

Article

Online Neighborhood Networks: The Relationship Between Online Communication Practices and Neighborhood Dynamics

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Abstract

This article builds upon communication infrastructure theory and investigates how communication practices on online neighborhood networks (ONNs) relate to the social cohesion of neighborhood communities. Specifically, we study the hyperlocal social media platform Hoplr, which provides ad-free ONNs in which neighbors can communicate with one another. Local governments can subscribe to Hoplr to communicate with their residents and engage them for community and public participation purposes. This study is based on an online survey of Hoplr members (N = 3,055) from 150 randomly selected ONNs. Social cohesion is disentangled as a combination of social support, a sense of community, reciprocal exchange, and social trust. We investigated social cohesion differences at the neighborhood level in relation to self-reported types of ONN communication practices (shared interest, supportive communication, and both tangible and informational support mobilization). The results reveal the limited value of quantified behavioral data to explain differences in neighborhood social cohesion. However, interesting patterns are revealed between different communication practices and neighborhood social cohesion, such as the importance of trivial storytelling and information exchange practices for enhancing trust, reciprocal support, and a sense of community. At the same time, a reversed relation appears when ONNs are considered explicit information exchange platforms. With these insights, we enhance the theoretical understanding of ONNs in relation to neighborhood social cohesion and within a broader repertoire of neighborhood communication infrastructures.

Keywords

communication infrastructure theory; neighborhood social cohesion; online neighborhood networks; social cohesion

Issue

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1. Introduction

For many people, using social networking sites (SNSs) is part of their everyday practices. For example, in Flanders, the northern part of Belgium, no less than 83% of the population reported using the Facebook app daily (Vandendriessche et al., 2020). SNSs provide platforms in which neighborhood residents connect and support one another, thus functioning as “hyperlocal media” (Barnett & Townend, 2015; De Meulenaere, 2020; Williams et al., 2015). These materialise on SNSs as self-organised online neighborhood networks (ONNs;

Bouko & Calabrese, 2017; Gulyas et al., 2019; Nygren et al., 2018; Rufas & Hine, 2018).

In Flanders, neighborhood residents opportunistically appropriate Facebook, a popular social media platform, to create local groups. Named in the style of “you are from X if you are Y” they appeal to local residents to engage in conversations with one another; share information about their neighborhood, town, or city; and ask for neighborly help.

However, large SNSs, such as Facebook, face challenges arising from privacy concerns, invasive advertising models, data ownership discussions, or issues related to

fake news and filter bubbles. The ensuing loss of credibility and trust in these platforms has created opportunities for alternatives that explicitly focus on improving quality of life and the sustainable development of social capital in a neighborhood. One of these is Hoplr (<https://www.hoplr.com>), a Belgian SNS designed for neighborhoods and which is actively used in Belgium, the Netherlands, and Luxembourg. Hoplr has many parallels with Facebook groups, in that they both have a central news feed and allow users to identify other users through profiles and their real names. Hoplr, however, differs from Facebook in that users can only be members of their ONN and are unable to develop a personal list of “friends” on the network. Currently, Hoplr has about 550,000 active members in Flanders (ca. 10% of the population).

The literature presents tentative evidence that the abovementioned ONNs can support and stimulate neighborhood attachment and a sense of community (Bouko & Calabrese, 2017). This facilitates the development of local social relations and the exchange of social support (Rufas & Hine, 2018) and helps build social capital (Gregory, 2015). As such, ONNs allow neighborhood residents to develop an affective relationship with a network of neighborhood residents, which, in turn, provides access to neighborly help (De Meulenaere, 2020).

Local social interactions and relations, the networks they form, the communities they underpin, the resources they contain, and the cohesion they bring about are key concepts with respect to neighborhood residents’ well-being (Farahani, 2016; Farrell et al., 2004). In addition, they are instrumental with respect to the neighborhood’s capacity to deal with collective challenges and issues (Bandura, 2000; Buchan et al., 2002). Communication infrastructure theory (CIT; Kim & Ball-Rokeach, 2006) shows that creating storytelling networks (STNs) in local communities also contributes to the well-being of its residents.

Following this CIT perspective (Kim & Ball-Rokeach, 2006), the current article envisions ONNs as an additional layer upon the social infrastructures present in society. In addition to the physical environment that supports communication storytelling practices between neighborhood inhabitants, ONNs act as digital facilitators to improve communication practices between neighborhood inhabitants. While physical interventions in the public domain facilitate the communication and participation practices of these inhabitants, SNSs offer alternative digital platforms to strengthen these practices. Consequently, this article aims to look into the communication practices that are being facilitated on the Hoplr SNS platform and investigate how these communication practices explain differences in social cohesion at the neighborhood level.

2. Online Neighborhood Networks

Neighborhood residents use popular social media platforms to develop ONNs. Prior studies have found

that these ONNs are used to share neighborhood-related information (Bingham-Hall & Law, 2015; Bouko & Calabrese, 2017), notify one another about community events and neighborhood issues (Afzalan & Evans-Cowley, 2015; López et al., 2014), and ask fellow neighbors for help and exchange various forms of neighborly support (López & Farzan, 2015; Rufas & Hine, 2018; Silver & Matthews, 2016).

Content analyses of self-organized ONNs show that exchanges of neighborly help appear to be the dominant use of ONNs, with 47% (De Meulenaere, Baccarne, et al., 2020) to up to 83% (López & Farzan, 2015) of the contents posted on ONNs comprising such requests for help. Accordingly, these ONNs appear to facilitate neighbors in contacting and finding one another, thus extending the local social network from which they can ask and receive support. Generally, social support networks have been found to be a crucial factor in individuals’ well-being (McKenzie et al., 2002; Thoits, 2011; Uchino et al., 2012), while well-functioning neighborhood social networks are instrumental in developing neighborhood capacity to face both internal and external challenges (Craig, 2007; Forrest & Kearns, 2001; Sampson, McAdam, et al., 2005).

