# Enhancing Civic Engagement– The Role of Place Attachment and Neighborhood Ties (Work in Progress)

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Keywords: civic engagement, place attachment, neighborhood ties, civic responsibility, collaborative housing.

#### Abstract

This study examines whether neighborhood ties, place attachment, and civic responsibility influence people's decision to engage in neighborly civic activities, i.e., serving on a neighborhood association or writing a letter to an official. Based on a survey of the German population (N=610), structural equation modelling reveals that civic responsibility and neighborhood friends have the strongest positive associations with the intention to voluntarily engage. Place attachment and civic responsibility were found to fully mediate the effect of neighborhood trust and to partially mediate the effect of neighborhood friends on civic engagement intention. Furthermore, reciprocity considerations as an egoistic motivation negatively moderated the influence of civic responsibility on civic engagement intention. On the basis of the results from the empirical analysis, the study provides implications for urban development and avenues for further research.

#### 1. Introduction

Recent changes in our society represent severe challenges for neighborly communities, particularly in urban areas. These challenges include amongst others an intra-national migration from rural to urban areas, resulting in an increasing densification of living spaces within the inner cities (Gans 2017). Regarding these challenges, governmental bodies expect that the current welfare system will be insufficient to cope with. Social issues such as the expected effects of our ageing society or the successful integration of international migrants therefore continue to generate the need to reorganize welfare systems, especially in Western industrialized countries (Reeskens and van Oorschot 2015).

Neighborhoods constitute multi-functional systems of interaction and normative orientation (Levine et al. 2018). Against the background of the aforementioned challenges, the understanding and support of healthy and well-developed neighborhoods have attracted a growing interest throughout economy (Jun 2017), governmental (Damm and Dustmann 2014) and nongovernmental organizations (Ruef and Kwon 2016). Healthy neighborhoods possess the potential to overcome these challenges by supporting trust, caretaking and responsibility for both the neighborhood in general and its individual inhabitants, thus contrasting trends towards a hyper-individualized and mobile society (Wickes et al. 2019).

Against this background, the purpose of the present study is to investigate local civic engagement intention on the neighborhood level. The study builds on psychological research insights on place attachment and neighborly relationships and strives at identifying relevant indicators that foster local civic engagement. In addition, the study considers reciprocity expectations as a personality trait.

The study adds value to existing research in a number of ways: First, the study contributes to the lack of knowledge about the processes and settings which support positive attitudes towards the intention to engage in voluntary civic activities within the neighborhood by considering psychological constructs and personality traits. Second, in contrast to existing studies, the current study investigates a reversed direction of causality between neighborhood ties and place attachment. While some authors assume that neighborhood ties mediate the effect of place attachment (e.g. Lenzi et al. 2013; Albanesi et al. 2007), this study suggests that the direction of effect is the other way around, i.e. that place attachment mediates the influence of neighborhood ties on civic engagement intention.

The subsequent section elaborates on the theoretical background of the study. Thereafter, the paper describes the study design and the measurement approaches used. Then, the paper validates the hypotheses by using a path modelling approach. Based on the study results and limitations, practical implications and avenues for future research are discussed.

#### 2. Theoretical Background

#### 2.1 Local civic engagement

Civic engagement has attracted a lot of attention in ongoing public and scientific debates in recent years (e.g. Becchetti et al. 2016; Wray-Lake et al. 2017; Li and Zhang 2017). Local civic engagement on the neighborhood level is understood as a systematic, organized collaboration of neighbors to address common issues, or to reinforce neighborhood solidarity in their particular neighborhood. The activities of residents aim at positively influencing the neighborhood's social and physical situation, thereby leading to an overall improvement of the community and society (Hays 2015).

