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Citizens' Self-in-Community and Ubiquitous Social Media Use: Disentangling Modern Local Community Experience

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Introduction

The present research project aims at shedding further light on how citizens experience their local communities (that is, neighborhoods and cities) in modern times. It specifically deepens the interplay between citizens' self-in-community – that is, their experience of and ties to their local community meant as a relational entity and to its places (Pretty et al., 2003) – the physical and social features of their communities, and their use of modern ubiquitous, locative, social media with community-related aims.

To address this topic without undervaluing the complexities it implies, this project places at the crossroad of several disciplines, namely Social and Community Psychology, Media Psychology, Environmental Psychology, and Urban Studies. Indeed, its focus on how citizens experience their local community locates it into one of the key areas of interest of Social and Community Psychology. In addition, specifically deepening how the spread of modern ubiquitous, locative, social media – and of their community-related uses – has modified users' local community experience makes it fit into the field of Media Psychology too. Furthermore, it is to mention that in tackling these issues the project pays attention to citizens' relationship with both people and places in their local community. This makes it flow into the topics of interest of Environmental Psychology and Urban Studies too.

Overall, the theoretical framework for this project builds upon two main acknowledgments about modern local community experience, which will be detailed in the first chapter drawing upon recent and traditional studies in all the above-mentioned fields. First, modern local communities have become increasingly spatially and socially closed. That is, while they have always been relational entities their members have felt part of and tied to (Sarason, 1974; Stein, 1964), by now this representation

seems about to fade (Procentese et al., 2011; Stein, 1964) since their environmental and social features are discouraging their members from social interactions (Istat, 2018; Tonkiss, 2003; Young, 1990) while urban spaces and sociability are consequently conveying fewer social meanings and dimensions (Arcidiacono & Di Napoli, 2010; Crang, 2000; Lofland, 1973; Procentese et al., 2007, 2011; Putnam, 2000; Tonkiss, 2003). Consistently, the need to detect paths allowing the recovery of local social meanings to be attributed to common spaces and social interactions and gatherings within local communities makes its way (Procentese et al., 2017), as this could represent a strategy to foster local social capital and strengthen citizens' tie to and positive attitude towards their communities of belonging – that is, their Sense of Community (SoC, McMillan & Chavis, 1986) – and their places – that is, their Sense of Place (SoP, Jorgensen & Stedman, 2001; Raymond et al., 2017; Relph, 1976). Building on this need, the present research project specifically disentangles the potentialities modern ubiquitous, locative, social media could hold as to the re-connection of the local social fabric and the valorization of local dimensions and resources (Gordon & de Souza e Silva, 2011; Graham & Gosling, 2011; Hochman & Manovich, 2013; Manovich et al., 2014; Procentese & Gatti, 2019a; Sutko & de Souza e Silva, 2011), which leads to the second main acknowledgment the project builds upon. That is, a new kind of social ecosystem is developing and requires further attention when it comes to modern local community experience (Tonkiss, 2014). It includes and integrates both face-to-face and mobile-applications-mediated social contacts, interactions, opportunities, representations, and meanings (Jarusriboonchai et al., 2013; Mäkitalo et al., 2012), since the latter are now able to fulfill urban common places and social gatherings too, becoming an integral part of how citizens experience their local community, thanks to ubiquitous, locative mobile social media (Batiste, 2013; Licoppe, 2013; Toch & Levi, 2012). Specifically, two kinds of potentialities these technologies hold need to be tackled as to the experience citizens can make of their local community. On the one hand, they could increase users' awareness about local places, social gatherings, and opportunities (Hsiao & Dillahunt, 2017) through allowing them to see contents, hints, and comments posted by other users about a given location and share theirs too (Sutko & de Souza e Silva, 2011). On the other hand, they could enhance offline contacts among nearby strangers – that is, individuals being close enough to easily approach each other

but not doing so (Paasovaara et al., 2016) – by offering tickets-to-talk and online interactions which can easily move offline thanks to local proximity (Jarusriboonchai et al., 2014). That is, when used with reference to the local community of belonging, this kind of technologies could represent tools allowing their users to enter the local social network, access local resources and opportunities, and contact local pieces of information and social dimensions and meanings.

Consistently, the two following chapters will deepen the specifically community-related use of two specific kinds of ubiquitous and locative social media, which have sprung up spontaneously regardless of the stated aims of these mainstream platforms. In the second chapter, Instagram use to look for social places and gatherings in users' local community will be tackled as a potential strategy users could have played out to keep in touch with local social meanings and representations. In the third chapter, dating People-Nearby Applications (PNAs) use for location-based searching of other nearby users to meet with no sexual or romantic intention will be deepened as potentially allowing users to create new social connections – both face-to-face and mediated by the application – with other members of their local community – that is, with their neighbors. In both cases, these social media uses will be taken into account as alternative strategies citizens could play out in order to enhance their local community experience and sustain their self-in-community when more traditional paths seem not feasible, as it could happen due to the partial spatial and/or social closure of their community. Specifically, the present studies will endeavor to answer two main research questions with reference to each one of the above-mentioned social media community-related uses: 1) which are the needs underlying these uses, and 2) which are the paths through which these uses can enhance users' tie to their local community. Indeed, due to the relationship and potentialities these social media uses show as to users' local communities, it is here hypothesized that both the needs underlying them and the outcomes of their use could be related to community spatial and social features, users' experience of their communities, and their self-in-community at last.

CHAPTER I

From Traditional to Modern Local Community Experience: Changes in Urban Spaces and Sociability and the Potentialities of Ubiquitous Technologies

1. Traditional Local Community Experience

"Community" refers at the same time to a set of places and spaces and to the psychological, social, symbolical, and cultural representations and meanings organized around them, which contribute to making them meaningful to community members (Macintyre et al., 2002; Mannarini et al., 2006; Sarason, 1974; Schwirian & Schwirian, 1993). Indeed, local social and spatial environments cannot exist independently from each other (Cattell et al., 2008): a community is a spatial space, but also – and mainly – a *relational entity* its members feel part of and tied to (Stein, 1964).

Specifically, local communities are geographically defined communities having identifiable boundaries their members are aware of (Pretty et al., 2003) – for example, neighborhoods or cities. Over time, they have been considered as relational spaces where everyone can grab opportunities for daily face-to-face social contacts and interactions with different people (Capece & Costa, 2013; Ife & Smith, 1995). Furthermore, neighbors can represent a source of daily support (Ife & Smith, 1995), physical and social resources (Granovetter, 1982; Putnam, 2000), pieces of information, and access to further resources when in need due to their spatial closeness and to the shared context (Unger & Wandersman, 1982). Building on this, the intertwinement between environmental and social dimensions seems a critical issue (Jackson, 2003; Macintyre et al., 2002; Mannarini et al., 2006; Plas & Lewis, 1996; Schwirian

& Schwirian, 1993; Vick & Perkins, 2013). Indeed, common livable places represent settings where the ties among community members as well as towards the community and its places can happen (Francis et al., 2012; Gustafson, 2001; Wood et al., 2012). They influence individuals' bond to and experience of them and of the community living them both directly, through their features, and indirectly, through the social and cultural environment they host (Cuba & Hummon, 1993; Maas et al., 2009; Semenza, 2003). High-quality spaces foster the opportunities to spend one's spare time, discuss community issues, and broaden one's local social network (Gehl, 2006). They welcome individuals' daily paths and their crossings, local interactions and ties (Augè, 2009), social dimensions compounding individual and social identities (Puddifoot, 2003), allowing citizens to explore and share individual and common representations about the community and its places (Arcidiacono, 2016; Clemente et al., 2016). Well-kept, walkable, and usable spaces host social gatherings (e.g., festivals) and encounters among community members, adapt to different uses across time and provide common experiences, meanings and traditions (Derrett, 2003; Gustafson, 2001; Kim & Kaplan, 2004; Talen, 2000). By doing so, they represent venues for local sociability and ideas sharing (Carr et al., 1992; Gustafson, 2001; Project for Public Spaces, 2008; Subramanian et al., 2003; Wood et al., 2012) and contribute to the definition of community members' self-in-community (Pretty et al., 2003), steading the feeling of being part of it (Derrett, 2003; Wood et al., 2010) and at home in it (Moser et al., 2002). As settings for serendipitous encounters and interactions among neighbors and for local social gatherings, this kind of spaces glues the local social fabric, sustaining neighborhood social networks and friendliness (David et al., 2002; Dempsey, 2009; Derrett, 2003; Francis et al., 2012; Leyden, 2003; Lund, 2002; Procentese et al., 2017, 2019c; Putnam, 2000; Talen, 2000; Wood et al., 2010). Indeed, the reciprocal proximity and acknowledgment neighbors gain through them provide opportunities for trust and support exchanges, as well as for sharing meanings and visions, setting common aims, and feeling part of a larger community (Arcidiacono, 2016; Bridge, 2002; Derrett, 2003; Dillahunt & Mankoff, 2014; Francis et al., 2012; Granovetter, 1973; Lewicka, 2011; Proshansky et al., 1983; Puddifoot, 2003; Sugiyama et al., 2008; Talen, 2000; Wood et al., 2010). Furthermore, seeing community members out and about signals they are safe places to be attended (Perkins & Taylor, 1996; Wood & Christian, 2011)

and the community is livable (Bridge, 2002), friendly (Unger & Wandersman, 1982), hearty and warm (Wood & Christian, 2011; Ziersch et al., 2005). Taken together, high-quality common spaces are able to provide tangible and intangible experiences connecting individuals to the community and its places, promoting a local focus, valorizing natural, environmental and social elements of the local landscape, reminding and building common past and traditions, bettering the quality of life and togetherness in the community (Clemente et al., 2016; Crosta, 2000; Derrett, 2003; Procentese et al., 2017). Furthermore, they represent venues for social capital (Wood et al., 2008; Wood et al., 2012), allowing community members to widen the pool of physical, emotional, instrumental, and social resources they can rely on (Kweon et al., 1998; Maas et al., 2009). Indeed, social capital represents an intangible resource deriving from social relationships, on which one can rely when in need of social, instrumental, and sometimes even emotional support to pursue their aims and better their condition (Bourdieu, 1986; Unger & Wandersman, 1982). Over time, it has been tackled both as a positive outcome of a social network and as the process which allows a social network to produce positive outcomes (Williams, 2006); in this vein, it has also been meant as a cyclical process which consists of a social network producing positive tangible and intangible resources, which bring towards positive outcomes, which in turn bring about increases in the available resources – that is, comprising the process and the outcome in the same definition (Newton, 1997). It can be considered at both individual level and neighborhoods meso-level (Paxton, 1999, 2002; Putnam, 1993, 2000; Wood et al., 2012).

At the individual level, social capital refers to the relationships everyone is involved into firsthand, which allow them to mobilize tangible and intangible, emotional and practical resources (Williams, 2006). Consistently, it refers at the same time to the relationships individuals are embedded into, to the networks which are compounded by these relationships – and to their features – and to the competencies individuals have in interacting with their surrounding social environment (Pooley et al., 2005). Since relationships can be qualitatively different according to their features, at the individual level social capital has been classified into two different kinds, which are different yet related and not mutually exclusive (Granovetter, 1973, 1982; Putnam, 2000; Williams, 2006). A closed, or bonding, social capital is mainly focused on

primary relationships (e.g., family, friends, significant others) and exclusive trust, while an open, or bridging, one is based on weak yet wider ties, broader trust, and reciprocal acknowledgment (Granovetter, 1973, 1982; Putnam, 2000). Bonding social capital is mainly exclusive (Putnam, 2000; Williams, 2006), which means that it stems by close relationships – also meant as strong ties (Granovetter, 1982) – in which individuals reciprocally provide emotional or substantive support. While these individuals are strongly tied to each other, they are pretty similar in backgrounds, habits, and belongings (Williams, 2006), which allows them deeper understanding and connection but also narrower horizon and perspectives. Conversely, bridging social capital is mostly inclusive (Putnam, 2000; Williams, 2006): it stems from social networks compounded by individuals having different backgrounds, habits, and belongings, which find themselves involved in acquaintances lacking depth yet rich in breadth (such as local interactions and acquaintances within local communities) – which have also been defined as weak ties (Granovetter, 1982). That is, individuals gain broader horizons and access to further people, opportunities, and pieces of information thanks to these relationships, as well as some practical help (Granovetter, 1973, 1982; Ife & Smith, 1995; Putnam, 2000; Williams, 2006) – that is, what Granovetter (1973) defined as *the strength of weak ties*. Thus, weak ties represent a critical part of individuals' social experience. They can also provide a different mindset towards wider social interactions and their meanings (Granovetter, 1982; Putnam, 2000; Williams, 2006): while providing support and resources to rely on, they also stimulate an outward-looking, interested and inclusive attitude, fostering an open-minded behavior and the will to interact with a wider range of people and further widen their bridging social capital (Puntam, 2000; Williams, 2006).

At the neighborhood meso-level, social capital refers to the broader social connections among community members, which compound the local social fabric (Cohen & Prusak, 2001; Putnam, 1993). Building on Putnam's definitions of open and closed social capital (2000), neighborhood communities can similarly be defined as socially open or closed with reference to the kind of social capital characterizing them. A neighborhood community can be considered open when its members can be seen out and about chatting and interacting, perceive the community as friendly and supportive and its members as trustworthy, and when it offers safe social places where serendipitous

encounters can happen and experiences can be shared – that is, when the local social fabric is characterized by wide social network, broad trust, shared values, and reciprocal acknowledgment among members. These communities value the relationships and interactions among their members as well as trust, friendliness, reciprocity, and public-spiritedness. Consistently, "social" places can be meant as those community shared spaces where interactions among community members can happen (Oldenburg, 1989), which represent venues for an open social capital, convey socially connoted meanings about the community as a relational entity, and are meaningful to community members' experience – e.g., parks, plazas, clubs, sidewalks, community centers, libraries.

Conversely, a neighborhood community can be considered closed when its social fabric is not glued by interactions and encounters among community members, who rather interact only within already known, small, social groups. In these communities, the members place attention on their primary relationships and social networks rather than on the wider social contexts in the community. Low-quality or foreclosed spaces can sustain this latter kind of social capital, with lots of small, private, groups and sub-cultures, since they are less likely to be attended when it can be avoided (Gehl, 2006). This makes them contribute to the loss of wider local social meanings and functions. Indeed, due to the lack of shared places and experiences individuals perceive each other as enemies rather than members of the same community (Carli, 2000; Procentese et al., 2011). Such environmental and social features are associated also to higher insecurity (Perkins & Taylor, 1996; Wood & Christian, 2011; Wood et al., 2008; Wood et al., 2012), greater relational closure, and lower friendliness, acknowledgment, support and trust among community members (Bridge, 2002; Granovetter, 1973; Procentese et al., 2007, 2011).

Thus, it seems evident that the role of places in individuals' daily lives is linked to individual, social, and cultural processes which give meaning to them (Altman & Low, 1992). Indeed, consistently with the ecological perspective (Bronfenbrenner, 1979), the interactions among community members are influenced by both individual attitudes and community environmental and social features (Unger & Wandersman, 1982). As a matter of fact, places represent the core of individuals' local community experience. In light of the relevance assumed by this intertwinement of environmental and social dimensions of local community experience, Pretty and colleagues (2003)

used the expression *self-in-community* to refer to the complex dynamics which compound individuals' experience of and ties to their local community meant as a relational entity and as a set of places at the same time. Indeed, by attending local places individuals can become tied to their community meant as a set of places – a tie which has been here conceptualized as Sense of Place. At the same time, through hosting social gatherings and encounters among community members and allowing them to share activities, experiences, and visions, local places can also enhance community members' feeling that their community is a relational entity whose members relate, support, and belong – which has been conceptualized as Sense of Community. These two ties both contribute to shaping individuals' *self-in-community* experience, through providing emotional, behavioural, cognitive, and symbolic contributions to community-related aspects of individual identities, meanings, and representations (Pretty et al., 2003); however, they have been acknowledged as different yet related constructs (Cuba & Hummon, 1993; Perkins & Long, 2002; Pretty et al., 2003) in order to be adequately tackled (Perkins & Long, 2002). Indeed, the tie to the community of belonging is mainly socially oriented while the one to its places is mainly spatially oriented.

1.1. The Sense of Place and the Community as a Set of Meaningful Places

Due to the intertwinement between the features of community places and the social environment and gatherings they host, over time places have been conceptualized as several complex dimensions combining what has been defined as location, locale, and sense of place (Cresswell, 2004): indeed, the spatial space a given place occupies in absolute and relative terms (location), the material features which exist within it meant as built and natural features (local), the affective, cognitive and conative dimensions which are organized around them, and the individual and social activities they host (sense of place) are all elements compounding how individuals experience their life places. Thus, they need to be tackled as integrated systems including several domains (Canter, 1977, 1978, 1991) which all contribute to making them meaningful in individuals' experience (Mannarini et al., 2006; Plas & Lewis, 1996; Sarason, 1974; Vick & Perkins, 2013). Indeed, places represent compounds of cognitions, emotions, uses, and activities which revolve and are organized around them in

community members' experience (Canter, 1977, 1978, 1991; Lewicka, 2011; Pretty et al., 2003; Relph, 1976). Over time, they have been framed both 1) as locus of attachment, with reference to the affective tie individuals can develop towards specific places, and 2) as centers of meaning, referring to how individuals make sense of their localized experiences and relationships and give meaning to them, according to the possibilities and/or constraints which are posed by places due to their environmental and social features (Raymond et al., 2017; Williams, 2014). Furthermore, places have been meant as social categories with a role in defining and expressing individuals' belonging to the community living those spaces (Mao et al., 2016; Twigger-Ross et al., 2016).

Along with the different conceptualization of the role places play in community members' experience, also the tie individuals develop to them has been theorized in several ways, which already proved their inseparable nature (Jorgensen & Stedman, 2001; Pretty et al., 2003): with reference to the emotional and affective bond individuals develop towards a place where they feel safe and get involved with other community members (that is, place attachment; Lewicka, 2005; Scannell & Gifford, 2010a, 2010b); with reference to self-categorization processes and to the development of identity-related dimensions which are bonded to a specific place, to the connections with it, and to the meanings attributed to it (that is, place identity; Proshansky et al., 1983; Twigger-Ross et al., 2016); with reference to the evaluation about a specific place as offering spatial and social resources and serving one's goals achievement (even social ones) better than the available alternatives (that is, place dependence; Pretty et al., 2003; Raymond et al., 2010). However, the most meaningful conceptualization for the present research project is the Sense of Place (SoP, Jorgensen & Stedman, 2001; Raymond et al., 2017), as it refers to an overall, more complex, attitude towards life places which is compounded by conative, cognitive, and affective reactions to them (Smaldone et al., 2008; Stedman, 2003), consistently with broader theories about attitudes (Breckler, 1984; Rosenberg & Hovland, 1960).

SoP proved its relevance in deepening people-place relationships and the several layers of meanings deriving from these relationships over time (Rogan et al., 2005; Scannell & Gifford, 2010a; Silver & Grek-Martin, 2015) since it explains more variance of the tie between individuals and places than place attachment, identity, and

dependence taken together (Jorgensen & Stedman, 2001). This more intricate conceptualization allows to take into account the complexities arising from the role places play in individuals' lives. In line with this conceptualization, SoP has been defined as "an affective concept that combines emotions, impressions, beliefs, memories, and experiences with a place" (Silver & Grek-Martin, 2015, p. 32), thus encompassing both affective and sense-making dimensions about places – that is, emotions, individual and shared representations, and the deriving meanings about what a place is like, what are its functions, and which images it conveys, and which activities it hosts (Brehm et al., 2013; Jacquet & Stedman, 2013; Stedman, 2008). That is, the enrichment coming from SoP is that it allows to refer to places in individuals' experience not only as spatial settings with their environmental qualities, but also as social venues where interactions and relationships can happen and to which individual and social representations and meanings are attached (Félonneau, 2004; Fornara et al., 2018; Jorgensen & Stedman, 2001; Rollero & De Piccoli, 2010). Indeed, places where individuals locate themselves due to daily routines and exceptional circumstances and to which they feel they belong represent a symbolic extension of the self (Pretty et al, 2003; Proshansky et al., 1983); through this process, some shared dimensions and representations about the community become integral part of its members' identities (Bonnes & Secchiaroli, 1995). Such meanings and representations about local places are shaped by individual and social activities, experiences, and expectations linked to them (Masterson et al., 2017). Consistently, places ability to satisfy community members' social goals and needs through allowing informal social activities and connections proved to be a critical attribute for them to be meaningful to citizens' lives (Bonaiuto et al., 1999; Brown et al., 2004; Lewicka, 2005; Moser et al., 2002; Özkan & Yilmaz, 2019), as "places that people can relate to, connect and belong, identify with, remember, and miss are spaces that meet their needs as a result of their spatial and social attributes" (Özkan & Yilmaz, 2019, p. 134). Therefore, a crucial part of SoP is also related to the involvement between places and people living them, to the social features of the former, and to the activities and interactions they allow and host (Bonaiuto et al., 2004, 2016; Hernández et al., 2010; Masterson et al., 2017; Pretty et al., 2003; Rollero & De Piccoli, 2010). Thus, high quality, available, and livable spaces, which can serve as public landmarks and host local traditions and social gatherings, are tightly linked to the development of

citizens' bond to their community places (Gustafson, 2001; Project for Public Spaces, 2008). Consistently, SoP proved a strong link to individual and community representations of local social dimensions related to common spaces and social gatherings as venues for meaningful social relationships and interactions (Lewicka, 2010; Pretty et al., 2003; Wood et al., 2012), to the motivation detecting feasible strategies to preserve them (Perkins & Long, 2002), and to the tie individuals develop towards the community living those spaces as a relational entity at last (Francis et al., 2012; Fried, 2000; Kweon et al., 1998; Maas et al., 2009).

1.2. The Sense of Community and the Community as a Relational Entity

The bond that ties individuals to their local communities meant as social entities – that is, their Sense of Community (SoC) – has been defined as "a feeling that members have of belonging, a feeling that members matter to one another and to the group, and a shared faith that members' needs will be met through their commitment to be together" (McMillan & Chavis, 1986, p. 9). It is compounded by four core aspects (McMillan, 1996; McMillan & Chavis, 1986), namely: (1) a sense of personal relatedness to other members and to the community as a whole, due to the belonging and self-identification as a member of that community (*membership*); (2) the feeling of reciprocal mattering and influence between the community and its members (*influence*); (3) the perception that the community meets its members' needs (*fulfillment of needs*); (4) the belief that the community has an identifiable common past and that its members spend time together attending local places and sharing similar or common experiences (*shared emotional connection*). That is, it refers to individuals' identity as community members but also goes beyond it by addressing several further aspects of being-in-a-community (Kusenbach, 2006; McMillan & Chavis, 1986; Sarason, 1974): feeling one's belonging to it and that it is able to meet its members' needs and matters to them, acknowledging the opportunities for individual and collective active engagement to make a difference with reference to community issues, feeling a tie towards its members which is rooted in a common past, in common elements of their social identity and in the shared opportunities and experiences linked to the same spatial and social environment (that is, the community and its places) and which in turn imply that they relate to each other and help each other when in need. Thus, SoC is built upon the

acknowledgment that there is room for everyone in the community, which is defined by acknowledged boundaries and by a system of shared symbols, meanings, resources, and representations about it but also about the social and spatial qualities of its places (Mannarini & Fedi, 2009; McMillan, 1996; McMillan & Chavis, 1986; Sarason, 1974).

Consistently, SoC is related to and is expressed through neighboring behaviors and interactions among community members (Chavis & Wandersman, 2002; Clemente et al., 2016; Pretty et al., 2003; Puddifoot, 2003; Sarason, 1974). Accordingly, it relates to common places, social gatherings, and local traditions, which represent setting and opportunities for serendipitous encounters and exchanges among community members (Kim & Kaplan, 2004; Talen, 2000) and are able to make them feel they're part of that community (Coleman & Iso-Ahola, 1993; Derrett, 2003). Furthermore, as it refers to several aspects of people's relationship with their community of belonging in spatial, symbolic, and cultural terms, SoC becomes stronger when individuals have positive representations about the social and spatial aspects of their community (Chavis & Wandersman, 2002; Farrell et al., 2004; Francis et al., 2012; Long & Perkins, 2007; Mannarini et al., 2006; Mannarini & Fedi, 2009; Perkins & Taylor, 1996; Wood et al., 2012; Young et al., 2004; Ziersch et al., 2005). This also confirms the interdependence between individual and community levels, since the meanings and representations people attach to their communities and the social and spatial environments they host are individual and social products at the same time (Lynch, 1960). However, evidence shows that the relationship between positive representations about the social and spatial environment hosted by the community and its places and community members' SoC is not only a direct one (Francis et al., 2012; Kweon et al., 1998; Maas et al., 2009). Specifically, a positive attitude towards community places already proved its link with community members' feeling to belong to that community, be committed to it, and matter to each other: it mediates the relationship between positive and socially connoted representations about community places and this feeling (Francis et al., 2012; Maas et al., 2009) and promotes positive outcomes (Fornara et al., 2019).

2. Modern Local Community Experience: the Loss of Social Meanings

In modern times, urbanization and globalization processes, along with the spread of urbanism criteria in planning city and neighborhood spaces, brought scholars to talk about the decline of community (Stein, 1964), which refers to the blurring of the representation of local communities as spaces where people live together and relate to each other (Crang, 2000; Lofland, 1973) and to the degrading of their social fabric (Putnam, 2000; Tonkiss, 2003). The idea of communities as relational entities in which psychological, social, symbolical, and cultural dimensions are organized around common places and shared activities which allow to different people to meet and match (Sarason, 1974) is fading (Procentese et al., 2011), with the loss of the social and aggregative meanings usually attributed to shared spaces, common meeting areas, and collective activities within them (Arcidiacono & Di Napoli, 2010; Crang, 2000; Procentese et al., 2007). Modern cities and neighborhoods rather seem bundles of differences which do not relate to each other and their members cross their roads and co-exist while being apart (Tonkiss, 2003; Young, 1990).

This scenario about modern local togetherness can be read by referring to the three elements identified by Carli (2000), that is, the stranger, the belonging systems, and the rules of the game. In modern times, the rules of the game lost their ability to keep together what is included in the belonging system according to the affective symbolization of the Others and to the denial of diversities and what is considered stranger as it falls out of this belonging system (Procentese et al., 2011). When there is no rule setting the interaction between these two elements, what is stranger to the system of belonging can be perceived as an enemy, which cannot be known (Carli, 2000). This social dynamic makes it harder to live together within the same community and relate to each other out of the only already known groups (Procentese et al., 2011). Thus, citizens have gradually lost interest in what is happening in their surrounding context: attending the same local places no longer means getting involved in social encounters and interactions with other people being nearby, since individuals no longer engage in interactions with others around (Todd & Scordelis, 2009). Therefore, civic inattention has become the mainstream social norm in public spaces – that is, individuals live their local communities and attend common spaces within them without paying attention to other community members being nearby nor engaging in starting interactions with

them (Goffman, 1963) – and is likely to strengthen the ongoing closure and defense processes among them (Giddens, 1991; Procentese et al., 2011), reinforcing the *crisis of social capital* as Cohen and Prusak (2001) defined it.

