



Revisiting acculturation research with big data: the case of the Italian diaspora through the lens of Facebook interests

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Abstract

This article leverages big data to contribute to acculturation research, tapping on population behavior to measure the proximity of an ethnic minority to majority and homeland orientations. Our data consists of anonymized information from the Facebook Advertising Platform Interface about active users who speak Italian on the platform and reside in the 16 countries with the largest Italian-speaking communities worldwide. We conduct two main analyses. First, by calibrating the volume of Italian-speaking Facebook users with the penetration rate of the platform by country, age and gender, we estimate that the Italian diaspora amounts to 5.66–5.95 million people globally (aged 18 or more). Second, we record the level of interest of Italian speakers in given topics covered by Facebook (called ‘Facebook interests’) and measure its (dis)similarity with the corresponding level among users in the country of residence and users in Italy as an indicator of Berry’s types of acculturation (integration, assimilation, separation, or marginalization). From our data, no overarching acculturation model prevails across the board. However, variability in the diaspora is lower when it comes to typical manifestations of ethnic heritage, for which the interests of Italian speakers are higher than among locals but lower than among homeland Italians. On the basis of such dissimilarities in interests, the Italian diaspora is segmented into three clusters, reflecting geographic and cultural areas: Italians in Latin America, the Anglosphere, and continental Europe.

Keywords Diaspora · Italian migration · Acculturation · Facebook

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1 Introduction

Diasporas have to play a balancing act: preserving the distinctive traits of their homeland while adjusting to the mores of host societies (Erdal and Oeppen 2013). ‘Acculturation’ is the name given to this game since almost a century (Redfield et al. 1936). Research on acculturation tends to rely mostly on case studies and questionnaire-based surveys (Rudmin 2009; Ward and Kus 2012; Kennedy and MacNeela 2014; van de Vijver et al. 2016; Berry et al. 2022). In line with the plea to adopt newer methods to strengthen and adjourn this research tradition (Trimble 2002; Ozer 2013), we introduce a computational social science approach, by drawing on systematic social media data that covers a diasporic population in three continents. In this regard, we concur with the growing body of works that note and exploit the importance of internet for ethnic minority and diaspora studies (Bernal 2006; Kissau and Hunger 2010; Sahoo and De Kruijf 2016; Pesando et al. 2021; Lai 2021).

We focus on a large ethnic diaspora—Italians. We compare the Facebook interests of this ‘emigrant nation’ (Collyer 2013) to residents of their country of residence and Italians living in Italy. The first group forms ‘the mainstream reference group’; the second one represents the ‘ethnic homeland reference group’. Our findings show that, although ‘marginalization’ is quite anomalous and ‘integration’ is the most common acculturation pattern, there is high variability in the positioning of different communities of the Italian diaspora on the dimensions examined, relative to host country residents and homeland Italians. Three clusters of communities emerge inductively as internally most similar: Italians in Latin America, the Anglosphere, and Continental Europe. The exploration of interest in Italian cuisine—a very specific item that traditionally represents a strong ethnic marker for Italians—reveals that within-community differences by gender and age further articulate the diaspora. The paper starts with a critical review of Berry’s acculturation model, in view of its adoption as a blueprint for our analysis of social media interests. We also review existing research on the Italian diaspora. After presenting the data and methods adopted, we illustrate results about the demographic size of the population under scrutiny, its alignment with local cultural preferences and Italians’ preferences in Italy, and the differences emerging across countries. We conclude with a discussion of the implications of our empirical strategy and findings for further research.

2 Revisiting Berry’s acculturation model with digital data

Members of ethnic diasporas stand out as champions of cultural ‘in-betweenness’. They use to preserve a cultural specificity while simultaneously entertaining a dialogue and some proximity with the mainstream culture in the societies that host them (Cohen 1997; Kenny 2013). Individuals who recognize themselves as belonging to an ethnic diaspora are at the forefront of this balancing act, as their lifestyle incorporates practices and attitudes that derive from either their own ethnicity and the majority one. Showcasing one’s culture as a member of a diasporic community also demands boundary work (Lamont and Molnar 2002), to corroborate affinity with an ethnic template that ultimately draws on the cultural repertoire of the homeland.

The theoretical configuration of this two-pronged positioning is well captured by John W. Berry’s acculturation model (Berry 1997; Sam 2006). Developed in the early 1980s, this model is a mainstay of intercultural research, outlining the social psychological

modalities by which ethnic minorities relate to the mainstream. While aware of its limits, we hold that the model still provides a parsimonious and efficient framework for understanding the ethnic minority-majority interplay, particularly in a comparative perspective.

Berry's model describes individual or group 'acculturation strategies' based on two key dimensions: 'maintenance of minority culture' and 'contact with the host country majority culture'. The four strategies emerging from the cross-classification of these two dimensions are called Assimilation (closeness to host country, distance from homeland), Separation (closeness to homeland, distance from host country), Integration (closeness to both), and Marginalization (distance from both). One of the proclaimed strengths of the model is the latitude of its applicability, which has been validated in various cultural contexts and with diverse ethnic groups (Berry et al. 1989).

Nonetheless, the model has been criticized on several grounds. First, some scholars argue that it oversimplifies the complexity of acculturation processes by reducing them to only four categories (Rudmin 2003). Real-life experiences can be much more nuanced and may not fit neatly into these categories. Forms of acculturation may also vary by life domain—for instance, private versus public (Miller et al. 2013). Moreover, the model may overlook the fluid nature of identities and cultures (Triandis 1997), as well as variations in social actors' relationships with their ethnicities as highlighted, among others, by the notion of 'superdiversity' (Vertovec 2007). Other scholars contend that Berry's model does not adequately account for cultural variations in the understanding of acculturation, being patterned on a Western perspective (Arends-Tóth and Van de Vijver 2003). Ironically, while Berry is a psychologist, others have emphasized the limited focus placed on actual psychological factors. The model primarily deals with sociocultural dimensions and does not pay as much attention to the psychological dynamics that substantiate individual processes of acculturation, such as identity development, stress, and mental health (Chirkov 2009; Schwartz et al. 2010). On top of these methodological limitations, the model seems to suffer from an underlying normative undertone, emphasizing integration as 'the' ideal acculturation strategy (Grigoryev et al. 2023) and over-emphasizing its role in cross-cultural adaptation (Bierwaczzonek and Kunst 2021).

Our appraisal of the model does not neglect these critical points, particularly rejecting any normative implication, but stresses the usefulness of its two-dimensional nature for comparative analysis. The variety and intricacy of historical and agentic processes that lie behind acculturation outcomes go beyond the rationale of the model (and our analysis here). Such processes can only be revealed by in-depth case studies. However, the model's parsimony is a major advantage in a comparative design—in this case, to identify empirical configurations of the Italian-speaking diaspora in different host societies. We adapt it to the social media landscape, in view of the prominent role of the digital sphere in the expression of cultural orientations in our times, building on the capacity to measure 'behaviorally revealed cultural values and preferences' through Facebook interests (Obradovich et al. 2022, 1).

3 Studying acculturation in the Italian diaspora: the importance of language

The Italian diaspora originated in the late 19th and early 20th centuries when Italy was grappling with underdevelopment and political instability. Targeting a large canvas of countries at different times, from continental Europe to the Americas and Australia,

millions of Italians left their homeland in search of a better life (Pozzetta 1987; Gabaccia 2000; Bevilacqua et al. 2001). Between the 1920s and the 1940s, fascism put a brake on departures, but outflows started again after WWII. With ebbs and flows, outmigration from Italy is still sizeable today, particularly among the highly skilled, and with a rather global outreach (Ricucci 2017; Tintori and Romei 2017; Bonifazi 2018; Pugliese 2018; Rampazzo 2023).