On a basic level, ONNs can be considered marketplaces for exchanging local information and resources (De Meulenaere, Courtois, et al., 2020). In that capacity, neighborhood residents use ONNs to engage in online neighboring behaviors that are also prosocial, such as the unprompted sharing of information pertaining to the neighborhood and engaging in supportive communication directed at others who are perceived as neighbors (De Meulenaere, Baccarne, et al., 2021a). Engaging in these exchange behaviors brings about neighborly relations that, in turn, can strengthen the neighborhood’s social fabric and foster its social resilience (Vogel et al., 2021).

These social interactions and the ensuing relations that develop are more than mere exchange relations, as it has been observed that they also bring about a higher sense of community (De Meulenaere, Courtois, et al., 2020). Interactions on ONNs involve neighborly talk (Bouko & Calabrese, 2017), through which ONN users can engage in interpersonal neighborhood storytelling (Ball-Rokeach et al., 2001). De Meulenaere, Courtois, et al. (2020) argue that this interpersonal storytelling among individual neighborhood residents in a social media context brings about an ambient and affective local social news stream (cf. Papacharissi & Oliveira, 2012) due to social media platform affordances (Boyd, 2011). Active ONN use has been found to be positively related to a higher awareness of neighborhood events and issues and how other neighborhood residents think about these. Such a higher awareness is, in turn, an important mediating factor between active ONN use and experiencing a neighborhood sense of community (De Meulenaere, Baccarne, et al., 2020). As such, ONNs appear as both online neighborhood exchange platforms

and community awareness media that facilitate local social interactions in various forms and are capable of supporting local online communities.

3. Neighborhood Social Cohesion and Communication Infrastructure Theory

This article starts from a CIT perspective, which states that neighborhoods exist out of multilevel communication infrastructures that can also be appointed as STNs. The quality of these STNs is related to the quality of health at the individual and community levels within the neighborhood (Fong et al., 2019; Kim et al., 2011). These are influenced by a qualitative foundation, also called the “communication action context,” which facilitates or impedes these STNs by creating a context that is suitable for communication practices (Wilkin et al., 2010), such as safe neighborhood environments, the presence of meeting places, and the quality of such meeting places. Accordingly, we envision these ONNs as an addition to neighborhoods’ communication action contexts, which can facilitate and strengthen STNs that serve to establish neighborhood social cohesion. As the aim of this article is to share insights into how ONN communication practices contribute to establishing neighborhood social cohesion, we will describe how we conceptualized social cohesion and ONN communication practices in Section 3.1.

3.1. Neighborhood Social Cohesion

The current literature describes social cohesion as a characteristic of a social entity (e.g., a neighborhood) that is multidimensional and can be assessed on various levels (micro, meso, and macro) within society (Schiefer & van der Noll, 2017). The characteristic of multidimensionality emerges by dividing social cohesion into three major subdimensions: (a) social relations, (b) attachment/belonging to the social entity, and (c) the orientation of its members toward the common good of the social entity. Considering the nature of Hoplr, we conceptualize social cohesion accordingly. First, we focus on the meso level of the neighborhood. Second, we focus on the relational dimension of social cohesion because ONNs are platforms supporting social networks among neighbors, thereby playing into their users’ affective relations toward the neighborhood.

Social cohesion is often reduced to the social cohesion and trust dimensions of the collective efficacy construct (Sampson, Raudenbush, et al., 1997). We believe that this measure only partially captures the broad, multidimensional nature of social cohesion, as outlined above. In line with this conceptualization, we thus considered three additional indicators. First, we considered neighborhood social support (De Meulenaere, Baccarne, et al., 2021b; Sherbourne & Stewart, 1991) as indicative of the strength of the relationships found within a neighborhood. Higher perceived social support implies stronger neighborhood relations. Second, and related to the above, we consid-

ered the extent to which neighborhood residents follow existing norms as they help one another and share resources (Sampson & Graif, 2009). Third, when social interactions occur and relations are formed, residents can also develop an affective bond toward the network, mainly in the form of a neighborhood sense of community (Buckner, 1988), which encapsulates the attachment/belonging dimension of social cohesion. Finally, we included neighborhood social trust, which indicates the extent to which residents feel that there is a certain level of trust among neighborhood residents (Hardyns et al., 2018; Sampson, Raudenbush, et al., 1997).

3.2. Online Neighborhood Network Communication Practices

Following CIT, neighborhood social cohesion is positively impacted by communication practices within social networks, thus contributing to the creation of local STNs. We demarcate these communication practices as a construct of self-reported types of ONN communication practices. Specifically, the concepts that were measured were shared interest, supportive communication, and both tangible and informational support mobilization.

These communication practices encompass how users can use the platform to develop and maintain local social relations. Through practices of storytelling, as in sharing neighborhood related information, and online neighboring practices such as support mobilization requests and responding to shared information and such support requests, local relationships can be developed as well as engendering an attachment to the neighborhood (De Meulenaere, Baccarne, et al., 2020, 2021a).

Prior studies have explored and demonstrated how ONN use is positively associated on an individual level to higher neighborhood sense of community (De Meulenaere, Baccarne, et al., 2020), and how it allows exchange of social support (López & Farzan, 2015; Rufas & Hine, 2018) and social trust (De Meulenaere, Courtois, et al., 2020). This article wants to investigate to what extent these communication practices in ONNs on an aggregated ONN level can help to explain neighborhood social cohesion, given the conceptualization of social cohesion above.

Specifically, the study aims to answer the following research questions:

RQ1: To what extent can differences in *perceived neighborhood social support* be explained through differences in ONN communication practices?