Many different forms of local civic engagement, and especially volunteering as a specific activity of civic engagement, have been subject to multiple studies exploring the subject from various angles. These include for example economic (Becchetti et al. 2016), psychological (van Ingen and Bekkers 2015), sociological (Wray-Lake et al. 2017) and organizational behavior (Li and Zhang 2017). A number of scholars analyze the motivations of citizens to engage voluntarily (Rehberg 2005; Yeung 2004), others focus on enhancing civic engagement of adolescents (Lenzi et al. 2014; Lenzi et al. 2012), or the outcomes for and impacts on society (Measham and Barnett 2008). Furthermore, previous research highlights various factors that influence individual participation in civic engagement activities, such as demographics and socio-economic variables (e.g., Wilson 2000).

Through mutually beneficial local activities, individuals develop social networks which are characterized by collective values, trustworthiness and strong relationships (Dekker and Halman, 2003). Thus, civic engagement is a valuable instrument to strengthen relationships in a modern, mobilized society. The increased value of civic engagement results also from the benefits for those who voluntarily engage in neighborly activities. Local civic engagement can satisfy citizens as it helps them think they can make a positive difference in their community. This feeling contributes to the people's self-confidence and the well-being (Measham and Barnett 2008). Especially for both civic organizations and urban development it is highly relevant to know how to motivate engaged citizens and to create a strong social neighborhood network.

#### 2.2 Neighborhood Trust and Neighborhood Friends

A growing body of neighborhood literature is directed toward the concept of trust (Hays 2018). Sabel (1993) defines trust as the confidence that a party has towards another in the sense that no party will exploit the other. Trust is therefore a fundamental concept of interpersonal relationships and collaboration (Misztal 2013). Past research (e.g. Chung and Probert 2011) indicates that a higher degree of trust in others increases citizens' willingness to contribute. In this context, social trust acts as a key facilitator of coordination and cooperation leading to a pronounced community orientation and active civic involvement (Crystal and DeBell 2002). Putnam (2000) argues that people join voluntary associations, work with others on community problems, participate in community organizations, contribute to charity, and show many other forms of civic action as a consequence of the belief in the trustworthiness of their fellow citizens. The study suggests that informal ties among neighbors help to be less concerned about strictly personal issues and encourage people to focus on community needs. On the basis of the preceding research findings, hypothesis 1a reads as follows:

H<sub>1a</sub>: Neighborhood trust (NT) has a positive and direct effect on local civic engagement intention (CI).

The term 'neighborhood friends' illustrates personal relationships with neighbors, comprising the quantity and quality of relationships with people in the local community, and the degree to which people know and interact with their neighbors (Lenzi et al. 2013). According to Putnam (2000), social networks help to facilitate or support certain forms of civic engagement. According to Forsyth et al. (2015), a localized sense of community is associated with greater willingness to engage in pro-environmental behaviors. Especially narrowly defined geographic units, such as neighborhoods, serve as a more potent source of both community identification and commitment to e.g. pro-environmental action. Having close friends in the neighborhood results in increased social interactions and reciprocal support due to geographical closeness (Sampson 2003). Relationships characterized by friends outside the immediate family thereby help forging intra-community ties and various forms of social support (Cornman et al. 2003). Therefore, hypothesis 1b reads as follows: H<sub>1b</sub>: Neighborhood friends (NF) has a positive and direct effect on CI.

#### 2.3 Place attachment

The concept of place attachment has been investigated by different scientific disciplines, such as environmental psychology, human geography, and sociology (Scannell and Gifford 2010). Place attachment relates to the

feelings, bonds, thoughts, and behavioral intentions that people develop over time with reference to their sociophysical environment. Neighborhood attachment constitutes a specific form of place attachment that leads to a sense of security, strengthens personal ties, cultures and experiences, and maintains group identity (Giuliani 2003).