Especially in the early days, Italians abroad had a strong regional characterization (as Sicilians, Neapolitans, etc.). However, they were collectively perceived and labeled as ‘Italians’, which spurred their self-identification in shared ethnic terms (Garroni 2001). The Italian language represented the key cultural marker of this identity. Preservation and transmission of Italian was a key concern within diaspora communities; to this end the Dante Alighieri Society was founded in 1889, followed by a plethora of other country-specific organizations of Italians worldwide (Vecoli 1998; Van Kessel 2011). This legacy is still alive in receiving societies and overlaps with inflows of newer generations of migrants, who have limited contacts and cultural connections with their predecessors, *if not for the shared language* (Baldassar and Pyke 2014; Scotto 2015). Without delving into a thick history with many ramifications, we insist on the persistent importance of language, whose role in maintaining ethnic identity is widely recognized in social psychology (Milroy 1982; Giles and Johnson 1987) and demo-linguistics (Termote 2002 and 2012).

This focus resonates with long-standing anthropological and sociological research that places language at the core of ethnicity (Barth 1969; Fishman 2017; Smith 1986). Smith’s work, in particular, underscores that language is not merely a practical tool for communication but also a symbolic representation of the cultural and historical roots of an ethnic group. Language plays a pivotal role in reflecting and perpetuating ethnic identity, as it carries and constantly re-enacts collective memory and ‘groupness’ regardless of generational and class differences, while also drawing ethnic boundaries by excluding those who do not share it.

We will therefore take language as the key criterion for inclusion in our target population. Although we subscribe to the principle that ethnic belonging as a ‘category of practice’ ultimately depends on self-identification (Brubaker and Cooper 2000), in this article we pragmatically consider the abandonment of the ancestral language in everyday (online) discourse as a form of ‘ethnic exit’ and possible full assimilation into the host society. While some people can certainly feel Italian without speaking Italian, this case is likely to be statistically very exceptional (for a Canadian example, see Termote 2014). Therefore, according to our definition and operationalization, ‘Italians in the world’ are not ‘emigrants from Italy’, but ‘Italian speakers’ on social media.

4 Research questions, data and indicators

4.1 Research questions

Digital research methods have opened new avenues for studying the importance of language as a marker of ethnic identity. This is mostly done either through digital ethnographies (for a review see Varis 2015; on the Italian diaspora see Marino 2015) or through text analysis techniques, including sentiment analysis and text mining, which are applied to social media data to identify linguistic markers of ethnic identity, exploring keywords, hashtags, and other linguistic features that are indicative of ethnicity (e.g., Medina 2014;

Distance from homeland culture	High	Assimilation $ It-X =high; Host-X =low$	Marginalization $ It-X =high; Host-X =high$
	Low	Integration $ It-X =low; Host-X =low$	Separation $ It-X =low; Host-X =high$
		Low	High
		Distance from host country culture	

Fig. 1 Types of acculturation of the Italian diaspora

Diminescu and Loveluck 2014; Kumar 2018). Our approach aligns with the latter rationale. In particular, we follow previous studies that have used Facebook interests to capture cultural distance between groups within countries (Dubois et al. 2018; Stewart et al. 2019; Coimbra Vieira et al. 2022 and 2024) or between countries (Coimbra Vieira et al. 2020; Obradovich et al. 2022). In our analysis, we combine both comparisons—within and between countries. Our focus is on an ethnic minority rather than first-generation migrants, but apart from that, as in Stewart et al. (2019, 2), our target population ‘is considered more assimilated if its interests are similar to those of the population in the destination country and dissimilar to those of the population in the country of origin’. For members of ethnic diasporas, Facebook ‘interests’¹ are primary manifestations of one’s self-positioning towards both the mainstream culture of the country of residence and the ethnic homeland.

Facebook interests, thus, operationalize Berry’s bidimensional acculturation model (Fig. 1). Do individuals adhere to the prevailing interests in their country of residence (the mainstream) (horizontal axis)? Do they share the interests of co-ethnics in their homeland (in this case, Italy) and interests that typify their ethnic tradition (vertical axis)? The four possible combinations of Berry’s acculturation model are thus reproduced. Such a schema can then be applied to different domains of cultural orientation (like politics, leisure, or media consumption).

By building on existing acculturation research that uses Berry’s model and shows the prevalence of the integration strategy (Hou et al. 2018), and by elaborating on the literature on the Italian diaspora (Vecoli 1998), we formulate two research questions:

¹ Technically, in the language of the Facebook Advertising Platform Interface, an ‘interest’ refers to a topic, concept, or category that users engage with, or express affinity for, on Facebook. These interests are based on factors such as users’ online behavior, interactions, and engagement with content, pages, or groups related to particular topics.

1. Prevalence of integration: Do members of the Italian diaspora tend to accommodate both majority and homeland orientations in line with the Integration strategy?
2. Similarity of the diaspora by cultural domain: Does the Italian diaspora tend to have similar acculturation strategies by cultural domains (i.e., types of Facebook interests) regardless of country of residence?

4.2 Data

Our data consists of anonymized information from the Facebook Advertising Platform Interface about the sociodemographic characteristics and interests of active users who speak Italian on the platform and reside outside of Italy. Users' interests are one of the top two 'algorithmic values' of Facebook, alongside friendship relations (DeVito 2017). We join existing studies that have leveraged the potential of the Application Programming Interface (API) created by Facebook in order to provide its customers with a tool to design and publish ad hoc advertisements (Zagheni et al. 2017; Grow et al. 2022).²

These studies have mostly focused on migration (Spyratos et al. 2019; Rampazzo et al. 2021, 2024), aiming for real-time estimates of the size of migrant populations and analyses of their incorporation into destination societies (Drouhot et al. 2023; Bircan et al. 2023).³ This is possible because online advertising campaigns are designed and published on the Facebook family of apps and services (i.e., Meta) to target selected characteristics of users. Given its business-oriented nature, authors have raised concerns about the lack of transparency of Facebook's API algorithms (Rampazzo et al. 2021) and have synthetically defined Facebook as a biased digital census (Cesare et al. 2018), with doubts about the company's possibility to inflate its users' base or attribute 'interests' that depend on activities performed years before. Nevertheless, it remains true that Facebook's API must perform accurate user profiling to achieve its goal; bias could undermine its reputation among advertisers and disrupt its business entirely. For example, Herdagdelen and Marelli (2017) have documented that Facebook users are properly categorized as expats based on the hometown reported in their profiles. Other studies have shown that Facebook's algorithms use real-time geo-referenced information to classify its users as expats (Spyratos et al. 2019).

Overall, Facebook's ability to support 'regular' nowcasting of migrant populations settled in a given location is now well established (Billari and Zagheni 2017; Alexander et al. 2019 and 2020; Rampazzo et al. 2021). Nevertheless, limitations remain in terms of population coverage when using data extracted from Facebook's API for demographic-social research questions: The representativeness of Facebook users varies depending on the selected country and the individual demographic profile, namely gender and age. To address this, we adopt the adjustment method proposed by Spyratos et al. (2019) to weight

² The API can be found here: <https://developers.facebook.com/docs/marketing-api/targeting-specs/>. The evolution of Facebook's APIs and algorithmic sorting out of users is critically reviewed in Thorson et al. (2021) and van der Vlist et al. (2022).

³ Since 2018, the 'expat' identifier is no longer available among Facebook user characteristics (Spyratos et al. 2019). Digital demographic studies on migration relied on this category; however, the criteria that Facebook applied for classifying a user as 'having lived abroad' or 'being family members of people living abroad' have never been disclosed and may have changed over time (ibid).

