Your Local Eco-Village: How Shared Identity and Place Attachment Might Invite Participation

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Abstract

In the rising popularity of Eco-villages as an alternative way of life, we conducted a field survey study (*n*=181) in the area surrounding an eco-village in Groningen. We recruited participants using a convenience sampling method. We investigated the effects between shared identity and place attachment on Willingness to Participate, as well as a possible moderation effect of place attachment. Two linear regression analyses, and a multiple linear regression analysis, provided support for our first two hypotheses, but not the third. We found evidence for a positive relationship between Shared Identity and Willingness to Participate, and a positive relationship between Natural Place Attachment and Willingness to Join. There was no statistically significant influence of place attachment on the relationship between shared identity and Willingness to Participate. These findings contribute to the understanding of what motivates people to engage with energy initiatives, which may prove useful to policy makers and organizers of such initiatives.

Keywords: Place attachment, shared social identity, Willingness to Participate, eco-villages

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In the wake of environmental issues whose effects are starkly felt (IPCC, 2023), different people have come up with different ways of contributing to the battle against climate change. One of these ways has been gaining popularity in recent times. That is, the establishment and maintenance of Eco-villages: small communities, based around low energy consumption and sustainable living habits (Gilman, 1995). Within these spaces, individuals, couples or families create an alternative way of living, depending on renewable energy, while retaining a high quality of life (Jackson, 2004). These villages, various in size, often exist within larger communities, for example neighborhoods or towns, but maintain clear boundaries between who is part of them and who isn't. This paper is centered on the Paradijsvogeltuin, a small eco-community in Groningen, and the way it interacts with its neighbors. In an attempt to understand what motivates outsiders to participate in these communities and thus engage with

sustainable habits, we propose the impact of two components: (a) how much the neighborhood socially identifies with the eco-village and (b) how attached the local residents are with the natural environment of their neighborhood.

By conducting a field study, we hope to provide evidence that attachment to the natural environment of an individual's neighborhood will moderate the relationship between their Shared Identity with the eco-village and their Willingness to Participate in the Eco-village.

Shared Identity

Shared Identity highlights a feeling of unity between individuals who perceive themselves as belonging to the same group. It is defined by common goals, values and experiences, which create a sense of solidarity (Postmets et al., 2013). To introduce Shared Identity as it appears in this study, it is important to consider its theoretical framework which includes The Social Identity Theory, introduced by Tajfel and Turner in 1986. The theory posits that social identification operates on two levels, one of which is social identity. Social identity pertains to the sense of self derived from membership in a social group, focusing on characteristics shared with group members. Shared Identity concerned less with the individual's perception of themselves, and more with commonalities between members of the same social group (Postmates et al., 2013). According to Ellmers et al. (1999), the members of a group with whom one shares a social identity, are more likely to be trusted and influential than people one does not share a social identity with. In line with this finding, Postmes (2013) posited that highlighting a shared membership of people within a group, can facilitate a sense of shared identity in opposing groups, even when there is diversity among them (Gaertner & Dovidio, 2000).

In the cases that people identify with a social group, they tend to incorporate its values into their sense of self, and adjust their behavior according to the group's goals, even in the presence of outside pressures (Turner, 1999). This phenomenon can be observed in eco-villages and their surrounding communities, where the neighbourhood functions as a social group that affects perceptions and behaviors in a way that cultivates a shared identity between the two groups. Thus, creating connections and bridging the gap between the eco-village and the residents of the neighbourhood (Nolan et al., 2008). Additionally, Sloot et al. (2019), conducted a study on what motivates people to engage with community energy initiatives in Utrecht. They found that the involvement of the local community promoted cooperation among participants, even when they were less driven by environmental motives. Furthermore, the existence of shared identity between an eco-village and its surrounding neighbourhood can foster collective action and create space for collaboration (Jans, Perlaviciute, & Goedkoop, 2023).

A recent experimental study by Goedkoep and Jans (2023) attempted to link Shared Identity between a fictional eco village and the local community with feelings of warmth and willingness to engage with the eco village. Participants were first required to answer questions about their environmental behaviors and levels of identification. Later, they were asked to read scenarios regarding a fictional eco-village and placed within their local community, with different scenarios associated with different levels of moral motivation and Shared Identity. The study's findings showed a limited effect of Shared Identity on perceived warmth of the eco-village, but it helped in minimizing the negative effects that high moralization had on Willingness to Participate in the eco-village. The study suggested that Shared Identity had conservative effects due to participants not adequately perceiving the eco-village members as identifying with the local community, even when they were described so.

The current study contributes to the current literature, by testing the relationship between shared identity and Willingness to Participate, in the context of a local community which includes an eco-village. It assumes that participants are to an extent already familiar with the eco-village and various levels of shared identity with the members of the ecovillage. The real-world setting of our study might help detect an increase in the effect of shared identity on willingness to participate as compared to the study of Goedkoep and Jans (2023).

Moderation Effect of Place Attachment

Place attachment refers to the bonding an individual develops towards an environment that is meaningful to them (Giuliani, 2003). This concept encompasses multiple dimensions (Scannell & Gifford, 2010), including a person, a psychological process and place. The first component relates to the individual that is attached, and whether they derive their meaningfulness about a place from a personal or a collective point. The second component is concerned with the affective, cognitive and behavioral aspects of the attachment. Finally, the place dimension deals with the different features of a place: its spatial level, the degree of specificity that it pertains and the social or physical characteristics of the place. In this study, we are primarily concerned with natural place attachment, which relates to physical attachment towards natural components of a place (Clayton, 2003).