Within this scenario, cities and neighborhoods are rather experienced as "places in which relations of non-identity are possible, tolerable, even normal" (Tonkiss, 2003, p. 299); this can also be seen in several everyday life behaviors which are on the border between personal, private, and collective spaces (Tonkiss, 2003), such as not making eye contact while going around in common spaces or having the headphones on while being close to others in crowded public transportations. As a consequence, urban spaces and sociability end in being lived only referring to already known groups and primary relationships, which are the only ones catching individuals' attention (Featherstone, 1998; Procentese et al., 2011; Tonkiss, 2003). What emerges is a progressive privatization of urban spaces and sociability (Arcidiacono & Di Napoli, 2010; Procentese et al., 2007), which undermines their traditional social and aggregative role and meanings of local common spaces and social interactions and rather reflects in more instrumental and non-socially connoted representation of them (Arcidiacono & Di Napoli, 2010; Bauman, 1998; Procentese & Gatti, 2019a, 2020; Procentese et al., 2007, 2011; Tonkiss, 2003). At last, this is bringing communities towards increasing rates of spatial and relational closure, requiring to community members efforts to change their ways of living urban spaces and sociability and adapt to these new features of their local communities in order to avoid their social and aggregative needs to be left unmet by them (Gatti & Procentese, 2020a; Procentese & Gatti, 2019a, 2020) and to reduce the feelings of cognitive dissonance (Festinger, 1957) which could arise from perceiving their community as a non-relational and non-socially connoted entity they feel tied to and part of.

2.1. The Privatization of Local Common Places

The rapid and uncontrolled urban growth has led to the spatial reduction of common spaces and meeting areas within urban communities, which have been mostly destined to specific uses involving networks of primary relationships (Francis et al., 2012; Özkan & Yilmaz, 2019) or meant and lived as transient areas more than as rest and socialization ones (Sennett, 1977). As a result, the ratio between community

spaces hosting social gatherings and common activities and those attended only with primary relationships and already-known groups, which plays a role in defining how to live together and relate with others in a community (Procentese et al., 2011), has become unbalanced in favor of privately lived ones (Arcidiacono & Di Napoli, 2010; Crang, 2000; Procentese et al., 2007, 2011), exacerbating the difficulties in meeting not-yet-known others within local communities. The reduction of inclusive, social, spaces to be used and to which individuals can feel bonded within them, have weakened the ties towards the community and its places (Bauman, 2000; Bonaiuto et al., 2003; Francis et al., 2012; Gustafson, 2001; Jorgensen & Stedman, 2001; Özkan & Yilmaz, 2019; Scopelliti & Giuliani, 2004; Wirth, 1995) and deprived them of their social meanings, traditionally linked to them hosting gatherings and common activities. Indeed, common places and shared activities within local communities are now perceived as means to run away from daily routines and duties, to relax, or to achieve personal goals, rather than as socialization ones (Arcidiacono & Di Napoli, 2010; Crang, 2000; Procentese et al., 2007). Moreover, such a privatization of common social spaces, together with the lack of alternative spaces to which social and convivial meanings could be attached, could have increased citizens' perception about their local communities as less safe (Procentese et al., 2017; Wood et al., 2012; Ziersch et al., 2005), booting a negative cycle of further decreases in their attendance of common spaces and social gatherings within them and of fewer and fewer among community members (Wood et al., 2008). Taken together, since the community of belonging and its places assume meanings in its members' experience as to the opportunities they offer (Arcidiacono & Di Napoli, 2010), these changes along with the always greater opportunities to easily move across neighborhoods, cities, and countries are making people increasingly de-territorialized (Guattari, 1992; Gustafson, 2001).

Furthermore, this loss of spatial and symbolical relevance of places in individual and community life has also been linked to the rise and spread of Internet technologies and, later, of mobile and ubiquitous media, which have been accused of gradually producing alternative, placeless, spaces for encounters and interactions (Meyrowitz, 1986) and of (Paasovaara et al., 2016). Indeed, this kind of technologies could foster the displacement of users' attention from what is happening in their surrounding offline environment to the online space they can access through them by allowing a

perpetual connectedness when going around in the city, being available and sending notifications which catch their attention in every moment, everywhere: by doing so, they could favor cocooning practices (that is, using mobile media technologies to create one's personal space) and undermine the opportunities for face-to-face serendipitous contacts within local common spaces and daily activities (e.g., Gergen, 2002; Hampton et al., 2010; Ito et al., 2010; Puro, 2002; Turkle, 2011; Wellman, 2001a).

2.2. The Privatization of Local Sociability

This lack of attention to and interest in others' needs and freedoms (Procentese et al., 2011) and the weakening of feelings of belonging to and ties towards the community and its places (Bonaiuto et al., 2003; Procentese et al., 2011; Scopelliti & Giuliani, 2004) have brought about more complex ways of living together in local communities (Procentese & Gatti, 2019b; Procentese et al., 2011, 2019a, 2019b; Putnam, 2000), decreases in local friendliness, trust, and security (Di Napoli et al., 2019; Tonkiss, 2003; Wilson-Doenges, 2000) and increases in individualist tendencies (Chambers, 2017; Miles, 2017), producing a shift towards an increasingly closed social capital and the loss of local broader social networks (Procentese et al., 2011). The deriving social environment does not foster serendipitous encounters and local interactions, since there are no acknowledged times and spaces aimed at sharing visions, rules, goals, representations, and meanings in order to produce common ones. In line with this, the most recent Istat [Istituto Nazionale di Statistica] report (2018) about how Italian people spend their daily time and live their daily life has shown that on average Italian citizens only spend few time (ranging from 1% to 2.3%) interacting with their neighbors daily.

Along with this individualist turn, another phenomenon which characterizes modern local community experience and may undermine individuals' SoC within neighborhoods, as well as the opportunities for collocated interactions and collaborative processes, is the familiar stranger phenomenon (Milgram, 1972; Paulos & Goodman, 2004). Familiar strangers are all those individuals one regularly acknowledges when going around for daily activities, but one never interacts with. They are in the space between primary relationships and totally unknown strangers one meets only once (Paulos & Goodman, 2004). The one between two familiar strangers is "a real

relationship in which both parties agree to mutually ignore each other, without any implications of hostility" (Paulos & Goodman, 2004, p. 223), which could make local small talks an increasingly less common practice (Paasovaara et al., 2016). As it has been mentioned, this kind of relationships may undermine individuals' SoC and local social interactions, since these processes and dynamics rely on community members being able to and interested in initiating a conversation through small talks or other culturally accepted practices (Mitchell & Olsson, 2019). However, it is also to mention that the relationships among familiar strangers are rooted in the places and daily routines where these individuals usually meet: when familiar strangers meet far from the usual routine and place or when extraordinary events (e.g., an earthquake) happen, they are more likely to take action to interact and behave as if they were close friends – which could be due to the need to find some comfortable, well-known, elements when under totally new and/or unexpected circumstances (Paulos & Goodman, 2004). This reflects in what emerged from a previous study about modern local togetherness (Procentese et al., 2011), whose young participants disclosed their troubles in knowing their neighbors and other people out of their family and friend relationships: the only acknowledged relationships within local communities took place in primary groups, while the only interactions with the wider community were linked to cordial speaking and geographical closeness, but never to emotional connectedness.

Over time, the primacy of not-meeting diversities and the loss of opportunities and spaces for shared social meanings and activities within local communities have associated with the disinvestment of community common and socially connoted dimensions (shared symbols, representations, meanings, values, relationships) and of the community as a whole, to the shutdowns in private groups, to relying only on elective and primary relationships, and to the indifference towards not-yet-known neighbors (Doolittle & Faul, 2013; Procentese et al., 2011). In short, a gradual privatization of local sociability is making its way with reference to social relationships within local communities, providing citizens with lower and lower opportunities for local socialization (Crang, 2000; Robins, 1999), increasing isolation and loneliness rates among them and undermining community social cohesion (Arcidiacono et al., 2007; Victor & Yang, 2012). This has also been witnessed by the above-mentioned Istat report (2018) about how Italian people use their daily time and live their daily life, which shows that

about 3 million of Italian people being aged 14 or more (about 5.8% of the whole population) disclosed they did not have supportive social networks to rely on out of the familiar one, while about 20% of Italian population could rely on only one relational network: specifically, 10.4% had some friends but no one to lean on when in need, while 8.8% were part of an active supportive network but did not have friendly relationships. This led to what Wellman (1999) described as *networked individualism*: group dynamics within these networks, which have been traditionally characterized by horizontal and vertical relationships within densely knit groups (such as the *little boxes* Wellman referred to in 2001a), have been replaced by individual networks, which are characterized by loose transversal relationships connecting the "owner" of the network (that is, each individual) to all other members within its social network (Wellman, 1999). That is, in modern social dynamics everyone is the center of their own social network while all their social connections are linked to him/her but not necessarily among themselves, which produces individual-centered relationships and interactions compounding what Wellman (1999) defined as *ego-networks*. With the spread of ego-networks, local social relationships have been gradually lived by each community member as if they were only a set of social contacts held together by themselves rather than part of a more complex social structure which comprises social dynamics broader than those straightly involving them and compounding the social fabric of their community.

3. Social Media Potentialities in Enhancing Local Social Dimensions

The above-mentioned changes in modern local community experience have been linked to various extents to the spread of new technologies and online social networks first and of mobile devices and ubiquitous applications (that is, the ones allowing to merge online and offline environments) later. Indeed, these technologies are always more often used with social aims – especially by young people up to 34 years (Istat, 2018) – and have fostered a reconfiguration of individual social networks, which are now no more constrained by spatial or geographical obligations, but rather compounded by people who can wither be met and contacted both online and offline or solely online. However, while it has been widely acknowledged that they have been

both reflected and facilitated by these advances in technology, it is not possible to define whether the privatization of local social spaces and sociability has brought about the widespread use of social media or vice versa since most studies about loneliness, lack of social relationships and connectedness, and social media use are cross-sectional (Nowland et al., 2018). Recently, it has been also hypothesized that new technologies and social media could play a detrimental or enhancing role with reference to users' isolation or social interactions within their offline contexts depending on how users take advantage of them (Nowland et al., 2018): if offline interactions and relationships are integrally moved towards online and mediated spaces, the latter could enhance users' loneliness, isolation, and lack of social connectedness, while if offline interactions are integrated by online and mediated ones these technologies could rather enhance users' social relationships. Indeed, through the joint analysis of users' social uses of new technologies and offline relationships with friends it has been shown that these technologies do not take the place of face-to-face interactions and relationships but rather integrate them (Istat, 2018).

Consistently with these suggestions and data, online communities and social media which allow the integration of online and offline social environments and contacts have widely proved their ability to support offline social relationships and interactions, up to enhancing users' bridging – and, sometimes, bonding – social capital (e.g., Hampton, 2003; Hargittai, 2007; Haythornthwaite, 2002; Navarrete & Huerta, 2006; Norris, 2002; Park et al., 2009; Quan-Haase et al., 2008; Steinfield et al., 2012; Wellman, 2001b; Williams, 2006). Indeed, they may allow the creation, maintenance, and broadening of broader networks compounded by weak ties (Hampton, 2003; Haythornthwaite, 2002) as well as of people which match online due to common interests (Mandelli, 2002) and huge self-disclosure (Gatti & Procentese, 2019), which can allow online connections to become strong ties too. Furthermore, these technologies seem able to satisfy individual social needs more than the solely online or offline contacts and opportunities would have done (Etzioni, 1999), up to enhance users' involvement in their community of belonging (Gatti & Procentese, 2020a) and community building at large (Pinkett, 2003). Indeed, online interactions and mediated contacts can help individuals in starting new face-to-face social interactions since they allow to overcome offline inhibitions, such as shyness (Baker & Oswald, 2010). For example,

community-related uses of ubiquitous technologies and social media could represent sources of hints which could be used as tickets-to-talk in offline social environments and local common places (Jarusriboonchai et al., 2014), that is polite reasons to start face-to-face interactions with unfamiliar people (Goffman, 1963; Sacks, 1992). Indeed, in modern communities traditional tickets-to-talk (e.g., surprising circumstances, common interests, shared issues to solve, involvement in the same activity or serendipitous event) worth interacting could be lacking due to the above-mentioned processes of privatization of common spaces, civic inattention, individual focus, and closure in private groups compounded by primary relationships with already-known people. Conversely, community-related uses of ubiquitous technologies and social media are able to provide located pieces of information about local issues and resources, and where others are and what they are doing, highlighting socialization opportunities and providing users with reasons worth engaging in offline interactions and getting involved in local social gatherings too. By doing so, they work as an extension of users' ordinary senses and increase their awareness about local social opportunities (Jarusriboonchai et al., 2014). Furthermore, by allowing to move from local distributed attention to a reciprocal shared focus and, lastly, to dialogue and interactions, they could at last enhance the opportunities for collective actions (Ludvigsen, 2006).

3.1. Community Networks

A first kind of online community which specifically attempted to link offline local communities and online social networks and opportunities has been represented by Community Networks. Their main peculiarity was the possibility to connect the members of the same neighborhood through an online social network, allowing users to share their online and offline context at the same time (Kavanaugh et al., 2005b). They created more effective opportunities for sharing experiences and mutual help among community members, as they were able to keep in touch in every moment while staying at home and shared the same life places, contexts, and circumstances (Kavanaugh et al., 2005b). By analyzing the communications and interactions which happened through this online network, a study (Hampton & Wellman, 2003) showed that usual users had a wider local social network, more frequent communications with their neighbors, and more face-to-face and online interactions with them; furthermore, they

knew by sight about triple the number of their neighbors. Thanks to the enrichments they allowed, advantages deriving from merging online and offline communities referred to the chances to rapidly and more effectively exchange pieces of information, news and spatial and emotional resources among neighbors (Carroll & Rosson, 2003; Kavanaugh et al., 2005a), to know more people living in the same block or neighborhood, to face local problems and issues together, and to get to know local activities and gatherings on time to take part to them (Borgida et al., 2002; Lenzi, 2013; Tonn et al., 2001). As a matter of fact, Community Networks showed their ability to promote the establishment of further weak ties within the local community, enhancing local bridging social capital and laying the foundations for collective actions and social and civic participation aimed at solving local shared problems (Borgida et al., 2002; Hampton & Wellman, 2003; Kavanaugh et al., 2005b; Mesch & Levanon, 2003). Overall, they gave citizens back the perception of being part of and involved into their local community (Lenzi, 2013). Nevertheless, the association between Community Networks and the increases in local social capital, cohesion, and participation did not seem obvious. While Community Networks seemed able to reproduce the socialization, meeting, and interaction opportunities which have traditionally been linked to bars, clubs, plazas, parks, and so on, such opportunities needed to be caught in order to exert effects on local social relationships, cohesion, and citizens' participation and tie to their community (Lenzi, 2013).

Taken together, these results point out that online social networks could impact users' local community experience, enhancing the social dimensions implied by the notion of community and providing opportunities for the activation of paths aimed at engaging individual and community resources to pursue individual and shared aims. Nevertheless, in order to be stably and effectively used within a given community, they also need to be adequate to it and its members' characteristics, needs, interests, and expectations. Indeed, a Community Network experience in Boston suburbs, e-Neighbors, showed that some community structural and social features could partially predict the extent to which citizens would have taken advantage of the available technologies by integrating them and the opportunities they offered in their local community experience (Hampton, 2003, 2007). As an effect of the use of these tools, the residential neighborhood, whose members were mainly families with young or

adolescent children, showed higher levels of social and political activism and partici-
pation and more frequent online and offline interactions (mainly referred to social and
political topics) among its members compared to the other two involved in the e-
Neighbors project – which had the characteristics of a *transitory neighborhood*, which
was inhabited by young people aiming at moving away, and of a *gated community*,
that is, a residential community which was spatially closed by walls or gates – and to
non-involved neighborhoods having its same features. Furthermore, after a year from
the start of the project, these interactions and involvement were extended to further
topics (local issues, social gatherings, shared facilities) and their frequency increased.
Consistently with these effects, neighbors using community-related technologies be-
came part of wider local social networks compounded by weak ties (Hampton, 2007).
However, these social networks kept in contact via email and there was no significant
increase of face-to-face or phone contacts among neighbors, suggesting that online
interactions which had to be managed from home were more likely to be kept online
and from home. Moreover, the benefits of these technological tools varied with regard
to how much individuals were familiar with the Internet and new technologies such as
emails and online social networks: the benefits were more likely to happen for those
who were already familiar (Hampton, 2007).

Taken together, evidence about past Community Networks experiences shows
that community-related tools embedded in new technologies could not – or not only –
represent a threat to offline sociability and attendance of local places, like some re-
searchers still suggest (e.g., Goodspeed, 2017). By allowing to share the same online
and offline spaces, Community Networks allowed faster and more effective commu-
nications among neighbors and an easier transformation of online contacts into face-
to-face ones (Kavanaugh et al., 2005a), helping individuals in facing the challenges in
creating new acquaintances which had arisen from the gradual spatial and relational
closure of neighborhood and cities. However, regardless of their potentialities in re-
connecting local communities and restoring their social meanings, the spread of Com-
munity Networks was not that successful and studies about their impact and effective-
ness are limited too.

3.2. Locative, Ubiquitous Social Media

During the last years, a new kind of social ecosystem is developing in local communities (Tonkiss, 2014), including both face-to-face and mobile-applications-mediated social interactions, opportunities, and contacts (Jarusriboonchai et al., 2013; Mäkitalo et al., 2012). Indeed, another kind of social media which could hold potentialities as to the social re-connection of local communities by strengthening users' bond to them and modifying how they experience it (Jarusriboonchai et al., 2013; Sutko & de Souza e Silva, 2011) has made its way: locative, ubiquitous social media. They are context-aware and location-aware mobile applications which rely on mobile devices Global Positioning Systems (GPS) and localization features and characterize for their ability to merge online and offline spaces, as they offer the opportunity to localize users and contents (Licoppe, 2013; Toch & Levi, 2012). These mobile applications are of specific interest when it comes to fill the modern gap between public and private spaces and social environments (Batiste, 2013). On the one hand, they allow users to "read and write locations" (de Souza e Silva, 2013, p. 119), since they can see contents, hints, and comments posted by other users about a given location and share theirs too. Thus, they are able to foster new ways of living urban spaces and sociability (Sutko & de Souza e Silva, 2011) and to increase local awareness and social interactions through offering further social hints to their users (Hsiao & Dillahunt, 2017), which has brought scholars to define them also as *proactive* (Jarusriboonchai et al., 2013). On the other hand, they represent suitable tools to enhance offline contacts among nearby strangers – that is, individuals being close enough to easily approach each other but not doing so (Paasovaara et al., 2016) – by offering tickets-to-talk and online interactions which can easily move offline thanks to local proximity (Jarusriboonchai et al., 2014). This is also acknowledged by users and potential users, who reckon that this kind of applications and technologies could provide them with more opportunities for local social interactions and for better knowing their neighbors (Jarusriboonchai et al., 2014). Consistently, users can resort to this kind of mobile applications for two main community-related reasons: to become more aware about their surroundings (e.g., social gatherings, social spots, who neighbors are, what they do) or to look for people being nearby, to hang out with in a short time (Jarusriboonchai et al., 2014) since they are reachable both online and offline (Licoppe, 2013).

The opportunities ubiquitous technologies create influence how citizens interact and engage in their surrounding social and spatial context and the way they perceive and characterize urban spaces and social climate in their neighborhoods and cities as well as in other ones (de Souza e Silva, 2013; Schwartz & Hochman, 2014). Through making the boundaries between online and offline environments and contexts permeable, they promote the *co-situation* of these spaces (Toch & Levi, 2012; Van De Wiele & Tong, 2014) and a *remapping* of the surrounding spaces meant both socially and spatially (Batiste, 2013; Sutko & de Souza e Silva, 2011; Van De Wiele & Tong, 2014), which fulfils urban spaces with brand new social opportunities and dimensions (Toch & Levi, 2012). Indeed, as a consequence of the spread of ubiquitous technologies, urban spaces have become *hybrid* (de Souza e Silva, 2006), as they can lived through offline and mobile-devices-mediated interactions and dynamics at the same time: indeed, these applications expose their users to new places, people, pieces of information, and events (Hsiao & Dillahunt, 2017), which can at last produce the opening of new relational spaces and the creation of wider social networks within local communities (Hsiao & Dillahunt, 2017; Mayer et al., 2015). Through these processes, ubiquitous technologies are able to promote the shift from *not interacting but being nearby* to *interacting with each other face-to-face* when individuals are close enough to interact yet take no action in order to do so (Jarusriboonchai et al., 2014), making these technologies potentially useful to meet individuals' social and aggregative needs and to sustain their sense of belonging to a livable and interactive community where opportunities for social interactions and weak ties are available. Similarly, through promoting an increased awareness about who is nearby and what is about to happen or is happening in the surrounding area (Jarusriboonchai et al., 2013), these applications could also allow users' wider participation and involvement in social gatherings and attendance of social venues in their neighborhood (Gatti & Procentese, 2020a; Jarusriboonchai et al., 2014).

Taken together, this suggests that they could also enhance users' local bridging social capital as well as their perception of their neighborhood or surrounding context as a spatially and socially open one, where social opportunities and venues are available regardless of users' attendance of them. Indeed, they could represent tools for users to get a more involved and participatory way of living one's local community, since

they enhance urban sociability and social meanings through more frequent face-to-face meetings (Gatti & Procentese, 2020a; Jarusriboonchai et al., 2013, 2014) and communications (de Souza e Silva, 2013) based on users' closeness and location. Through producing further opportunities for community members to meet in local common places and socialize (Gatti & Procentese, 2020a) and to detect common interests and shared activities to be involved in (Jarusriboonchai et al., 2013, 2014), they could reconnect users to local social meanings (Gordon & de Souza e Silva, 2011; Sutko & de Souza e Silva, 2011), strengthen their belonging (de Souza e Silva, 2013), and enhance their local community experience at last. By doing so, ubiquitous social media could be able to build community among their nearby users (Jarusriboonchai et al., 2013, 2014), which in these cases are also members of the same local community, and thus glue the local social fabric.

4. Rationale of the Research Project

Building on the potentialities ubiquitous technologies and mobile social media offer with regards to experiencing urban spaces and sociability, it seems reasonable to hypothesize that socially meaningful experiences within modern local communities could be enhanced through the pursue of adequate ubiquitous, interactive social media and technologies (Jarusriboonchai et al., 2014; Paasovaara et al., 2016). However, with reference to this several research questions are still open (de Souza e Silva, 2013), such as how the use of this kind of applications are changing or have changed their users' local community experience, the way they can enter local sociability, and how they can live and relate to local social spaces. Furthermore, it should be acknowledged that these practices appear as explicitly and straightly linked to the surrounding social and spatial context. Thus, since social media users actively engage in choosing which social media to use and how based on their unmet needs and on the goals they wish to achieve as well as on how a given social media and its peculiar features promise to serve these aims (McQuail et al., 1972; Wei & Lo, 2006), another open question refers to the needs and goals underlying these practices. Specifically, due to the peculiarities of the latter, users' needs and goals should be tackled with reference to both individual and community characteristics and dimensions. Indeed, while some studies raised

concerns about individuals becoming de-territorialized and no more bonded to their local communities (e.g., Bonaiuto et al., 2003; Gustafson, 2001; Scopelliti & Giuliani, 2004), these social technologies and their community-related uses could rather represent a different yet not-necessarily-weaker way for users to experience their local communities and sustain their tie to them (Procentese & Gatti, 2019a, 2020). This perspective relies on the acknowledgment that while a totally closed community would foster its members' resignation and abandonment of local social networks and common activities, weakening its members' ties to it (e.g., Bonaiuto et al., 2003; Scopelliti & Giuliani, 2004), modern ones – which are still only partially closed – could rather give conflicting signals to its members and push them to think up to new ways – among which it seems possible to locate the spontaneously born community-related practices arising from ubiquitous social media uses – to stem this partial closure trend before it becomes total. Detecting the needs underlying the use of ubiquitous technologies with specifically community-related aims and the paths through which these technologies could foster more involving and meaningful community experiences through integrating online and offline environments represents a timely topic worth being deepened to identify new feasible ways to re-connect local communities and enhance the opportunities for citizens' to experience them in a meaningful and involved way.

In order to do so, two kinds of ubiquitous social media assume specific relevance due to their peculiar features: People-Nearby Applications (PNAs) and Instagram. As to PNAs, dating ones will be taken into account since they are specifically aimed at finding new people nearby to meet them (that is, with explicit relational aims): while their stated aims refer to romantic or sexual purposes and their use has been mainly deepened in this perspective (e.g., Sumter et al., 2017; Timmermans & De Caluwé, 2017), more recent studies (Gatti & Procentese, 2020a; Procentese & Gatti, 2019a, 2020; Toch & Levi, 2012; Van De Wiele & Tong, 2014) have shown that, regardless of this, dating PNAs are commonly used for community-related purposes too (that is, to find new people to meet in one's local community and to feel part of and tied to the surrounding community). Altogether, both Instagram and dating PNAs allow their users to experience their local community in a different way by taking advantage of mobile devices features and by integrating online and offline ways of living urban places and sociability. On the one hand, dating PNAs community-related

use specifically focuses on local sociability and social interactions, allowing users to find out not-yet-known people being in their local area and to talk with them with the aim of meeting offline too (Gatti & Procentese, 2020a; Miller, 2015; Van De Wiele & Tong, 2014). On the other hand, Instagram community-related practice allows to contact the social meanings attached or to be attached to local social spaces and gatherings. Already existing ubiquitous social media community-related practices represent a relevant starting point for at least two main reasons. First, both the above-mentioned community-related practices have recently spread and are quite far from the stated aims of these social media. As they have born spontaneously regardless of the stated aims of these social media, they could testify users' attempts to detect new, feasible paths to answer some unmet needs (McQuail et al., 1972; Wei & Lo, 2006); specifically, due to thee close link between these practices and the surrounding social and spatial context, it seems reasonable to hypothesize that these needs could have been left unmet by users' local communities of belonging (Gatti & Procentese, 2020a; Procentese & Gatti, 2019a, 2020). Second, the previous experience of Community Networks has shown that the benefits coming from the integration of online and offline interactions and environments are more likely to happen when users are already familiar with the media (Hampton, 2007). Building on this, these two ubiquitous social media community-related practices will be here suggested as alternative strategies aimed at experiencing local social dimensions, especially when these dimensions are not attainable for citizens through more traditional paths due to community social and spatial features – that is, to overcome the partial closure characterizing modern local communities – and enhance their local community experience and their tie to it – that is, their SoC. Indeed, these practices could assume peculiar meaning when they are referred to the community users belong to, since previous research has shown that individuals consider valuable the pieces of information they are able to access through social media when the latter are localized in their neighborhood or surrounding context more than when users were interested in them (Jarusriboonchai et al., 2014).

Thus, the present research project will tackle these two ubiquitous social media community-related practices to pursue two main aims.