Facebook users to take advantage of differences in the accessibility of IT services across countries and to account for age- and sex-specific Facebook penetration rates.⁴

Through the Facebook Advertising API, advertisers can know the number of people who show certain interests based on ‘likes’, the pages they visit and other user-specific signals.⁵ We used the API to obtain the number of Monthly Active Users (MAUs: we take the mid-point of the upper and lower bound indicated by the platform) by demographic characteristics: age group, gender, country of residence, and most importantly language. Noticeably, the API classifies users based on their language attributes among 78 alternative languages. While a definition of language attribution to users is not disclosed by Facebook, it seems most likely that this is detected algorithmically by the language of the advertisements and the pages consulted. For privacy reasons, MAUs are rounded to thousands (up to 100,000) or tens of thousands (over 100,000); when they are lower than 1000, the value is set to 1000. In this latter case, we consider the information as ‘missing’.

To collect data, we developed a Python routine that systematically gathered information from the Facebook Advertising API. This iterative process queried the API for all possible demographic combinations (language, country of residence, gender, age) by interest. It is worth noting that this procedure is time-consuming and complex. To interact with the API, access tokens are required, each with limitations on daily query quantities. The process was accelerated by using rotating access keys and incorporating sleep intervals to prevent query exhaustion. Data extraction from the API ran from November 1 to November 30, 2023.

A major limitation of all studies using Facebook data for social science research is that collective (like fan groups or thematic chats), institutional, and corporate accounts, as well as duplicate or fake users, may generate biases, in particular distorting estimates of population sizes. This is a ubiquitous issue in computational social science, falling in the general rubric of ‘algorithmic confounding’ (Salganik 2019). Specifically, Rampazzo et al. (2021, 2198) report that Meta found 11 percent of Facebook accounts to be duplicates and 5 percent to be fake in 2018–19. Most of these biases were detected in Southeast Asia, which is not included in our country selection. In addition, we try to exclude a large proportion of potential false positives by using only ‘active users’ (whose definition remains however undisclosed by Meta). We also use MAU rather than DAU (Daily Active Users) because it is recognized as a more stable measure (ibid). Finally, we assume that institutional and corporate accounts are usually in the national language of the country, not in a foreign language, and are therefore a limited issue for the purpose of this study.

We concentrate on the following 16 countries where the Italian speaking population consists of more than 15,000 Facebook users (listed in order of population size): Germany, USA, Brazil, Switzerland, France, the United Kingdom, Mexico, Spain, Argentina, Belgium, Colombia, Australia, Peru, Venezuela, Canada and the Netherlands. We exclude Romania, where apparently there are 38,000 Italian speakers on Facebook, knowing that this information is largely biased by return migrants—Romanians who lived in Italy in the past, and whose Facebook activity remains centered around their former country of residence.

⁴ Facebook’s popularity among teenagers has declined in recent years (Nowacki 2024). However, as our target group includes people aged 18 and over, this should not change the significance of our analysis.

⁵ A complete list of available targeting options is available on the Facebook Advertising API page: <https://developers.facebook.com/docs/marketing-api/buying-api/targeting>.

4.3 Indicators

Among the 278 existing ‘Facebook interests’, we focus on three main categories that cover three different cultural domains: respectively, interests that attest of ‘*civic engagement*’; ethnic items (food, media, and sport) indicating ‘*cultural Italianness*’; and the prevailing interests of the homeland population as a benchmark of ‘*sociological Italianness*’. By resorting to these two distinct dimensions of ‘Italianness’, attachment to the homeland is operationalized through both sensitivity to typical ethnic references and proximity to the orientations of homeland residents.

Each of these three dimensions includes three specific Facebook interests, for a total of nine indicators:

- Civic engagement:
 - Interest in politics,
 - Interest in community issues,
 - Interest in volunteering;
- Cultural Italianness (typical ethnic items):
 - Interest in Italian public television (RAI),
 - Interest in Italian national football team,
 - Interest in Italian cuisine;
- Sociological Italianness (top interests of Italian-speaking Facebook users in Italy)⁶
 - Interest in online shopping,
 - Interest in mobile phones,
 - Interest in business and finance.

We first compute the proportion of Italian-speaking Facebook users per country (IS), the proportion of all Facebook users in the host country (HC), and the proportion of Italian-speaking Facebook users residing in Italy (IT) who express an interest in each of these nine items (denoted as ι_i). From these, we obtain the main variables of our analysis:

- The absolute difference between the proportion of Italian speakers in country X and all other residents in country X who have an interest in each item, that we call ‘Distance from host country culture’ (DHC) (horizontal axis of Fig. 1);
- The absolute difference between the proportion of Italian speakers in country X and Italian-speakers in Italy who have an interest in each item, that we call ‘Distance from Italy’s culture’ (DIT) (vertical axis of Fig. 1).

In formal terms:

⁶ These three interests were ascertained inductively, by ranking the number of Facebook users (among Italian-speakers residing in Italy) mentioning each of the 278 interests listed by Facebook Ads.

$$DHC_i = |HC_i - IS_i|;$$

$$DIT_i = |IT_i - IS_i|$$

5 Results

In this section, we present three types of results. First, we compare the size of the Italian-speaking population (as derived from Facebook and adjusted through Facebook penetration rates) with the size of the Italian diaspora as from official statistics. Second, we describe the acculturation strategies of Italian speakers in different countries. Third, we propose a classification of settlement countries of the Italian diaspora depending on prevalent acculturation strategies.

5.1 Assessing the size of the Italian diaspora

We build on a definition of diaspora that revolves around language—i.e., the population that uses a particular language outside the country to which this language is ethnically associated. We also leverage the specificity of Italian, which remains ethnically unique to Italy.⁷ As anticipated, we equate ‘Italian speakers’ outside Italy to the Italian diaspora. This is in line with demo-linguistic research (Termote 2012), whose findings bring the mainstays of a vast array of ethnicity studies highlighting the centrality of language for ethnic identities to a demographic scale (for an overview, Fishman and Garcia 2010).

As we will show, this allows us to consider a larger population than the citizenship-based view of diaspora which is commonplace in official statistics like the Register of Italian citizens abroad (*Anagrafe dei cittadini Italiani Residenti all’Estero*, AIRE) established by the Italian government since 1990. Accordingly, citizens intending to stay abroad for a period longer than one year are legally required to register with the national consulate in the host country. Also included in the register are naturalized Italians living abroad.⁸ It is worth recalling that there are no sanctions for not registering; indeed, there is evidence that many Italians living in EU member states, backed by free movement rights, never register (Dubucs et al. 2017).

Prima facie, our Facebook-based estimate of the Italian-speaking diaspora is not exhaustive either, since Facebook users are not a representative sample of the entire population. However, since the penetration rate of Facebook by country is known (also by gender and age group in each country), we can estimate the number of Italian-speakers abroad. We apply the calibration method proposed by Spyrtatos et al. (2019), taking into account the penetration rates of Facebook by country, age and gender combinations, as follows:

⁷ One exception is Switzerland, where Italian is spoken by 8 percent of the native population. Traditionally, however, Italian-speaking Swiss do not have an emigration history and have no significant diaspora out of their nation.

⁸ Civil servants working abroad, such as military or diplomatic personnel, are not registered in AIRE. Their number is, however, proportionally negligible.