Recent research has shown a clear relationship between place attachment and the willingness to engage in community development (Manzo and Perkins 2006; Azizul et al. 2016). Jorgensen (2010) argues that the development of social networks and social trust are important sources of the commitment to places and that this in turn motivates civic engagement. The study results of Lenzi et al. (2013) confirm this assumption, showing that citizens with strong ties in the local community (with peers and other neighbors) tend to develop a stronger emotional bond to the neighborhood (Whitlock 2007). Payton et al. (2005) show that place attachment and trust affect the levels of civic activity such as donations of time, efforts, and resources. Based on the many examples found in literature that demonstrate close connections between place attachment and civic engagement (e.g., Lewicka 2005; Stefaniak et al. 2017), and on existing sociological arguments that show that strong neighborhood ties lead to a higher emotional attachment to one's place (Jorgensen 2010), it is assumed that place attachment is the mediating link between neighborhood ties (neighborhood friends and neighborhood trust) and civic engagement intention. On the basis of these findings, hypothesis 2a states as follows: H<sub>2a</sub>: Place attachment (PA) mediates the positive effect of NF and NT on CI.

#### 2.4 Civic responsibility

We define civic responsibility based on the work of Komives et al. (1998, p. 15), as "the sense of personal responsibility individuals should feel to uphold their obligation as part of any community". Inherent in this definition is an emphasis on acting beneficially toward one's community (Mayhew and Engberg 2011).

According to the results of Lenzi et al. (2013), local civic responsibility represents a precursor of civic behaviors: the more people believe that they are responsible for contributing to the common good, the more likely is their decision to actively take part in civic actions (Selman, 2003; Watts et al., 2003). Lenzi et al.'s (2013) results additionally show that the more people report that in their local community people trust and care for each other, the higher the perceived level of civic responsibility. Not only trust seems to be an important determinant in developing a sense of responsibility. Having a strong social network, intense relationships, and especially good friends within the neighborhood lead to the willingness to solve common issues collaboratively, which in turn is positively correlated with higher civic engagement (Flanagan et al. 2007.; Kahne and Sporte 2008). Therefore, hypothesis 2b reads as follows:

H<sub>2b</sub>: Civic responsibility (CR) mediates the positive effect of NF and NT on Cl.

Additionally, Lenzi et al. (2013) found that a strong emotional bond to the neighborhood is positively associated with a higher sense of responsibility toward the local community. This result is consistent with environmental and community psychology studies (Da Silva et al. 2004; Lewicka 2005; Manzo and Perkins 2006; Scannell and Gifford 2010), showing that place attachment predicts civic responsibility, civic participation, and pro-environmental behaviors. Anguelovski (2013) found that at the neighborhood level, deeply rooted attachment is strongly connected to residents feeling responsible for improving their place and to contributing to the well-being of the community. Therefore, we assume place attachment to have a significant positive influence on civic responsibility.

H<sub>3</sub>: PA has a positive and direct effect on CR.

#### 2.5 Reciprocity expectation as moderating variable

The social exchange theory, which is grounded in the field of behavioral economics, states that individuals are rational human beings who seek to maximize their own benefits and minimize the costs of their behavior (Emerson 1976). From this perspective, individuals only engage in prosocial behavior for egoistic reasons or because they are looking for benefits to be returned (e.g., reputation or obligation of reciprocity) (Wasko and Faraj 2000). Reciprocity can therefore be compared with the personality trait of egoism which means that people only engage in a behavior due to self-interest.

As presented in the previous section, civic responsibility is one of the predicting factors of civic engagement intention. The feeling of obligation towards the local community and the wish to contribute to local issues are the motivation behind the decision to participate in civic activities. The term civic responsibility is thus only based on the sense of responsibility for one's own group and place (Selman 2003; Watts et al. 2003). Reciprocity as an egoistic motivation is assumed to weaken the positive effect of civic responsibility on civic engagement intention as some behaviors are only shown if reward is expected. Since volunteering is defined as a prosocial behavior

which is done without consideration (e.g., monetary reward) and which is beneficial for others (Penner 2004; Dekker and Halman 2003), we assume that reciprocity is a moderator which dampens the effect of civic responsibility. Thus, hypothesis 4 states as follows:

H4: Reciprocity expectation (RE) negatively moderates the effect of civic responsibility on local civic engagement.