First, it will address the individual and community characteristics which can bring individuals towards these practices, in order to deepen which are the unmet needs

bringing individuals towards these alternative strategies (RQ1, studies 1 and 3). As to community characteristics, the availability of local social places and socialization opportunities, the trust, friendliness among community members, and the safety and supportive climate will be taken into account as taken together they represent the dimensions which can make community members perceive their community of belonging as a spatially and relationally open or closed one, according to the above-mentioned characterization of what an open and a closed community are. As to individual characteristics, the role of users' SoC will be taken into account with reference to both Instagram and PNAs community-related practices. The main assumption underlying this relies on the acknowledgment that individuals feeling tied to their community adopt several strategies in order to sustain and boost their SoC building on the opportunities they find in their community (Chavis & Newbrough, 1986; Prezza & Costantini, 1998; Sarason, 1974). Otherwise, feeling tied to a community returning negative and non-socially connoted representations about itself would rather produce cognitive dissonance experiences – that is, uncomfortable feelings about one's cognitions, believes, and/or behaviors being inconsistent among them (Festinger, 1957). Thus, when living in partially closed communities – that is, communities where social meanings and representations are still perceived as existing yet are also felt as hardly attainable by their members – as modern ones, individuals could rather look for new strategies to keep in touch with local positive and socially connoted representations, as traditional ones (e.g., attending local common places, taking part in local social gatherings and shared activities, chatting with neighbors while being out and about in the community) could seem no more feasible. Thus, the hypothesis underlying this research project refers to the the spontaneously born community-related practices arising from ubiquitous social media uses as new, adaptive, strategies individuals could take advantage of when feeling tied to a partially closed community. Furthermore, when specifically tackling dating PNAs community-related use, some more individual characteristics will be taken into account: indeed, while Instagram community-related use seems mainly related to keeping in touch with local social meanings and representations – which supports its link with users' SoC – dating PNAs one seems also related to enhancing users' local social experience – which makes it worthwhile to consider the latter when questioning about which individual characteristics could bring towards it. Thus, whether users have

an outward-looking attitude due to an already broad bridging social capital and whether they feel lonely will be taken into account too when it comes to individual characteristics fostering dating PNAs community-related use, since both could make individuals more interested in creating new local acquaintances and meeting not-yet-known community members. Indeed, a broader understanding of the needs underlying these spreading practices which takes into account the interdependence and interaction between how individuals live their communities and the opportunities the latter offer to the former, could represent a valuable contribution to current research and perspectives about both social media uses and modern local community experience. Consistently with the acknowledgment that being part of a community means sharing the same social and spatial context, common meanings and representations about it, social aspects of one's identity, and similar values (March & Olsen, 1989; Pretty et al., 2003; Young, 1990; Wiesenfeld, 1996), a multilevel perspective will be adopted as the most suitable to tackle this issue. It considers that individuals are nested in their communities and are not totally independent (Hox, 2010), since community features and shared representations about them are shaped by and shape its members' behaviors (Bronfenbrenner, 1979; Lewin, 1951; March & Olsen, 1989; Pretty et al., 2003; Wiesenfeld, 1996). As a matter of fact, assuming the interaction between individual community-related feelings and social experiences and community shared representations about its social and spatial features as the observation summit could allow a more complex understanding (Lewin, 1951) even about modern local community experience. Indeed, community social and spatial features and the perception community members' have of them play a role in shaping the production and sharing of common meanings and representations about it (March & Olsen, 1989; Young, 1990; Wiesenfeld, 1996), how community members behave (Lewin, 1951; March & Olsen, 1989), and the strategies they adopt to safeguard the community and their tie to it (Bridge, 2002; Derrett, 2003; Francis et al., 2012; Sarason, 1974; van Oorschot et al., 2006). At the same time, each community member contributes to shaping and maintaining community shared representations and meanings through his/her choices and behaviors (Lewin, 1951; Pretty et al., 2003; Young, 1990; Wiesenfeld, 1996), producing a reciprocal interdependence. Not considering this would lead to misrepresented results (Snijders & Bosker, 2012). Furthermore, few studies have deepened the impact of community features on their

members' behaviors and feelings so far (e.g., Long & Perkins, 2007; Mannarini et al., 2018; van den Berg & Timmermans, 2015), which makes the intertwinement of individual and community dimensions in local community experience is a still underexplored field which deserves more attention. Consistently, studies 1 and 3 consider the interaction of individual (level 1) and community (level 2) levels to shed new light on the intersection of individual and community characteristics in leaving unmet some community members' social needs – which have brought them to detect new paths to enhance local social dimensions – through testing cross-level interactions, consistently with the acknowledgment that "it is the interaction among needs, individual differences, and social context that predicts use" of social media (Lucas & Sherry, 2004, p.503). Neighborhoods have been chosen as the contextual level of analysis because in most Italian cities they represent psychologically relevant daily local communities (Bonnes et al., 1990; Mannarini et al., 2006).

Second, it will detect the paths through which these strategies could foster a more involved and meaningful community experience for their users, up to enhance their tie to their community at last (RQ2, studies 2 and 4). Indeed, it has been widely suggested that both PNAs and Instagram could impact community experience, since the former is able to foster interactions among neighbors and a more involved experience of the community of belonging (Gatti & Procentese, 2020a; Procentese & Gatti, 2019a, 2020; Toch & Levi, 2012; Van De Wiele & Tong, 2014) while the latter allows to attach and share representations and meanings about local social places and gatherings (Lee et al., 2015a, 2015b; Oh et al., 2016). Thus, both these social media community-related practices could be able to strengthen users' tie to their community of belonging – that is, their SoC. Specifically, by making users more aware of the social places and opportunities being available in their local communities, Instagram use could be able to enhance both their SoP and SoC – that is, their whole self-in-community. Differently, dating PNAs community-related use could be mainly able to make users feel they are part of a broader, cohesive, community (Van De Wiele & Tong, 2014), since it could widen users' local social capital – both bridging and bonding ones – and make users feel their community offers plenty of socialization opportunities. Unravelling the link among the considered Instagram and dating PNAs community-related practices and users' relationships with their community without undervaluing

the complexities linked to individuals' local community experience and self-in-community (Pretty et al., 2003) represents a timely challenge worth being tackled in order to widen the current knowledge about both social media community-related practices and modern local community experience.

Even though the rationale underlying the studies is the same, these two practices will be tackled separately as it seems evident that dating PNAs and Instagram offer different features and contents, which means that reasonably they are chosen to answer to partially different needs within the social fields and can strengthen their users' SoC through partially different paths.

CHAPTER II

Instagram:
Photos Valorizing Local Dimensions

1. A Personalized Brochure about Local Social Dimensions

Instagram is a locative (Schwartz & Hochman, 2014) content-based (Barbotti, 2015) social media whose key features mainly allow to take, edit, and share photos, provide their localization (using *geotags*), and attach meanings to them (using *hashtags*). Its contents convey elements of users' identities and daily lives (Highfield, 2015; Lee et al., 2015a, 2015b; Marcus, 2015) and provide visual cues and meanings about valuable urban places (Duggan, 2015) and interesting local gatherings and activities (Barbotti, 2015; Schwartz & Hochman, 2014), which are among the most shared contents indeed (Mukhina et al., 2017; Zasina, 2018). Furthermore, through the possibility to follow and search accounts, hashtags, and geotags used by others, Instagram produces new opportunities for citizens to convey the meanings they attach to local places and contexts and produce and share common ones (Ames & Naarman, 2007; Cheng et al., 2014; Oh et al., 2016).

Consistently, Instagram contents can be considered a spontaneous, reliable, citizen-based, source and mean of transmission of pieces of information about social dynamics, gatherings, and representations characterizing local community experiences (de Souza e Silva, 2013; Hochman & Manovich, 2013; Manovich et al., 2014). They allow users to read urban social dynamics and habits in a new, participatory, way (Schwartz & Hochman, 2014) and users seem aware of this, as they take advantage of Instagram to learn more about their surrounding social and spatial context (Sheldon &

Bryant, 2016). Thus, it seems possible to hypothesize that it contributes to users' self-in-community expression and maintenance through fostering new ways of experiencing local places and sociability. Furthermore, as valuable urban places and interesting local gatherings and activities are among the most shared contents (Mukhina et al., 2017; Zasina, 2018), Instagram could be able to underline the social dimensions and opportunities related to places and interactions within a given community (Gordon & de Souza e Silva, 2011), restoring its representation as a livable and interactive community and fulfilling its places, where shared uses, social identities and local interactions have been traditionally rooted (Augè, 2009; Puddifoot, 2003), with social meanings and representations again (Oh et al., 2016; Sonn et al., 2015). Lastly, through promoting an increased awareness about nearby events, gatherings, and places, Instagram could also allow its users' broader participation and involvement in social gatherings and attendance of social venues in their neighborhood (Jarusriboonchai et al., 2014). By doing so, it could help in valorizing again the local dimension against a more globalized one, enlarging users' awareness about nearby social venues and the activities and gatherings they host, as it has already been shown with reference to another locative social media (Graham & Gosling, 2011). It could safeguard the feeling about that community being a social entity where members meet, interact, and get involved in common activities by attending local common places, enhancing its members' relationships with it and its places at last (Humphreys & Liao, 2013).

Building on this, its use to look for social places and gatherings in users' local community, which is a recent and spontaneously born practice, deserves specific attention as a community-related practice through which community members could take advantage of the opportunities offered by ubiquitous social media to meet some needs related to their local community experience and self-in-community. Indeed, local common places and leisure activities can be framed as categories contributing to the social dimensions of individuals' identities and bond to both places and members in their community (Mao et al., 2016; Twigger-Ross et al., 2016). Thus, consistently with Instagram features and the opportunities they offer, this recently spreading practice could at the same time (1) represent a way for community members to attain and keep in touch with the social meanings related to their community of belonging (Gatti & Procentese, 2020b), and (2) shape how users experience their local communities by

modifying their perception of the availability of social places and socialization opportunities in them. Both these aspects of the intertwinement between this Instagram practice and users' local community experience will be tackled, consistently with the two research questions leading the present project about the needs underlying these community-related practices (RQ1) and their potential as catalysts for enhancing users' local community experience and self-in-community (RQ2).

2. Study 1 (RQ1): The Needs Underlying Instagram Community-Related Use

This study (Gatti & Procentese, 2020b) aims at detecting the needs underlying Instagram use to look at social places and gatherings in users' local community. Based on the acknowledgment that Instagram is a self-definition and self-expression tool (Highfield, 2015; Marcus, 2015) whose contents convey elements of identities and daily lives (Lee et al., 2015a, 2015b), this Instagram use referred to users' neighborhoods is hypothesized to be a strategy adopted by who feels tied to their neighborhoods to boost positive and social representations about it when more traditional paths to do so seem unfeasible – that is, when it returns a partial spatial and social closure as it has been described before.

Indeed, since SoC is strongly associated with positive and socially connoted representations about the community of belonging meant as both a social and a spatial context (Farrell et al., 2004; Francis et al., 2012; Long & Perkins, 2007; Mannarini et al., 2006; Mannarini & Fedi, 2009; Wood et al., 2012; Young et al., 2004; Ziersch et al., 2005) and Instagram contents about local places and social gatherings specifically convey positive, social representations about users' community (Zasina, 2018), it seems reasonable to hypothesize that users having higher SoC may be more prone to resort to this Instagram practice in order to keep in keep in touch with positive and socially connoted representations about the community they feel tied to. Thus, the following hypothesis is proposed first:

H1: SoC positively associates to this Instagram practice.

Furthermore, it should be acknowledged that the higher is the SoC the more individuals adopt strategies to boost positive and socially connoted representations about the community according to its features (Chavis & Newbrough, 1986; Prezza &

Costantini, 1998; Sarason, 1974) in order to avoid cognitive dissonance experiences. Thus, when living in increasingly closed communities as modern ones are, individuals could adaptively look for new strategies to keep in touch with local positive and socially connoted representations. Specifically, the resorting to this alternative path towards positive and social representations about one's community of belonging could specifically happen in neighborhoods whose members acknowledge that social places and socialization opportunities are locally available even though the lack of safety makes it undesirable to attend them. Similarly, community members could be more prone to play out this Instagram practice when they acknowledge that community members are trustworthy even though a supportive and friendly climate among them does not exist yet. That is, Instagram users could resort to it in order to look at social places and gatherings in their neighborhood when they live in neighborhoods where social meanings and representations are still perceived as existing and possible yet are also felt as hardly attainable by their members. Indeed, the need to find alternative ways to contact positive and social meanings could be lower, if people feeling tied to their community could access shared representations about it as a social entity through more traditional paths (Procentese & Gatti, 2019a, 2020) – e.g., by attending local social places and gatherings or by getting involved in friendly informal conversations with already known but also not-yet-known neighbors while going out and about. This hypothesis follows:

H2: community representations about neighborhood availability of social places (*H2a*) and socialization opportunities (*H2b*) and trust among neighbors (*H2c*) as well as those about the lack of neighborhood safety (*H2d*), supportive climate (*H2e*), and friendliness (*H2f*) among neighbors moderate the relationship between SoC and Instagram neighborhood-related use, which will become stronger as these representations increase.

2.1. Method

2.1.1. Participants and Procedures

The questionnaire was shared in Italian Facebook groups of Instagram users (weareigersit, Instagram Italia), in some high school classes, and through an Instagram

account (@insta.gramandthecity). Using Instagram to look at social places and gatherings was the requirement to get involved in the study.

An explanation about confidentiality and anonymity issues, where participants had to express their informed consent to take part in the study, came before it. For underaged participants, informed consent was previously asked to their parents or legal guardians. The questionnaire was anonymous and no IP addresses or identifying data were retained about participants. Ethical approval was acquired from the Ethical Committee of Psychological Research of the Department of Humanities of the University of Naples Federico II.

Three hundred and eighty Italian Instagram users took part in the study without compensation. Participants were aged between 15 and 64 ($M = 21.29$; $SD = 5.99$), but age skewed towards younger participants with about 89.7% of them being between 15 and 27 years old, matching Istat data about Italian population using new technologies in a social way (Istat, 2018). Among participants, 62.9% was female. Consistently with the age range, 43.4% had a Secondary School Diploma, 31.6% had a High School Diploma, 20% a Degree, and only 5% a post degree title; most of participants were unmarried (94.8%) and did not have children (97.4%), while only 4.7% were married or cohabitant, and only 0.5% separated or divorced. They lived in 33 different neighborhoods of Naples, Rome, and their surroundings. They had been living in their neighborhood for 17.99 years on average ($SD = 7.59$). The average neighborhood group size is 11.51.

Among participants, 42.89% had a private Instagram account. As of their average Instagram use, 81.7% used it more often than once a day, 10.5% once a day, 2.6% five-six times a week, 2.6% two-three times a week, and 2.6% once a week or less. As to their motives towards it, on a 5-points Likert scale (1 = *Never*; 5 = *Often*) the average frequency of their use for the considered Instagram practice was 3.31 ($SD = 1.24$), while the one for other motives – that is, surveillance/knowledge about others, documentation, coolness, and creativity as detected by Sheldon and Bryant's (2016) scale – was 3.04 ($SD = 0.82$).

2.1.2. Measures

The questionnaire included a socio-demographic section, followed by specific measures which were consistent with the aims of the study.

2.1.2.1. Individual Dimensions

Instagram Use to Look at Social Places and Gatherings in the Neighborhood. Six items (see Table 1) were created to detect participants' use of Instagram key features with reference to social places and gatherings in their neighborhoods. They had to rate how often they used Instagram as stated in each item on a 5-points Likert scale (1 = *Never*; 5 = *Often*).

Sense of Community (SoC). The Brief Sense of Community Scale (eight items, e.g., "I belong in this neighborhood", Peterson et al., 2007) was used to assess SoC as conceptualized by McMillan & Chavis (1986). Items were adapted to refer to respondents' neighborhoods and participants were asked to rate their agreement with each statement on a 7-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*).

Neighborhood. Respondents were asked to disclose the neighborhood where they lived. Should this information have been missing, they would have been excluded from the analyses due to the impossibility to determine where they should have been nested.

2.1.2.2. Neighborhood Dimensions

Availability of Socialization Opportunities. Three items (see Table 2) were used to detect respondents' representations about socialization opportunities being available in their neighborhood. Respondents were asked to rate their agreement on a 5-points Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*).

Availability of Social Places. Eight items related to social places were selected among Wood and colleagues' (2012) ones: "Parks", "Open spaces", "Places to walk dogs", "Other public places where people can meet", "Community buildings (e.g., community center, library)", "Recreational facilities", "Places to eat out or have a drink", and "Things for people as old as you to do". Respondents were asked to rate how much each place or facility was available in their neighborhood on a 5-points Likert scale (1 = *Not Available*; 5 = *Totally Available*).

Friendliness, Safety, and Trust. Wood and colleagues' (2012) items about suburb friendliness (three items, e.g., "People who live here usually say hello to each other"), safety (six items, e.g., "I feel safe in this neighborhood using parks and facilities"), and trust (three items, e.g., "I can trust most of the people living in my neighborhood") were adapted to neighborhood contexts. Participants were asked to rate their agreement on a 5-points Likert scale (1 = *Strongly Disagree*; 5 = *Strongly Agree*).

Supportive Climate. The Support among Community Members dimension (five items, e.g., "Helping the newcomers fitting in") of the Sense of Responsible Togetherness scale (Procentese & Gatti, 2019b) was used to detect neighbors' reciprocal helpful behavior, mutual understanding, and open exchanges of ideas. Respondents were asked to rate how often the described circumstances happened in their neighborhood on a 4-points Likert scale (1 = *Never*; 4 = *Always*).

2.1.3. Data Analyses

Exploratory Factor Analysis (EFA) and descriptive and preliminary analyses were run using IBM Statistical Package for Social Science (SPSS) software v.26, Confirmatory Factor Analysis (CFA) and hypotheses testing using Mplus 8.

2.1.3.1. Preliminary Analyses

For all the scales, the back-translation method was used when there was no Italian already-validated version available.

Since the pools of items about Instagram use and socialization opportunities had been created *ad hoc*, EFA with principal axis factoring were run first for both. The sphericity was checked using Bartlett's test and the adequacy of sampling using the Kaiser-Meyer-Olkin (KMO) measure. Then, CFA with Structural Equation Modeling (SEM) was used to test the factor structures for all the scales. To evaluate the model fit for each measure, the comparative fit index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA) and its 90% confidence interval (CI), and the standardized root mean square residual (SRMR) were observed (MacCallum & Austin, 2000). For CFI and TLI, values equal to or greater than .90 and .95 reflect good or excellent fit; for RMSEA and SRMR, values equal to or smaller

than .06 and .08 reflect good or reasonable fit (Hu & Bentler, 1999). Reliability was checked through Cronbach's alpha (α).

The presence of outliers and/or influential cases was checked through leverage values and Cook's D, to check for the absence of significant values which could affect the analyses (Cousineau & Chartier, 2010). To witness the absence of such values, the leverage values should always be lower than 0.2 and Cook's D always lower than 1.

2.1.3.2. *Hypotheses Testing*

To test H1, a regression analysis using Ordinary Least Squares (OLS) path analysis; it included SoC as the independent variable and Instagram use as the dependent one.

To address H2, a multilevel path analysis was run following a stepwise procedure (Hox, 2010), including individual (level 1, $n = 380$) and neighborhood (level 2, $n = 33$, Maas & Hox, 2005) levels. As the interest lied in community representations about neighborhood features, a multiple informant approach was used to detect them without reducing them to individual perceptions (Lanz et al., 2018; van Bruggen et al., 2002). Intra-class Correlation (ICC) and Design Effect (DEFF) coefficients were observed as inter-rater agreement indices (Lanz et al., 2018). Level 2 scores were obtained by averaging the answers of the respondents from the same community. Due to the focus on cross-level interactions, neighborhood level variables were grand mean centered while the individual level predictors were group mean centered, following Enders and Tofighi (2007). First, a baseline model (M1) was run with no predictors to test whether the outcome variable (Instagram use) varied across neighborhoods. Then, the individual level predictor (SoC) was included in the model to test its effect in addition to the clustering one (M2). The third model (M3) tested whether the effect of the individual level predictor on the outcome differed across neighborhoods – that is, its slope variation across them. In the fourth model (M4), the direct effects of neighborhood level predictors (neighborhood safety, friendliness, socialization opportunities, availability of social places, trust, supportive climate) were added too. Lastly, the moderation effects of neighborhood representations on the individual level relationship were tested by adding the interaction terms between individual and neighborhood predictors in the model (M5).

The significant cross-level interactions were plotted using the pick-a-point procedure to show the relationship between individual-level predictors and PNAs use for neighborhoods characterized by representations of low (one level 2 standard deviation below the mean), medium, or high (one level 2 standard deviation above the mean) levels of each feature.

2.2. Results

2.2.1. Preliminary Results

For the pools of items about both Instagram use and socialization opportunities, a one-factor structure emerged from the EFAs. Bartlett's test (Instagram use: *Chi-square* (15) = 1242.83; $p < .001$; socialization opportunities: *Chi-square* (3) = 193.07; $p < .001$) and adequacy of sampling (Instagram use: KMO = .844; socialization opportunities: KMO = .583) reported good results in both cases. All items had loadings above .3 and thus were retained in the final version of the scales (see Tables 1 and 2).

CFAs confirmed the expected factor structures for all the measures, varying from excellent to reasonable fit. For Cronbach's alphas and fit indices see Table 3.

Table 1. *EFA factor loadings for the scale detecting Instagram Use to Look at Social Places and Gatherings in the Neighborhood.*

Item	Factor loading
I use a hashtag to look for photos advertising social gatherings to be held in my neighborhood.	0.820
I use a hashtag to look for photos about clubs or other social places in my neighborhood.	0.795
I follow hashtags about my neighborhood.	0.716
I follow accounts about clubs or other social places in my neighborhood.	0.720
I follow accounts about my neighborhood.	0.713
I use a geotag to look for photos about clubs or other social places in my neighborhood.	0.694
Explained variance (%)	56.55

Note. $n = 380$.

Table 2. *EFA factor loadings for the scale detecting the Availability of Socialization Opportunities in the Neighborhood.*

Item	Factor loading
In this neighborhood, I would know where to go if I would like to meet new people with whom I share some interests.	0.604
If I wanted to meet new people of my same age, I would know where to go in this neighborhood.	0.914
In this neighborhood, it is hard to meet new people. *	0.397
Explained variance (%)	45.25

Note. *n* = 380.

* Item is reverse scored.

Table 3. *Summary of reliability coefficients and fit indices for all the measures.*

Variables	α	CFI	TLI	RMSEA	RSEMA 90% CI	SRMR
1. Instagram Use to Look at Social Places and Gatherings	.88	.99	.99	.05	[.001, .09]	.01
2. Sense of Community	.91	.99	.98	.07	[.04, .09]	.03
3. Availability of Social Places	.85	.98	.96	.06	[.04, .09]	.03
4. Availability of Socialization Opportunities	.75	.99	.99	.001	[.001, .001]	.001
5. Trust	.73	.99	.99	.001	[.001, .001]	.001
6. Friendliness	.81	.99	.99	.001	[.001, .005]	.001
7. Safety	.89	.99	.98	.06	[.02, .09]	.02
8. Supportive Climate	.85	.99	.99	.001	[.001, .05]	.01

Note. *n* = 380.

α = Cronbach's alpha; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; SRMR = Standardized Root Mean square Residual.

For inter-rater agreement coefficients and level 1 and 2 descriptive statistics and correlations see Table 4. Even though level 2 variables showed quite low agreement among members of the same neighborhood, ICCs were always higher than .05 and DEFFs were always higher than 2 (Muthen & Satorra, 1995) suggesting the appropriateness of the nested structure of data. Thus, multilevel analyses were performed despite of the quite low agreement among members of the same neighborhood. After all, ignoring neighborhood clustering could have led to biased results even though the non-independence was quite low (Snijders & Bosker, 2012).

Table 4. *Summary of inter-rater agreement coefficients, descriptive statistics, and correlations for all the measures.*

Variables	ICC	DEFF	M	SD Level 1	SD Level 2	1	2	3	4	5	6	7	8
1. Instagram Use to Look at Social Places and Gatherings	-	-	2.17 a	1.04	-	-	-	.129 *	.163 ***	.133 **	.006	.049	.172 ***
2. Sense of Community	-	-	3.36 b	1.43	-	.416 ***	-	.385 ***	.357 ***	.198 ***	.155 **	.361 ***	.269 ***
3. Availability of Social Places	.14	2.47	2.68 a	0.86	0.39	.196 ***	.478 ***	-	.658 ***	.247 ***	.160 **	.693 ***	.250 ***
4. Availability of Socialization Opportunities	.15	2.58	2.87 a	1.02	0.48	.266 ***	.465 ***	.414 ***	-	.215 ***	-.014	.522 ***	.257 ***
5. Trust	.13	2.37	2.37 a	0.84	0.27	.256 ***	.408 ***	.221 ***	.207 ***	-	.320 ***	.184 ***	.429 ***
6. Friendliness	.10	2.05	3.42 a	0.96	0.37	.161 **	.447 ***	.293 ***	.263 ***	.342 ***	-	.051	.079
7. Safety	.14	2.47	3.35 a	0.94	0.44	.091	.425 ***	.473 ***	.273 ***	.282 ***	.291 ***	-	.185 ***
8. Supportive Climate	.17	2.79	2.44 c	0.70	0.22	.321 ***	.415 ***	.111 *	.201 ***	.294 ***	.247 ***	.094	-

Note. $n = 380$.
[a] 1-5 range scale; [b] 1-7 range scale; [c] 1-4 range scale. *** $p < .001$ (2-tailed); ** $p < .01$ (2-tailed); * $p < .05$ (2-tailed).
ICC = Intraclass Correlation; DEFF = Design Effect; M = mean; SD = standard deviation.
Individual-level correlation coefficients are below the diagonal, while neighborhood mean-aggregated ones are above it. Neighborhood level values for Sense of Community and Instagram Use to Look at Social Places and Gatherings in the Neighborhood are not included because they are individual level variables only.

There were no outliers and/or influential cases affecting the analyses, as the leverage value was always lower than .02 and the Cook's D had 0 and .06 as lowest and highest values.

2.1.1. Hypotheses Testing

SoC emerged as a significant predictor of Instagram use, $B = 0.30$, $SE = 0.03$, $p < .001$, in line with the contents of H1.

Multilevel models are summarized in Table 5. The baseline model (M1) showed that the average use of Instagram to look for photos about social places and gatherings among participants randomly varied across neighborhoods. Nevertheless, its low ICC and DEFF confirmed that only a small part of its variance was explained by neighborhood clustering. However, even though the variability of the outcome variable was loosely related to respondents' belonging to a given neighborhood, the study specifically aimed at testing the impact of community shared representations on the relationship between SoC and the considered Instagram use; thus, multilevel analyses were carried on (Nezlek, 2008). The random intercept-only model (M2) confirmed that the SoC effect on this Instagram use was significant, consistently with what emerged from the previous model; the significant random variance of the intercept across neighborhoods showed that the outcome still randomly varied across them. Notwithstanding this, the random slope model (M3) showed that the random variance of the slope was non-significant. That is, the relationship between SoC and Instagram use did not vary in strength across neighborhoods. The intercept random variance was still significant. In the fourth model (M4), only the supportive climate in the neighborhood showed a significant effect on Instagram use, indicating that the more the neighborhood community was felt as supportive the more its members were prone to play out the considered Instagram practice. Lastly, in the final model (M5) only some cross-level interactions were significant and not all their coefficients were as expected in sign. Thus, H2 was only partially confirmed. When including level 2 predictors in the models, the intercept still randomly varied across neighborhoods, while the slope did not.