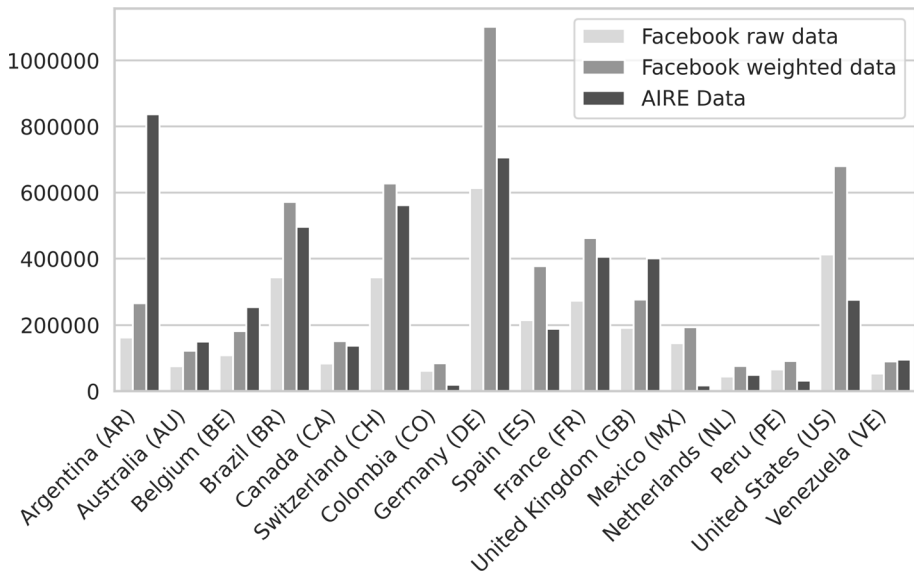


Fig. 2 Estimates of the size of the Italian-speaking diaspora (via Facebook users) and the Italian-citizen diaspora (via AIRE national registry) (18+ years old). *Note* The world estimate using Facebook raw data relies on 26 countries; the estimate using Facebook weighted data on 16 countries

$$Italian\ Speaker\ Cor_{g,a,d} = \frac{It\ Speakers\ Raw_{g,a,h}}{fpr_{g,a,h} * WD_{g,a,h,o} + fpr_{g,a,o} * (1 - WD_{g,a,h,o})} \quad (1)$$

where *Italian Speaker Cor_{g,a,h}* is the weighted number of Italian speakers in the host country (h) by gender (g) and age (a). *Italian Speaker Raw_{g,a,h}* represents the Facebook users recorded as Italian speakers in the host country (h) by gender (g) and age (a). *fpr_{g,a,h}* corresponds to the Facebook penetration rate in the host country by gender and age; the penetration rates are computed as (2). *fpr_{g,a,o}* corresponds to the Facebook penetration rate in the origin country (o: Italy) by gender (g) and age (a). *WD_{g,a,o,h}* is the bilateral origin-host (o, h) coefficient by gender (g) and age (a), calculated as (3). *g, a, h, o* represent the gender, age, host and origin countries.

$$fpr_{g,a,h} = \frac{Facebook\ Pop_{g,a,h}}{Population_{g,a,h}} \quad (2)$$

$$WD_{g,a,h,o} = z_{g,a} + t \left(fpr_{g,a,h} - \frac{fpr_{g,a,o}}{fpr_{g,a,h}} \right) \quad (3)$$

Gender g = [women, men]. Age a = [18–34, 35–64, 65+]. $z_{g,a}$ = [0.675; 0.875; 0.300; 0.817; 0.202; 0.707]. Host h = [list of countries]. Origin o = [Italy].

Data on the demographic size of age groups (18–34, 35–64 and 65+) by country and gender are derived from UNDESA (2023).

Figure 2 reports estimates obtained from this calibration formula and official statistics about adult Italians (i.e., 18 years old or more) living abroad from AIRE data.⁹ This comparison shows the differences due to different operationalizations of the Italian diaspora: language, as indicated by Facebook users, and citizenship, as recorded by Italian official statistics (see also Rampazzo 2023).¹⁰

Two diverging situations emerge. On the one hand, there are countries where the preponderance of Italian citizens according to AIRE over ‘ethnic Italians’ according to Facebook indicates that the granting of Italian citizenship followed a marked assimilation of earlier immigration waves. Argentina is the most paradigmatic case; we know that Argentinians of Italian descent, albeit no longer speaking Italian, obtained Italian citizenship by *ius sanguinis* in large numbers since the 1980s. Australia, Belgium and the UK are in a similar although less marked unbalance. On the other hand, we have countries where Facebook estimates largely exceed official AIRE register data. This can be a sign of recent, circulatory, or temporary immigration of Italians (who therefore may refrain to show up at consulates for registration), as found in Mexico, Spain and the US, as well as the possible result of return migrants who have lived in Italy previously, as found in Peru and Colombia. In other countries, differences are relatively small, showing a tendential overlap of citizenship and ethnicity.

Overall, the Facebook-based estimate fixes the number of adult Italian speakers in the 16 countries of interest at 5.35 million people, approximately 15 percent more than the figure for Italian citizens living in these countries (4.63 million people). Since the latter figure accounts for 89.8 percent of adult Italian citizens abroad, assuming that the ratio of Italian speakers to Italian citizens is similar in the rest of the world, we can project the demographic size of the adult Italian-speaking diaspora worldwide to 5.95 million people. An alternative estimate can be carried out using data for the 26 countries with the largest AIRE numbers (making up for 96.3 percent of all Italian citizens abroad), for which we also know the figures of Italian speakers on Facebook. We can project the average ratio of Italian speakers to Italian citizens in these countries (1.10), thus reaching an estimate of 5.66 million people. While the two distributions (Italian speakers on Facebook and AIRE-registered citizens) in the 26 countries are strongly correlated ($r=0.76$), the latter estimate cannot leverage the adjustment of Facebook data via penetration rates by age groups and gender in each country we performed before. We can reasonably hold that the two projections define the upper and lower bounds of the real size of the Italian-speaking diaspora worldwide—thus ranging between 5.66 and 5.95 million persons.

5.2 The acculturation strategies of the Italian diaspora

In line with Berry’s intuition, we conceptualize acculturation as a double positioning—vis-à-vis the preferences of the majority population in the host country and those of co-ethnics in the homeland. Our concepts of ‘distance from host country culture’ and ‘distance from homeland culture’, as outlined above, translate this double positioning. Berry’s model is

⁹ More precisely, AIRE data are the outcome of the projection to 2023 of the 2018–2021 dataset on the basis of the growth rate of AIRE members per country (https://ucs.interno.gov.it/ucs/contenuti/Anagrafe_degli_italiani_residenti_all'estero_a.i.r.e._int_00041-8067961.htm (2021), accessed 28 December 2023).

¹⁰ Ideally, other large survey data (like the Labour Force Survey in Europe) should be used for further comparisons and calibrations (an example being Rampazzo et al. 2021 for the UK). However, with a global scope spanning across different continents, and including less developed countries with poorly accurate and harmonized official statistics on minorities, this strategy is not viable for our target population.

therefore operationalized graphically and each community of the diaspora (e.g., Italians in the US, Italians in Brazil, etc.) distinguishes itself compared to the others onto this graph (Fig. 3). Acknowledging that this space of double positioning is fluid and that each of the two dimensions forms a continuum, for the sake of interpretation we reproduce Berry's four cells by splitting the bidimensional space of the two distances—from the host country on the horizontal axis, from homeland on the vertical axis—at 7.5 percentage points, symmetrically, corresponding to the mean distance on the nine variables of interest.¹¹

Figure 3 shows a full view of the positioning of the 16 communities of Italian-speakers vis-à-vis the host country and homeland Facebook users (original values in Appendix A). Each panel contains interests pertaining to civic engagement, cultural Italianness, and sociological Italianness. With a few exceptions, the 16 Italian communities abroad are vastly scattered and do not express a unitary orientation across countries.