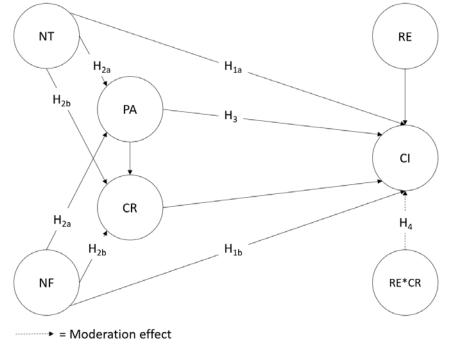


Figure 1 illustrates the conceptual model for local civic engagement intention.

Figure 1 Conceptual model for local civic engagement intention

#### 3. Study Design and Measurement

#### 3.1 Study design

The study comprises a quantitative survey by means of a questionnaire. The basic population for this study were German residents that are older than 21 years and live in their current neighborhood for at least two years. Qualtrics, an online research company, provided access to a representative online panel. Data was collected in November 2018 resulting in a sample of 610 participants. A significant share of almost 54% reported civic engagement activities during the previous 12 months. The sociodemographic characteristics of the respondents are depicted in Appendix A.

All participants received information about our definition of neighbors ("To our understanding, neighbors are persons, who you might have random or intended encounters with due to the spatial proximity of residence. These include, for example, the people living in your house, in the house next door, in the block or on the same street."). The respondents were asked to reply to the questionnaire honestly and were informed that their answers will be treated confidentially. Therefore, they should be less inclined to provide socially desirable answers.

#### 3.2 Measurement

We measured all the latent constructs employing reflective measurement scales and considered different scale anchors to diminish the effect of common method bias. Concerning this matter, we conducted Harman's single factor test (Podsakoff and Organ 1986) to assess the potential for common method bias in the data. The results indicate that common method variance was not a significant issue.

All items were measured using a 5-point Likert scale. The four items of the place attachment scale were based on Buta et al.'s (2014) conceptualization. A direct measurement approach that comprises three items was used to measure neighborhood trust based on the work of Valencia-Garcia et al. (2012) and Jokela (2009).

Neighborhood friends was measured based on four items using the scales by Cicognani et al. (2008) and Obst et al. (2002). The civic responsibility scale is adopted from the work of Doolittle and Faul (2013). The reciprocity scale is adopted from the measurement approach by Reizer and Mikulincer (2007). Civic engagement intention was measured using common behavioral intention question items. The exact wording of the question items is depicted in Appendix B.

We also controlled for several covariates, such as age, gender, type of housing, rental or ownership, duration of residence in the current neighborhood, and size of the city. Except age, duration of residence in the current neighborhood, and size of the city, which were measured on an ordinal scale, all covariates were operationalized as variables with two or three categories.

Table 1 depicts reliability and validity statistics and the factor loadings. All factor loadings are significant. The values of the factor reliability and average-variance-extracted (AVE) statistics are above the recommended thresholds. Furthermore, the Fornell-Larcker ratio indicates the discriminant validity of the measurement.

	Descriptive Statistics		Reliability a	Reliability and Validity Statistics		Discriminant Validity: Fornell-Larcker Criterion					iterion
	Mean	SD	Cronbach's Alpha	Composite Reliability	AVE	NT	NF	PA	CR	RP	CI
NT	3.45	1.09	0.886	0.929	0.815	0.903					
NF	2.82	1.20	0.938	0.955	0.843	0.739	0.918				
PA	2.83	1.15	0.934	0.953	0.835	0.703	0.829	0.914			
CR	3.20	1.02	0.879	0.917	0.734	0.677	0.768	0.737	0.857		
RP	2.13	0.88	0.790	0.815	0.535	0.156	0.242	0.214	0.182	0.732	
CI	3.32	1.13	0.897	0.936	0.830	0.558	0.657	0.632	0.647	0.178	0.911

Table I Descriptive Statistics and Reliability and Validity Statistics

#### 4. Study results

We used partial least squares structural equation modelling (PLS-SEM) and SmartPLS 3.0 software (Ringle et al. 2015) to estimate our model. This study applied a mean-replacement approach for missing values (< 1%) and a conservative no-sign-changes bootstrapping procedure based on 5,000 bootstrap runs. Figure 2 and Table 2 represent the results of the PLS estimation. The R<sup>2</sup> of civic engagement intention (see Figure 2) reveals a very good model fit.