Table 5. *Multilevel modeling results.*

	M1 B (SE)	M2 B (SE)	M3 B (SE)	M4 B (SE)	M5 B (SE)
Fixed effects					
Individual level					
Sense of Community		0.31 *** (0.03)	0.31 *** (0.03)	0.31 *** (0.03)	0.31 *** (0.03)
Neighborhood level					
Availableness of Social Places				0.26 (0.23)	0.27 (0.23)
Availability of Socialization Opportunities				0.22 (0.16)	0.22 (0.16)
Trust				0.24 (0.30)	0.24 (0.30)
Friendliness				-0.03 (0.18)	-0.03 (0.18)
Safety				-0.28 (0.18)	-0.28 (0.18)
Supportive Climate				0.64 * (0.28)	0.63 * (0.28)
Cross-level interactions					
Availableness of Social Places * SoC					0.12 (0.11)
Availability of Socialization Opportunities * SoC					0.14 * (0.07)
Trust * SoC					0.34 ** (0.14)
Friendliness * SoC					-0.10 (0.09)
Safety * SoC					-0.21 * (0.10)
Supportive Climate * SoC					-0.30 * (0.15)
Intercept	2.14 *** (0.08)	2.14 *** (0.08)	2.14 *** (0.08)	2.13 *** (0.06)	2.13 *** (0.06)
Random effects					
Intercept at neighborhood level	0.08 * (0.04)	0.09 ** (0.04)	0.09 ** (0.04)	0.04 * (0.02)	0.04 * (0.02)
Slope at neighborhood level			0.001 (0.001)		0.001 (0.002)
Residual within variance	1.01 *** (0.09)	0.85 *** (0.08)	0.85 *** (0.07)	0.84 *** (0.07)	0.82 *** (0.07)
ICC	.07	.09	.09	.12	.12
DEFF	1.80	1.94	1.94	2.26	2.26

Note. n = 380.

*** $p < .001$ (2-tailed); ** $p < .01$ (2-tailed); * $p < .05$ (2-tailed).

M1 = baseline model; M2 = random intercept-only model; M3 = random slope model; M4 = random intercept-only model with level 2 predictors; M5 = random intercept and slope model with cross-level interactions. SE = Standard Error; ICC = Intraclass Correlation; DEFF = Design Effect.

The plots showed that the higher the trust and availability of socialization opportunities in the neighborhood, the stronger the positive relationship between users' SoC and this Instagram use (see Figures 1 and 2), that is users feeling tied to their community are more likely to play out this Instagram practice when their neighborhood is felt as offering social opportunities and its members as trustworthy.

Figure 1. *Interaction effect of trust among neighbors and Sense of Community (SoC) on Instagram use to look at social places and gatherings.*
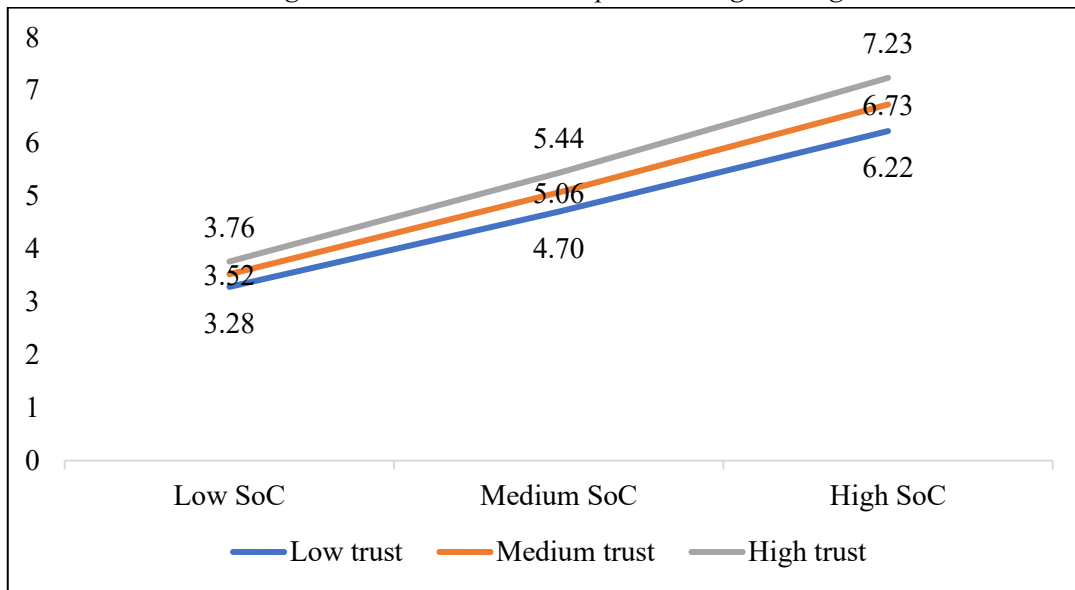
Note. *n* = 380.

Low = *M* – 1*SD*; Medium = *M*; High = *M* +1*SD*. *M* = mean; *SD* = standard deviation.

Figure 2. *Interaction effect of the availability of local socialization opportunities and Sense of Community (SoC) on Instagram use to look at social places and gatherings.*
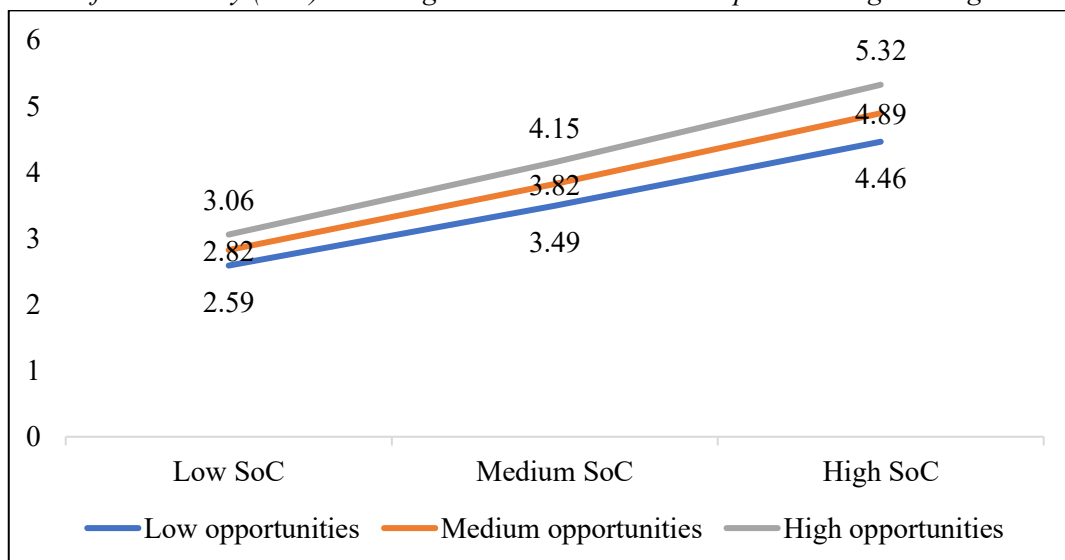
Note. *n* = 380.

Low = *M* – 1*SD*; Medium = *M*; High = *M* +1*SD*. *M* = mean; *SD* = standard deviation.

Furthermore, the plots also showed that the lower the safety and supportive climate in the neighborhood, the weaker the negative relationship between users' SoC and the considered Instagram use (see Figures 3 and 4), that is users feel tied to their neighborhood community are more likely to play out this Instagram practice when their neighborhood is felt as unsafe and its members as not supportive.

Figure 3. *Interaction effect of neighborhood safety and Sense of Community (SoC) on Instagram use to look at social places and gatherings.*
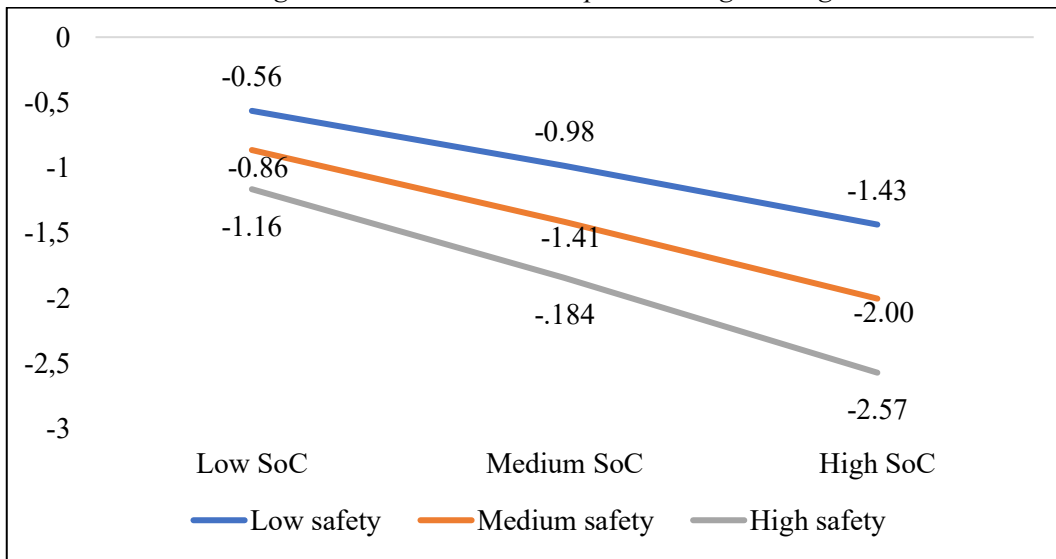
Note. *n* = 380.
Low = *M* – 1*SD*; Medium = *M*; High = *M* +1*SD*. *M* = mean; *SD* = standard deviation.

Figure 4. *Interaction effect of neighborhood supportive climate and Sense of Community (SoC) on Instagram use to look at social places and gatherings.*
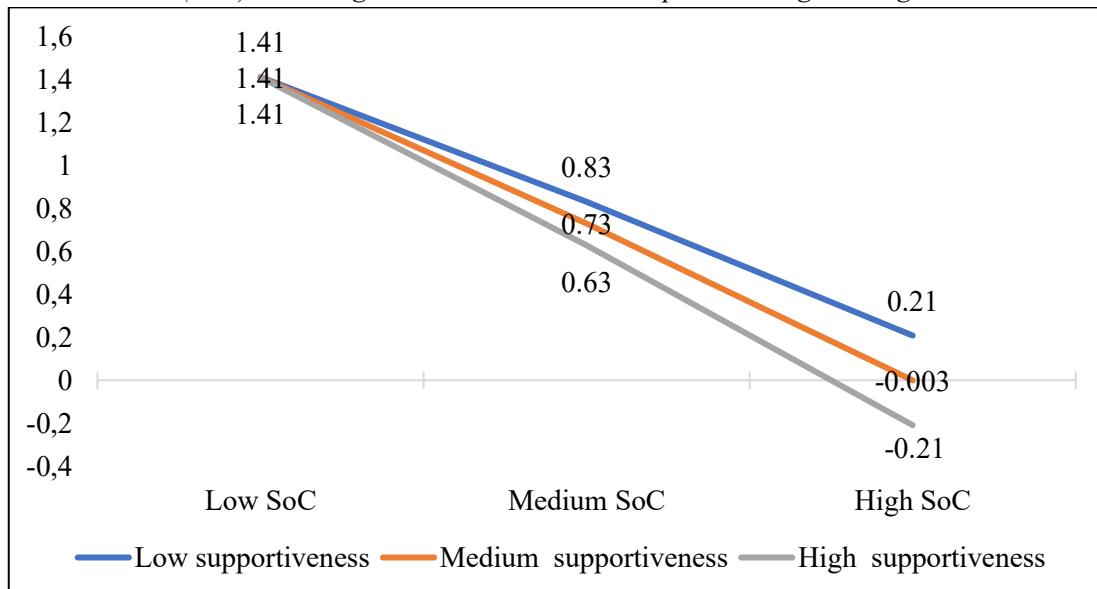
Note. *n* = 380.
Low = *M* – 1*SD*; Medium = *M*; High = *M* +1*SD*. *M* = mean; *SD* = standard deviation.

No significant differences emerged for the levels of perceived neighborhood friendliness and availability of common spaces.

Taken together, these results show that Instagram users' feeling tied to their neighborhood community are more prone to use this social media to look at social places and gatherings in it when the latter sustains this tie through offering opportunities to keep in touch with other – known and not-yet-known – members, who are felt as trustworthy, yet hinders its members to attain these social opportunities due to unsafety and lack of already existing local supportive climate. Overall, they support H2b and H2c yet mismatch all other H2.

3. Study 2 (RQ2): Paths from Instagram Community-Related Use Towards the Tie to The Community

Consistently with the aims of the overall research project, this study aims at testing a theoretical model of how Instagram use to look at social places and gatherings in users' local community could modify how they experience it. As shown in Figure 5, the complexities arising from the role that local places play in individuals' lives will be here taken into account by tackling the availability of these places and of the opportunities for shared activities and social gatherings offered by them at the same time, since both these aspects make them relevant to citizens' experience and allow them to favor the feeling of belonging to the community, the sharing of daily experiences with other community members, and the perception of the community as a cohesive social entity (Francis et al., 2012; Wood et al., 2010).

Figure 5. *Hypothesized Model.*
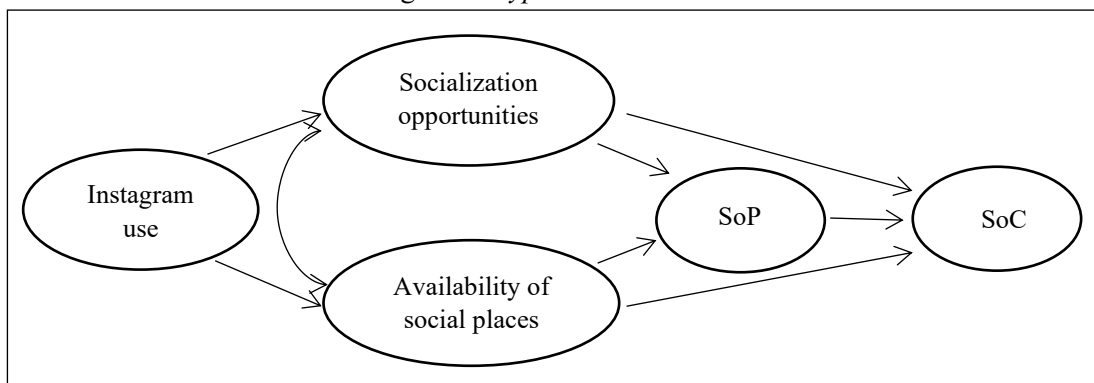
Note. Instagram use = Instagram use to look at local social places and gatherings in users' local community of belonging; SoP = Sense of Place; SoC = Sense of Community.

Indeed, Instagram contents mainly focus on what users perceive as positive and social aspects of their surrounding context (Zasina, 2018) and are able to bring their attention back to it (Gordon & de Souza e Silva, 2011). Consistently, using it to look at photos about social places and gatherings in one's community through it could be able to increase users' awareness about what they can find in it in terms of socialization opportunities, social gatherings, and shared activities (Barbotti, 2015; Hsiao & Dillahunt, 2017; Schwartz & Hochman, 2014; Sutko & de Souza e Silva, 2011), and which are the most relevant and available places where to find them (Duggan, 2015; Graham & Gosling, 2011; Sheldon & Bryant, 2016). Furthermore, common places and activities (Mao et al., 2016; Twigger-Ross et al., 2016) represent elements strengthening the social dimensions of citizens' identities and sustaining their feeling about their community being a social entity where members relate to each other and share spaces and activities (Dempsey, 2009; Derrett, 2003; Francis et al., 2012; Leyden, 2003; Lund, 2002; Procentese et al., 2017, 2019c; Puddifoot, 2003; Talen, 2000; Wood et al., 2012). Consistently, since photos and their captions can be powerful means to convey individual and social meanings (Crang & Graham, 2007; Oh et al., 2016; Purcell, 2007; Sonn et al., 2015), Instagram contents could exert the same effect. Thus, the considered Instagram practice is supposed to have a double impact.

On the one hand, it could straightly enhance citizens' awareness about social places being available in their community and offering socialization opportunities to its members (Hsiao & Dillahunt, 2017). That is, they could strengthen the social dimensions and meanings associated to users' communities, enriching urban spaces with new, socially connoted, representations and meanings conveyed and shared among community members (Félonneau, 2004). Consistently, the following first set of hypotheses is proposed:

H1: Instagram use to look at social places and gatherings in users' local community positively associates with users' perceptions about the availability of socialization opportunities (*H1a*) and social places (*H1b*) in their local community.

On the other hand, through enhancing local social dimensions, it could result in stronger relationships with local places (Bonaiuto et al., 1999; Mesch & Manor, 1998) and with the community living them (Boyd et al., 2018) at last. Indeed, individuals' attitude towards their community places (here conceptualized as SoP) relies on

the activities and experiences happening in and around a given place as well as on their representations and meanings about what that place is like, what its functions are, and which activities it hosts (Brehm et al., 2013; Jacquet & Stedman, 2013; Masterson et al., 2017). Consistently, SoP already proved its link to the social representations about local common spaces and gatherings as venues for social relationships and interactions (Lewicka, 2010; Pretty et al., 2003; Wood et al., 2012). Building on this and taking also into account that another locative social media already showed a positive association with users' SoP (Humphreys & Liao, 2013), this hypothesis follows:

H2: the perception about the availability of socialization opportunities (*H2a*) and social places (*H2b*) in users' local community mediates the relationship between this Instagram practice and users' SoP.

In the same vein, stronger representations about the community as offering social places and opportunities could strengthen its members' tie to it as a cohesive community where it is possible to get involved into serendipitous and potentially meaningful interactions with other members while attending common places. Indeed, the tie to the community as a social entity (conceptualized as SoC) relies on a shared sense of integration, cohesion and positive togetherness and on the opportunities for meaningful interactions among community members (McMillan & Chavis, 1986). All these aspects of local community experience can be enhanced through attending local places and gatherings meant as socialization venues (Proshansky et al., 1983) and through the social meanings attached to them (Long & Perkins, 2007; Mannarini et al., 2006). Furthermore, and consistently with this, SoC already proved its positive association with socially connoted representations about the community it refers to (Farrell et al., 2004; Francis et al., 2012; Long & Perkins, 2007; Mannarini et al., 2006; Wood et al., 2012; Young et al., 2004; Ziersch et al., 2005). Building on this, a further set of hypotheses is added:

H3: the perception about the availability of socialization opportunities (*H3a*) and social places (*H3b*) in users' local community mediates the relationship between this Instagram practice and their SoC.

Lastly, it should be mentioned that a positive attitude towards community places already proved its link with community members' feeling to belong to that community, be committed to it, and matter to each other: it mediates the relationship

between positive and socially connoted representations about community places and this feeling (Francis et al., 2012; Maas et al., 2009). Indeed, SoP mainly refers to an individualistic perspective about community members' attitude towards given places, while SoC predominantly relies on representations, meanings, and experiences which are shared among community members (Bonnes & Secchiaroli, 1995). Nevertheless, SoP dimensions are tightly linked to individuals' SoC since community places and shared activities and meanings are what makes them feel they are part of a *relational entity* (Stein, 1964) whose members friendly interact and exchange support and pieces of information. Consistently, the following sequential mediation hypotheses will be tested too:

H4: the relationship between Instagram community-related use and users' SoC is mediated by the sequence of the perception about the availability of socialization opportunities and SoP (*H4a*) and by the sequence of the perception about the availability of social places and SoP (*H4b*).

As to the local community of reference, this study builds on the doubts study 1 has arisen about whether neighborhoods still represent psychologically relevant daily local communities or a shift towards wider ones is rather needed due to recent technology and transportation advances. Thus, it takes into account cities as the local community of reference to avoid noises.

3.1. Method

3.1.1. Participants and Procedures

Five hundred and twenty-five Italian Instagram users took part in the study. To achieve a non-college sample, participants were recruited via snowball sampling through sharing the questionnaire in some Facebook groups about Italian Instagram users (e.g., weareigersit, Instagram Italia), in some school classes, and through an Instagram account (@insta.gramandthecity) as it happened for study 1. Playing out Instagram use to look at social places and gatherings was the requirement to get involved in the study.

An explanation about confidentiality and anonymity issues, where participants had to express their informed consent to take part in the study, came before the questionnaire. For underaged participants, informed consent was previously asked to their

parents or legal guardians. The questionnaire was anonymous and no IP addresses or identifying data were retained about participants. Participants received no compensation for taking part in the study. Ethical approval was acquired from the Ethical Committee of Psychological Research of the Department of Humanities of the University of Naples Federico II.

Participants (32.2% males) were aged between 15 and 64 (M = 21.92; SD = 6.19) with 90.8% of them being between 15 and 28 years old, matching Istat data (2018) about Italian population using new technologies in a social way. Consistently with the age range, 36.7% had a Secondary School Diploma, 35.2% a High School Diploma, 23% a Degree, and only 5.1% a post degree title. Most of participants were unmarried (92.6%) and did not have children (96.6%), while only 6.8% disclosed to be married or cohabitant, and only 0.6% separated or divorced. They had been living in their neighborhood for 18.01 years on average (SD = 7.81).

As to their average Instagram use, 81% of participants used Instagram more often than once a day, 9.3% about once a day, 3.4% five or six times a week, 4.2% two or three times a week, and only 2.1% once a week or less; 56.6% of participants had a public Instagram account.

3.1.2. Measures

The questionnaire included a socio-demographic section, followed by specific measures which were consistent with the aims of the study.

Instagram Use to Look at Photos about Social Places and Gatherings. To detect this Instagram practice, a pool of 12 items was used (see Table 6). Moving from the ones used in study 1, they referred to this practice focusing on both users' neighborhood and city at large. Respondents had to rate how often they used Instagram as stated in each item on a 5-points Likert scale (1 = *Never*; 5 = *Often*). Two factors emerged referring respectively to following and searching practices. However, since these two Instagram behaviors had the same overall aim (which was specified by the content of the items items), the overall construct was used consistently with the focus of the study being on the aim rather than on the specific practice of searching or following.

Sense of Community (SoC). The Brief Sense of Community Scale (BSCS, Peterson et al., 2007) was adapted to city communities and used. It is compounded by eight items (e.g., "I belong in this city") designed to assess SoC core dimensions as defined in McMillan and Chavis's model (1986). Respondents had to rate their agreement with each statement on a 7-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*).

Sense of Place (SoP). The Sense of Place scale (Jorgensen & Stedman, 2001) was used. It is compounded by twelve items to be rated on a 5-points Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*) which refer to conative (four items, e.g, "My city is the best place for doing the things that I enjoy most"), affective (four items, e.g., "My city is my favorite place to be"), and cognitive (four items, e.g., "My city reflects the type of person I am") aspects of respondents' attitude towards their life places. For this study, the items were adapted to refer to city places. As the general and group factor-structure (G+groups model) reported the best fit, consistently with Jorgensen and Stedman's suggestion (2001) and in line with the aim of this study the overall construct was entered in the model.

Availability of Socialization Opportunities. Moving from the items used in study 1, a pool of five items (see Table 7) to be rated on a 5-points Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*) was used to detect respondents' perceptions about their neighborhood and city at large offering socialization opportunities or not.

Availability of Social Places. The same eight items of study 1 about local social places (e.g., "Parks", "Other public places where people can meet") were used (Wood et al., 2012). Respondents were asked to rate how much each place or facility was available in their neighborhood on a 5-points Likert scale (1 = *Not Available*; 5 = *Totally Available*).

3.1.3. Data Analyses

EFA and descriptive and preliminary analyses were run using IBM Statistical Package for Social Science (SPSS) software v.26, CFA and hypotheses testing using Mplus 8.

3.1.3.1.   *Preliminary Analyses*

For all the scales, the back-translation method was used when there was no Italian already-validated version available.

As they were new scales, the pools of items for both Instagram use and socialization opportunities went through EFAs with principal axis factoring and promax rotation first. The sphericity was checked using Bartlett's test and the adequacy of sampling using the KMO measure.

Then, CFAs with SEM were run to test the factor structure for each measure. To evaluate the model fit, the CFI, the TLI, the RMSEA and its 90% CI, and the SRMR were observed (MacCallum & Austin, 2000). For CFI and TLI. values equal to or greater than .90 e .95 reflect good or excellent fit; for RMSEA and SRMR, values equal to or smaller than .06 e .08 reflect good or reasonable fit (Hu & Bentler, 1999). For the SoP scale, the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) were observed too in order to evaluate which factor structure among those identified by Jorgensen and Stedman (2001) better fitted the present data; for both the indices the lower the value, the better the fit. Reliability was checked through Cronbach's alpha (α).

Before running the model, the presence of outliers and/or influential cases was checked through leverage values and Cook's D, to check for the absence of significant values which could affect the analyses (Cousineau & Chartier, 2010). To witness the absence of such values, the leverage values should always be lower than 0.2 and Cook's D always lower than 1. The multicollinearity was tested through Condition Indexes and Tolerance indexes, which should respectively be lower than 15 and higher than or equal to 0.2.

3.1.3.2.   *Hypotheses Testing*

All the hypotheses for the study were tested fitting a multiple sequential mediation model using SEM. Instagram use was entered as the independent variable, SoC as the outcome; SoP and the availability of social places and of socialization opportunities were included as mediators (see Figure 5). To evaluate the model fit, CFI and SRMR were observed for this model too (MacCallum & Austin, 2000). Bootstrap estimation was used to test the significance of the results (Hayes, 2018; Preacher &

Hayes, 2008) with 10,000 samples, and the bias-corrected 95% CI was computed by determining the effects at the 2.5th and 97.5th percentiles; the indirect effects are significant when there is no 0 in the CI.

3.2. Results

3.2.1. Preliminary Results

For the scale about Instagram use, Bartlett's test, *Chi-square* (66) = 4765.87; p < .001, and the KMO measure, .881, reported good results. Two factors emerged, with no item deleted from the original pool due to too low loadings nor too high loadings on both factors; all the items in the final version of the scale had loadings above .3 (see Table 6). Consistently with the above-mentioned conceptualization underlying Instagram practices, a unique latent variable on which these two factors loaded was included in the model.

Table 6. *EFA factor loadings for the scale detecting Instagram Use to Look at Photos about Social Places and Gatherings in the City.*

Item	Searching behaviors	Following behaviors
I used a hashtag to look for photos about a neighborhood of my city.	.868	
I used a hashtag to look for photos advertising social gatherings to be held in a neighborhood of my city.	.837	
I used a geotag to look for photos about a neighborhood of my city.	.722	
I used a geotag to look for photos about my neighborhood.	.745	
I used a hashtag to look for photos advertising social gatherings to be held my neighborhood.	.821	
I used a hashtag to look for photos about my neighborhood.	.803	
I follow accounts about my neighbourhood.		.880
I follow accounts about other neighbourhoods of my city.		.796
I follow hashtags about other neighbourhoods of my city.		.771
I follow hashtags about my neighbourhood.		.758
I follow accounts about social places and/or gatherings in other neighborhoods of my city.		.660
I follow accounts about social places and/or gatherings in my neighborhood.		.752
Explained variance (%)	53.97	9.11
Cronbach's α	.91	.90
Total Cronbach's α		.93

Note. n = 525.