As for civic engagement, we find high variability across communities. This variability is particularly marked when it comes to 'interest in politics'. Italians in the UK and Australia show levels of interests that are similar to both their host country and homeland counterparts. On the opposite end, Italians in Venezuela are farther apart from both. The rest of the communities are scattered—some being more assimilated (in Canada, Spain and Germany) and the majority being rather more separated. Italians showing an interest in politics are in larger numbers than in the host country everywhere, except in the UK (Fig. 4, panel A). 'Community issues' are also a stronger concern for the Italian diaspora than for the mainstream, as is possibly the case for all ethnic minorities, so long as their members have an inherent stake in ethnic solidarity (Nielsen 1985). In relative terms, the distance from locals is limited, and smaller than from homeland Italians. The only case of 'marginalization' is found among Italians in Mexico, who express a markedly higher level of interest in community issues than both Mexicans and homeland Italians (Fig. 4). The picture is analogous as regards 'volunteering', where 'integration' and 'assimilation' are the prevailing acculturation strategies. This practice attracts a larger share of the diaspora than locals (with the only exception of the UK: Fig. 4, Panel A). Possibly this is an effect of belonging to an ethnic minority, which generates opportunities for internal solidarity and community work.

On cultural Italianness, we find the strongest unity in the positioning of the diaspora. While consistently higher than in host countries, interest in Italian television among Italians living abroad is much lower than in Italy. Assimilation, in this regard, is ubiquitous. This is possibly amplified by the existence of media broadcasting specifically targeting Italian communities in some countries (like Australia and Canada). The gap with locals and homeland Italians is lower for a quite specific manifestation of ethnic identity—that is, attention to the Italian national football team. Since the team plays only sporadically, the interest in it may also experience high volatility; in seven countries the proportions of Facebook followers are so low that we do not have reliable estimates. Finally, regarding Italian cuisine, all diaspora communities are more interested in it than locals. This difference is also marked—but in the opposite direction—with respect to homeland Italians, who display even more interest than the diaspora in Italian cuisine (Fig. 4, Panel B). Therefore, as regards cultural Italianness, most Italian communities are 'marginalized' culturally, and some are 'separated'.

¹¹ The average distance of all Italian-speaking communities on all variables is 7.51 on the horizontal axis and 7.58 on the vertical axis.

Fig. 3 Distance of Italian-speaking communities from host country and homeland Facebook users on nine interests (absolute values, in percentage points). *Note* AR = Argentina; AU = Australia; BE = Belgium; BR = Brazil; CA = Canada; CH = Switzerland; CO = Colombia; DE = Germany; ES = Spain; FR = France; GB = United Kingdom; MX = Mexico; NL = Netherlands; PE = Peru; US = USA; VE = Venezuela

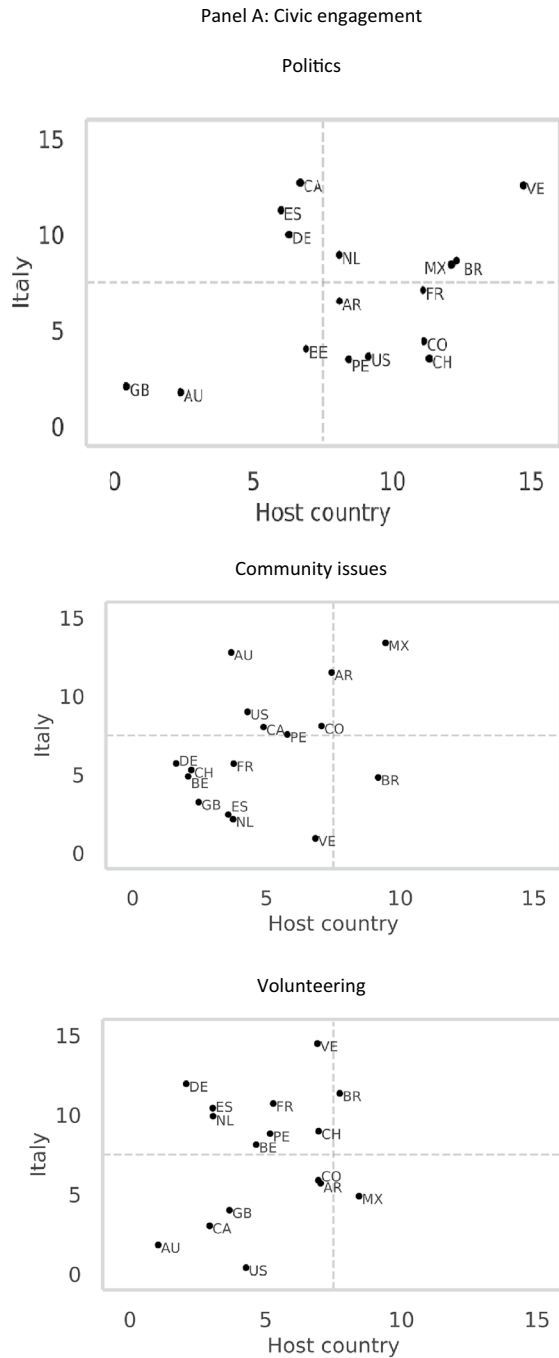


Fig. 3 (continued)

Panel B: Cultural Italianness

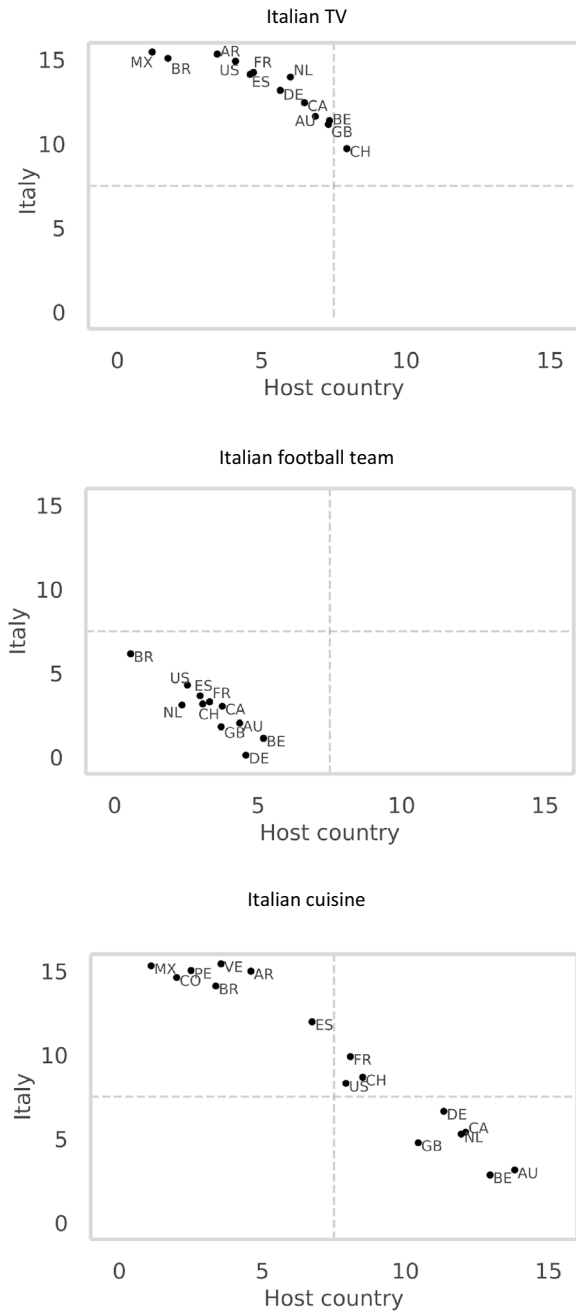
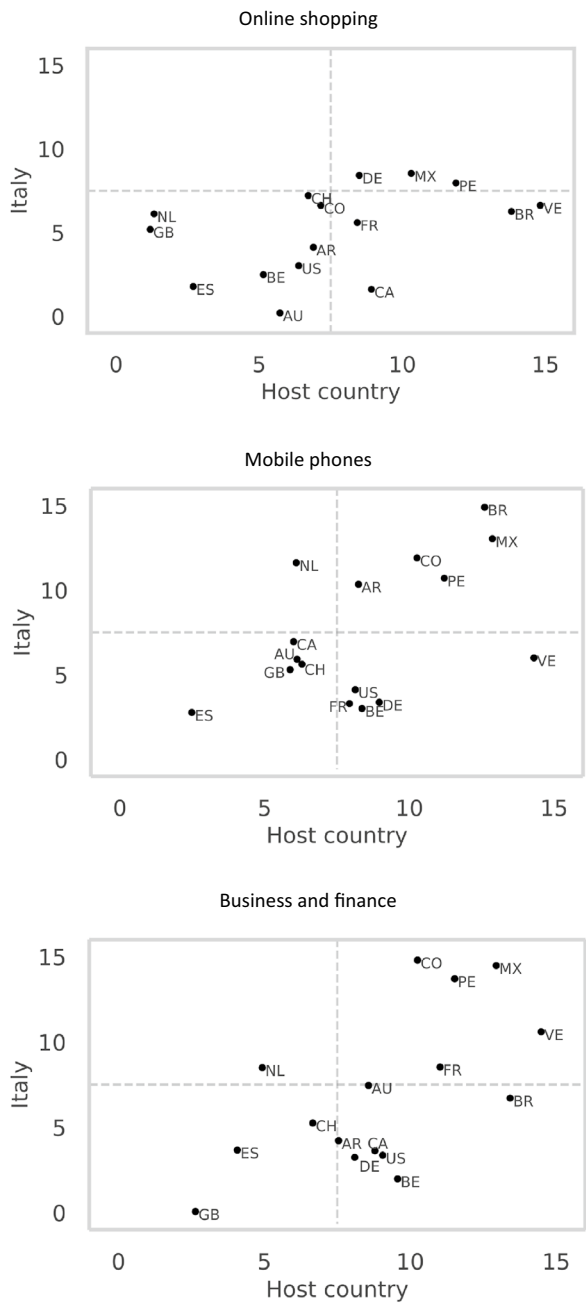