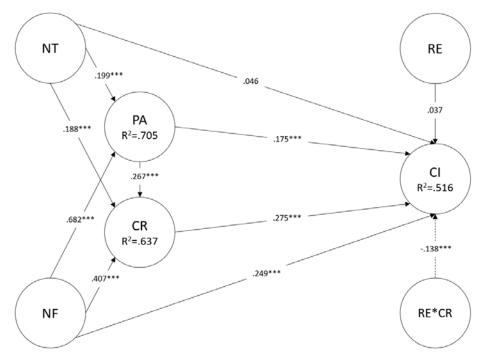


Figure 2 Tested model with path coefficients

Table II Path	Coefficients and	Effect Sizes
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	Path	T Statistics	P Values	Bias-correct Inte	f <sup>2</sup>	
	Coefficients			2.5%	97.5%	
$CR \rightarrow CI$	0.275	5.297	0.000	0.171	0.376	0.057
$NF \rightarrow CI$	0.249	3.625	0.000	0.110	0.384	0.030
$NF \rightarrow CR$	0.407	7.961	0.000	0.304	0.505	0.121
$NF \rightarrow PA$	0.682	20.200	0.000	0.613	0.746	0.715
NT → CI	0.046	0.875	0.381	-0.057	0.144	0.002
NT → CR	0.188	4.327	0.000	0.103	0.272	0.042
NT → PA	0.199	5.482	0.000	0.128	0.268	0.061
PA → CI	0.175	3.205	0.001	0.071	0.283	0.018
$PA \rightarrow CR$	0.267	5.426	0.000	0.169	0.361	0.058
RP*CR → CI	-0.138	4.237	0.000	-0.200	-0.077	0.048
RP → CI	0.037	1.195	0.232	-0.035	0.090	0.003

Note. The table does not report the effects of the covariates.

The analysis reveals no significant direct effect of neighborhood trust on civic engagement intention. However, there is a significant direct and positive effect of neighborhood friends on civic engagement intention (*direct effect = .249, p < .000; LLCI/97.5%: .110, ULCI/97.5%: .384*). Therefore,  $H_{1b}$  can be confirmed.

To validate hypotheses 2a and 2b, we conducted a mediation analysis. All total indirect and specific indirect effects are depicted in Appendix C. The mediation analysis revealed a significant indirect effect of neighborhood trust (*indirect effect = .101, p < .000; LLCI/97.5%: .064, ULCI/97.5%: .147*) and neighborhood friends (*indirect effect = .281, p < .000; LLCI/97.5%: .189, ULCI/97.5%: .375*).

When looking at the specific indirect effects, the data indicate that place attachment mediates the effect of neighborhood trust (*specific indirect effect* = .035, p < .004; *LLCI/97.5%*: .015, *ULCI/97.5%*: .063) and neighborhood friends (*specific indirect effect* = .119, p < .002; *LLCI/97.5%*: .048, *ULCI/97.5%*: .198). Thus, H<sub>2a</sub> is supported.

Additionally, also civic responsibility mediates the effect of neighborhood trust (*specific indirect effect* = .052, p < .001; *LLCI/97.5%*: .025, *ULCI/97.5%*: .087) and neighborhood friends (*specific indirect effect* = .112, p < .000; *LLCI/97.5%*: .066, *ULCI/97.5%*: .166). Thus, H<sub>2b</sub> is supported.