RQ2: To what extent can differences in *neighborhood sense of community* be explained through differences in ONN communication practices?

RQ3: To what extent can differences in *reciprocal exchange* be explained through differences in ONN communication practices?

RQ4: To what extent can differences in *social trust* be explained through differences in ONN communication practices?

4. Methodology

4.1. Data Collection

The sampling frame for this study consisted of all Flemish neighborhoods with at least 100 active Hoplr users (as of Spring 2021). This amounted to a total of 597 neighborhoods and 230,198 users. Flanders is the Dutch-speaking part of Belgium. Thus, a one-stage cluster sampling strategy was applied, in which we randomly selected 150 Flemish neighborhoods from 61 different municipalities. All members of the selected neighborhoods (a total of 56,450 users) were invited to participate in an online survey. The data were collected through the Hoplr platform for three weeks (April 9 to May 2, 2021). An invitation to participate was posted in all selected neighborhoods and mailed to all members of the selected neighborhoods. Afterward, two reminder emails were sent to those users who had not yet participated in the survey. A total of 4,357 users completed the survey, resulting in a gross response rate of 7.7%.

After cleaning the data, which only included completed responses for the items of the eight dependent and independent variables, a total of 3,055 valid responses were obtained. To check for potential bias, valid and invalid responses were compared, and no significant differences were found for age, gender, neighborhood, or degree of ONN activity.

As discussed previously, this article conceptualizes neighborhood attributes such as sense of community and social trust as features of a social entity. Hence, we did not analyze variances at the individual level but at the aggregated level (including all of the 150 neighborhoods). Therefore, the dataset was aggregated at the neighborhood level (Table 1).

Table 1. Sample description.

Sample Parameter	
Number of neighborhoods	N = 150
Number of valid participants	N = 3,055
Gender	47.5% male
Average ONN membership length (days)	609.6 (<i>SD</i> = 420.1)
Average ONN member count	380.3 (<i>SD</i> = 242.6)

Table 2. Overview of the dependent variables.

Concept	Main Source	No. of			
		Items	Mean	<i>SD</i>	Cronbach's α
Perceived neighborhood social support	Sherbourne and Stewart (1991)	3	3.40	0.36	0.858
Neighborhood sense of community	Buckner (1988)	3	3.49	0.31	0.833
Reciprocal exchange	Sampson and Graif (2009)	3	2.19	0.29	0.782
Social trust	Sampson, Raudenbush, et al. (1997)	4	3.72	0.29	0.861

4.2. Measures

Although we explored the possibilities of studying the logged behavioral data to which we had access, this study relied on self-reported behavior, as this operationalization was best embedded in the existing literature. In particular, the measures discussed below all rely on self-reported survey responses. As neighborhood attributes are conceptualized as aggregated measures in this study, the individual items of each construct are treated as sum scales. Below, we first discuss the dependent variables, namely, the self-reported neighborhood social cohesion measures (Table 2). Next, we discuss the independent variables, which are self-reported communication practices (Table 3).

4.2.1. Dependent Variables: Neighborhood Social Cohesion

The dependent variables were measured using five-point Likert scales at the individual level and subsequently aggregated to the neighborhood level. The first dimension—perceived neighborhood social support—was measured using the tangible support subscale from the medical outcomes study social support scale (Sherbourne & Stewart, 1991), tailored to a neighborhood context. “Neighborhood sense of community” was measured using three items adapted from the psychological sense of community component of Buckner’s (1988) neighborhood cohesion index. “Reciprocal exchange” (Sampson & Graif, 2009) was measured using three items, while “social trust” was measured using four items from the social cohesion and trust measure of Sampson, Raudenbush, et al. (1997). All measures proved to be reliable, with Cronbach’s alpha values ranging between 0.78 and 0.86 (Table 2 and Supplementary File).

4.2.2. Independent Variables: Online Neighborhood Network Communication Practices

ONN usage was measured using the expressive and instrumental online neighborhood network uses scale introduced by De Meulenaere, Baccarne, et al. (2021b). This survey-based scale measures two types of expressive and two types of instrumental ONN use based on self-assessed behavior and behavioral intention. The expressive uses include shared interests, which involve sharing information with the online network, and supportive communication, which pertains to an individual reacting in a supportive manner to others' posts. The two types of instrumental uses are informational support mobilization (asking other ONN users for information help) and tangible support mobilization (asking other ONN users for tangible help). All four dimensions were measured using a five-point scale (1 = *totally disagree* to 5 = *totally agree*), and all constructs proved to be reliable (Table 3 and Supplementary File).

4.3. Hypothesized Model

In the long-standing tradition of unraveling differences in neighborhood social cohesion, this article takes a particular look at the role of technology-enabled communication among neighborhood residents. Hence, the identified ONN communication practices are conceptualized as potential determinants that can help us understand differences in neighborhood social cohesion.

In summary, the model expects a significant relationship between each independent and dependent variable (Figure 1). We tested the model using multiple regression for each independent variable (each variable was normally distributed).

5. Results

5.1. Perceived Neighborhood Social Support

The first analysis tries to better understand differences in perceived neighborhood social support through differences in ONN communication practices. In other words, we aim to determine whether a neighborhood's perceived access to (hyper) local social support can be explained by the nature of the neighborhood's ONN appropriation. To study this, multiple regression of the four ONN communication practices on perceived neighborhood social support was performed (Table 4).

The results show that "shared interest," "supportive communication," "tangible support mobilization," and "informational support mobilization" explain 19.3% of the variation in perceived neighborhood social support (Adj. R² = 0.193; F(4,145) = 9.935; p < 0.001).