Fig. 3 (continued)

Panel C: Sociological Italianness



As for sociological Italianness, which concerns measures of ethnically neutral Facebook interests that stand out among homeland Italians, the picture is scattered. Italian communities tend to have a stronger interest than non-Italians in ‘online shopping’; perhaps ‘ethnic trade’ plays a part in this. Most communities are either ‘integrated’ or ‘separated’, with some verging on ‘marginalization’—notably, Italians in Mexico and Peru, who are more interested in online shopping than both locals and homeland Italians. ‘Marginalization’ is even more common for interest in ‘mobile phones’: Italian diaspora communities have a higher interest than homeland Italians and natives in all host countries. This is particularly the case among Italians living in Mexico, Peru, Argentina, and Colombia. Lastly, a fully scattered distribution is found for interest in ‘business and finance’ (by itself, perhaps too loose a category in Facebook classification). Remarkably, Italian communities everywhere have a stronger interest in business than locals (Fig. 4, Panel C). Their positioning is not particularly aligned with the homeland either, being much higher in the Italian communities of several Latin American countries. Unfortunately, due to lack of information on the occupations of Facebook users, we cannot disentangle the likely compositional influences which may drive this difference.

Overall, we find a strong diversification in the positioning of the Italian-speaking communities in the realm of ‘civic engagement’ and ‘sociological Italianness’. Communities adhere to a more similar pattern in the realm of ‘cultural Italianness’, but not with a standard form of acculturation for all items. In other words, the area in which the Italian diaspora shows a unified form of acculturation, in terms of their proximity to the two reference groups (host country and homeland Facebook users), is where ethnicity features more prominently—TV, football and cuisine. However, within this area, there is almost never a ‘separation’ from the mainstream due to an exclusive proximity to the cultural interests of the homeland. A stronger similarity to ‘Italians in Italy’ than the host country mainstream is much more the exception than the rule.

Figure 4 plots the two distances per item on a single axis, showing which of the two is higher. Note that in this figure the two measures have the original sign: that is, a negative number indicates a proportion of Italian speakers less interested than their host country or homeland counterparts, and a positive number the opposite. A clear result is that all Italian-speaking communities have a stronger interest in ‘ethnic items’ (Italian TV, cuisine and football) than locals, but weaker than homeland Italians. This is the sort of ‘bridging’ situation of ethnic minorities that we may expect to find across the board but is in fact blurred when other practices and cultural dimensions are taken into account, as revealed by the panels A and C of Fig. 4 about civic engagement and sociological Italianness.

5.3 Clustering the Italian diaspora by acculturation strategies

The existence of relevant differences in our indicators across societies raises the question of whether the Italian diaspora can be better described on the basis of the types of acculturation strategies which it tends to adopt in each country of residence. To answer this question, we conduct a data-driven (Euclidean, continuous) K-means clustering of the 18 variables representing the distances from host country Facebook users and from homeland Italians. This reveals three clearly distinct clusters of Italian speakers by country of

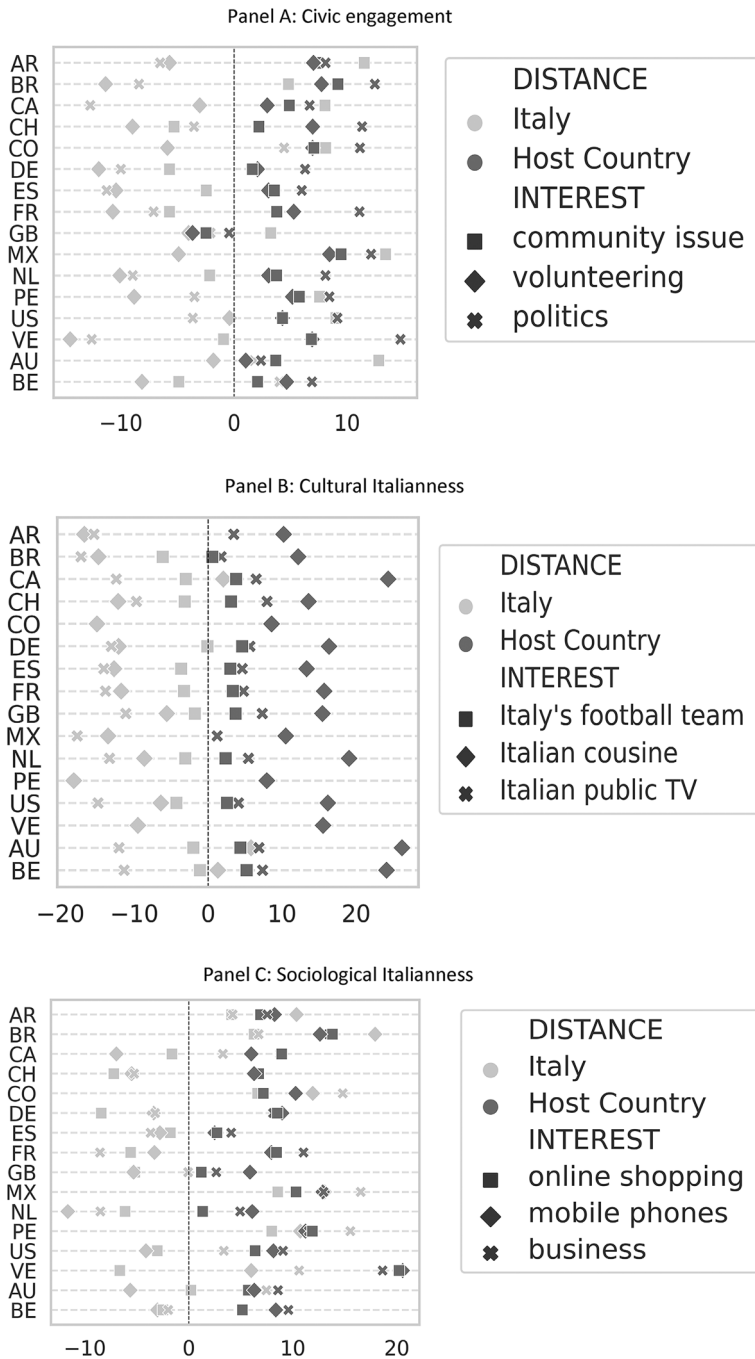


Fig. 4 Distance from average level of Facebook interest per domain in host country (DHC, in dark grey) and in Italy (DIT, in light grey) among Italian-speaking communities (in percentage points). *Note* AR=Argentina; AU=Australia; BE=Belgium; BR=Brazil; CA=Canada; CH=Switzerland; CO=Colombia; DE=Germany; ES=Spain; FR=France; GB=United Kingdom; MX=Mexico; NL=Netherlands; PE=Peru; US=USA; VE=Venezuela

