate again to commerce (Topic 3) and health issues (Topic 6). Topic 3 contains words like “deliver”, “order [a product]”, “send”, “WhatsApp”, “delicious”, “food”, “sweet”, “Christmas”, and “product”. Similar to the other commerce-related topic (Topic 2), this one also points out the use of other SNS platforms for business (the mention of WhatsApp). Differently from Topic 5, this topic seems to relate to the commerce of food items, possibly connected to the Christmas season. The last relevant topic, Topic 6, contains words like “test”, “psychologist”, “father”, “medic”, “clinic”, “airport”, “secure”, “quarantine”, and “flight”. This topic most

likely relates to the Coronavirus pandemic, its consequences on physical and mental health and travel requirements.

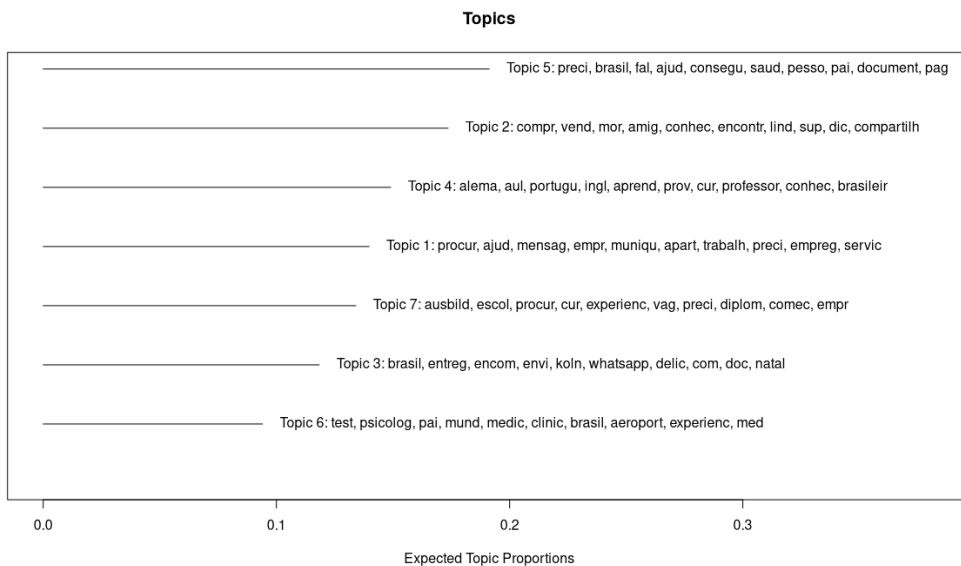


Figure 1. Two of the seven topics discussed in migrant groups relate to education (Topics 4 and 7). Topic 5 is the most present one and Topic 6 the least present among the seven most discussed topics.

After assessing the seven most relevant topics, we estimated these topics' proportions across all groups (see Figure 2). We comment on the results following the order of prevalence presented in Figure 1.

Topic 5, the most prevalent one and which relates to requests for information regarding documentation, is only not relevant in two groups, one about working in Germany and in one of the two groups gathering Brazilians living in Frankfurt. Interestingly, that is not the case for the second group of Brazilians in Frankfurt. Topic 5 is most relevant in a group gathering Brazilians who wish to participate in the German paid volunteer work programmes (the “voluntary social year”, FSJ, or the “federal volunteer service”, BFD¹) and in a general group of Brazilians in Germany. Because it encompasses topics relating to documentation for applications, we can say this is a bureaucracy-related topic.

Topic 2, the second most prevalent one and which relates to commerce, has little relevance for the FSJ/BFD group, for groups of Brazilians seeking employment in Germany, for a group of Brazilian nurses in Germany, and for a group to exchange VET

1 FSJ/BFD participants receive a stipend and a residence permit to work up to one year in different areas, from environmental conservation to elderly care. Non-Europeans can also apply for those programmes provided they show a certificate of language knowledge and are accepted by the institution managing who offers FSJ or BFD. Usually, applicants must be under 30 years of age.

information. This topic is more popular in cities and general “Brazilians in Germany” groups. We could assume that people gathering in work, VET, and FSJ/BFD groups are not as established in the country as most participants of city and general groups, hence the lack of interest to advertise and sell products in these former groups.