The data reveal that there is no significant contribution of shared interest ($\beta = 0.088, p = 0.465$), and only very little of supportive communication ($\beta = 0.338, p = 0.021$). In other words, ONN information-sharing behavior and the degree of moral support on the ONN do not explain differences regarding potential

Table 3. Overview of the independent variables.

Concept	No. of Items	Mean	SD	Cronbach's α
Shared interests	3	2.63	0.37	0.823
Supportive communication	4	3.20	0.27	0.843
Informational support mobilization	4	3.02	0.32	0.829
Tangible support mobilization	4	2.48	0.34	0.826

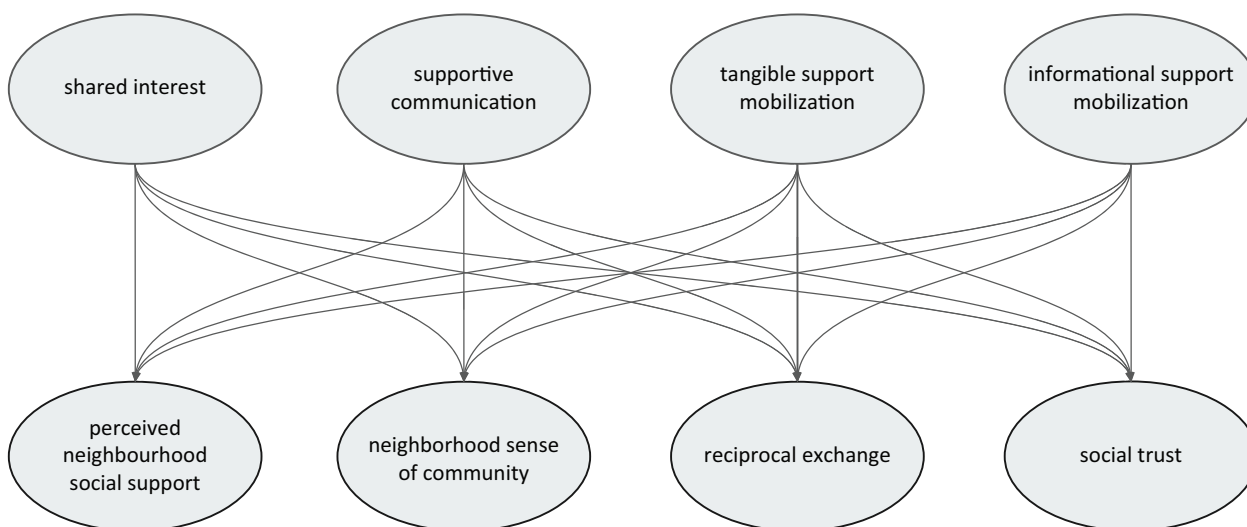


Figure 1. The hypothesized model.

Table 4. Determinant table (regression on perceived neighborhood social support).

Independent	β	std. β	p
Intercept	2.432	0	<0.001
Shared interest	0.088	0.091	0.465
Supportive communication	0.338	0.254	0.021
Tangible support mobilization	0.412	0.398	<0.001
Informational support mobilization	-0.451	-0.409	<0.001

inter-neighbor resource mobilization. These differences, however, can be explained through tangible ($\beta = 0.412$, $p < 0.001$) and informational ($\beta = -0.451$, $p < 0.001$) support practices on the ONN, although there is an unexpected negative relationship between the latter.

5.2. Neighborhood Sense of Community

The second neighborhood attribute studied in this article is the degree to which a neighborhood is perceived as a community, and this entails shared identities and interpersonal connections. While this dimension is often studied in relation to other social cohesion determinants, we specifically study these inter-neighborhood differences through the communication practices that take place on the ONN. To study this, we performed a multiple regression of the four ONN communication practices on the neighborhood sense of community (Table 5).

The results show that “shared interest,” “supportive communication,” “tangible support mobilization,” and “informational support mobilization” explain 31% of the variation in the neighborhood sense of community (Adj. $R^2 = 0.310$; $F(4,145) = 17.697$; sig. < 0.0001). This is a rather large proportion of the variance explained.

While 31% of the variation in neighborhood sense of community is explained, only two predictors significantly contribute to this regression model. The data indicate that neighborhood sense of community is not determined by supportive communication practices ($\beta = -0.037$, $p = 0.748$), nor by informational support

($\beta = -0.170$, $p = 0.089$). Furthermore, two communication practices strongly predict differences in neighborhood sense of community: shared interest ($\beta = 0.344$, $p < 0.001$) and tangible support mobilization ($\beta = 0.358$, $p < 0.001$). This implies that high levels of neighborhood sense of community are predicted by high levels of tangible help requests on the ONN and the amount of information shared by residents about their neighborhood.

5.3. Reciprocal Exchange

Next, we analyzed the differences in the perceived exchange of benefits and resources (behavior). Although, again, these differences could be studied in relation to social cohesion attributes, we studied the relationship of such behavior to different ONN communication practices. Similar to the earlier analyses, this was done through a multiple regression analysis of the four ONN communication practices on reciprocal exchange (Table 6).

The results show that “shared interest,” “supportive communication,” “tangible support mobilization,” and “informational support mobilization” explain 13.5% of the variation in reciprocal exchange (Adj. $R^2 = 0.135$; $F(4,145) = 6.832$; sig. < 0.001). Thus, while this model is statistically significant, it only predicts a limited amount of the variation in reciprocal exchange.

As expected from the general model, most independent variables do not contribute significantly to the model. Specifically, supportive communication ($\beta = 0.070$, $p = 0.568$), tangible support mobilization

Table 5. Determinant table (regression on neighborhood sense of community).