For the scale about the availability of socialization opportunities, Bartlett's test, *Chi-square* (10) = 570.29; *p* < .001, and the KMO measure, .646, reported good results too. One factor emerged with all the items having loadings above .3 (see Table 7).

Table 7. *EFA factor loadings for the scale detecting the Availability of Socialization Opportunities in the City.*

Item	Factor loading
In this neighborhood, I would know where to go if I would like to meet new people with whom I share some interests.	0.706
If I wanted to meet new people of my same age, I would know where to go in this city.	0.766
In this neighborhood, it is hard to meet new people. *	0.651
In this city, it is hard to meet new people. *	0.649
In this city, I would know where to go if I would like to meet new people with whom I share some interests.	0.632
Explained variance (%)	46.58

Note. *n* = 525.

* Item is reverse scored.

For all other scales, CFAs confirmed the expected factor structures, with model fits varying from excellent to reasonable. Specifically, for SoP scale, the G+group factor model, CFI = .97, TLI = .94, RMSEA = .07, RMSEA 90% CI [.06, .09], SRMR = .02, AIC = 16763.20, BIC = 17010.15, better fit the data than (1) the one-factor structure, CFI = .86, TLI = .83, RMSEA = .13, RMSEA 90% CI [.12, .14], SRMR = .07, AIC = 17153.04, BIC = 17306.32, (2) the three-factors one, CFI = .92, TLI = .90, RMSEA = .10, RMSEA 90% CI [.09, .11], SRMR = .06, AIC = 16918.35, BIC = 17084.40, and (3) the higher-order model, CFI = .93, TLI = 90, RMSEA = .10, RMSEA 90% CI [.09, .11], SRMR = .06, AIC = 16918.35, BIC = 17084.39. According to Jorgensen and Stedman's suggestions (2001), the general factor proved to better explain the data than the domain-specific constructs. Furthermore, it was more consistent with the aim of the present study. Thus, it was used for the analyses. Cronbach's alphas and fit indices are shown in Table 8, while descriptive statistics and correlations among the study variables are in Table 9.

The leverage value was always lower than 0.04 and Cook's D lowest and highest values were 0 and 0.03, indicating that there were no significant values affecting the analyses. Moreover, Condition Indexes were widely lower than 15 (the highest was

12.67) and Tolerance indexes ranged between .65 and .91, proving multicollinearity among the variables was not a problem too.

Table 8. *Summary of reliability coefficients and fit indices for all the measures.*

Variables	α	CFI	TLI	RMSEA	RMSEA 90% CI	SRMR
1. Instagram Use to Look at Social Places and Gatherings in the City	.93	.96	.95	.09	[.07, .09]	.05
2. Sense of Place	.79	.97	.94	.07	[.06, .09]	.02
3. Sense of Community	.91	.99	.98	.06	[.04, .08]	.02
4. Availability of Social Places	.85	.98	.96	.06	[.04, .09]	.03
5. Availability of Socialization Opportunities	.71	.98	.92	.09	[.05, .13]	.03

Note. n = 525.
α = Cronbach's alpha; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; SRMR = Standardized Root Mean square Residual.

Table 9. *Summary of descriptive statistics and correlations for all the measures.*

Variables	*M*	*SD*	1	2	3	4
1. Instagram Use to Look at Social Places and Gatherings in the City	2.25 [a]	1.01	-			
2. Sense of Place	2.62 [a]	0.67	.252 ***	-		
3. Sense of Community	3.25 [b]	1.44	.391 ***	.652 ***	-	
4. Availability of Social Places	2.65 [a]	0.85	.204 ***	.527 ***	.467 ***	-
5. Availability of Socialization Opportunities	2.99 [a]	0.88	.235 ***	.437 ***	.453 ***	.406 ***

Note. n = 525
[a] 1-5 range scale; [b] 1-7 range scale.
*** *p* < .001 (2-tailed).
M = mean; *SD* = standard deviation.

3.2.2. Hypotheses Testing

The hypothesized model showed good fit indices, CFI = .92, TLI = .92, RMSEA = .05, RMSEA 90% CI [.048, .053], SRMR = .08, and confirmed all the hypotheses but H3. That is, the considered Instagram practice proved to have significant, positive, direct effects on users' perceptions about the availability of both social places and socialization opportunities in their cities and significant, positive, indirect effects on SoP via (a) the availability of socialization opportunities in the city and (b) the availability of social places in the city, and on SoC via (a) the sequential mediation

of the availability of socialization opportunities in the city and SoP and (b) the sequential mediation of the availability of social places in the city and SoP. However, it showed no indirect effects on SoC solely via the availability of socialization opportunities nor solely via the one of social places in the local community – that is, it showed no indirect effect on SoC when SoP was not included as a mediator too. The model explained 62.9% of SoC variance and 50.4% of SoP one. All the standardized effects (β) and the unstandardized ones (*B*) with their standard errors (SE) and bias-corrected 95% CI are in Table 10.

4. Discussion

The present studies were aimed at deepening Instagram use to look at social places and gatherings in users' local community to disentangle the interplay between this practice and users' experience of their local community. Both studies referred to users' local communities of belonging, but the focus ranged from neighborhoods (study 1) to cities (study 2) due to some doubts about the role neighborhoods still have in citizens' daily lives arisen from the results of the first study.

First, study 1 (Gatti & Procentese, 2020b) was specifically aimed at detecting the needs underlying this practice. The interest lied in understanding whether this Instagram practice could represent a new path users feeling tied to their community of belonging (that is, having high SoC) could adopt in order to sustain and express their SoC when more traditional ways seemed unfeasible due to shared representations about their community as partially closed in both social and spatial terms (Chavis & Newbrough, 1986; Prezza & Costantini, 1998; Sarason, 1974). Consistently, a multi-level perspective with a multiple informant approach was chosen as the most suitable to this theoretical framework. Indeed, the study was focused on the intersection between predictors which belong to different levels: users' SoC has been taken into account as an individual level predictor, while the representations community members shared and conveyed about neighborhood availability of social places and socialization opportunities, safety, supportive climate, trust, and friendliness have been entered at the neighborhood level.

Table 10. *Model results.*

Paths	β	*B* (SE)	BC 95% CI
Direct effects			
Instagram Use to Look at Social Places and Gatherings → Availability of Social Places	.32 ***	0.21 *** (0.04)	[0.10, 0.29]
Instagram Use to Look at Social Places and Gatherings → Availability of Socialization Opportunities	.41 ***	0.48 *** (0.07)	[0.34, 0.63]
Instagram Use to Look at Social Places and Gatherings → SoP	.01	0.01 (0.06)	[-0.15, 0.11]
Instagram Use to Look at Social Places and Gatherings → SoC	.20 ***	0.28 *** (0.06)	[0.17, 0.40]
Availability of Social Places → SoP	.30 ***	0.45 *** (0.08)	[0.26, 0.60]
Availability of Social Places → SoC	-.01	-0.03 (0.10)	[-0.22, 0.15]
Availability of Socialization Opportunities → SoP	.60 ***	0.51 *** (0.06)	[0.42, 0.65]
Availability of Socialization Opportunities → SoC	.10	0.12 (0.07)	[-0.02, 0.29]
SoP → SoC	.63 ***	0.89 *** (0.09)	[0.73, 1.05]
Indirect effects			
Instagram Use to Look at Social Places and Gatherings → Availability of Social Places → SoP	.09 **	0.09 *** (0.03)	[0.05, 0.16]
Instagram Use to Look at Social Places and Gatherings → Availability of Social Places → SoC	-.01	-0.01 (0.02)	[-0.06, 0.04]
Instagram Use to Look at Social Places and Gatherings → Availability of Social Places → SoP → SoC	.08 **	0.08 ** (0.03)	[0.04, 0.15]
Instagram Use to Look at Social Places and Gatherings → Availability of Socialization Opportunities → SoP	.24 ***	0.24 *** (0.05)	[0.17, 0.35]
Instagram Use to Look at Social Places and Gatherings → Availability of Socialization Opportunities → SoC	.05	0.05 (0.04)	[-0.01, 0.14]
Instagram Use to Look at Social Places and Gatherings → Availability of Socialization Opportunities → SoP → SoC	.22 ***	0.22 *** (0.05)	[0.13, 0.36]
Total effects			
Instagram Use to Look at Social Places and Gatherings → SoP	.35 ***	0.35 *** (0.06)	[0.24, 0.48]
Instagram Use to Look at Social Places and Gatherings → SoC	.65 ***	0.65 *** (0.08)	[0.48, 0.78]

Note. n = 525.

*** *p* < .001 (2-tailed); ** *p* < .01 (2-tailed).

SoP = Sense of Place; SoC = Sense of Community.

SE = Standard Error; BC = Bias-Corrected; CI = Confidence Interval.

Overall, even though they partially mismatch the proposed hypotheses, the results suggest that this Instagram use could represent an alternative path towards one's neighborhood social meanings for citizens feeling tied to it when community shared representations about it return that social opportunities could be available within it but are going lost. Indeed, when a community offers social opportunities ready to be caught yet also has some features which work as a deterrent for its members to grab them, individuals still feeling tied to it are more likely to resort to this Instagram practice to keep in touch with these forbidden social meanings. Specifically, what emerged shows that Instagram users' feeling tied to their neighborhood community are more prone to use this social media to look at local social places and gatherings when the neighborhood sustains this tie through offering opportunities to keep in touch with other members, who are felt as trustworthy, yet hinders its members to attain these social opportunities due to unsafety and lack of support among neighbors. Living in a neighborhood which is felt as unsafe and whose members are perceived as not supportive could make citizens uncomfortable in catching local socialization opportunities even though their neighborhood offers them, and they acknowledge that there is no reason not to trust their neighbors. Indeed, when people have negative emotional experiences about their community (e.g., when they feel unsafe in it), they are less likely to attend common spaces and local facilities and to interact with their neighbors (Wood et al., 2008). Furthermore, this Instagram practice could also represent users' attempt to break the perception of insecurity and lack of supportive climate, fighting that negative spiral brought about by the lack of safety, interactions, and social meanings and the subsequent broken window effect (Wilson & Kelling, 1982). Not being able to share spaces and experiences among neighbors can foster the perception of neighborhood social climate as unfriendly and unsupportive (Arcidiacono & Di Napoli, 2010; Bridge, 2002; Carli, 2000; Procentese et al., 2007, 2011; Tonkiss, 2003), undermining its members' possibilities to feel and sustain their SoC regardless of the reasons why they are not able to share spaces and experiences with other community members. Indeed, SoC refers to aspects like membership, fulfillment of needs, and shared emotional connection (McMillan, 1996; McMillan & Chavis, 1986): thus, it needs members to feel that the members of their community attend local places, get involved in common activities, share symbols and meanings, and relate and be supportive to each

other in order to be sustained and expressed (Chavis & Wandersman, 2002; Kusenbach, 2006; Sarason, 1974). As a consequence, community members could need different paths to feel that the community there are tied to still is a social entity which offers spaces and opportunities for its members to socialize and whose members relate to each other and, eventually, support each other, when the community does not offer opportunities to do so or hinders its members to grab them due to some of its features. In the same vein, acknowledging that one's neighborhood offers social gatherings and venues where it is possible to socialize with other community members and that the latter deserve trust could provide some local social dimensions individuals could wish to contact; thus, the community representations could strengthen the attempts to identify different paths towards them when citizens also acknowledge that traditional ones are unfeasible (e.g., due to local unsafety or lack of supportive climate). This seems also consistent with the direct and positive effect that community shared representations about the neighborhood as a supportive community exert on the considered Instagram practice – which was not hypothesized, however. Indeed, this result suggests that when the community is felt as supportive users are more likely to resort also to Instagram to keep in touch with local social meanings and representations. Taken together, these results suggest that the main need underlying Instagram use to look at social places and gatherings in users' neighborhoods could be to come in contact with local social meanings. When individuals feel that the community they are tied to offers these opportunities but at the same time hinders its members to grab them due to some of its features making them feel uncomfortable in attending social places and gatherings – which represent the main venues where they social meanings, identities, and interactions are rooted in a local community (Augè, 2009; Dempsey, 2009; Francis et al., 2012; Leyden, 2003; Procentese et al., 2017, 2019c; Puddifoot, 2003; Talen, 2000) – community members are more likely to play out this Instagram practice. Indeed, individuals feeling tied to their communities of belonging express and sustain their SoC through looking for several ways to feel that their community is characterized by social meanings and representations and that its members relate and interact, according to the constraints their community poses due to its features (Chavis & Newbrough, 1986; Prezza & Costantini, 1998; Sarason, 1974).

Indeed, Instagram photos and hashtags about local social places and gatherings can return users' representations about them (Barbotti, 2015; Duggan, 2015; Schwartz & Hochman, 2014; Zasina, 2018) and users are aware about this, taking advantage of this social media to learn more about their surrounding social and spatial context (Sheldon & Bryant, 2016). Thus, Instagram contents can be able to re-connect users to local social meanings and dimensions (Ames & Naarman, 2007; Cheng et al., 2014; Hochman & Manovich, 2013; Oh et al., 2016; Schwartz & Hochman, 2014) by raising their awareness about their surrounding social places and opportunities – that is, bringing their attention back on local dimensions, opportunities, and resources (de Souza e Silva, 2013; Gordon & de Souza e Silva, 2011; Hochman & Manovich, 2013; Manovich et al., 2014; Sutko & de Souza e Silva, 2011; Zasina, 2018). This, in turn, could safeguard their feeling about that community being a social entity (Francis et al., 2012; Procentese et al., 2017, 2019c; Puddifoot, 2003; Talen, 2000; Zasina, 2018), which constitute a basis for the expression and maintenance of SoC (McMillan, 1996; McMillan & Chavis, 1986). This represents the main idea underlying study 2, which was aimed at testing a theoretical model of how Instagram use to look at social places and gatherings in users' city might modify their local community experience and their self-in-community with specific reference to their cities. Specifically, due to the specific features and aims of Instagram and of its considered use (Barbotti, 2015; Schwartz & Hochman, 2014; Sheldon & Bryant, 2016), the hypotheses leading the study referred to this practice enhancing users' perception about the availability of social places and socialization opportunities in their city and, through this, their SoP and SoC at last.

Overall, this Instagram practice confirmed its supposed potential in re-connecting users to their local community of belonging through making them more aware of the social places and opportunities being available within it (Gordon & de Souza e Silva, 2011; Sutko & de Souza e Silva, 2011) even though not all the hypotheses about its indirect effects on users' self-in-community have been matched. To sum up, it proved to impact users' SoP via their enhanced perception about the availability of (a) social places and (b) socialization opportunities in their city, and users' SoC via the sequential mediation of (a) users' enhanced perception about the availability of social places in their city and SoP and (b) users' enhanced perception about the availability

of socialization opportunities in their city and SoP. What emerged supports previous suggestions about this Instagram practice as a different way to experience local communities through the intersection it allows between online and offline environments and conveyed social meanings: seeing Instagram contents about local social places and gatherings seems a feasible path towards enhanced perceptions about the social meanings to be attached to places and gatherings in users' local community, consistently with them producing further ways for users to attach meanings to local contexts (Ames & Naarman, 2007; Cheng et al., 2014; Oh et al., 2016). However, as shown by the results, its relationship with users' self-in-community needs to be further disentangled. Indeed, this renewed local focus on local social dimensions can foster users' positive attitude towards the places in their community, which is built upon individual and shared meanings and feelings about what a place is like, the functions it has, the images it conveys, and the activities it hosts indeed (Brehm et al., 2013; Jacquet & Stedman, 2013; Stedman, 2008), yet more complex paths emerge when it comes to the relationship between this Instagram practice and users' SoC. That is, Instagram community-related use produces greater awareness about social places and gatherings in users' city and, through this, associates with their higher SoP, which in turn enhances their SoC. Even though they stand against some of the proposed hypotheses, these results seem consistent with the acknowledgment that the representations about local places as offering opportunities for social interactions and potentially being venues for meaningful social interactions – which are what users mainly get through this Instagram practice (Hochman & Manovich, 2013; Oh et al., 2016) – represent a reliable path to enhance citizens' bond and attitude towards them and their sense of being-at-home in them (Lewicka, 2010; Moser et al., 2002; Pretty et al., 2003). Indeed, its contents convey elements of users' identities and daily lives (Highfield, 2015; Lee et al., 2015a, 2015b; Marcus, 2015) and mainly focus on what users perceive as positive and social aspects of their surrounding context (Oh et al., 2016; Zasina, 2018). Differently, the feeling of being tied to and part of a livable, interactive, and connected social entity only indirectly arises from these representations, as it relies on the awareness of social opportunities and spaces being available and attainable in it (Derrett, 2003; Talen, 2000; Wood et al., 2010) but also on the attitude towards these places as acknowledged settings for common activities, local traditions, social interactions, and shared

meanings (Francis et al., 2012; Maas et al., 2009). At last, these results seem consistent with the suggestion about this Instagram practice as able to shape users' self-in-community and local community experience through providing a different path towards a focus on local social dimensions and opportunities (Gordon & de Souza e Silva, 2011 Hochman & Manovich, 2013; Manovich et al., 2014; Sutko & de Souza e Silva, 2011), valorizing environmental and social resources within the community of belonging, and increasing users' perceptions about their community as sharing a common past and being connected, supportive, and cohesive.

1.1. Limitations and Future Directions

While opening new perspectives, these studies have some limitations too, which provide hints and directions for future research.

First, both samples are not representative of Italian Instagram users population. Furthermore, snowball sampling procedures were used to collect data, implying a self-selection bias. Nevertheless, these procedures allowed to reach heterogeneous Instagram users groups, beyond student samples and researchers' local communities, providing more validity to the results. Moreover, the findings rely on self-reported data, which can be distorted by memory bias and response fatigue.

Another major issue refers to the cross-sectional design of both studies, which requires to carefully consider the described relationships. Indeed, due to the design of the studies it is not possible to make inferences on the direction of causality. Nevertheless, due to the results provided by these two studies altogether, a circular relationship to be tested in future studies could be hypothesized too, consistently with the notion of a virtuous circle between local features and social meanings within communities (Putnam, 2000). Indeed, on the one hand Instagram users feeling more tied to their local community could be more inclined to look at social places and gatherings through this social media when their local community offers social opportunities yet makes them hardly attainable for its members due to some undesirable features just because this Instagram practice could in turn enhance the tie to the community of belonging and local places for users playing it out. Thus, future research should test these relationships with longitudinal studies in order to deepen current knowledge about the direction of causality of these relationships.

Lastly, a third issue refers to the quite low ICC and DEFF values for all neighborhood level variables in study 1, which show that the non-independence among neighborhood members was low even though community representations about neighborhood features still impacted its members' lives, consistently with previous theorizations (Lewin, 1951; March & Olsen, 1989; Wiesenfeld, 1996). Due to these contrasting pieces of evidence, the doubt about neighborhood no longer representing a relevant community to refer to makes its way even though this was not among the research questions. This suggests the need to think about the role modern local communities exert in their members' daily lives. Two main hypotheses can be suggested to explain these results. First, neighborhoods could have lost their role as shared daily landmarks, meaning that talking about their community shared representations could no longer be appropriate. Indeed, since everyone is mainly focused on their issues rather than on common ones (Doolittle & Faul, 2013; Procentese et al., 2019a, 2019b), and communities are characterized by private spaces and loose social ties (Arcidiacono & Di Napoli, 2010; Crang, 2000; Procentese & Gatti, 2019a, 2020; Procentese et al., 2007, 2011), citizens may mainly experience their surroundings through their personal experience rather than by relying on shared representations about the local places and social interactions too. Second, it should also be considered that the advances in technology and transportation have diffused daily activities around the city and/or across several cities (Francis et al., 2012). As a consequence, a shift from neighborhoods to cities as of psychologically relevant daily local communities could be needed, since the members of close neighborhoods more likely to share similar representations, cultures, values, and practices due to spatial spillover issues (e.g., Capello, 2009; Jylhä & Jokela, 1990). This could also represent an explanation for the lack of random variance in relationship between SoC and Instagram use across neighborhoods: indeed, the respondents in this study are from different neighborhoods which however locate in a few, close, Italian cities. As both hypotheses are equally possible, further studies are needed to determine which one seems the most plausible. However, a methodological explanation should be considered too: indeed, it should be acknowledged that neighborhood groups involved in study 1 were sometimes small and this could have led to lower agreement among their members (James et al., 1984; Lindell et al., 1999). Thus, future studies should respectively endeavor to involve wider samples, to consider city

rather than neighborhood communities as the level 2 of analysis, and to involve respondents from farther neighborhoods in order to shed further light on these alternative explanations.

5. Final Remarks

Based on the acknowledgment that users take advantage of Instagram features and contents to learn more about their surrounding social and spatial context (Sheldon & Bryant, 2016) and that, consistently, the practice of using this social media to look at social places and gatherings in users' local community is spreading regardless of Instagram stated aim being quite different, the present studies suggested that this Instagram practice could contribute to enhancing users' self-in-community (Pretty et al., 2003), especially when users feel that their community has some constraints giving them conflicting signals about its social dimensions. That is, using Instagram to look at social places and gatherings in one's community seems able to allow users to overcome the constraints their communities pose to their attainment of local social meanings and representations and, at the same time, to enhance users' awareness about the social places and gatherings being available in their community, their positive attitude towards local places, and their tie to the community living them, to which they feel they belong.

The acknowledgment about Instagram as a citizen-based source of information about social dynamics, gatherings, and representations about local communities (de Souza e Silva, 2013; Hochman & Manovich, 2013; Manovich et al., 2014), along with these results, could allow to think about it as a suitable tool to promote bottom-up processes of re-appropriation and re-opening of urban spaces and sociability, to give back foreclosed or forsaken places to citizens and social meanings to local places (e.g., Gatti et al., 2021). This could increase the perceptions about that community and its spaces as open, livable, available for different uses, and socially connoted, returning to its members the representation of a community where places can be attended, and people can be seen out and about engaged in social interactions and common activities.

Through bringing new attention of urban local dimensions against global ones (Gordon & de Souza e Silva, 2011 Hochman & Manovich, 2013; Manovich et al.,

2014; Sutko & de Souza e Silva, 2011), this shift could bring about new possibilities for local economies and policymaking, in addition to the ones about enriching cities social meanings and livability. Consistently, fostering an aware and active integration of these practices in citizens' everyday lives rather than a spontaneous yet not-aware resorting to them could represent a helpful path in integrating people within their local communities again (Procentese & Gatti, 2019a, 2020).

CHAPTER III

Dating People-Nearby Applications:
Re-Connecting the Local Social Fabric

1. A New Kind of Urban Socialization

People-Nearby Applications (PNAs) are mobile applications which rely on mobile devices GPS in order to detect other users being in the same local area and using the same mobile application. PNAs can have several aims and detect only "friends" – that is, users who have been added to one's online social network – or all the users of the same application. Some examples of PNAs are: Pokemon Go, which has playful aims and detects only already-friend users (Evans & Saker, 2019; Hjorth & Richardson, 2017), Dodgeball, which allows to share one's localization with already-friend users in order to meet in local venues (Humphreys, 2007), and dating applications, which include an heterogeneous group of applications aimed at meeting new people nearby for romantic or sexual purposes (e.g., Tinder, Grindr, Happn, Once, Muzing, The Inner Circle, Lovoo; Toch & Levi, 2012). Among dating PNAs, some allow to see other users' profiles within a chosen distance (e.g., Tinder, Grindr, Lovoo), others allow to see the profiles of the users one meets while going around in the city during daily activities (e.g., Happn), while others – which are also called *matchmakers* – suggest the profiles of users sharing some interests in several fields to each user (e.g., Once, Muzing, The Inner Circle). Nevertheless, regardless of their stated aims – that is, to look for mates or sexual partners (e.g., Sumter et al., 2017; Timmermans & De Caluwé, 2017) – dating PNAs have often been used to broaden users' local relationships, enter local social networks, and feel part of the surrounding community (Miller,

2015; Van De Wiele & Tong, 2014), which is what makes them particularly relevant to the present research project.

Consistently with the emerged motives (Van De Wiele & Tong, 2014), a positive association between users' not only romantic but also social loneliness and the use of these applications to meet new people in their local community when individuals perceive that some constraints hinder them from doing so in other ways has recently been detected (Procentese & Gatti, 2019a). However, this association does not differ with reference to users' sexual orientation (Procentese & Gatti, 2020), which was supposed to represent one huge cause of perceived offline constraints to socialization opportunities, since offline communities and public spaces are still perceived as largely heteronormative and unique barriers to meeting new partners or even friends are still present for sexual minorities, such as determining others' sexual orientation, the risks coming from stigma, stereotypes and prejudices, self-exposure and outing, causing stress for people being part of sexual minorities (Gray, 2009; Grov et al., 2014; Miller, 2015; Pietrantoni & Prati, 2011). The lack of significant differences with reference to sexual orientation – together with the main feature of PNAs, that is to look for people being within a chosen distance who can be reached and met also face-to-face – has brought the authors to question about the possibility that some contextual (e.g., community) features – which would impact everyone's life regardless of romantic and sexual attitudes – could rather be at the base of the constraints which brought about dating PNAs use with social and aggregative aims. Consistently with this suggestion, it seems like the context where these applications are used has a relevant role, since potential users have disclosed that they would have been more likely to use this kind of applications in places and contexts which they considered small and exclusive, yet which are acknowledged as attended by people having some common interests which could serve as tickets-to-talk (Jarusriboonchai et al., 2014).

Indeed, the use of these social technologies specifically meant to look for new people to meet in one's local community has brought about the rise of a new kind of socialization (Miles, 2017; Miller, 2015), which breaks the boundaries between digital and spatial spaces (Batiste, 2013; Blackwell et al., 2015; Toch & Levi, 2012; Van De Wiele & Tong, 2014) up to leading to the opening of new relational spaces and opportunities. That is, having the chance to get further pieces of information about nearby

strangers also through the app and to first interact with them in a mediated way – which allows an easier management of awkwardness and refusals (Blackhart et al., 2014) – could allow to overcome contextual constraints which could be due to the characteristics of the social environment of modern local communities (e.g., unfriendliness among not-yet-known neighbors, lack of supportive climate). Seeing one's neighbors through this kind of applications allows a shift from being nearby strangers to becoming familiar strangers since it enhances reciprocal visibility (Hsiao & Dillahunt, 2017; Paulos & Goodman, 2004; Toch & Levi, 2012) and acknowledgment of common interests (Paasovaara et al., 2016). Furthermore, acknowledging others as familiar strangers – that is, individuals one regularly acknowledges when going around for daily activities, but one never interacts with – through these applications could in turn enhance the propensity for online and offline interactions among neighbors, as it would allow them to become aware of the daily sharing of places, habits, and paths (Hsiao & Dillahunt, 2017; Paulos & Goodman, 2004; Toch & Levi, 2012). To sum up, these applications seem able to provide several ticket-to-talks which could help their users in starting a conversation (Jarusriboonchai et al., 2014). Consistently with this, a recent study has shown that dating PNAs users who aim at meeting new people in their local community with no romantic and/or sexual intention frequently meet offline their application-mediated acquaintances (Gatti & Procentese, 2020a), which in turn could allow the creation of broader social networks within local communities (Hsiao & Dillahunt, 2017; Mayer et al., 2015). That is, they could be able to meet individuals' social and aggregative needs, which are also linked to the sense of belonging to a livable and interactive community as well as to the opportunities for social interactions and weak ties (Sheldon et al., 2001).