Table 1 Predictors of interest for Italian cuisine among Italian-speaking Facebook users in 16 countries (OLS regressions)

	Coeff	SE	t-value	p-value	[95% Conf	Interval]	Sig
Distance from Italy (in km)	0.0001	0.0007	1.45	0.149	−0.0001	0.0001	
Age group: 18–34 (ref)	0						
35–64	4.249	0.532	7.99	0	3.194	5.304	***
65 or more	4.394	0.532	8.27	0	3.338	5.449	***
Gender: Man (ref)	0						
Woman	4.759	0.434	10.97	0	3.897	5.620	***
cluster: Latin-America (ref)	0						
Anglosphere	2.784	0.588	4.73	0	1.617	3.952	***
Continental Europe	−1.614	0.806	−2.00	0.048	−3.215	−0.014	**
Constant	7.785	0.874	8.91	0	6.05	9.52	***

R²: 756; n=102*** $p < .01$, ** $p < .05$, * $p < .1$

residence.¹² Even though obtained inductively, the three clusters seem to obey to latent rationales—namely, geographical and linguistic similarity among countries hosting the diaspora.

Cluster 1 is formed by South American countries: Argentina, Brazil, Colombia, Mexico, Peru and Venezuela. Cluster 2 includes English-speaking countries (plus Belgium): Australia, Canada, United Kingdom, USA and Belgium. Cluster 3 consists of Continental-European countries: Switzerland, Germany, France, the Netherlands, and Spain. Appendix B reports means, standard deviations and range for all considered variables leading to this clustering.

In essence, the South American cluster distinguishes itself by a low interest in typical manifestations of cultural Italianness. Possibly, Italianness in Latin America is subsumed into local practices and incorporated into everyday life without a necessity to reproduce it or celebrate it expressly on social media (like by following Facebook groups or websites devoted to Italian cuisine). Similarly, passion for football—while widespread like in Italy—is reinterpreted by the Italian diaspora of South America drawing on the lively autochthonous scene, which does not leave space for an interest in the Italian *Azzurri* (the national football team). It is likely that in these countries the past and long-standing absorption of elements of Italian culture into local cultures removes an appetite for Italianness ‘at the source’. South-American Italian speakers are more similar to homeland Italians when it comes to their level of interest in politics or online shopping. The opposite is true for Italian speakers in the Anglosphere. They are closer to Italian residents in terms of the attention given to Italian football and cuisine, which is likely not catered to by local practices. To a lesser extent, this is also the case for the Italian diaspora in Continental Europe (cluster 3).

Given the high variability in attitudes to Italian cuisine (Fig. 4), we explore its possible determinants in greater depth. To this purpose, we model the proportion of Italian-speaking

¹² We experimented with other similarity measures obtaining the same clustering outcome. Two and four cluster solutions were less satisfactory in terms of geographical and cultural meaningfulness of the clusters.

Facebook users who express an interest in Italian cuisine by country, gender, and age groups (18–34, 35–64 and 65 or more) through an OLS regression. We add the flight distance of the capital of the host country from Rome (in kilometers),¹³ to capture a structural dimension of ease of access to the symbolic geographical core of the diaspora. Results in Table 1 show that the predictors included are all significant, with the exception of the geographical distance from Rome. This analysis disentangles the within-diaspora role of cuisine as an ethnic marker that is not uniformly widespread. Across the board, Italian cuisine attracts members of the Italian diaspora who are older (35 years old and more), women, and residents of English-speaking countries. Interest is lowest, all things being equal, in other Continental European countries. The limited number of cases available (102 subgroups in total) does not allow us to dig deeper into the intersectionality of these dimensions through interaction terms in the model.

6 Discussion and conclusion

In this article, we considered the use of the Italian language on Facebook as a robust indicator of belonging to the ‘Italian diaspora’. We addressed the type of acculturation of the Italian diaspora in 16 receiving countries by assessing the level of interest of Italian speakers in given topics covered by Facebook, and by measuring the (dis)similarity of this level with that of users in the host country and in Italy.

Contrarily to what many studies on acculturation that mostly rely on subjective survey questions conclude, the objective expression of Facebook interests of the Italian diaspora tends to converge only limitedly with that of the local population *and* with that of homeland Italians. This answers our first research question: the Integration strategy of acculturation is not overwhelmingly prevalent across the board. No overarching acculturation model prevails, and instead much depends on the cultural dimension for which proximity is assessed.

The second research question focused on the similarity of acculturation strategies by cultural domain across Italian-speaking communities. Overall, this similarity is rather low. As Cohen (1995, 16) noted, with globalization ‘some diasporas appear to have mutated across several phases and assumed different forms, refurbishing themselves as they go along’. Diasporas not only change, but also diversify. This is possibly the case with Italian-speaking communities as well. We find that these communities show a rather large diversity among themselves.

This scattering is overall less pronounced when it comes to typical manifestations of ethnic heritage—what we have called ‘cultural Italianness’. Across the board, the Italian diaspora is equally disinterested in Italy’s public TV and the Italian football team, while it appreciates Italian cuisine substantially more than non-Italians. However, exploring this last dimension in-depth, we detect significant variability across gender groups, age groups and contexts of residence. Contexts, as we might expect, do matter. Depending on their acculturation strategies, Italian communities are segmented into three most-similar clusters, reflecting geographic and cultural areas: Latin America, the Anglosphere, and Continental Europe.

¹³ Data on these distances were retrieved from <https://www.airportdistancecalculator.com/>.

Some notes of methodological caution are in order. We expand on existing research pioneering the use of Facebook interests as indicators of cultural preferences (Dubois et al. 2018; Stewart et al. 2019; Coimbra Vieira et al. 2020; 2022; 2024). While we deem this novel approach to be promising, it remains to be seen whether real-life practices are reflected by online stances, as previous studies found to be the case in more circumscribed realms (Abbasi et al. 2012; Althoff et al. 2017; Thorson et al. 2021). Moreover, as with most big data, web-scraped information does not include sociodemographic details about social media users. Therefore, our analysis deals with subpopulations, not with microdata. It must thus be considered as an overview of group-level propensities. While analytically limiting, the aggregated nature of the data is ethically convenient as a robust form of individual privacy protection.

We conclude by highlighting the theoretical implications of our approach for future research on acculturation. Berry and his coauthors have reached the conclusion that ‘integration is generally more prevalent than the other three possible profiles’; for instance, in Canada, 69 percent of immigrants fit into the Integration pattern while only 3 to 4 percent correspond with the Separation and Marginalization alternatives (Hou et al. 2018, 1613). We find a more diverse distribution of acculturation outcomes across countries. The conclusions of existing research, however, rely on an operationalization of proximities to host country and homeland that is purely subjective and contingent on episodic survey questioning (‘To which culture do you feel close?’). In contrast, our approach compares actual preferences of minorities and reference populations as revealed by repeated online choices. This seems closer to ‘culture in action’ (Swidler 1986)—that is, concrete symbolic choices by which people situate themselves in society. From this perspective, ‘Integration’ is an impossible outcome if the two reference populations position themselves very differently on an item, which is a realistic scenario that needs to be taken into account by acculturation research no matter the methods employed.