In line with hypotheses 3, place attachment has a significant and direct effect on civic responsibility (*direct effect = .267, p < .000; LLCI/97.5%: .169, ULCI/97.5%: .361*). Therefore, H3 is supported.

To validate hypotheses 4, we conducted a moderation analysis. The moderation analysis revealed that reciprocity expectations negatively moderates the relationship between civic responsibility and civic engagement intention (*moderation effect = -.138, p < .000; LLCI/97.5%: -.200, ULCI/97.5%: -.077*). Therefore, H<sub>4</sub> can be confirmed.

Several covariates have been included in the analysis to provide deeper insights into the results. Appendix D shows the significant effects of the structural variables on the model components.

#### 5. Conclusions

#### 5.1 Discussion of study results

The results provide qualified support for the theoretical model and most of the hypothesized relationships. Our findings did not support the direct link between neighborhood trust and civic engagement intention, suggesting instead that the relationship is fully mediated by place attachment and civic responsibility. We explain this as follows: Neighborhood trust does not increase the intention to engage in neighborly activities because deep trust in people in the neighborhood can lead to underestimating the own role for engagement activities. Trust in people in the neighborhood may lead to individuals placing neighborly affairs in the hands of their neighbors.

However, the results indicate that neighborhood friends has both a direct effect and an indirect effect through place attachment and civic responsibility on civic engagement intention. The stronger the social network and connections to other people in the neighborhood, the stronger the sense of community (Cornman et al. 2003). This sense of community leads to the fact that people want to involve themselves in community issues and therefore engage neighborly. In addition, social relationships are based on positive reciprocity. The more someone is integrated into his or her neighborhood, the more likely is mutual help within the neighborhood (Sampson 2003).

Consistent with our hypothesis, we find that place attachment mediates the effect of neighborhood trust and neighborhood friends on civic engagement intention. The stronger the trust and social relationships in the neighborhood, the stronger the sense of neighborhood connectedness. Place attachment therefore depicts the emotional bonding to the neighborhood which is determined by trust and social relationships (Jorgensen 2010; Lenzi et al. 2013).

Furthermore, civic responsibility is found to mediate the effect of neighborhood trust and neighborhood friends on local civic engagement intention. This result is consistent with the assumptions of the norms and collective efficacy model (Leventhal and Brooks-Gunn 2000). The stronger the trust and social relationships in the neighborhood, the stronger the feeling of obligation to give something back to the community (Lenzi et al. 2013). Our findings provide support to the claim that civic discussions can make citizens more aware of societal problems and increase their motivation to work for collective goals in the neighborhood (Lenzi et al. 2014).

As further hypothesized, place attachment influences civic responsibility in a positive way. The more an individual feels attached to his or her neighborhood as a place, the more likely it is that an individual has a stronger feeling of responsibility toward its community (Lenzi et al. 2013).

Finally, the analysis revealed that reciprocity expectations negatively moderate the effect of civic responsibility on civic engagement intention. This finding supports the assumption that reciprocity considerations are based on selfish motives (Wasko and Faraj 2005). People whose personality trait of reciprocity is more pronounced, will only engage in voluntary activities if they expect some reward in present or future times. However, our results suggest that possible rewards of voluntary engagement cannot be foreseen right away. Thus, civic engagement is not necessarily associated with mutuality. Considerations based on reciprocity create inhibitions for individuals to engage in neighborly relationships and the positive effect of civic responsibility on civic engagement intention is thereby mitigated (Perugini et al. 2003).

#### 5.2 Practical implications

In summary, we believe that our findings have important implications for city governments' planning policies and neighborhood policies. The study results indicate that psychological and social processes are of particular importance in developing intentions to participate. Efforts to enhance social interactions among neighborhood residents may lead directly to greater civic involvement. Such efforts could be the establishment of community initiatives to reduce physical and social disorder and to strengthen neighborhood ties. Creating environmental support for physical activity, such as offering sports programs for neighbors, facilitates encounters and the development of friendships within neighborhoods. City governments' planning policies and related urban designs should create more public open space in residential areas in order to provide opportunities for neighbors to get in contact with each other. According to previous research (Anthony and Nicotera 2008; Quane and Rankin 2006), the opportunities offered by the local community, in terms of meeting places, social events and activities, play an important role in promoting the social connectedness among residents, allowing them to get to know each other and developing relationships characterized by trust and reciprocity.