Building on this, its use to meet new people in users' local community with no sexual and/or romantic aims deserves specific attention as a community-related practice through which community members could take advantage of the opportunities offered by ubiquitous social media to meet some needs related to their local community experience and self-in-community. Indeed, through merging online and offline environments, PNAs can produce new connections among community members, broadening the social networks everyone can access locally (Gatti & Procentese, 2020a; Hsiao & Dillahunt, 2017; Mayer et al., 2015; Miller, 2015) and suggesting new and more

involved ways of living urban spaces and sociability (Batiste, 2013; Gatti & Procentese, 2020a; Sutko & de Souza e Silva, 2011; Van De Wiele & Tong, 2014). Thus, consistently with PNAs features and the opportunities they offer, this recently spreading use of dating PNAs could at the same time (1) represent a way for community members to find new people nearby to meet in their local community of belonging, and (2) shape how users experience their local communities by enhancing their perception of available socialization opportunities and social capital in them. Both these aspects of the intertwinement between this PNAs practice and users' local community experience will be tackled, consistently with the two research questions leading the present project about the needs underlying these community-related practices (RQ1) and their potential as catalysts for enhancing users' local community experience and self-in-community (RQ2).

Due to the doubts emerged in study 1 about spatial spillover issues, Italian and Dutch citizens from several neighborhoods in different cities were involved in these studies as an attempt to reduce its potential effect. Thus, both studies have been run in collaboration with the University of Tilburg.

2. Study 3 (RQ1): The Needs Underlying Dating People-Nearby Applications Community-Related Use

This study aims at detecting the needs underlying dating PNAs use to meet new people in one's local community. Based on the acknowledgment that these seem able to create broader local social networks by enhancing face-to-face interactions among neighbors as well as a more involved way of living one's local community (Gatti & Procentese, 2020a; Hsiao & Dillahunt, 2017; Mayer et al., 2015; Miller, 2015), their use with reference to users' neighborhood is hypothesized to be a strategy to satisfy one's social and aggregative needs when the local community of belonging is not meeting them through more traditional paths due to its social and spatial features hindering or discouraging from common interactive practices (e.g., small talks). Consistently, three individual-level factors, that are likely to affect this practice since they are linked to users' social and aggregative needs, will be taken into account: having an outward-looking attitude due to a wide bridging social capital, experiencing loneliness,

and feeling tied to the community (that is, having a high SoC). Thus, both users' local social experience and tie to their community will be taken into account in this study.

As of local social experience, bridging social capital represents a critical part of individuals' social experience (Granovetter, 1982) which provides them with several resources as well as a different mindset towards wider social interactions and their meanings (Granovetter, 1982; Putnam, 2000; Williams, 2006). That is, it stimulates an open-minded behavior, which makes individuals more outward-looking, interested, inclusive, and willing to interact with a broader range of people (Puntam, 2000; Williams, 2006). Building on this, it may represent a driver for people to look for several strategies to enlarge their social opportunities, among which community-related social uses of dating PNAs could stem. Thus, this first hypothesis is proposed:

H1a: bridging social capital positively associates with dating PNAs community-related use.

Furthermore, local social connections also play a role in decreasing individuals' feelings of loneliness, which arise "when a person's network of social relations is deficient in some important way, either quantitatively or qualitatively" by themselves (Perlman & Peplau, 1981, p.31). Consistently, when individuals feel that their social network is somehow deficient, they could engage in several behaviors aimed at broadening their social connections – including local ones. In this regard, dating PNAs already proved to represent a tool users resort to when they experience social loneliness (Procentese & Gatti, 2019a, 2020). Therefore, the following hypothesis will be added to the previous one, consistently with what emerged from previous studies:

H1b: users' loneliness positively associates with PNAs community-related use.

However, the extent to which the neighborhood offers opportunities to create new local acquaintances due to its social and spatial features is likely to affect the relationships between bridging social capital and loneliness and PNAs community-related use. Indeed, while urban spaces within the community of belonging have traditionally offered opportunities for its members to socialize, interact, and extend their local social network (Francis et al., 2012; Leyden, 2003; Putnam, 2000; Talen, 2000), this may no longer happen in modern ones, which have become partially closed, leaving their members' social and aggregative needs unsatisfied more likely. This could have in turn made them look into different available paths – such as dating PNAs – to

meet these needs (Procentese & Gatti, 2019a, 2020). Therefore, it seems reasonable to hypothesize that when individuals feel that their community offers some social meanings and opportunities to enlarge their local social network and decrease their feelings of loneliness, yet new interactions and acquaintances are hardly attainable due to some other community features, they are more likely to resort to less traditional yet more feasible paths to meet their social and aggregative needs. That is, when the community is felt as safe and offering social spaces, the relationships of loneliness and bridging social capital with using dating PNAs to meet new people in one's community could be stronger, since tangible opportunities to bring offline PNAs-mediated acquaintances could be available. Similarly, when opportunities to interact with not-yet-known neighbors lack (be it due to few socialization opportunities or to an unfriendly social climate) yet the community is felt as supportive and trustworthy, the relationship of loneliness and bridging social capital with using dating PNAs to meet new people in one's community could be stronger, since users could rely on these applications to overcome these barriers to local socialization due to a social climate which is otherwise already-acknowledged as positive. Thus, the following hypotheses will be added:

H2: community representations about neighborhood trust (*H2a*), safety (*H2b*), availability of social places (*H2c*), and supportive climate (*H2d*) as well as those about the lack of socialization opportunities (*H2e*) and of friendliness among not-yet-known people (*H2f*) moderate the relationship between users' bridging social capital and dating PNAs community-related use, which will become stronger as these representations increase;

H3: community representations about neighborhood trust (*H3a*), safety (*H3b*), availability of social places (*H3c*), and supportive climate (*H3d*) as well as those about the lack of socialization opportunities (*H2e*) and of friendliness among not-yet-known people (*H2f*) moderate the relationship between users' loneliness and dating PNAs community-related use, which will become stronger as these representations increase.

Lastly, as of individuals' tie to their community, it has already been mentioned that community members voluntarily engage in behaviors aimed at expressing and safeguarding their SoC according to the constraints coming from community features (Bridge, 2002; Sarason, 1974). Consistently, it seems reasonable to hypothesize that citizens having a higher SoC will engage in more feasible strategies in order to enhance

local social ties and their involvement in the community – such as using dating PNAs to meet new people locally – and this association is more likely to be strong when the community is felt as not fully supportive of its members' SoC. That is, dating PNAs community-related use is more likely to happen in individuals having a strong SoC when their community is safe and offers social places, and when community members are trustworthy, yet the opportunities to interact with not-yet-known neighbors are lacking and undermined by feelings of unfriendliness among strangers. Therefore, the following hypotheses follow:

H1c: users' SoC positively associates to PNAs community-related use.

H4: community representations about neighborhood trust (*H4a*), availability of social places (*H4b*), and safety (*H4c*) as well as those about the lack of socialization opportunities (*H2d*) and of friendliness among not-yet-known people (*H2e*) moderate the relationship between SoC and dating PNAs community-related use, which will become stronger as these representations increase.

Furthermore, based on the results about the impact of the neighborhood supportive climate on the relationship between its members' SoC and social media community-related uses which emerged from study 1, it seems also possible to hypothesize that when the community is already felt as supportive its members will have a lower need to resort to other paths to sustain their SoC and feel that their community is cohesive and that social interactions are attainable, since they already experience these dimensions through the already existing supportive interactions and climate within it:

H4f: community representations about neighborhood supportive climate moderate the relationship between SoC and dating PNAs community-related use, which will become negative and stronger as these representations increase.

2.1. Method

2.1.1. Participants and Procedures

In Italy, the questionnaire was shared in Italian Facebook groups about dating PNAs users (e.g., I Gentlemen di Grindr, Tinder and the City, Tinder Italiano) and respondents were invited to contact other users they knew to ask them to complete the questionnaire; in the Netherlands, Bachelor's students enrolled in a communication program were asked to recruit participants among their contacts. In both cases,

snowball sampling procedures were adopted due to the peculiarity of the needed participants. Italian participants received no compensation, while Dutch students received course credit. Ethical approval was acquired from the universities of all the involved researchers (University of Naples Federico II and University of Tilburg).

Respondents (60.8% female) were 314 Italian (51.6%) and Dutch (48.4%) dating PNAs users, aged between 18 and 73 ($M = 27.45$; $SD = 11.47$). They lived in 60 different neighborhoods in several cities (e.g., Naples, Rome, Milan, Utrecht, Breda, Tilburg, Eindhoven) and their surroundings, following the indications gained from study 1 about the need to involve citizens from neighborhoods in farther cities as an attempt to control spatial spillover issues and get more clear results about the role of neighborhoods in citizens' lives. Respondents had been living in their neighborhood for 13.99 years on average ($SD = 12.33$). The average neighborhood group size is 5.23. Most of the participants were single (70%) and did not have children (86.3), while 13.4% were in a cohabitant relationship or married, 11.5% were in a relationship but not married nor cohabitant, and 5.1% were separated or divorced.

As of dating PNAs use, 52.2% used Tinder, 9.2% used Grindr, while 38.6% used various other dating PNAs (e.g., Happn, Lovoo, Badoo, Lexa, Planet Romeo, Nirvam, OkCupid, Gleeden, Wapa). Most had been users of dating PNAs for more than one year (57%), 12.4% for 1-3 months, 11.8% for 3-6 months, 9.2% for 6-12 months, and 8% for less than one month; five participants (1.6%) did not answer this question. They used these applications 4.63 days a week on average ($SD = 2.16$), for 59.64 minutes ($SD = 193.94$) on average total. Five participants did not answer these questions too.

2.1.2. Measures

The questionnaire included a socio-demographic section, followed by these measures.

2.1.2.1. Individual Dimensions

PNAs Use for Location-Based Searching. Van De Wiele and Tong's (2014) Location-Based Searching items (three items, e.g., "Meet other people in this area") were adapted as to not specifically refer to gay men and measured the motivation to

use PNAs to meet, talk to, and interact with new people in users' local community on a 7-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*).

Sense of Community. As in study 1, the Brief Sense of Community Scale (eight items, e.g., "I belong in this neighborhood", Peterson et al., 2008) was used to detect participants' SoC. Respondents had to rate their agreement on a 7-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*) referring to their neighborhood.

Bridging Social Capital. Items about bridging social capital from the scale by Ellison and colleagues (2007) were adapted to neighborhood community (seven items, e.g., "Interacting with people in this neighborhood makes me feel like a part of a larger community"). They were rated on a 5-point Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*).

Loneliness. The 6-items short-form of the UCLA Loneliness Scale (ULS-6, Nazzal et al., 2017) was used. Respondents had to rate how often they felt as stated in each item (e.g., "I feel isolated from others") on a 4-points Likert scale (1 = *Never*; 4 = *Often*).

Neighborhood. Italian respondents were asked to indicate the neighborhood where they lived, while Dutch ones were asked to indicate the first 4 numbers of their postal code. When this answer was missing, respondents were excluded from the analyses due to the impossibility to determine where they should have been nested.

2.1.2.2.   Neighborhood Dimensions

Socialization Opportunities. As in study 1, three items (e.g., "In this neighborhood, it is hard to meet new people") were used to detect respondents' representations about socialization opportunities in their neighborhood, by asking respondents to rate their agreement on a 5-points Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*).

Availability of Social Places. The same eight items of study 1 and 2 about local social places (e.g., "Parks", "Other public places where people can meet") were used (Wood et al., 2012). Respondents were asked to rate how much each place or facility was available in their neighborhood on a 5-points Likert scale (1 = *Not Available*; 5 = *Totally Available*).

Friendliness, Safety, and Trust. As in study 1, Wood and colleagues' (2012) items about suburb friendliness (three items, e.g., "People who live here usually say

hello to each other"), safety (six items, e.g., "I feel safe in this neighborhood using parks and facilities"), and trust (three items, e.g., "I can trust most of the people living in my neighborhood") were adapted to neighborhood contexts. Participants were asked to rate their agreement on a 5-points Likert scale (1 = *Strongly Disagree*; 5 = *Strongly Agree*).

Supportive Climate. As in study 1, the Support among Community Members dimension (five items, e.g., "Helping the newcomers fitting in") of the Sense of Responsible Togetherness scale (Procentese & Gatti, 2019b) was used to detect neighbors' reciprocal helpful behavior, mutual understanding, and open exchanges of ideas. Respondents were asked to rate how often the described circumstances happened in their neighborhood on a 4-points Likert scale (1 = *Never*; 4 = *Always*).

2.1.3. Data Analyses

Descriptive and preliminary analyses were run using IBM Statistical Package for Social Science (SPSS) software v.26, Confirmatory Factor Analysis (CFA) and hypotheses testing using Mplus 8.

2.1.3.1. Preliminary Analyses

CFA with Structural Equation Modeling (SEM) was used to test the expected factor structures for the scales. To evaluate the model fit, the comparative fit index (CFI), the Tucker-Lewis Index (TLI), the Root Mean Square Error of Approximation (RMSEA) and its 90% confidence interval (CI), and the standardized root mean square residual (SRMR) were observed (MacCallum & Austin, 2000). For CFI and TLI. values equal to or greater than .90 e .95 reflect good or excellent fit; for RMSEA and SRMR, values equal to or smaller than .06 e .08 reflect good or reasonable fit (Hu & Bentler, 1999). Reliability was checked with Cronbach's alpha (α).

The presence of outliers and/or influential cases was checked through the leverage value and Cook's D, which should respectively be lower than 0.2 and 1 to show the absence of these values.

2.1.3.2. Hypotheses Testing

To test H1, a multiple regression analysis was run using Ordinary Least Squares (OLS) path analysis. SoC, bridging social capital, and loneliness were used as the independent variables; PNAs use for location-based searching was the dependent one.

To address H2, H3, and H4, a multilevel path analysis was run following a stepwise procedure (Hox, 2010), including individual (1st level, $n = 314$) and neighborhood (2nd level, $n = 60$, Maas & Hox, 2005) levels. As the interest lied in shared representations about neighborhood features, a multiple informant approach was used to detect community-level variables without reducing them to individual perceptions (Lanz et al., 2018). Intra-class Correlation (ICC) and Design Effect (DEFF) coefficients were used as inter-rater agreement indices (Lanz et al., 2018). Level 2 scores were obtained by averaging the answers of the respondents from the same neighborhood. Due to the focus on cross-level interactions, neighborhood level variables were grand mean centered while individual level predictors were group mean centered, following Enders and Tofighi (2007). First, a baseline model (M1) was run with no predictors to test whether the outcome varied across neighborhoods. Then, the individual level predictors were included to test their effects in addition to the clustering effect (M2). The third model (M3) tested whether the effect of individual level predictors on the outcome differed across neighborhoods. In the fourth model (M4), the direct effects of neighborhood level predictors were added as well. Finally (M5), the moderation effects of neighborhood representations were tested by adding the interaction terms between individual and neighborhood predictors (cross-level interactions).

The significant interactions were plotted using the pick-a-point procedure to show the relationship between individual level predictors and PNAs use for neighborhoods characterized by representations of low (one level 2 standard deviation below the mean), medium, or high (one level 2 standard deviation above the mean) levels of each of the considered community features.

2.2. Results

2.2.1. Preliminary Results

CFAs confirmed the expected factor structures for all the measures, varying from excellent to reasonable fits. Cronbach's alphas and fit indices are in Table 11.

Table 11. *Summary of reliability coefficients and fit indices for all the measures.*

Variables	α	CFI	TLI	RMSEA	RSEMA 90% CI	SRMR
1. Dating PNAs Use for Location-based Searching	.81	.99	.99	.001	[.001, .01]	.001
2. Sense of Community	.88	.97	.96	.07	[.04, .09]	.04
3. Bridging Social Capital	.87	.98	.97	.06	[.03, .10]	.03
4. Loneliness	.83	.99	.98	.06	[.02, .10]	.03
5. Availability of Social Places	.86	.98	.97	.06	[.03, .09]	.03
6. Availability of Socialization Opportunities	.76	.99	.99	.001	[.001, .01]	.001
7. Trust	.81	.99	.99	.001	[.001, .01]	.001
8. Friendliness	.80	.99	.99	.001	[.001, .01]	.001
9. Safety	.89	.99	.99	.03	[.001, .08]	.01
10. Supportive Climate	.88	.99	.99	.03	[.001, .10]	.01

Note. n = 314.

α = Cronbach's alpha; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; SRMR = Standardized Root Mean square Residual.

For inter-rater agreement coefficients, and descriptive statistics and correlations for levels 1 and 2 see Table 12. Even though some level 2 variables showed low ICCs and DEFFs, ICCs were always higher than .05, suggesting the appropriateness of the nested structure of data. Thus, as these variables theoretically represent neighborhood level constructs, they were kept at neighborhood level despite of the sometimes-low agreement among neighborhood members (Nezlek, 2008; Snijders & Bosker, 2012).

There were no outliers and/or influential cases affecting the analyses, with leverage value and Cook's D always lower than .07.

Table 12. *Summary of inter-rater agreement coefficients, descriptive statistics, and correlations for all the measures.*

Variables	ICC	DEFF	M	SD Level 1	SD Level 2	1	2	3	4	5	6	7	8	9
1. Dating PNAs Use for Location-based Searching	-	-	3.06 [a]	1.58	-	-	-	-	-	.168**	.206***	.019	.150**	.101
2. Sense of Community	-	-	2.77 [b]	0.85	-	.202***	-	-	-	.216***	.238***	.260***	.330***	.25 ***
3. Bridging Social Capital	-	-	2.74 [b]	0.91	-	.134*	.729***	-	-	.241***	.252***	.258***	.384***	.21 ***
4. Loneliness	-	-	2.46 [c]	0.79	-	-.055	.052	.037	-	.106	-.101	.463***	.067	.356***
5. Availability of Social Places	.16	1.67	3.20 [b]	0.89	0.50	.167**	.228***	.224***	.002	-	.406***	.426***	.193***	.509***
6. Availability of Socialization Opportunities	.07	1.30	2.73 [b]	1.09	0.54	.140**	.194***	.207***	-.19***	.432***	-	.073	.426***	.273***
7. Trust	.36	2.52	2.94 [b]	0.99	0.67	.057	.302***	.313***	.229***	.299***	.162**	-	.459***	.712***
8. Friendliness	.20	1.84	3.17 [b]	0.99	0.58	.224***	.395***	.400***	-.057	.231***	.325***	.425***	-	.366***
9. Safety	.33	2.39	3.74 [b]	0.92	0.63	.145**	.279***	.240***	.192***	.414***	.256***	.553***	.323***	-
10. Supportive Climate	.13	1.56	2.17 [c]	0.76	0.42	.004	.307***	.423***	.032	.184***	.255***	.386***	.543***	.128 *

Note. n = 314.

[a]1-7 range scale; [b]1-5 range scale; [c]1-4 range scale. *** $p < .001$ (2-tailed); ** $p < .01$ (2-tailed); * $p < .05$ (2-tailed).

ICC = Intraclass Correlation; DEFF = Design Effect; *M* = mean; *SD* = standard deviation.

Individual-level correlation coefficients are below the diagonal, while neighborhood mean-aggregated ones are above it. Neighborhood level values for PNAs Use for Location-based Searching, Sense of Community, Bridging Social Capital, and Loneliness are not included because they are individual level variables only.

1.1.1. Hypotheses Testing

Consistently with H1c, users' SoC was significantly associated with dating PNAs community-related use, $B = 0.38$, SE $= 0.16$, $p = .02$, indicating that the latter was more likely to be played out by individuals feeling a stronger tie towards their community. Conversely, bridging social capital, $B = -0.04$, SE $= 0.15$, $p = .80$, and loneliness, $B = 0.03$, SE $= 0.12$, $p = .78$, showed no significant association with the considered dating PNAs use, differently from what had been hypothesized in H1a and H1b. Despite of these non-significant relationships, all level 1 predictors were included in the multilevel model to test their effects when considering the effects of clustering, level 2 predictors, and cross-level interactions.

Multilevel models are summarized in Table 13. In M1, low ICC and DEFF values showed that only a small part of the variance of dating PNAs use for location-based searching was explained by neighborhood clustering. However, due to the meaningful theoretical model and consistently with the hypotheses about cross-level interactions, multilevel analyses were carried on (Nezlek, 2008). M2 confirmed that SoC had a significant effect on the considered dating PNAs use differently from the other individual level predictors; the significant random variance of the intercept showed that the outcome randomly varied across neighborhoods when including individual level predictors. Notwithstanding this, M3 showed that the random variances of all the slopes were non-significant. That is, the relationship between the different individual level predictors and this dating PNAs use did not randomly vary across neighborhoods. In M4, only the availability of social places showed a significant, positive effect on PNAs community-related use, indicating that the more the neighborhood offered available social places, the more its members were likely to use dating PNAs in this way. Lastly, M5 results partially mismatched the hypotheses, since not all the expected interaction effects emerged as significant. However, several cross-level interactions involving all the individual level predictors were significant, even though some of them were different from what had been hypothesized.

Table 13. *Multilevel modeling results.*

	M1	M2	M3	M4	M5
	B (SE)	*B* (SE)	*B* (SE)	*B* (SE)	*B* (SE)
Fixed effects					
Individual level					
Bridging Social Capital		-0.24 (0.20)	-0.23 (0.18)	-0.24 (0.20)	-0.30 (0.21)
Sense of Community		0.47** (0.18)	0.46** (0.18)	0.47** (0.18)	0.55** (0.18)
Loneliness		0.03 (0.14)	-0.02 (0.13)	0.03 (0.14)	-0.23 (0.17)
Neighborhood level					
Availability of Social Places				0.77** (0.26)	0.79** (0.26)
Availability of Socialization Opportunities				-0.004 (0.22)	-0.02 (0.22)
Safety				0.14 (0.29)	0.11 (0.29)
Supportive Climate				0.12 (0.50)	0.12 (0.49)
Trust				-0.49 (0.34)	-0.48 (0.34)
Friendliness				0.48 (0.34)	0.49 (0.34)
Cross-level interactions					
Availability of Social Places * Bridging Social Capital					-0.60 (0.46)
Availability of Socialization Opportunities * Bridging Social Capital					0.45 (0.52)
Safety * Bridging Social Capital					0.54 (0.37)
Supportive Climate * Bridging Social Capital					1.65** (0.64)
Trust * Bridging Social Capital					-0.16 (0.48)
Friendliness * Bridging Social Capital					-1.21* (0.54)
Availability of Social Places * Sense of Community					-0.46 (0.57)
Availability of Socialization Opportunities * Sense of Community					0.11 (0.70)
Safety * Sense of Community					0.19 (0.47)
Supportive Climate * Sense of Community					-1.60* (0.68)
Trust * Sense of Community					0.31 (0.52)
Friendliness * Sense of Community					1.05 (0.57)
Availability of Social Places * Loneliness					0.74* (0.30)

|					
Availability of Socialization Opportunities * Loneliness					-0.25 (0.37)
Safety * Loneliness					-0.07 (0.39)
Supportive Climate * Loneliness					0.36 (0.54)
Trust * Loneliness					-0.79 (0.75)
Friendliness * Loneliness					0.42 (0.49)
Intercept	3.04*** (0.11)	2.97*** (0.12)	2.97*** (0.12)	2.98*** (0.11)	2.97*** (0.11)
Random effects					
Intercept at neighborhood level	0.17 (0.14)	0.32* (0.17)	0.35* (0.17)	0.15 (0.11)	0.19 (0.11)
Bridging Social Capital slope at neighborhood level			0.17 (0.14)		0.01 (0.15)
SoC slope at neighborhood level			0.03 (0.20)		0.01 (0.31)
Loneliness slope at neighborhood level			0.01 (0.03)		0.01 (0.19)
Residual within variance	2.31*** (0.23)	1.97*** (0.22)	1.84*** (0.25)	1.94*** (0.21)	1.74*** (0.25)
ICC	.07	.14	.14	.16	.16
DEFF	1.30	1.49	1.49	1.56	1.56

Note. n = 314.

*** *p* < .001 (2-tailed); ** *p* < .01 (2-tailed); * *p* < .05 (2-tailed).

M1 = baseline model; M2 = random intercept-only model; M3 = random slope model; M4 = random intercept-only model with level 2 predictors; M5 = random intercept and slope model with cross-level interactions. SE = Standard Error; ICC = Intraclass Correlation; DEFF = Design Effect.

First, the higher the supportive climate in the neighborhood, the stronger the negative association between SoC and dating PNAs community-related use (see Figure 6), confirming that when individuals feel a strong tie towards their community and the latter sustains this tie through a supportive climate, citizens are less prone to adopt alternative strategies and tools to create new local acquaintances – such as PNAs community-related use, which is consistent with H4f.