Appendix A

(See Table 2).

Table 2 Absolute values of the distance of the level of interest of each national community of the Italian-speaking diaspora from the level of interest of the host country resident population (DHC) and the Italian resident population (DIT)

Coun- try	Poli- tics, DHC	Poli- tics, DIT	Com- munity issues, DHC	Com- munity issues, DIT	Volun- teering, DHC	Volun- teering, DIT	Italian public TV, DHC	Italian public TV, DIT	Italy's foot- ball team, DHC	Italy's foot- ball team, DIT	Italian cui- sine, DHC	Italian cui- sine, DIT	Online shop- ping, DHC	Online shop- ping, DIT	Mobile phones, DHC	Mobile phones, DIT	Busi- ness, DHC	Busi- ness, DIT
AR	8.09	6.53	7.44	11.51	7.02	5.70	3.46	15.45			10.19	16.75	6.90	4.12	8.24	10.35	7.54	4.22
AU	2.38	1.78	3.68	12.79	1.04	1.82	6.86	12.06	4.36	2.03	26.19	5.79	5.73	0.20	6.29	5.63	8.57	7.45
BE	6.89	4.03	2.07	4.88	4.65	8.13	7.35	11.37	5.19	1.12	24.11	1.30	5.15	2.49	8.37	3.01	9.57	1.98
BR	12.45	8.39	9.18	4.81	7.73	11.35	1.75	17.20	0.56	6.15	12.16	14.85	13.81	6.26	12.60	17.91	13.42	6.71
CA	6.68	12.70	4.89	8.03	2.94	3.03	6.48	12.44	3.75	3.03	24.33	2.04	8.92	1.61	6.00	6.96	8.79	3.28
CH	11.32	3.54	2.19	5.30	6.95	8.97	7.95	9.71	3.07	3.17	13.56	12.18	6.71	7.21	6.27	5.49	6.66	5.25
CO	11.13	4.42	7.06	8.10	6.94	5.88					8.56	15.05	7.15	6.62	10.26	11.91	10.25	14.80
DE	6.28	10.00	1.62	5.71	2.07	11.95	5.64	13.10	4.58	0.11	16.33	12.12	8.50	8.42	8.96	3.38	8.10	3.24
ES	5.99	11.26	3.57	2.45	3.05	10.42	4.60	14.12	2.98	3.65	13.31	12.74	2.70	1.78	2.48	2.77	4.07	3.67
FR	11.09	7.10	3.78	5.70	5.28	10.71	4.77	13.89	3.31	3.30	15.68	11.77	8.43	5.60	7.93	3.30	11.02	8.53
GB	0.44	2.08	2.47	3.25	3.67	4.01	7.31	11.15	3.72	1.81	15.44	5.60	1.20	5.19	5.88	5.31	2.64	0.06
MX	12.11	8.45	9.45	13.40	8.44	4.89	1.21	17.71			10.48	13.54	10.31	8.54	12.87	13.04	12.95	16.52
NL	8.08	8.94	3.76	2.15	3.06	10.09	5.44	13.35	2.35	3.11	19.04	8.64	1.33	6.12	6.10	11.62	4.93	8.50
PE	8.43	3.50	5.78	7.56	5.16	8.82					7.92	18.18	11.87	7.96	11.21	10.71	11.52	15.52
US	9.14	3.64	4.29	9.00	4.28	0.40	4.09	14.91	2.54	4.29	16.17	6.41	6.38	3.02	8.13	4.11	9.06	3.37
VE	14.71	12.57	6.83	0.93	6.90	14.48					15.52	9.51	20.22	6.62	20.56	6.00	18.63	10.60
Mean	8.45	6.81	4.88	6.60	4.95	7.54	5.15	13.50	3.31	2.89	15.56	10.40	7.83	5.11	8.89	7.59	9.23	7.11

Appendix B

(See Table 3).

Table 3 Summary statistics for the three clusters of the Italian-speaking diaspora

Cluster 1 (Latin America)	Mean	SD	Range
Politics (distance from HC)	11.152	2.531	6.616
Politics (distance from IT)	7.311	3.274	9.072
Community issues (distance from HC)	7.621	1.424	3.674
Community issues (distance from IT)	7.719	4.502	12.468
Volunteering (distance from HC)	7.033	1.094	3.276
Volunteering (distance from IT)	8.520	3.785	9.584
Italian public TV (distance from HC)	3.643	1.808	3.941
Italian public TV (distance from IT)	15.181	1.915	4.140
Italy's football team (distance from HC)	2.851	1.122	2.748
Italy's football team (distance from IT)	3.432	1.333	3.264
Italian cuisine (distance from HC)	10.806	2.754	7.604
Italian cuisine (distance from IT)	14.645	2.991	8.673
Online shopping (distance from HC)	11.711	4.954	13.324
Online shopping (distance from IT)	6.687	1.539	4.419
Mobile phones (distance from HC)	12.625	4.239	12.320
Mobile phones (distance from IT)	11.652	3.890	11.906
Business (distance from HC)	12.387	3.719	11.087
Business (distance from IT)	11.395	5.077	12.297
Cluster 2 (Anglosphere)			
Politics (distance from HC)	5.106	3.575	8.700
Politics (distance from IT)	4.846	4.498	10.927
Community issues (distance from HC)	3.481	1.193	2.817
Community issues (distance from IT)	7.590	3.723	9.544
Volunteering (distance from HC)	3.314	1.427	3.610
Volunteering (distance from IT)	3.477	2.931	7.734
Italian public TV (distance from HC)	6.420	1.349	3.258
Italian public TV (distance from IT)	12.385	1.503	3.761
Italy's football team (distance from HC)	3.911	.973	2.653
Italy's football team (distance from IT)	2.455	1.234	3.173
Italian cuisine (distance from HC)	21.248	5.041	10.753
Italian cuisine (distance from IT)	4.229	2.368	5.106
Online shopping (distance from HC)	5.474	2.792	7.726
Online shopping (distance from IT)	2.503	1.842	4.987
Mobile phones (distance from HC)	6.935	1.212	2.485
Mobile phones (distance from IT)	5.002	1.505	3.946
Business (distance from HC)	7.725	2.867	6.928
Business (distance from IT)	3.229	2.714	7.391

Table 3 (continued)

Cluster 3 (Continental Europe)

Politics (distance from HC)	8.552	2.554	5.334
Politics (distance from IT)	8.168	3.004	7.724
Community issues (distance from HC)	2.984	1.005	2.151
Community issues (distance from IT)	4.261	1.800	3.558
Volunteering (distance from HC)	4.083	1.987	4.876
Volunteering (distance from IT)	10.428	1.077	2.981
Italian public TV (distance from HC)	5.680	1.343	3.350
Italian public TV (distance from IT)	12.834	1.795	4.416
Italy's football team (distance from HC)	3.256	.819	2.228
Italy's football team (distance from IT)	2.668	1.443	3.540
Italian cuisine (distance from HC)	15.584	2.336	5.738
Italian cuisine (distance from IT)	11.489	1.631	4.098
Online shopping (distance from HC)	5.533	3.326	7.166
Online shopping (distance from IT)	5.825	2.508	6.641
Mobile phones (distance from HC)	6.350	2.467	6.477
Mobile phones (distance from IT)	5.312	3.678	8.849
Business (distance from HC)	6.957	2.754	6.948
Business (distance from IT)	5.838	2.556	5.293

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