The third most relevant topic is also the first education-related topic: Topic 4 relates to language learning and certification. This topic is mostly present in two general groups of Brazilians in Germany. Surprisingly, even though language knowledge is a requirement for enrolling in formal education courses and pursuing FSJ/BFD, Topic 4 has low scores in these groups. We cannot say however that language learning is constantly relevant for all city and country groups, as it has a low score for instance in groups of Brazilians in Frankfurt and Hamburg, and in one of the general groups of Brazilians in Germany. Both high score results could be skewed by the activity of language teachers who intensely advertise their service in these groups. The fact that some group administrators ban advertising could also justify the low score on the topic.

Topic 1, related to job and housing search, is particularly relevant in a group of work in Germany, and two city groups. The high score in the work-group is given, as the topic relates to job search. The fact that these issues are more prevalent in city groups than in general “Brazilians in Germany” groups could be due to migrants’ interest in settling in specific cities.

Topic 7, the second education-related topic, has the highest score of all topics but is concentrated in only four groups. The commonality among these four groups is that none is a city or a general “Brazilians in Germany” group. Unsurprisingly, Topic 7 has the highest score in the VET group, followed by a nurses’ group, a “work in Germany” group, and an FSJ/BFD group. Although with a considerably lower score in comparison to these four groups, Topic 7 is also somewhat relevant in a group about “first steps” in Germany. This latter group is composed of aspiring migrants who are gathering their first pieces of information about their possibilities to migrate. Probably, once they find out about the VET or FSJ/BFD opportunities, they move on to those other groups. Topic 7 scores low in all other groups.

Topic 3, related to food commerce, has low scores in the VET, FSJ/BFD, nurses’, and “Work in Germany” groups, and medium scores throughout the other groups. A similar outcome for the other commerce-related topic (Topic 2). Participants of the former four groups are probably focused on exchanging information only about education and work opportunities and/or administrators might moderate posts containing advertising – hence the low scores on these topics.

Topic 6, the Coronavirus-related topic, is probably present among the most relevant topics due to its urgency and implications. It was mostly present in a group of Brazilians in Frankfurt, a city where the German airport with most connection flights to Brazil is located. The topic is also mostly discussed in the most populated group of Brazilians in Germany. Probably, the high participant density and the fact that the Coronavirus affected people regardless of their cities and national regulations,

instead of local ones, were more important instead, contributed to the high score on the topic in that group. Although this topic was highly discussed, Topic 6 is not more important than commerce-related, bureaucracy-related, or education-related topics.

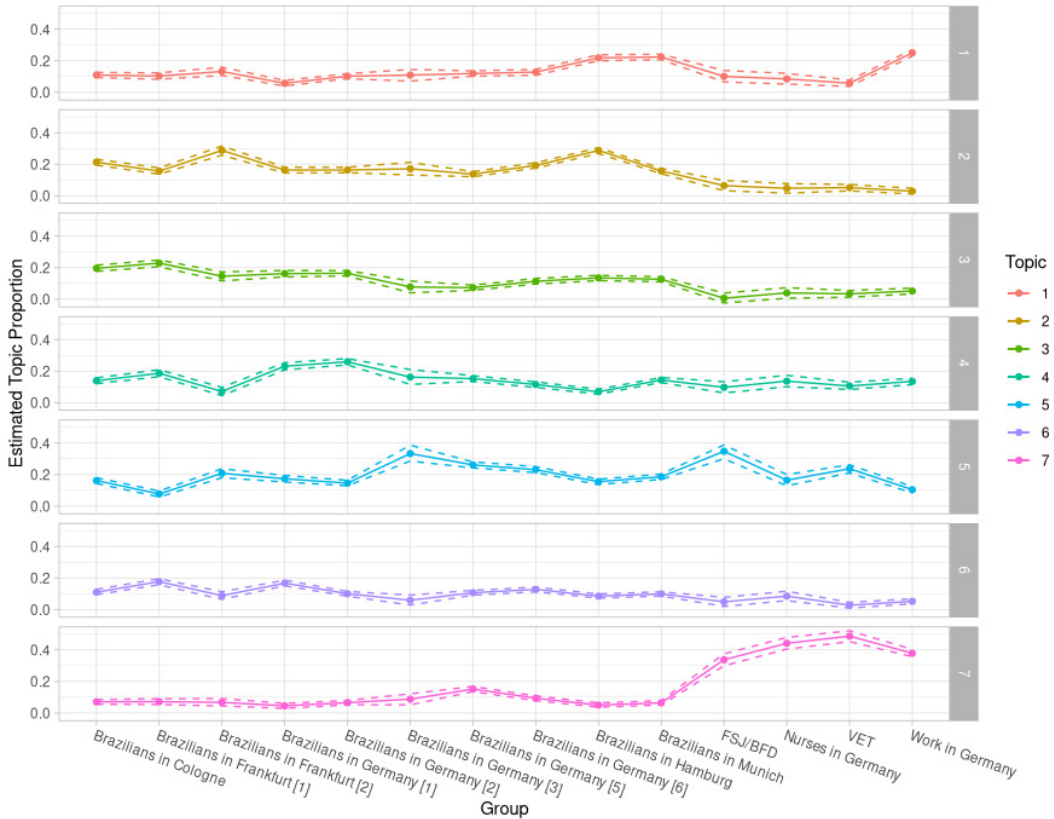


Figure 2. Estimated topic proportion across groups. Topics 4 and 7 are the education-related ones.