Independent	β	std. β	p
Intercept	2.330	0	<0.001
Shared interest	0.344	0.413	<0.001
Supportive communication	-0.037	-0.032	0.748
Tangible support mobilization	0.358	0.400	<0.001
Informational support mobilization	-0.170	-0.178	0.089

Table 6. Determinant table (regression on reciprocal exchange).

Independent	β	std. β	p
Intercept	1.494	0	<0.001
Shared interest	0.358	0.455	<0.001
Supportive communication	0.070	0.065	0.568
Tangible support mobilization	0.022	0.026	0.786
Informational support mobilization	-0.175	-0.194	0.096

($\beta = 0.022, p = 0.786$), and informational support mobilization ($\beta = -0.175, p = 0.096$) do not explain differences in reciprocal exchange behavior.

5.4. Social Trust

The final dimension of neighborhood social cohesion is the degree of social trust, which relates to interpersonal closeness and the overall perception of trustworthiness among neighbors. We hypothesized that different communication practices in ONNs relate to different expressions of neighborhood trust. Following the same approach as in the previous analyses, we used a multiple regression analysis of the four ONN communication practices on reciprocal exchange (Table 7).

The results indicate that “shared interest,” “supportive communication,” “tangible support mobilization,” and “informational support mobilization” explain 22.1% of the variation in social trust (Adj. $R^2 = 0.221$; $F(4,145) = 11.567$; sig. < 0.0001). This is a substantial proportion of the variance explained.

However, not every independent variable contributes equally to this understanding. Although one could consider supportive communication practices a bridging process to alleviate interpersonal trust, this is not confirmed in our model ($\beta = -0.040, p = 0.729$). Social trust seems to be mainly determined by storytelling prac-

tices (shared interest, $\beta = 0.313, p < 0.01$), presumably in a similar way, as such practices shape community identities. Furthermore, interpersonal trust is also explained and expressed through higher levels of tangible support mobilization ($\beta = 0.304, p < 0.001$). In other words, when interpersonal trust is high, neighborhood residents are more likely to ask for physical help. To a lesser extent, social trust can be explained through differences in informational support mobilization ($\beta = -0.224, p < 0.05$). However, this relationship is negative.

5.5. Integrated Model

Figure 2 shows the relationship between ONN communication practices and neighborhood social cohesion. Integrated model testing, such as SEM or path modeling, would be able to further disentangle the studied relationships. However, the conceptual approach to defining neighborhood social cohesion at the aggregated neighborhood level can be more suitably analyzed by a combination of multiple regression tests. Although this analysis makes an abstraction of the intercorrelations among different dimensions of social cohesion, it reveals a meaningful disentanglement of different ONN communication practices in relation to the four central neighborhood social cohesion indicators, as described above.

Table 7. Determinant table (regression on social trust).

Independent	β	std. β	p
Intercept	2.948	0	<0.001
Shared interest	0.313	0.403	<0.01
Supportive communication	-0.040	-0.037	0.729
Tangible support mobilization	0.304	0.363	<0.001
Informational support mobilization	-0.224	-0.251	0.024

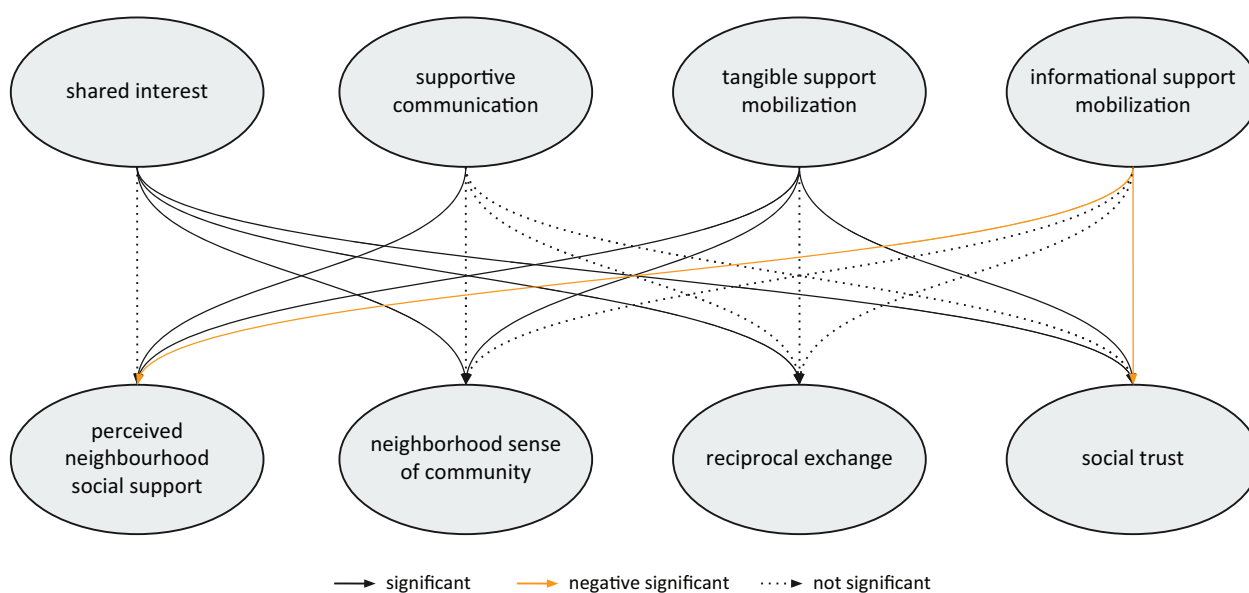


Figure 2. Relationships between ONN communication practices and neighborhood social cohesion.

6. Discussion

The goal of this article was to investigate the contributions of ONN communication practices on the Hoplr platform to neighborhood social cohesion. Following CIT (Kim & Ball-Rokeach, 2006), we hypothesized that these practices contribute to creating and strengthening STNs within the neighborhoods, which are positively related to the health of its members and the social cohesion found within the neighborhood networks.