Furthermore, our findings suggest that personal values and personality traits play an important role in people's decision to engage in neighborly activities. The assumption that agents make their decisions based on pure self-interest has served economists well in many areas (Fehr and Gächter 2000). Hence, policymakers should provide explicit incentives for citizens to engage in neighborly activities in order to increase expected returns of prosocial behavior, e.g. offering a prize or a reward to the most engaged people in the neighborhood. In particular, policymakers should highlight the benefits of civic engagement activities, for example mutual support or a strengthened social network as outcome.

#### 5.3 Study limitations

The study's results have to be considered against the backdrop of some limitations. First, we only assessed intention to engage in civic activities in our study, however, actual local civic engagement, e.g., helping elderly people in the neighborhood, in Germany is generally low. In 2014, only 9.0% of the population aged 14 and older reported to locally engage in civic activities (Federal Ministry for Family Affairs, Senior Citizens, Women and Youth 2016). However, in accordance with the theory of planned behavior, behavioral intentions constitute an important prerequisite of actual behavior (Ajzen 1985). Therefore, we assume that intentions to become civically engaged can reliably lead to actual civic engagement. Second, intention items were rather ambiguous, as they lacked detailed information on specific forms of civic engagement. This should be considered when analyzing the results as respondents may have imagined different voluntary activities during answering to these questions. Third, it is unclear whether the study results can be transferred to other cases. The current study considered a sample of German residents and the transferability of the study results to other countries or cultures might be limited.

#### 5.4 Avenues for future research

This study opens several avenues for future research. First, analyzing actual behavioral data on citizens' participation in voluntary neighborly activities instead of intention, would allow for an advanced analysis of our conceptual model. Second, subsequent research may benefit from examining different types of civic engagement in detail. Future studies could expand the definition of civic engagement in ways that capture activities that are meaningful to individuals from different backgrounds. It would be important, for example, to examine whether voting behavior is determined by the same factors as supporting neighbors in need or local political activism. Future research could also consider other forms of civic engagement, such as being member in neighborhood associations or helping elderly people. Third, further studies could extend the conceptual framework by considering other explanatory variables, for example more complex emotional constructs (e.g., pity or empathy). Future studies could, for instance, integrate the 'Theory of Planned Behavior' into the existing model to examine how civic engagement intention relate to attitude toward civic engagement, subjective norms and perceived behavioral control. The social pressure of others, measured as subjective norms, may be a strong predictor of civic engagement intention.

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## Appendix

## Appendix A. Sociodemographic characteristics of the sample (N=610)

Variables	%
Gender	
Female	53.4
Male	46.6
Age (years)	
21 – 29	17.7
30 – 39	22.3
40-49	14.4
50 - 64	33.0
> 64	12.6
Education Level	
None	.7
Basic Secondary Education	14.3
General Secondary Education	35.9
A-Levels	28.9
University Diploma	20.3
Income (€)	
< 10,000	11.1
10,000 – 20,000	17.5
20,001 – 30,000	22.5
30,001 – 40,000	16.4
40,001 – 50,000	10.0
> 50,000	14.0
Unanswered	8.5
Form of housing	
Flat-sharing community/cooperative form of housing	32.8
Single-family/terraced house	33.6

Apartment building without cooperative background	33.6
Duration of residence (years)	
2 – 5	28.2
6 - 10	19.8
> 10	52.0

### Appendix B: Question Items

Neighborhood Trust:

- NT1: I trust the people in my neighborhood.
- NT2: I feel safe in my neighborhood.
- NT3: Even if the people in my neighborhood had the opportunity, they would not take advantage of me.