Figure 6. *Interaction effect of neighborhood supportive climate and Sense of Community (SoC) on dating PNAs use for location-based searching.*
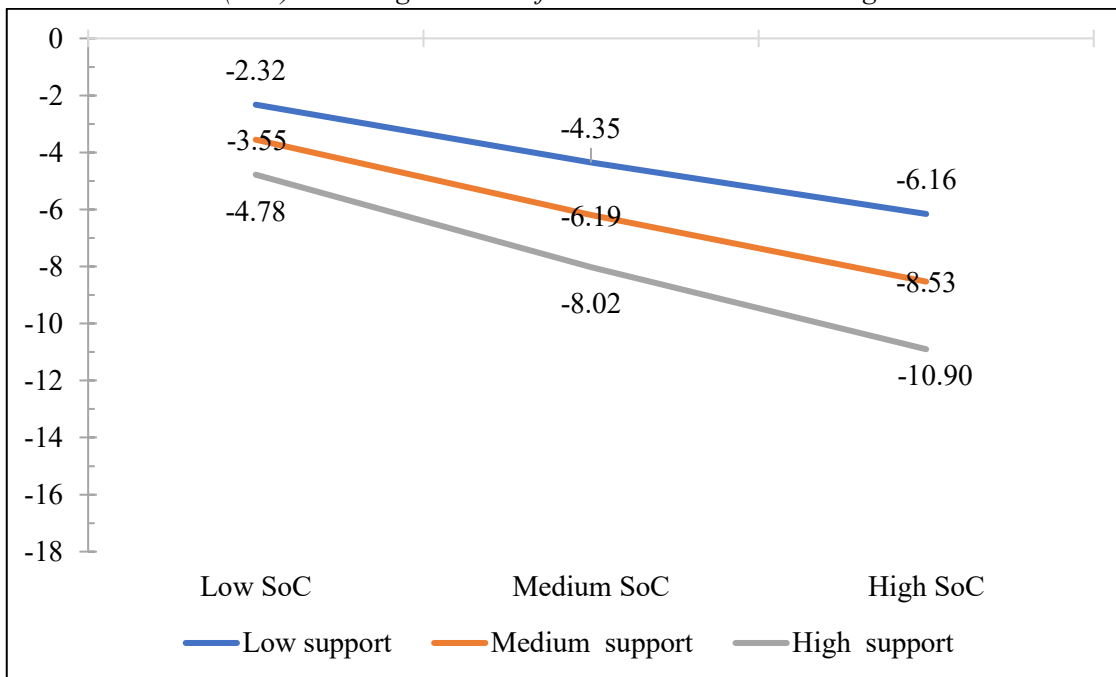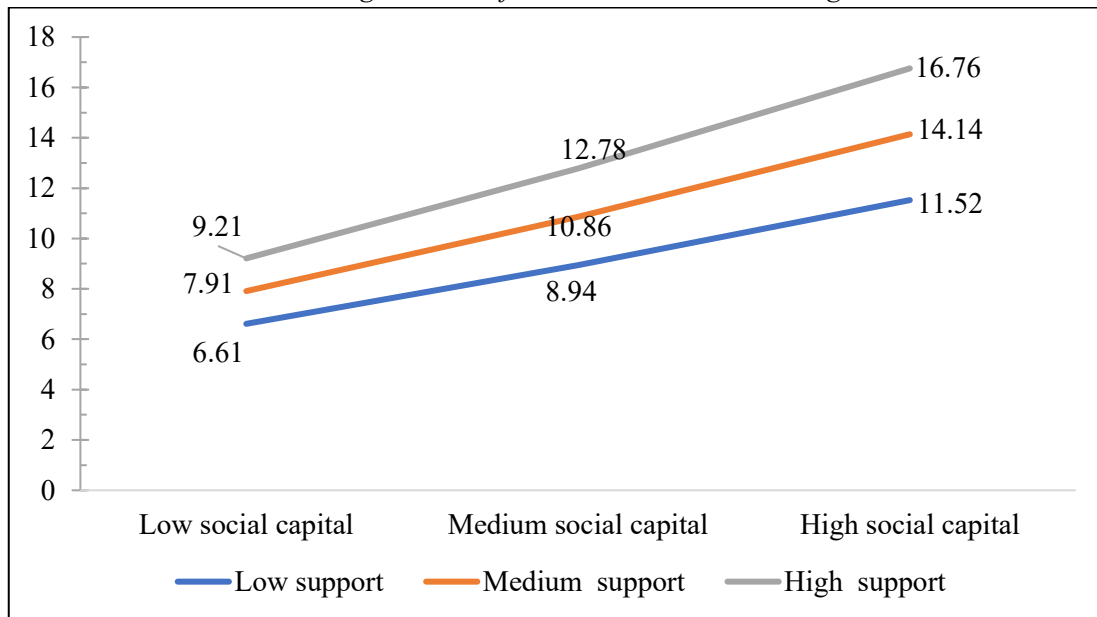

Note. *n* = 314.

Low = *M* – 1*SD*; Medium = *M*; High = *M* +1*SD*. *M* = mean; *SD* = standard deviation.

Second, the higher the supportive climate in the neighborhood, the stronger the positive relationship between bridging social capital and dating PNAs community-related use (see Figure 7), confirming H2d. However, mismatching H2f, this impact was reversed for the friendliness in the neighborhood: the higher the friendliness in the neighborhood, the stronger the negative association between bridging social capital and dating PNAs community-related use (see Figure 8). Altogether, these results show that those who have an open-minded attitude thanks to their bridging social capital are less likely to use dating PNAs to meet new people locally when living in a friendly neighborhood, but more likely to do so when they live in a supportive one.
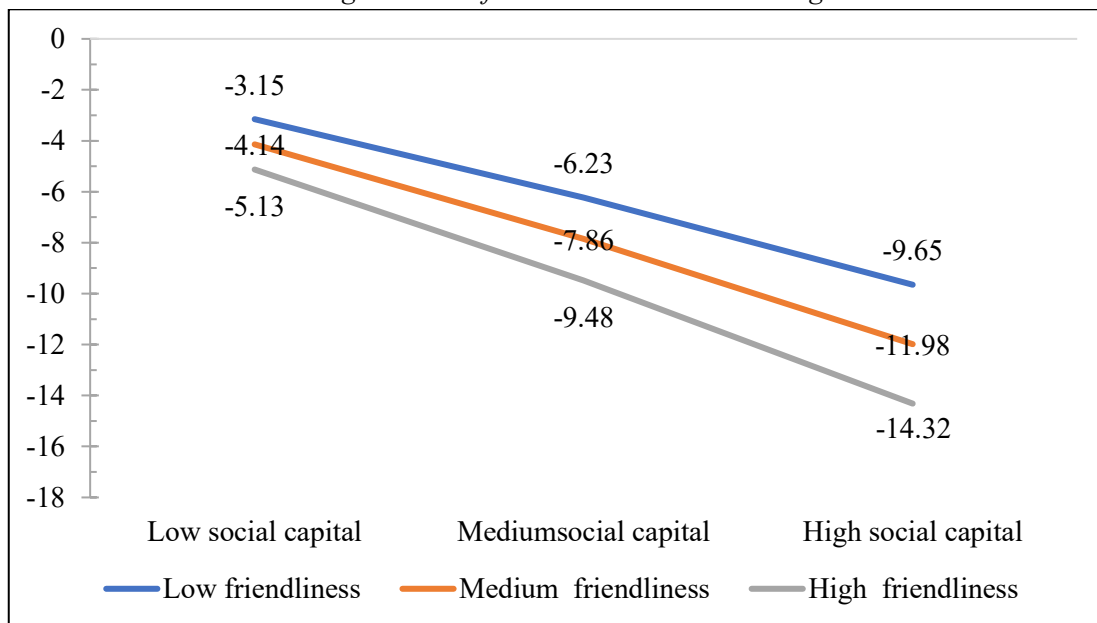
Figure 7. *Interaction effect of neighborhood supportive climate and bridging social capital on dating PNAs use for location-based searching.*

Figure 8. *Interaction effect of neighborhood friendliness and bridging social capital on dating PNAs use for location-based searching.*

Lastly, the higher the availability of social places in the neighborhood, the stronger the positive relationship between users' loneliness and dating PNAs community-related use (see Figure 9), consistently with H3c. That is, individuals feeling

lonely are more prone to resort to this dating PNAs use for new acquaintances when their neighborhood offers plenty of available social spaces which can serve as meeting spots which allow to plan the subsequent offline encounters.

Figure 9. *Interaction effect of neighborhood availability of social places and loneliness on dating PNAs use for location-based searching.*
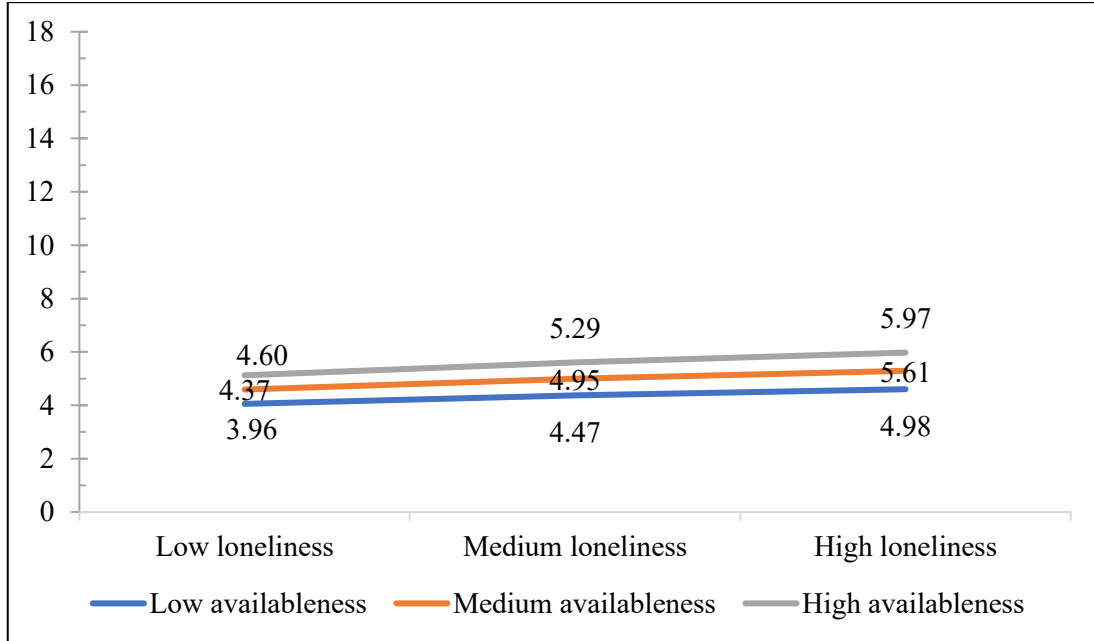

Note. n = 314.
Low = *M* – 1*SD*; Medium = *M*; High = *M* +1*SD*. *M* = mean; *SD* = standard deviation.

3. Study 4 (RQ2): Paths from Dating People-Nearby Applications Community-Related Use Towards the Tie to The Community

Consistently with the goals of the overall research project, this study aims at testing a theoretical model of how dating PNAs use to meet new people in users' local community could modify their experience of it. Indeed, PNAs hold potentialities to reconnect their users to local social meanings (Gordon & de Souza e Silva, 2011; Sutko & de Souza e Silva, 2011) and enhance urban sociability by fulfilling urban spaces with brand new social meanings and opportunities (de Souza e Silva, 2013; Jarusriboonchai et al., 2013, 2014; Toch & Levi, 2012), up to representing tools for opening new relational spaces and creating wider social networks within local communities (Hsiao & Dillahunt, 2017; Mayer et al., 2015). Building on this, the effect of the considered PNAs use will be tackled with reference to users' involvement in the

community and in a network of local strong and weak local ties, which can both impact their tie to their local community in turn (see Figure 10). That is, these applications could be hold potentialities to build community among their nearby users (Jarusriboon-chai et al., 2013, 2014) – which in this case are also members of the same local community – and glue the local social fabric.

Figure 10. *Hypothesized Model.*
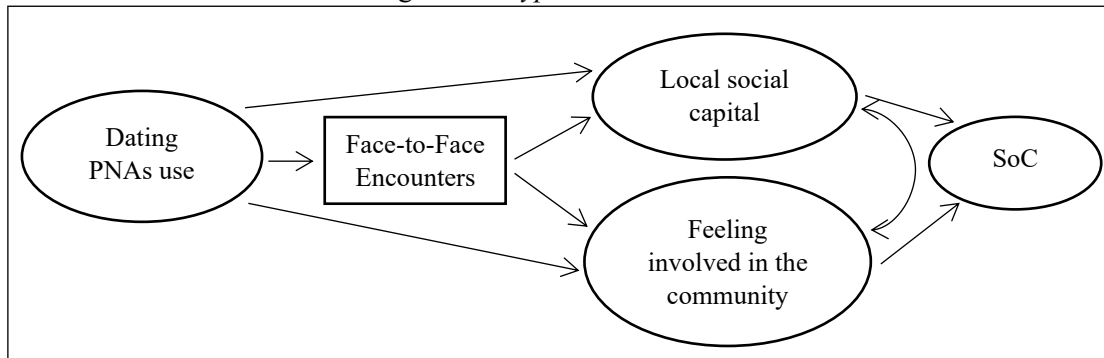
Note. Dating PNAs use = dating PNAs use to meet new people in users' local community of belonging; Face-to-Face Encounters = frequency of face-to-face encounters; SoC = Sense of Community.

Indeed, the opportunities ubiquitous technologies at large create influence how citizens interact and engage in their surrounding social and spatial context as well as how they perceive and give meaning to it (de Souza e Silva, 2013; Schwartz & Hochman, 2014). Specifically, producing further opportunities for community members to meet in local common places and socialize (Gatti & Procentese, 2020a) and to become aware of the daily sharing of places, habits, and paths among them (Hsiao & Dillahunt, 2017; Paulos & Goodman, 2004; Toch & Levi, 2012), dating PNAs could reconnect users to local social meanings (Gordon & de Souza e Silva, 2011; Sutko & de Souza e Silva, 2011), strengthen their belonging to the community (de Souza e Silva, 2013), and enhance their local community experience at last. Indeed, seeing the profiles of the individuals who are nearby or cross one's daily path allows a shift from being nearby strangers to being familiar strangers – that is, individuals one regularly acknowledges when going around for daily activities, but one never interacts with – due to the increases in reciprocal visibility (Hsiao & Dillahunt, 2017; Paulos & Goodman, 2004; Toch & Levi, 2012) as well as to the acknowledgment of common interests and daily routines (Jarusriboonchai et al., 2013, 2014; Paasovaara et al., 2016). That is, PNAs suggest several tickets-to-talk and icebreakers which may help their users in starting conversations by taking advantage of online interactions which can easily

move offline thanks to local proximity (Jarusriboonchai et al., 2013, 2014). Altogether, this could could enhance users' propensity for online and offline interactions with their neighbors (Jarusriboonchai et al., 2014). In line with this, recent studies showed that using this kind of applications with the specific aim of meeting new people in their local community – that is, for location-based searching – associates with more frequent online contacts and offline encounters with application-mediated acquaintances, which are at the same time reachable online and offline (Licoppe, 2013) – that is, with one's neighbors (Gatti & Procentese, 2020a; Jarusriboonchai et al., 2014).

Building on this, it seems reasonable to hypothesize that when used for location-based searching these applications could be able to enlarge their users' social capital (Mayer et al., 2015), that is the amount of tangible and intangible resources they can rely on when in need of social, instrumental, and sometimes even emotional support (Bourdieu, 1986; Unger & Wandersman, 1982), both by itself – that is, thanks to the mediated contacts with their neighbors their users start through the applications when looking for other people in their community to meet – and via the more frequent offline encounters they encourage. Indeed, thanks to the greater amount of online and offline local acquaintances they get (Hampton, 2003; Haythornthwaite, 2002), users can gain further opportunities to access physical and social resources (Granovetter, 1982; Hsiao & Dillahunt, 2017; Putnam, 2000), ask for practical help and look for pieces of information when in need (Hsiao & Dillahunt, 2017; Jarusriboonchai et al., 2014), and to receive daily support (Hsiao & Dillahunt, 2017; Ife & Smith, 1995) as well as to find themselves involved in potentially meaningful relationships built upon common interests (Mandelli, 2002) and reciprocal acknowledgment and self-disclosure (Gatti & Procentese, 2019). Furthermore, by providing opportunities for more frequent offline encounters and interactions based on users' proximity and location, these applications could also allow their users to live their communities in a more involved and participatory way (Mayer et al., 2015; Miller, 2015; Toch & Levi, 2012; Van De Wiele & Tong, 2014), as it was specifically shown by a recent preliminary study (Gatti & Procentese, 2020a). Indeed, they could enhance users' perceptions about having good relationships with their neighbors and having chances to hang out with them as well as about feeling part of the community and good within it both through the online contacts among neighbors stem from their community-related use

and via the higher frequency of face-to-face encounters they foster among them. Building on this as well as on the results from the above-mentioned preliminary study, these hypotheses are posed:

H1: dating PNAs use to meet new people in users' local community positively associates with their overall social capital;

H2: the frequency of face-to-face encounters with other users mediates the relationships of dating PNAs use to meet new people in users' local community with their overall social capital (*H2a*) and with their involvement in the community (*H2b*).

Lastly, through producing broader local social networks and resources as well as further opportunities for community members to get involved into community life (Gatti & Procentese, 2020a; Hsiao & Dillahunt, 2017; Jarusriboonchai et al., 2013, 2014; Mayer et al., 2015; Miller, 2015; Van De Wiele & Tong, 2014), PNAs community-related, location-based use could enhance users' local community experience and strengthen their tie to the community – that is, their SoC – at last (de Souza e Silva, 2013; Jarusriboonchai et al., 2014; Van De Wiele & Tong, 2014). Indeed, the latter is related to the interactions among community members and neighboring behaviors (Chavis & Wandersman, 2002; Clemente et al., 2016; Pretty et al., 2003; Puddifoot, 2003; Sarason, 1974). Specifically, the local nature of the relationships allowed by dating PNAs location-based searching could represent a strong contribution to their SoC thanks to spatial closeness and shared contexts (Unger & Wandersman, 1982), which could indeed allow neighboring behaviors and interactions, possibilities for community members to spend some time together, share viewpoints and gather in local places, reciprocal acknowledgment and a supportive climate – which all represent elements compounding what has been defined as SoC (Chavis & Wandersman, 2002; Kusenbach, 2006; McMillan, 1996; McMillan & Chavis, 1986; Pretty et al., 2003; Sarason, 1974). Thus, this set of hypotheses will be added to previous ones:

H3: users' local social capital (*H3a*) and involvement into their community (*H3b*) mediate the relationship between their use of dating PNAs to meet new people in users' local community and their SoC.

Building on the overall results about the role of neighborhoods in citizens' daily lives from studies 1 and 3, this study comes back to considering neighborhood communities as the daily communities of reference.

2.1. Method

3.1.1. Participants and Procedures

Snowball sampling procedures were adopted. As in study 3, the questionnaire was shared in local Facebook groups about dating PNAs users (e.g., I Gentlemen di Grindr, Tinder and the City, Tinder Italiano) and respondents were invited to contact other users they knew to ask them to complete the questionnaire as of Italian participants, while in the Netherlands Bachelor's students enrolled in a communication program were asked to recruit participants among their acquaintances. Again, Italian participants received no compensation, while Dutch students received course credit. Ethical approval was acquired from the universities of all the involved researchers (University of Naples Federico II and University of Tilburg).

Respondents (61% female) were 595 Italian (42.7%) and Dutch (57.3%) dating PNAs users, aged between 18 and 75 ($M = 26.84$; $SD = 10.71$). They had been living in their neighborhood for 13.66 years on average ($SD = 11.40$). Most of the participants were single (70.2%) and did not have children (88.6%), while 26.6% were in a relationship – 12.8% were in a cohabitant relationship or married and 13.8% were in a relationship but not married nor cohabitant; 3% were separated or divorced and 0.2% were widower.

As of dating PNAs use, 58.2% were Tinder users, 6.7% were Grindr users, while 35.1% used several other dating PNAs (e.g., Happn, Lovoo, Badoo, Lexa, Planet Romeo, Nirvam, OkCupid, Gleeden, Wapa). Most had been users of dating PNAs for more than one year (54.8%), 14.8% for 1-3 months, 12.3% for 3-6 months, 7.7% for 6-12 months, and 7.9% for less than one month; fifteen participants (2.5%) did not provide this information. They used these applications 4.36 days a week on average ($SD = 2.24$), for 56.83 minutes ($SD = 109.75$) on average total. Fifteen participants (2.5%) did not provide this information too.

3.1.2. Measures

The questionnaire included a socio-demographic section, followed by specific measures which were consistent with the aims of the study.

PNAs Use for Location-Based Searching. As in study 3, Van De Wiele and Tong's (2014) Location-Based Searching items (three items, e.g., "Meet other people in this area") were adapted as to not specifically refer to gay men and measured the motivation to use PNAs to meet, talk to, and interact with new people in users' local community on a 7-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*).

Sense of Community (SoC). As in studies 1 and 3, the Brief Sense of Community Scale (BSCS, Peterson et al., 2007) was used. It is compounded by eight items (e.g., "I belong in this neighborhood") designed to assess SoC core dimensions as defined in McMillan and Chavis's model (1986). Respondents had to rate their agreement with each statement on a 7-point Likert scale (1 = *Strongly disagree*; 7 = *Strongly agree*).

Social Capital. The items about bridging (seven items, e.g., "Interacting with people in this neighborhood makes me feel like a part of a larger community") and bonding (four items, e.g., "There is someone in this neighborhood I can turn to for advice about making very important decisions") social capital by Ellison and colleagues (2007) were adapted to neighborhood community to detect local social capital. They were rated on a 5-point Likert scale (1 = *Strongly disagree*; 5 = *Strongly agree*).

Involvement in the community. The Feeling an Active Member of the Community dimension (four items, e.g., "Hanging out with your neighbors in public places") of the Sense of Responsible Togetherness scale (Procentese & Gatti, 2019b) was used to detect neighbors' involvement with other members of their neighborhood in terms of relationships with other neighbors and experience of the community. Respondents were asked to rate how often the described circumstances happened with reference to their neighborhood community on a 4-points Likert scale (1 = *Never*; 4 = *Always*).

Frequency of Face-to-Face Encounters with Other Users. The frequency with which the respondents were used to meet face-to-face the people they had met through these applications was detected through the item "How often do you meet offline the people you meet through PNAs on average?" (Gatti & Procentese, 2020a), whose answer was on a 7-point Likert scale (1 = *Never*; 7 = *Very often*).

3.1.3. Data Analyses

Descriptive and preliminary analyses were run using IBM Statistical Package for Social Science (SPSS) software v.26, CFA and hypotheses testing using Mplus 8.

3.1.3.1. *Preliminary Analyses*

For all the scales, the back-translation method was used when there was no Italian and/or Dutch already-validated version available.

CFAs were run with SEM to test the factor structure for each measure. To evaluate the model fit, the CFI, the TLI, the RMSEA and its 90% CI, and the SRMR were observed (MacCallum & Austin, 2000). For CFI and TLI. values equal to or greater than .90 e .95 reflect good or excellent fit; for RMSEA and SRMR, values equal to or smaller than .06 e .08 reflect good or reasonable fit (Hu & Bentler, 1999). Reliability was checked through Cronbach's alpha (α).

Before running the model, the presence of outliers and/or influential cases was checked through leverage values and Cook's D, to check for the absence of significant values which could affect the analyses (Cousineau & Chartier, 2010). To witness the absence of such values, the leverage values should always be lower than 0.2 and Cook's D always lower than 1. The multicollinearity was tested through Condition Indexes and Tolerance indexes, which should respectively be lower than 15 and higher than or equal to 0.2.

3.1.3.2. *Hypotheses Testing*

All the hypotheses for the study were tested fitting a multiple mediation model (see Figure 10) using SEM. Dating PNAs community-related was entered as the independent variable, SoC as the outcome; frequency of face-to-face encounters with other users, social capital, and involvement in the community were included as mediators; the time since participants had been dating PNAs users was included as a control variable. Consistently with the aim and hypotheses of the study, social capital was included in the model as a unique latent variable compounded by both bridging and bonding dimensions.

To evaluate the model fit, CFI and SRMR were observed for this model too (MacCallum & Austin, 2000). Bootstrap estimation was used to test the significance of the results (Hayes, 2018; Preacher & Hayes, 2008) with 10,000 samples, and the

bias-corrected 95% CI was computed by determining the effects at the 2.5th and 97.5th percentiles; the indirect effects are significant when there is no 0 in the CI.

3.2. Results

3.2.1. Preliminary Results

CFAs confirmed all the expected factor structures, with model fits varying from excellent to reasonable. Cronbach's alphas and fit indices are shown in Table 14, while descriptive statistics and correlations among the study variables are in Table 15.

Table 14. *Summary of reliability coefficients and fit indices for all the measures.*

Variables	α	CFI	TLI	RMSEA	RMSEA 90% CI	SRMR
1. Dating PNAs Use for Location-based Searching	.81	.99	.99	.001	[.001, .001]	.001
2. Sense of Community	.89	.99	.98	.05	[.03, .08]	.02
3. Social Capital	.91	.96	94	.07	[.05, .08]	.04
4. Involvement in the community	.76	.99	.97	.07	[.01, .15]	.01

Note. n = 595.

α = Cronbach's alpha; CFI = Comparative Fit Index; TLI = Tucker-Lewis Index; RMSEA = Root Mean Square Error of Approximation; CI = Confidence Interval; SRMR = Standardized Root Mean square Residual.

The frequency of face-to-face encounters with other users is not included in this table since it was an observed variable detected through only one item.

Table 15. *Summary of descriptive statistics and correlations for all the measures.*

Variables	*M*	*SD*	1	2	3	4
1. Dating PNAs Use for Location-based Searching	3.17 [a]	1.60	-			
2. Sense of Community	2.80 [b]	0.90	.100 **	-		
3. Social Capital	2.67 [b]	0.90	.099 *	.725 ***	-	
4. Involvement in the community	2.52 [c]	0.66	.034	.477 ***	.472 ***	-
5. Frequency of face-to-face encounters with other users	3.62 [a]	1.78	.286 ***	.008	.035	.013

Note. N = 595.

[a] 1-7 range scale; [b] 1-5 range scale; [c] 1-4 range scale.

*** *p* < .001 (2-tailed); ** *p* < .01 (2-tailed); * *p* < .05 (2-tailed).

M = mean; *SD* = standard deviation.

The leverage value was always lower than 0.07 and Cook's D was always lower than 0.12, indicating that there were no significant values affecting the analyses.

Moreover, Condition Indexes were widely lower than 15 (the highest was 12.48) and Tolerance indexes ranged between .76 and .92, proving multicollinearity among the variables was not a problem too.

3.2.2. Hypotheses Testing

The hypothesized model showed good fit, CFI = .92, TLI = .90, RMSEA = .06, RMSEA 90% CI [.05, .06], SRMR = .06, yet it only partially matched the proposed hypotheses.

Indeed, dating PNAs location-based use showed a significant association with users' social capital, confirming H1, the frequency of face-to-face encounters with other users consistently with previous results (Gatti & Procentese, 2020a), yet the latter showed no significant association with users' social capital nor with their involvement in the community. Consistently, no indirect effects emerged from dating PNAs location-based use to users' social capital or involvement in the community, totally mismatching H2. Furthermore, dating PNAs location-based use showed no significant direct association with users' involvement too, still consistently with previous results (Gatti & Procentese, 2020a).

As to users' SoC, the results showed that the considered dating PNAs use showed a significant indirect effect on it via users' enhanced social capital, supporting H2a, yet not via their involvement in the community, mismatching H2b. As to the control variable, the time since respondents had been dating PNAs users only exerted a significant effect on the frequency with which users met their online acquaintances face-to-face, $B = 0.21$, SE = 0.05, $p < .001$ (2-tailed), 95% bias-corrected CI [0.11, 0.30], suggesting that the longer they had been users the more frequently they organized these face-to-face encounters. The model explained 54.9% of SoC.

All the standardized effects (β) and the unstandardized ones (B) with their standard errors (SE) and bias-corrected 95% CI are in Table 16.