First, the relationship between communication practices and “perceived social support” was investigated. The data indicate that shared interest has no significant contribution, while supportive communication has very little contribution in explaining the differences in perceived neighborhood social support. However, tangible and informational support practices explain differences in the perception of neighborhood support within the ONNs. Still, we found an unexpected negative relationship. This means that the extent to which neighborhood residents think they can rely on their neighbors when they request help is lower in those ONNs where the intention to ask for informational support is higher. This finding suggests a certain dichotomy between information- and action-based networks. Information-based networks are defined by lower levels of engagement and a larger interpersonal distance, while action-based networks (in which residents help one another physically) are characterized by stronger ties that enable social support processes. This suggests that the strong information-based nature of ONN communication practices might even hinder neighborhood help requests because latent and weak ties define the interactions.

Concerning “neighborhood sense of community,” a large proportion of variance can be explained by the practices of shared interest, supportive communication, and tangible and informational support mobilization. However, only two of these predictors help explain neighborhood sense of community: shared interest and tangible support. Accordingly, our analysis confirms two dimensions of neighborhood identity. On the one hand, such identities are constructed through storytelling practices and the exchange of (sometimes trivial) information that helps build a common knowledge base on “what a neighborhood is.” On the other hand, identities are constructed through strong interpersonal ties that are created, confirmed, or strengthened through the exchange of valuable resources (e.g., investing time). While both insights are not new, the current study reveals the supporting role of ONN communication practices in this process.

Considering “reciprocal exchange,” most communication practices do not contribute significantly to perceived reciprocal exchange. Surprisingly, this reveals the existence of highly different relationships compared to perceived neighborhood social support. While attitude is mainly determined by the extent to which tangible support is asked for on the ONN, actual reciprocal exchange behavior is determined by shared interest.

Again, this only predicted a modest amount of variation. Nevertheless, the storytelling practices that were revealed earlier as core processes in the construction of a strong neighborhood identity also seemed to be important for the actual exchange of resources.

The last subdimension of social cohesion that was tested in the study was “social trust.” The results showed that not every independent variable contributed equally to predicting perceived social trust within the neighborhoods. Moreover, social trust seems to be mainly determined by a shared interest among neighborhood inhabitants, presumably in a similar way, as such practices shape community identities. In addition, social trust among neighborhood inhabitants can also be explained by tangible support mobilization. Hence, it is plausible that the more residents perceive an information network (or information-based technology), the more likely this neighborhood will have higher levels of social distrust. However, it can also be assumed that when neighborhood inhabitants perceive the ONN as information-based, they do not automatically link the ONN with offline practices.

In conclusion, this article highlights the importance of trivial storytelling and information exchange practices in enhancing neighborhood social trust, reciprocal support, and sense of community. However, in ONNs where there is a stronger emphasis on information exchange, we see negative associations with the investigated social cohesion indicators. This paradoxical insight suggests a distinction between information- and action-based communities, as well as the effect of ONNs on these communities. On the one hand, action-based communities can be identified indicating a higher level of asking for tangible support between residents on the platform. On the other hand, information-based communities can be identified indicating a higher level of informational exchange, such as asking for help and trivial storytelling on the platform, among neighborhood residents.

6.1. Limitations and Future Research

First, because of practical implications, we were able to measure only four subdimensions of social cohesion. Following the online survey conducted by Hoplr, we were unable to gain more insights into social cohesion in all of its identified assets of subdimensions. Instead, we were able to operationalize social cohesion by focusing on the subdimensions of social relations and attachment to the social entity. However, we did not consider the subdimension of the orientation of its members toward the common good of the social entity. Therefore, we recommend that future studies focus on social cohesion in all of its assets.

Second, this survey was conducted on the Hoplr platform. Despite the fair size of the sample, the participants all had a Hoplr membership. This resulted in a sample that did not cover all of the neighborhood residents but only those who were digitally literate and had an existing Hoplr account. Thus, we recommend that future

research include neighborhood inhabitants who are not present on the Hoplr platform.

Third, ONNs likely attract users who have a higher interest in and attachment to neighborhood life. Future studies could try to explore the extent to which neighborhoods, as a whole, can benefit from the presence and active usage of ONNs within a neighborhood by an engaged subset of these neighborhoods' populations. Do we see an overall increase in the neighborhoods' social cohesion because of the presence and active use of an ONN in the neighborhood overall, thus showing a spillover effect? Or are the benefits only preserved for those who are actively engaged with the platform?

Fourth, this also points to the absence of any neighborhood-related factors as covariates in the assessed relationships. Although neighborhood effects in European studies are typically small if not absent (Musterd & Pinkster, 2009), future studies should explore the extent to which neighborhood characteristics, such as level of urbanization, pre-existing levels of social cohesion, or ethnic diversity, among others, might affect the contributions of ONNs in enhancing social cohesion within the neighborhoods.

Finally, the cross-sectional nature of our data prevents us from tearing apart the direction of the associations we discovered. Thus, longitudinal studies employing a cross-lagged panel model investigating the temporal order between the communicational practices, on the one hand, and social cohesion indicators, on the other hand, can improve our understanding of ONN relationships with a neighborhood's social fabric.

7. Conclusions

This article investigated how communication practices on ONNs relate to the social cohesion of neighborhood communities by conducting an online survey (N = 3,055) in 150 neighborhoods on the hyperlocal social media platform Hoplr. To do this, social cohesion was disentangled as a construct of four subdimensions, namely, social support, sense of community, reciprocal exchange, and social trust. The relations between these subdimensions and self-reported communication practices, namely, shared interest, supportive communication, and both tangible and informational support mobilization, were investigated, with the results revealing interesting patterns between Hoplr communication practices and neighborhood social cohesion. Moreover, we established the importance of trivial storytelling and information exchange practices, both of which contribute to improving social trust, reciprocal support, and a sense of community within a neighborhood.