Interestingly, schools and university education are not prevalent terms in the topics, as Figure 1 shows. This does not mean that Brazilian migrants are not interested in accessing German universities or that children and teenage education are not relevant topics for them. Questions about language learning, for instance, might be posed in city groups by people who wish to achieve one of the requirements to be accepted at a German university or from parents concerned about the role of language in their children’s school performance.

7. DISCUSSION

The fact that education-related topics figure among some of the most prevalent on migrant Facebook groups serves as evidence that a mediatization process is probably

taking place on migration pathways involving educational projects. In this section, we first comment on what is the prevalence of education-related topics in “Brazilians in Germany” Facebook groups. Then we discuss the implications of these results for migration involving educational projects and for transnational education. We contend that the increase in the use of technology-mediated communication and the consequently increased access to latent ties has the potential to facilitate the migration of people who otherwise would possibly not have easy access to information about education abroad.

7.1. Latent Ties on Facebook Groups as Relevant for Migration Pathways Through Educational Projects

To find out what is the prevalence of education-related topics in “Brazilians in Germany” Facebook groups and how these topics are clustered, we resorted to an exploratory quantitative approach using topic modelling. While we cannot imply causality, our data provides insights into the relevance of latent ties in transnational migratory pathways associated with educational projects. The outcome reveals that education-related issues, clustered in language learning and vocational training and education (VET) topics, figure among the top seven most discussed issues in Brazilian migrant Facebook groups.

We cannot claim that those who asked for information about education in these groups indeed migrated and pursued degrees or language courses in Germany. However, such information exchange reveals that there is a relevant demand to pursue a degree and acquire language knowledge. Based on that observation we can claim that educational-related questions are core topics that lead to the activation of latent ties in migrant groups on Facebook. Consequently, those latent ties are potentially relevant for information-gathering to fulfil migration pathways associated with educational projects, also for those beyond university degrees.

Our results indicate a high score of the topic relating to VET and an absence of a topic relating to university education among those with high scores. Based on our data, we cannot state the reasons for that, the low prevalence of terms such as “university”, “bachelor” or “school” in comparison with VET, reveals a potential quantitative preference for VET among those who resort to latent ties to gather information. What also serves as evidence for this quantitative preference is that the two groups of Brazilians who wish to study in Germany did not meet the threshold of the number of participants and posts to be selected for analysis.

Language learning is another educational-related topic revealed as relevant but not usually discussed in transnational education studies (TNE) and is traditionally associated with debates about migrants’ “integration” rather than transnational education. The low score on the language-learning topic in the VET and FSJ/BFD groups might be due to an instrumental interest in learning German. Language learning might be present in FSJ/BFD groups embedded in references to “certificates” and

“courses” since migrants interested in these opportunities have to prove language knowledge, hence learning German appears as a means to reach a specific objective in these groups, i.e. migrants requesting information in VET and FSJ/BFD groups discuss language learning as another requirement in their check-list. This assumption is backed up by the high score on the topic related to VET, diploma, and certificates both in the VET and FSJ/BFD groups, and also in a “Work in Germany” group and a group of Brazilian nurses in Germany.

People who discussed education-related topics in these groups did not necessarily migrate to pursue educational aspirations. However, the high prevalence of education-related topics within these groups reveals trust and interest in the experiences of group participants in accessing the German educational system, particularly VET. Both education-related topics and other high-score topics from our sample (commercial activities, health, bureaucracy, and job and apartment seeking) are not particularly connected to social gatherings in person where latent ties might develop into stronger ones, as highlighted in earlier studies (Schrooten, 2012; Oosterbaan, 2013). The interest in activating latent ties through commerce and job-seeking topics is given. However, the activation of latent ties for education-related topics implied that there are migrants asking questions about it and other migrants answering those questions. This can be an indication that latent ties activated through education-related topics could be established for solidarity toward aspiring migrants.