<p style="text-align: center;">Table 16. Model results.</p>

Paths	β	B (SE)	BC 95% CI
Control effects			
Time as dating PNAs users → Frequency of face-to-face encounters with other users	.16 ***	0.21 *** (0.05)	[0.11, 0.30]
Time as dating PNAs users → Social Capital	.05	0.03 (0.03)	[-0.02, 0.09]
Time as dating PNAs users → Involvement in the community	.07	0.02 (0.01)	[-0.01, 0.05]
Time as dating PNAs users → SoC	-.04	-0.02 (0.01)	[-0.05, 0.01]
Direct effects			
PNAs Use for Location-based Searching → Frequency of face-to-face encounters with other users	.32 ***	0.38 *** (0.05)	[0.27, 0.48]
PNAs Use for Location-based Searching → Social Capital	.13 *	0.08 * (0.04)	[0.01, 0.16]
PNAs Use for Location-based Searching → Involvement in the community	.05	0.01 (0.02)	[-0.02, 0.05]
PNAs Use for Location-based Searching → SoC	.01	0.004 (0.01)	[-0.03, 0.03]
Frequency of face-to-face encounters with other users → Social Capital	-.04	-0.02 (0.03)	[-0.07, 0.03]
Frequency of face-to-face encounters with other users → Involvement in the community	-.03	-0.01 (0.01)	[-0.03, 0.02]
Social Capital → SoC	.76 ***	0.48 *** (0.06)	[0.38, 0.60]
Involvement in the community → SoC	.16 *	0.23 * (0.09)	[0.06, 0.42]
Indirect effects			
PNAs Use for Location-based Searching → Frequency of face-to-face encounters with other users → Social Capital	-.01	-0.01 (0.1)	[-0.03, 0.01]
PNAs Use for Location-based Searching → Frequency of face-to-face encounters with other users → Involvement in the community	-.01	-0.003 (0.005)	[-0.01, 0.01]
PNAs Use for Location-based Searching → Social Capital → SoC	.10 *	0.04 * (0.02)	[0.004, 0.08]
PNAs Use for Location-based Searching → Involvement in the community → SoC	.01	0.003 (0.004)	[-0.003, 0.01]
Total effects			
PNAs Use for Location-based Searching → Social Capital	.12 *	0.07 * (0.04)	[0.004, 0.14]
PNAs Use for Location-based Searching → Involvement in the community	.04	0.01 (0.01)	[-0.02, 0.04]
PNAs Use for Location-based Searching → SoC	.11 *	0.04 * (0.02)	[0.003, 0.08]

Note. n = 595.

*** *p* < .001 (2-tailed); ** *p* < .01 (2-tailed); * *p* < .05 (2-tailed).

SoC = Sense of Community. SE = Standard Error; BC = Bias-Corrected; CI = Confidence Interval.

4. Discussion

The present studies were aimed at deepening dating PNAs use to look for new people to meet in users' local community – regardless of sexual and/or romantic aims – to disentangle the interplay between this practice and users' experience of their local community, building on previous studies which suggested that dating PNAs are currently used also to broaden one's network of social relationships, to enter the local social network and to feel tied to and involved in users' community regardless of the romantic and sexual stated aims of these applications (Gatti & Procentese, 2020a; Miller, 2015; Van De Wiele & Tond, 2014). Both studies referred to neighborhoods as to users' local communities of belonging.

First, study 3 was specifically aimed at detecting the needs underlying this dating PNAs use, assuming it could be related to the physical and social constraints individuals perceived in their surrounding context – that is, their neighborhood community. The interest lied in understanding whether this practice could represent a new path users feeling tied to their community of belonging (that is, having high SoC) and already being embedded in a broad network of weak ties, which brings about an outward-looking mindset (Williams, 2006), yet not feeling satisfied about the quality or width of their social network (that is, feeling lonely; Perlman & Peplau, 1981) could adopt in order to sustain and express their SoC when more traditional ways seemed unfeasible due to shared representations about their community as partially closed in both social and spatial terms (Chavis & Newbrough, 1986; Prezza & Costantini, 1998; Sarason, 1974). Consistently, a multilevel perspective with a multiple informant approach was chosen as the most suitable to this theoretical framework.

Indeed, the study was focused on the intersection between individual level (SoC, bridging social capital, loneliness) and neighborhood level (the representations community members shared and conveyed about neighborhood availability of social places and socialization opportunities, safety, supportive climate, trust, and friendliness) predictors.

Overall, even though partially mismatching the proposed hypotheses, the results suggest that dating PNAs location-based searching could rely on two main needs, which have both been left unmet in neighborhoods which have become increasingly closed due to the privatization of urban spaces and sociability (Di Napoli et al., 2019;

Procentese et al., 2007): (1) to widen users' local social networks, when they feel lonely yet are curious towards other people and potentially new acquaintances; (2) to keep alive users' feeling of being part of a social entity where it is possible to relate with others (also not-yet-known ones) and which is supportive to its members – that is, to sustain their SoC. However, the present results also show that, while individuals' tie to their community plays a direct role with reference to the resorting to this alternative strategy, users' local social experience is not able to play this role by itself. Indeed, as of SoC, the results show its direct effect on users' choice to resort to PNAs for new acquaintances in their local community, yet this is less likely to happen when the community already supports its members' SoC through a supportive climate among them. Altogether, consistently with what emerged from study 1, this supports the main idea underlying the study, that is, this community-related practice seems an alternative path citizens could resort to when they are tied to a neighborhood which does not offer enough elements to sustain this tie; conversely, yet consistently with the framing of this as an *alternative* path, when the neighborhood community rather self-presents as supportive there is no reason for those feeling tied to it to resort to alternative – or further – ways to connect with its members to sustain their SoC (as it emerged in study 1 too), which rather discourages from adopting mediated ways to achieve this goal. Conversely, as of users' local social experience, the results from study 3 suggest that the effects of both bridging social capital and loneliness are not significant by themselves yet become so when interacting with community shared representations about sone of its physical and social features, which seems consistent with previous research suggesting that the social and physical context in which users are embedded may be more relevant than individual relational inclinations when it comes to PNAs use (Blackwell et al., 2015; Gray, 2009; Hsiao & Dillahunt, 2017; Van De Wiele & Tong, 2014). Specifically, users having a broad social capital and probably being outward looking were more likely to resort to PNAs to find new people to meet when their neighborhood community was felt as supportive yet unfriendly. These results could be due to the neighborhood being represented as supportive as far as some neighbors could already be part of users' local social network and users could be satisfied about the already-existing local relationships (Istat, 2018). However, while this could in turn foster positive expectations about other people in the neighborhood being

supportive too, users could still feel local social climate as instinctively unfriendly when it actually comes to interactions with not-yet-known people. At last, this overall picture could still make it hard for them to further widen their local social network resorting to traditional ways (e.g., attending local social places and events, taking part to common activities, chatting with each other when going around) and push them towards different paths towards new local acquaintances – such as PNAs location-based searching of new potential ones – in order to overcome this perceived unfriend-liness and enjoy this expected supportive climate. Furthermore, citizens feeling lonely were more likely to resort to dating PNAs with community-related aims when their community was acknowledged as offering available social places, which could offer opportunities for offline encounters with their online acquaintances indeed. Alto-gether, this result seems consistent with the choice to specifically resort to PNAs to step in the local social network, since the main peculiarity of these applications is that they allow to connect with users being physically nearby (Batiste, 2013; Blackwell et al., 2015; Hsiao & Dillahunt, 2017; Miller, 2015; Procentese & Gatti, 2019a, 2020; Toch & Levi, 2012; Van De Wiele & Tong, 2014) – that is, with users who can be met in a short time upon reciprocal agreement. Lastly, one more remarkable result from study 3 refers to neighborhoods role in their citizens' lives. In the face of the doubts emerged from study 1, in this study ICC and DEFF values for neighborhood level variables show that when controlling for spatial spillover issues – since participants are from several different Italian and Dutch cities – the degree of agreement about neighborhood features among same community members changed across the evalu-ated dimensions. Specifically, they show that there is higher agreement among same community members when evaluating their neighborhood safety and trust, suggesting that they rely more on community shared experiences and perceptions when evaluating neighborhood wider environmental and social features yet on their own experience when evaluating neighborhood features which are more tightly linked to its social di-mensions – which may be due to everyone experiencing the social dimensions of the community of belonging through their own activities and relationships. Altogether, this suggests that neighborhoods somehow still represent daily landmarks and mean-ingful communities for their members and are still able to exert an impact on their

cognitions and behaviors (as it happened for the emerged interactions) – even when individuals rely more on their own experience – confirming what emerged in study 1.

Taken together, these results from study 3 confirm the hypothesis about dating PNAs location-based searching as an alternative strategy citizens could adopt to meet their social, aggregative, and belonging needs when more traditional paths are perceived as less feasible due to some community features Indeed, PNAs hold potentialities to enhance their users' local social network and involvement in the surrounding community (Gatti & Procentese, 2020a; Miller, 2015; Toch & Levi, 2012; Van De Wiele & Tong, 2014), which could in turn help them in sustaining the feeling that their community is a relational entity whose members relate to each other, meet in common spaces, and reciprocally support. Specifically, local sociability can be enriched by the online and face-to-face acquaintances and interactions among neighbors which become attainable these applications, contributing to fulfilling urban spaces with common activities, social meanings, and open representations again (Gatti & Procentese, 2020a). This was the main idea underlying study 4, which was aimed at disentangling the paths through which this dating PNAs use could modify the experience users made of their local communities and their tie to the latter indeed. Specifically, due to the main features of dating PNAs and to previous results suggesting that their use could sustain face-to-face encounters among neighbors (Gatti & Procentese, 2020a), allowing users to enter local social networks and feel part of the surrounding community (Gatti & Procentese, 2020a; Miller, 2015; Toch & Levi, 2012; Van De Wiele & Tong, 2014), the hypotheses leading this study investigated the role of the frequency of face-to-face encounters with application-mediated acquaintances in enhancing users' social capital and involvement in the community and the role of the latter in enhancing users' SoC at last.

Overall, even though not all the proposed hypotheses were confirmed, this dating PNAs community-related practice showed its supposed potential in re-connecting local social fabric (Procentese & Gatti, 2019a, 2020). Specifically, the results suggest that it could be able to do so by enhancing users' local social capital, while the frequency with which they meet their application-mediated acquaintances face-to-face showed no significant role as to their social capital nor did their perception of involvement in the community as to their SoC. That is, by providing citizens with further

opportunities for interactions and encounters with their neighbors, dating PNAs could be able to enhance the pool of tangible and intangible, emotional and practical resources they can mobilize when in need thanks to their firsthand embeddedness into a broad network of local relationships (Bourdieu, 1986; Putnam, 2000; Williams, 2006). Indeed, being part of a broader local social network means being able to access daily support (Ife & Smith, 1995) as well as physical and social resources (Granovetter, 1982; Putnam, 2000) and for pieces of information (Jarusriboonchai et al., 2014) when in need, as well as to access people with common interests (Mandelli, 2002) with whom huge self-disclosure can happen (Gatti & Procentese, 2019); furthermore, the local nature of these relationships allows enhanced access to these resources thanks to spatial closeness and shared contexts (Unger & Wandersman, 1982). In addition, the results also show that the frequency of face-to-face encounters with the neighbors one meets through these applications plays no role in this relationship. That is, using dating PNAs to specifically look for new people to meet in one's local community is enough to provide users with a broader network of weak and strong ties regardless of the frequency of face-to-face encounters with them – indeed, it should be taken into account that these applications already offer mediated channels of communication and interactions and that their main peculiarity is that they allow users to contact people being nearby, which means people who can be met in a short time. To sum up, what emerged suggests that it is not the frequency of face-to-face encounters with neighbors yet the acknowledgement that online and offline contacts with them are possible and that there is a local social network one is embedded in what matters to users' perception about having a broad network of weak and strong ties on which they can rely when in need of tangible or intangible help. That is, the main potentiality dating PNAs hold as to users' social and aggregative needs seems their ability to fulfill urban spaces with new social meanings and opportunities (de Souza e Silva, 2013; Jarusriboonchai et al., 2013, 2014; Toch & Levi, 2012), which seem enough to allow them to broaden their overall local social capital. Furthermore, the results show that nor dating PNAs location-based use nor the increased opportunities for contacts and interactions among neighbors contributed to enhancing users' involvement in their neighborhood, meant as the frequency of good relationships and encounters with neighbors, of feeling to be an integral part of the community, and of feeling good within it (Procentese & Gatti,

2019a). In addition to mismatching some proposed hypotheses, this result seems also conflicting with what emerged from a recent preliminary study (Gatti & Procentese, 2020a) about dating PNAs ability to enhance users' involvement in their neighborhood communities when used for location-based searching (that is, the same specific use was considered). With reference to this, at least two main considerations should be mentioned. First, the involvement in the community was detected in different ways: in Gatti and Procentese (2020a) it was detected through only one item asking about respondents' feelings of being part of and participating in their neighborhood, while in this study it was detected as a latent variable which comprises different items about different aspects of being involved in the neighborhood. That is, in the first case the involvement in the neighborhood was a subjective, self-reported, evaluation, while in the second one it resulted from subjective evaluations about some more concrete aspects compounding it (as operationalized by Procentese and Gatti, 2019b). Second, in the first study the involvement in the neighborhood is considered as the only dimension of users' local community experience on which dating PNAs community-related use and the frequency of face-to-face encounters with other users could impact, while in this study it is considered together with other dimensions (that is, users' social capital and their SoC). Consistently, two main hypotheses arise. On the one hand, it could be possible that through enhancing offline encounters with neighbors this community-related use of dating PNAs is able to strengthen users' perception of being involved in their neighborhood community (as shown in Gatti and Procentese, 2020a) more than their concrete involvement. This hypothesis seems also consistent with the results from a previous study (Jarusriboonchai et al., 2014) which showed that users and potential users are aware about the potentialities this kind of applications and technologies hold as to providing them with more opportunities for local social interactions and for better knowing their neighbors. On the other hand, it could also be possible that respondents' subjective evaluation about being part of and participating in their neighborhood took into account also some aspects which are mostly related to social capital and/or SoC, such as the interactions, support, trust, and relationships with other neighborhood members, asking them for advices, feeling part of the community and tied to it, which would explain why the relationship between dating PNAs community-related use, frequency of face-to-face encounters with other users, and users' involvement in their

community emerges as no more significant when social capital and SoC are included in the model and the involvement is detected in a more specific and detailed way. Lastly, another relevant result refers to the paths through which PNAs location-based use relates to users' SoC. Even though this practice itself seems not enough to contribute to users' self-in-community (Pretty et al, 2003) by sustaining the feeling of belonging and being tied to their community, the results suggest that it could be able to do so by broadening the local social network users feel part of and acknowledge they can rely on. Indeed, along with access to broader local resources, a richer local social capital also means more opportunities for neighboring behaviors and interactions, more possibilities for community members to meet and match, reciprocal acknowledgment, supportive climate, and the overall feeling that each one matters to the others and that one's needs can be met by the community as a whole and by its members – which all represent elements compounding what has been defined as SoC (Chavis & Wandersman, 2002; Kusenbach, 2006; McMillan, 1996; McMillan & Chavis, 1986; Pretty et al., 2003; Sarason, 1974). That is, the main potentiality dating PNAs hold as to users' belonging needs seems their ability to reconnect their users to local social meanings (Gordon & de Souza e Silva, 2011; Sutko & de Souza e Silva, 2011) through offering further opportunities for interactions among neighbors and broader local social networks – which turn out in richer social capital at last. Overall, even though some hypotheses were not matched by the results and some issues require further deepening to be fully understood, these results seem consistent with the suggestion about this dating PNAs use as able to shape users' self-in-community and local community experience through opening new relational spaces and creating wider social networks within local communities (Hsiao & Dillahunt, 2017; Mayer et al., 2015), and increasing users' perceptions about their community as connected, supportive, and cohesive through valorizing social resources which are available and accessible within it (Gatti & Procentese, 2020a).

3.1. Limitations and Future Directions

Despite of the relevant hints these studies add to previous knowledge and understanding about dating PNAs use and about neighborhoods role in citizens' life,

these studies have some limitations too, which suggest some directions for future research.

As to sampling procedures, participants were reached through snowball procedures, which implied a self-selection bias, and the samples are not representative for both Italian and Dutch dating PNAs users. Nevertheless, these sampling procedures allowed to reach a heterogeneous groups of dating PNAs users, going beyond student samples and researchers' local communities and providing more validity to the results at last. Moreover, it should be acknowledged that the present findings rely on self-reported data, which can be distorted by memory bias and response fatigue.

As to the design of the studies, the cross-sectional design of both studies requires to carefully consider the emerged relationships and does not allow inferences on the direction of causality. However, as it was for studies 1 and 2, due to the results provided by these two studies taken together, it seems possible to hypothesize a circular relationship to be tested in future studies, consistently with the notion of a virtuous circle between local features and social meanings within communities (Putnam, 2000). That is, on the one hand citizens could resort to dating PNAs with community-related aims when they feel that their community is no more meeting their social, aggregative, and belonging needs due to its shift towards a partial closure just because they experience that this kind of dating PNAs use allows them to broaden their social capital – with reference to both weak and strong ties – and to become more aware about the available opportunities for local socialization. Consistently, future research should test these relationships with longitudinal studies in order to deepen current knowledge about the direction of causality of these relationships.

Lastly, a third issue refers to the suggestions which emerged as to neighborhoods role in their members' lives: ICC and DEFF values of neighborhood level variables still require more attention. Indeed, while several explanations have been provided as to study 1 and tested again by this study, the potential role of the sometimes quite small neighborhood groups involved in both studies should be carefully considered too (Lindell et al., 1999): to control for this, future studies should endeavour to involve wider samples.

4. Final Remarks

The potentialities dating PNAs – and perhaps PNAs at large - hold as social catalysts within modern local communities have sprung up spontaneously through the attribution of new aims and uses to them regardless of their stated ones, suggesting the existence of a potential need for activities and tools able to enhance modern local community experience that these PNAs and their features may fulfill. Consistently, the present studies suggest that dating PNAs location-based searching of new people to meet in users' local community could glue local social fabric, since it allows new connections and broader social networks among community members, especially when users feel that their community is not meeting their social, aggregative, and/or belonging needs due to the constraints which stem from some of its physical or social features. That is, dating PNAs community-related use seems able to allow users to overcome the constraints their communities pose to their opportunities to widen their local social network and feel that their community is a social entity and, at the same time, to actually enrich their local social capital and sustain their tie to the community they feel they belong to.

The acknowledgment that dating PNAs community-related use seems able to enhance the frequency of face-to-face encounters and interactions among neighbors – which emerged in a previous study (Gatti & Procentese, 2020a) and is confirmed by the results from study 4 – along with the other results from studies 3 and 4 could allow to think about the potentialities these applications hold as social catalysts and as suitable tools to re-connect the local social fabric within modern local communities (Hsiao & Dillahunt, 2017; Gatti & Procentese, 2020a; Procentese & Gatti, 2019a, 2020; Jarusriboonchai et al., 2014). Indeed, by providing tickets-to-talk and icebreakers and by making them more aware of the daily sharing of places, habits, and paths among them (Hsiao & Dillahunt, 2017; Paulos & Goodman, 2004; Toch & Levi, 2012), they may represent reliable tools to facilitate conversations and interactions among neighbors both through the application and face-to-face (Jarusriboonchai et al., 2013, 2014). In the end, they could bring back citizens' attention on the shared elements which group in not-yet-known community members.

As it has already been mentioned for Instagram community-related use, this shift could bring about new possibilities for local economies and policymaking, in

addition to the ones about enriching citizens' social interactions and cities livability. Fostering an aware and active integration of these practices in citizens' everyday lives rather than a spontaneous yet not-aware resorting to them could represent a helpful path in gluing local social fabric within local communities too (Gatti & Procentese, 2020a; Procentese & Gatti, 2019a, 2020).

Conclusion and Implications

The present research project was aimed at deepening the interplay between citizens' self-in-community (Pretty et al., 2003), their communities' physical and social features, and community-related uses of ubiquitous, locative, social media in order to shed further light on how citizens can experience their local communities of belonging in modern times. Indeed, as it has been discussed in the first chapter, the latter specifically hold potentialities which could make them relevant to their users' experience of their surrounding context (de Souza e Silva, 2013; Schwartz & Hochman, 2014), which can be summarized in two main kinds, that is, offering opportunities (a) to access more pieces of information about local places, social gatherings, and opportunities (Hsiao & Dillahunt, 2017; Sutko & de Souza e Silva, 2011) and (b) to enter the local social network by starting online and face-to-face conversations and interactions with people being nearby (Jarusriboonchai et al., 2014; Paasovaara et al., 2016).

In light of the above, the community-related use of two different mainstream platforms, which have sprung up spontaneously regardless of the stated aims of these platforms, have been deepened as potential strategies users could have played out to take advantage of the above-mentioned possibilities offered by ubiquitous, locative, social media with the aim to sustain and express their SoC when more traditional paths were not feasible due to their community spatial and/or social features (Procentese & Gatti, 2019a, 2020). Specifically, as it has been detailed in the second and third chapters respectively, Instagram contents and features could have been hypothesized as able to reconnect its users to local social meanings and dimensions through allowing them to keep in touch with shared representations about local social places and gatherings, while dating PNAs have been hypothesized as able to glue the local social

fabric through enhancing online and face-to-face communications and interactions among neighbors. Altogether, their community-related uses – that is, Instagram use to look for social places and gatherings in users' local community and dating PNAs use for location-based searching of other nearby users to meet with no sexual and/or romantic intention – have been tackled through four studies in order to deepen (1) the needs underlying them, and (2) the paths through which they could eventually enhance users' tie to their local community.

As to Instagram use to look for social places and gatherings in users' local community, the main need underlying this practice seems to feel one belongs to a social entity offering its members opportunities to meet and match, share spaces and experience, and spend time together – that is to sustain their SoC (study 1). Consistently, this specific Instagram use could allow users to contact positive and socially connotes representations about common places and gatherings being available in their local community, which are in turn able to enhance their positive attitude towards and tie to local places and their tie to the community they belong to at last (study 2). As to dating PNAs use for location-based searching of other nearby users to meet with no sexual and/or romantic intention, two main needs emerged as underlying this practice (study 3), that is, (1) to widen users' local social networks for users feeling lonely yet being curious towards other people and potentially new acquaintances, and (2) to keep alive users' feeling of being part of a social entity where it is possible to relate with others (also not-yet-known ones) and which is supportive to its members – that is, again, to sustain their SoC. Consistently, this dating PNAs use could allow users to enhance their local social capital, by broadening the pool of community members they can come in contact with, and through this enhance their tie to their community at last (study 4). Even though these results do not allow causal inferences due to the cross-sectional design of all the studies and to the limitation it has brough about – which have been detailed in the second and third chapters – taken together they strongly support the increasing blurring of the borders between online and offline environments and experiences as to the community of belonging, which can bring implications with reference to both local community experience and social media studies.

As to local community experience, two main acknowledgments emerge, highlighting the complexities related to modern local community experience and its

intrinsic contradictions. First, despite of the partial closure of local communities and of the always greater ease of displacements and travels across neighborhoods and cities, a looser interdependence among community members still exists, consistently with previous theorizations (Lewin, 1951; March & Olsen, 1989; Wiesenfeld, 1996). That is, neighborhoods still seem to represent daily landmarks and meaningful communities for their members and are still able to exert an impact on their cognitions and behaviors through how the community represents and gives meaning to their features. Second, it seems like citizens' tie to their local communities has not been weakened by them becoming more spatially and socially closed, as it could have been expected. Indeed, previous studies have hypothesized that the reduction of inclusive, social, common spaces within local communities along with the loss of their social meanings, traditionally linked to them hosting gatherings and shared activities, could have weakened the ties towards the community and its places (Arcidiacono & Di Napoli, 2010; Bauman, 2000; Bonaiuto et al., 2003; Francis et al., 2012; Gustafson, 2001; Jorgensen & Stedman, 2001; Özkan & Yilmaz, 2019; Procentese et al., 2007; Scopelliti & Giuliani, 2004; Wirth, 1995). However, the present results suggest that until the spatial and social closure remains only partial citizens feeling tied to their community rather think up to new ways to keep in touch with its still available social dimensions and nourish their SoC while overcoming its conflicting negative features – like community-related uses of ubiquitous, locative, social media seem to be. This acknowledgement suggests the need to implement actions aimed at recovering social dimensions, meanings, and interactions within local communities. Which role ubiquitous social media community-related practices play with reference to this deserves greater attention for sure. The intertwinement among these themes should not be underestimated, since ubiquitous, locative, social media are introducing new ways of interaction, meaning attribution, and representations sharing which could impact how citizens experience and give meaning to their local communities and to resources, opportunities, and interactions within them.

Specifically, citizens' spontaneous resorting to strategies which specifically rely on merging online and offline contexts and interactions to face the conflicting representations stemming from their communities underlines that ubiquitous, locative, social media are becoming an integral part of individuals' urban experience, habits,

and activities. This in turn leads to two main considerations. On the one hand, it could confirm the huge potentialities they could hold as to the enhancement of individuals' self-in-community as well as to their daily experience of urban places and sociability in their local community (Hsiao & Dillahunt, 2017; Gatti & Procentese, 2020a; Miller, 2015; Sutko & de Souza e Silva, 2011). Indeed, the possibility to rely on further – and *extended* – ways of experiencing urban spaces and accessing local social networks could allow citizens to answer their social, aggregative, and belonging needs when their local community seems not able to do so in more traditional ways and at the same time give to local places and relationships new meanings and livability. Consistently, a deeper understanding of their interplay could allow to produce reliable, research-informed, suggestions upon which social and community psychologists as well as policymakers could rely to take advantage of the tools citizens daily use to activate more aware uses and practices aimed at reconnecting individuals to local social meanings as well as to other community members. This could be even more relevant and useful for citizens to keep in touch with local spaces, keep in mind their social dimensions and meanings, and feel part of the surrounding community during the ongoing COVID-19 pandemic (Gatti et al., 2021), which is partially or totally foreclosing local spaces and their social dimensions due to health and safety reasons. Furthermore, a greater understanding about these issues could also provide valuable hints for designers, social technologies developers, and practitioners, helping them in developing new, research-informed, and more focused tools able to serve this kind of interventions and purposes (e.g., Mitchell & Olsson, 2019; Paasovaara et al., 2016). Based on the results from the present research project, these interventions and tools should be aimed at sustaining citizens in overcoming the constraints they perceive in grabbing available local social opportunities and resources and entering the local social network in their community of belonging. By doing so, new tools and methodologies able at the same time to give back a renewed relevance to local common spaces and shared activities, which could become the heart of local acquaintances and social encounters again (David et al., 2002; Dempsey, 2009; Francis et al., 2012; Leyden, 2003; Lund, 2002; Procentese et al., 2017, 2019c; Talen, 2000), and foster the enhancement of the tie citizens experience towards their local community could be implemented, in order to further glue modern local community experience and strengthen citizens' self-in-community. At

last, if well managed and used, while helping citizens in overcoming local constraints they could promote the reduction of the latter as well. On the other hand, detecting and deepening bottom-up spontaneous social media practices can represent a relevant access key to a better and timely understanding of which needs citizens feel as unmet, which could rely on the analysis of the features of their chosen strategy (e.g., which social media they choose, how do they use it, which is their main aim, which are the expected advantages). A timely detection and understanding of citizens' unmet needs could in turn allow a prompter activation of strategies and interventions aimed at bettering their overall life conditions.

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