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edge development regarding ONN, Hoplr's contribution regarding data collection, and its open and transparent data sharing policy.

Conflict of Interests

Jonas De Meulenaere is affiliated with Hoplr, where he is responsible for the development of knowledge regarding participation and healthy communities.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

References

- Afzalan, N., & Evans-Cowley, J. (2015). Planning and social media: Facebook for planning at the neighbourhood scale. *Planning Practice & Research*, 30(3), 270–285. <https://doi.org/10.1080/02697459.2015.1052943>
- Ball-Rokeach, S. J., Kim, Y. C., & Matei, S. (2001). Storytelling neighborhood: Paths to belonging in diverse urban environments. *Communication Research*, 28(4), 392–428. <https://doi.org/10.1177/009365001028004003>
- Bandura, A. (2000). Exercise of human agency through collective efficacy. *Current Directions in Psychological Science*, 9(3), 75–78. <https://doi.org/10.1111/1467-8721.00064>
- Barnett, S., & Townend, J. (2015). Plurality, policy and the local: Can hyperlocals fill the gap? *Journalism Practice*, 9(3), 332–349. <https://doi.org/10.1080/17512786.2014.943930>
- Bingham-Hall, J., & Law, S. (2015). Connected or informed?: Local Twitter networking in a London neighbourhood. *Big Data & Society*, 2(2), 1–17. <https://doi.org/10.1177/2053951715597457>
- Bouko, C. G., & Calabrese, L. (2017). “T'es un vrai...si...”: Quand les seniors aiment leur ville au sein de groupes Facebook [“You are a real...when you...”: When senior citizens love their city in Facebook groups]. *Canadian Journal of Communication*, 42(2), 311–330. <https://doi.org/10.22230/cjc2017v42n2a3177>
- Boyd, D. (2011). Social network sites as networked publics: Affordances, dynamics, and implications. In Z. Papacharissi (Ed.), *A networked self: Identity, community, and culture on social network sites* (pp. 39–58). Routledge.
- Buchan, N. R., Croson, R. T. A., & Dawes, R. M. (2002). Swift neighbors and persistent strangers: A cross-cultural investigation of trust and reciprocity in social exchange. *American Journal of Sociology*, 108(1), 168–206. <https://doi.org/10.1086/344546>
- Buckner, J. C. (1988). The development of an instrument to measure neighborhood cohesion. *American Journal of Community Psychology*, 16(6), 771–791.

- <https://doi.org/10.1007/BF00930892>
- Craig, G. (2007). Community capacity-building: Something old, something new...? *Critical Social Policy*, 27(3), 335–359. <https://doi.org/10.1177/0261018307078846>
- De Meulenaere, J. (2020). *Online neighborhood networks: A multi-perspective inquiry into emergent community construction* [PhD thesis, Ghent University]. Academic Bibliography. <https://biblio.ugent.be/publication/8650736>
- De Meulenaere, J., Baccarne, B., Courtois, C., & Ponnet, K. (2020). Neighborhood hotspot and community awareness: The double role of social network sites in local communities. *Communications*, 46(4), 492–515. <https://doi.org/10.1515/commun-2019-0135>
- De Meulenaere, J., Baccarne, B., Courtois, C., & Ponnet, K. (2021a). Disentangling social support mobilization via online neighborhood networks. *Journal of Community Psychology*, 49(2), 481–498. <https://doi.org/10.1002/jcop.22474>
- De Meulenaere, J., Baccarne, B., Courtois, C., & Ponnet, K. (2021b). The development and psychometric testing of the expressive and instrumental online neighborhood network uses scale (ONNUS). *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 15(3), Article 8. <https://doi.org/10.5817/CP2021-3-8>
- De Meulenaere, J., Courtois, C., & Ponnet, K. (2020). Bottom-up hyperlocal media in Belgium: Facebook groups as collaborative neighborhood awareness systems. In A. Gulyas & D. Baines (Eds.), *Routledge companion to local news and journalism* (pp. 398–407). Routledge.
- Farahani, L. M. (2016). The value of the sense of community and neighbouring. *Housing, Theory & Society*, 33(3), 357–376. <https://doi.org/10.1080/14036096.2016.1155480>
- Farrell, S. J., Aubry, T., & Coulombe, D. (2004). Neighborhoods and neighbors: Do they contribute to personal well-being? *Journal of Community Psychology*, 32(1), 9–25. <https://doi.org/10.1002/jcop.10082>
- Fong, P., Cruwys, T., Haslam, C., & Haslam, S. A. (2019). Neighbourhood identification and mental health: How social identification moderates the relationship between socioeconomic disadvantage and health. *Journal of Environmental Psychology*, 61, 101–114. <https://doi.org/10.1016/j.jenvp.2018.12.006>
- Forrest, R., & Kearns, A. (2001). Social cohesion, social capital and the neighbourhood. *Urban Studies*, 38(12), 2125–2143. <https://doi.org/10.1080/00420980120087081>
- Gregory, J. (2015). Connecting with the past through social media: The “beautiful buildings and cool places Perth has lost” Facebook group. *International Journal of Heritage Studies*, 21(1), 22–45. <https://doi.org/10.1080/13527258.2014.884015>
- Gulyas, A., O’Hara, S., & Eilenberg, J. (2019). Experiencing local news online: Audience practices and perceptions. *Journalism Studies*, 20(13), 1846–1863. <https://doi.org/10.1080/1461670X.2018.1539345>
- Hardyns, W., Snaphaan, T., Pauwels, L. J. R., Vyncke, V., & Willems, S. (2018). A multilevel analysis of collective efficacy, neighborhood disorder, and individual social capital on avoidance behavior. *Crime & Delinquency*, 65(7), 994–1021. <https://doi.org/10.1177/0011128718788042>
- Kim, Y.-C., & Ball-Rokeach, S. J. (2006). Civic engagement from a communication infrastructure perspective. *Communication Theory*, 16(2), 173–197. <https://doi.org/10.1111/j.1468-2885.2006.00267.x>
- Kim, Y. C., Moran, M. B., Wilkin, H. A., & Ball-Rokeach, S. J. (2011). Integrated connection to neighborhood storytelling network, education, and chronic disease knowledge among African Americans and Latinos in Los Angeles. *Journal of Health Communication*, 16(4), 393–415.
- López, C., Butler, B., & Brusilovsky, P. (2014). Does anything ever happen around here? Assessing the online information landscape for local events. *Journal of Urban Technology*, 21(4), 95–123. <https://doi.org/10.1080/10630732.2014.971530>
- López, C., & Farzan, R. (2015). Lend me sugar, I am your neighbor! A content analysis of online forums for local communities. In G. Avram (Ed.), *C&T ‘15: Proceedings of the 7th International Conference on Communities and Technologies* (pp. 59–67). <https://doi.org/10.1145/2768545.2768558>
- McKenzie, K., Whitley, R., & Weich, S. (2002). Social capital and mental health. *The British Journal of Psychiatry*, 181(4), 280–283. <https://doi.org/10.1192/bjp.181.4.280>
- Musterd, S., & Pinkster, F. M. (2009). Unraveling neighborhood effects: Evidence from two European welfare states. In F. Hendriks (Ed.), *City in sight* (pp. 41–60). Amsterdam University Press. <https://doi.org/10.1515/9789048511211-004>
- Nygren, G., Leckner, S., & Tenor, C. (2018). Hyperlocals and legacy media. *Nordicom Review*, 39(1), 33–49. <https://doi.org/10.1515/nor-2017-0419>
- Papacharissi, Z., & Oliveira, M. F. (2012). Affective news and networked publics: The rhythms of news storytelling on #Egypt. *Journal of Communication*, 62(2), 266–282. <https://doi.org/10.1111/j.1460-2466.2012.01630.x>
- Rufas, A., & Hine, C. (2018). Everyday connections between online and offline: Imagining others and constructing community through local online initiatives. *New Media & Society*, 20(10), 3879–3897. <https://doi.org/10.1177/1461444818762364>
- Sampson, R. J., & Graif, C. (2009). Neighborhood social capital as differential social organization: Resident and leadership dimensions. *American Behavioral Scientist*, 52(11), 1579–1605. <https://doi.org/10.1177/0002764209331527>
- Sampson, R. J., McAdam, D., MaIndoe, H., & Weffer-Elizondo, S. (2005). Civil society reconsidered: The durable nature and community structure of col-