Neighborhood Friends:

- NF1: I love to spend time with the people who live in my neighborhood.
- NF2: I think that I have much in common with the people who live in my neighborhood.
- NF3: If I need company, I can contact somebody from my neighborhood.
- NF4: The friendships and connections that I have with the people in my neighborhood mean a lot to me.

Place Attachment:

- PA1: I identify strongly with my neighborhood.
- PA2: My neighborhood is part of me.
- PA3: I feel attached my neighborhood.
- PA4: My neighborhood means a lot to me.

Civic Responsibility:

- CR1: ... I can make a difference in my neighborhood.
- CR2: ... all citizens have a responsibility to their neighborhood.
- CR3: ... it is important to be informed of neighborhood issues.
- CR4: ... it is important to get involved in civic engagement activities.

Reciprocity:

- RP1: I help others while expecting to get help from them in the future.
- RP2: I help others because I expect a personal reward.
- RP3: I like helping others because it gives me a sense of control.
- RP4: I only help others if I get something useful from my actions.

Civic Engagement Intention: That I will engage in neighborhood civic activities in the future, is...

- Cl1: ... very unlikely (1) very likely (5)
- Cl2: ... very uncertain (1) very certain (5)
- CI3: ... absolutely precluded (1) not precluded at all (5)

## Appendix C. Significant total and specific indirect effects

	Total	TCtatistics	DValues	Bias-corrected Bootstrap Interva	
	Indirect Effect	T Statistics	P Values	2.5%	97.5%
NF → CI	0.281	5.965	0.000	0.189	0.375
NF → CR	0.182	5.116	0.000	0.113	0.252
NT → CI	0.101	4.829	0.000	0.064	0.146
NT → CR	0.053	4.128	0.000	0.032	0.083
PA → CI	0.073	3.797	0.000	0.041	0.117

Total Indirect Effects

### Specific Indirect Effects

	Indirect	P-Values	Bias-corrected Bootstrap Intervals		
	Effects		2.5%	97.5%	
$NF \rightarrow CR \rightarrow CI$	0.112	0.000	0.066	0.166	
$NT \rightarrow CR \rightarrow CI$	0.052	0.001	0.025	0.087	
$NF \rightarrow PA \rightarrow CR \rightarrow CI$	0.050	0.000	0.028	0.082	
$PA \rightarrow CR \rightarrow CI$	0.073	0.000	0.041	0.117	
$NT \rightarrow PA \rightarrow CR \rightarrow CI$	0.015	0.001	0.008	0.026	
$NF \rightarrow PA \rightarrow CI$	0.119	0.002	0.048	0.198	
$NT \rightarrow PA \rightarrow CI$	0.035	0.004	0.015	0.063	

Appendix D. Significant effects of the structural va	ariables on the model components
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	P- Path Values		Bias-corrected Bootstrap Intervals	
		Values	2.5%	97.5%
6-10 years duration of residence $\rightarrow$ CI	0.061	0.049	0.000	0.120
10,000-20,000 residents $\rightarrow$ CI	0.068	0.039	0.002	0.132
21-29 years $\rightarrow$ CI	-0.118	0.004	-0.198	-0.036
21-29 years $\rightarrow$ PA	-0.090	0.008	-0.156	-0.027
50,000-100,000 residents $\rightarrow$ PA	0.060	0.026	0.006	0.111
Cooperative form of housing $\rightarrow$ CR	0.063	0.074	-0.007	0.134
$Male \rightarrow CR$	-0.061	0.015	-0.109	-0.012
Civic engagement (last 12 months) $\rightarrow$ CI	0.150	0.000	0.087	0.214
Civic engagement (last 12 months) $\rightarrow$ PA	0.069	0.010	0.016	0.123
Civic engagement (last 12 months) $\rightarrow$ CR	0.123	0.000	0.068	0.183

Complete results are available upon request