7.2. Transnational Education and Mediatiation

By establishing that education-related topics are among one the most prevalent in information exchanges among migrants on Facebook groups, we can claim that latent ties have an important role in sharing information among migrants who wish to pursue educational projects abroad.

In the 2000s, Oosterbaan (2013) and Schrooten (2012) described the existence of SNS groups of Brazilians who lived in certain cities or countries outside Brazil. While we cannot claim that there was a quantitative increase in the participation of these SNS groups on Facebook, that is likely to have happened with the increase in internet access in Brazil. Hence, hypothetically, these quantitative developments of mediatiation might have led to an increase in participation in SNS by migrants and aspiring migrants, among which there are some who migrate to pursue educational projects.

Studies about transnational education have described how youth from the middle classes in the Global South see educational opportunities abroad as a means to improve cultural and social capital, particularly of their younger members (Adick, 2018; Brooks & Waters, 2010). Migrants from such backgrounds usually already have access to enough economic capital or strong network ties, hence they can either have information provided by the institutions where they are going to study or they can resort to family or friends’ connections who are already in the country where they aim to study. As a qualitative aspect of mediatiation, the relevant position of information

exchanges about VET and language courses described in our paper points toward a migration of people who either cannot resort to institutions to gather information or rather trust best the experience of the latent ties available on SNS (Jayadeva, 2019). This also adds a mediatised aspect to the descriptions of migratory pathways of people from low-income families who successfully pursue tertiary education through VET in Germany (Carnicer, 2019; Fürstenau, 2019). In these previous descriptions, pioneer migrants who accomplished their education abroad serve as strong network ties for other family members or friends who also consider pursuing educational projects abroad. This outcome serves as the first evidence that qualitative and quantitative processes of mediatisation and the consequent establishment of latent ties through SNS are likely to contribute to the transnationalisation of education from below (Smith & Guarnizo 1998), reinforcing the argument that educational levels beyond university or private schools are also part of transnational education (Adick, 2018).

Agreeing with Justin Grimmer and Brandon M. Stewart's (2013) position about the wrongfulness and, at the same time, the usefulness of topic modelling approaches, on the one hand, we demonstrated that there is good evidence that education-related topics assume a relevant position in information exchanges on Facebook groups of Brazilian migrants and aspiring migrants in Germany. Latent ties from these groups have been activated to gather information about educational opportunities, processes, and enrollment requirements. More importantly, we have shown that mediatisation processes are also present in migration pathways involving educational projects. That occurs through latent ties and the potential increase in access to them due to processes of rapid digitalisation.

8. CONCLUSION

Using the case of migrant Facebook groups, we have discussed the connection of mediatisation for migration pathways involving education through the concept of latent ties (Haythornthwaite, 2002). We argued, along with other authors (Adick, 2018; Carnicer, 2018, 2019; Fürstenau, 2018), that transnational education goes beyond university degrees. Furthermore, we have shown that education-related topics beyond university degrees figure among the most discussed ones in migrant Facebook groups. Based on that outcome, we argued that education is a central motivation to activate latent ties in online migrant networks. For our empirical case, that high interest in finding out about education-related possibilities to migrate could be yet another consequence of blocked educational opportunities in Brazil.

Comparisons with other groups of migrants and on other SNS could reveal other relevant aspects and provide new insights into transnational education movements. Although migrants most likely gather information across other media, following a manifold perspective of media use (Couldry & Hepp, 2017), our focus on one SNS only was relevant because of the forum-like structure of Facebook groups. That

structure was ideal to answer our research question which required measuring the prevalence of interactions about education among migrants. A structure like Twitter or Instagram would not suit our aim because of its focus on individual posts. A qualitative study that accounts for the media manifold can fill up this gap and add details to the use of media to pursue educational projects abroad. Such a study would provide context to how education is debated in migrant groups and shed light on social inequalities in migratory pathways involving educational projects by assessing the uses of media according to migrants' socioeconomic backgrounds.

Based on the tendency of increasing mediatisation (Hepp, 2020), the entanglements between migration involving education and digital media use will keep evolving. In that case, a pressing aspect that deserves further analysis is that big-tech companies like Facebook/Meta are possibly taking a relevant position in migratory pathways for people fleeing war and conflict or seeking educational opportunities abroad (Dekker et al., 2018; Jayadeva, 2020). The use of latent ties in migration pathways might be facilitating information gathering and decision-making processes, but thereby migrants are not only sharing information but also generating information about their interests and decisions that is stored by a company with profit interests and that can be used for purposes unknown to migrants and aspiring migrants.

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