- lective civic action. *American Journal of Sociology*, 111(3), 673–714. <https://doi.org/10.1086/497351>
- Sampson, R. J., Raudenbush, S. W., & Earls, F. (1997). Neighborhoods and violent crime: A multilevel study of collective efficacy. *Science*, 277(5328), 918–924. <https://doi.org/10.1126/science.277.5328.918>
- Schiefer, D., & van der Noll, J. (2017). The essentials of social cohesion: A literature review. *Social Indicators Research*, 132(2), 579–603. <https://doi.org/10.1007/s11205-016-1314-5>
- Sherbourne, C. D., & Stewart, A. L. (1991). The MOS social support survey. *Social Science & Medicine*, 32(6), 705–714. [https://doi.org/10.1016/0277-9536\(91\)90150-B](https://doi.org/10.1016/0277-9536(91)90150-B)
- Silver, A., & Matthews, L. (2016). The use of Facebook for information seeking, decision support, and self-organization following a significant disaster. *Information, Communication & Society*, 20(11), 1680–1697. <https://doi.org/10.1080/1369118X.2016.1253762>
- Thoits, P. A. (2011). Mechanisms linking social ties and support to physical and mental health. *Journal of Health and Social Behavior*, 52(2), 145–161. <https://doi.org/10.1177/0022146510395592>
- Uchino, B. N., Bowen, K., Carlisle, M., & Birmingham, W. (2012). Psychological pathways linking social support to health outcomes: A visit with the “ghosts” of research past, present, and future. *Social Science & Medicine*, 74(7), 949–957. <https://doi.org/10.1016/j.socscimed.2011.11.023>
- Vandendriessche, K., Steenberghs, E., Matheve, A., Georges, A., & De Marez, L. (2020). *imec.digimeter: Digitale trends in Vlaanderen* [imec.digimeter: Digital trends in Flanders]. imec. <https://www.imec.be/sites/default/files/inline-files/DIGIMETER2020.pdf>
- Vogel, P., Kurtz, C., Grotherr, C., & Böhmman, T. (2021). Fostering social resilience via online neighborhood social networks during the Covid-19 pandemic and beyond: Status quo, design dilemmas and research opportunities. In T. X. Bui (Ed.), *Proceedings of the 54th Hawaii International Conference on System Sciences* (pp. 3037–3046). HICSS.
- Wilkin, H. A., Moran, M. B., Ball-Rokeach, S. J., Gonzalez, C., & Kim, Y. C. (2010). Applications of communication infrastructure theory. *Health Communication*, 25(6/7), 611–612. <https://doi.org/10.1080/10410236.2010.496839>
- Williams, A., Harte, D., & Turner, J. (2015). The value of UK hyperlocal community news. *Digital Journalism*, 3(5), 680–703. <https://doi.org/10.1080/21670811.2014.965932>

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