Previous studies have found a link between high natural place attachment and engaging in pro-environmental behaviours. Scannel and Gifford (2010) examined the relationship between natural place attachment and pro-environmental behavior by conducting a survey in British Columbia, Canada. Pro-environmental behavior was measured with questions regarding pro-environmental actions such as garbage removal, volunteering in nature protection projects

and power conservation. The study concluded that natural place attachment had a significant effect on pro-environmental actions, even when controlling for variables like age and gender and duration of residence. They also found that natural place attachment was a stronger predictor of pro-environmental behavior than civic place attachment.

Similarly, Devine-Wright (2011), studied the relationship between natural place attachment- specifically the residents' bond with Strangford Lough's natural environment, and willingness to accept a relatively new renewable energy project in Northern Ireland. The project was a grid-connected tidal energy convertor installed three years prior. The researcher's findings supported the hypothesis that residents were more likely to be accepting of the converter when they felt more connected to the natural environment of their residence.

Our research is the first to investigate Natural Place Attachment as a facilitator of the relationship between Shared Identity and Willingness to Participate in an Eco-Village. However, the moderator was selected after considering existing research that provides evidence for a relationship between Place Attachment and Shared Identity in environmental contexts. One example is Escalera-Reyes (2021) case study about socio-ecological systems, in Pegalajar, a small Andalusian town. According to the author the town relied on its natural environment for water and agriculture. However, exploitation of these resources led to a diminished ability to sustain this way of living, threatening cultural and social aspects of the community. The study demonstrated that place attachment and a shared identity amongst the townsfolk enhanced the resilience of the residents to adapt to the changes and preserve the remaining ecosystem (Escalera-Reyes, 2021). Moreover, Manzo and Perkins (2006) found a positive relationship between place attachment, place identity and a sense of shared identity and the planning and development of a community. This result relates to our own research as we hypothesized that

place attachment and shared identity can mobilize people to participate in an ecovillage, and as a side effect, blur the lines between the eco-village community and the neighbourhood community.

Context and Overview of the Study

In our research, we seek to investigate what motivates people to take part in eco-village activities, support them financially, or become interested in joining them. The purpose of the study is to attain greater understanding of the relationship between Shared Identity and willingness to join, and generate support on the moderation role of place attachment on the aforementioned relationship. A more important goal is to understand what motivates people to engage in pro-environmental behaviors, since collective change of habit will prove critical in mitigating the already present effects of climate change (Masson & Fritsche, 2021). Engaging with and joining an eco-village is a positive step towards the direction of collective action. Therefore, gaining more insight on components that motivate people to get involved in initiatives like eco-villages, can provide a base of knowledge from which social scientists can draw when designing interventions and promoting environmentally friendly lifestyles. As the scientific information surrounding eco-villages is currently small, we hope that our study continues the reaction chain of climate change motivated research.

Hypotheses

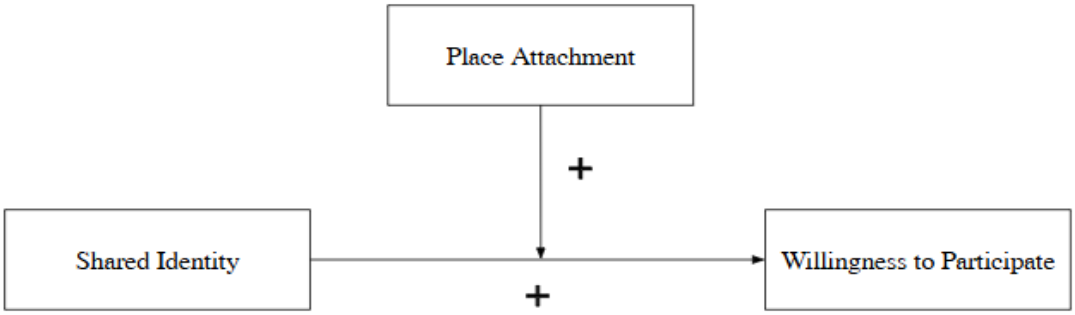
We are investigating three hypotheses:

H1: Shared Identity between neighbourhood and eco village is positively correlated with the Willingness to Participate in the eco-village

H2: Place Attachment is positively positively correlated to people's' Willingness to Participate in eco-villages

H3: Place Attachment has a positive moderating effect on the relationship between Shared

Identity and Willingness to Participate in



Method

Participants

Of the 239 recruited participants we excluded 58 because they hadn't offered a response to the items we were interested in. The new sample consisted of 181 participants. Before recruiting participants, we performed a power analysis to estimate the sample size necessary for sufficient power. Regarding participants' gender, 38% of the participants indicated that they identify as female, 34% as male, 1% as other and 27% preferred not to indicate. The average age of the participants was 43.2 years (SD = 14.96, Min = 18, Max = 77). Regarding their highest educational degree, 6% indicated this would be primary or secondary school education, 10% that this would be a tertiary MBO vocational degree, 28% indicated that it would be an HBO vocational degree of an applied science university, 29% indicated that it would be a university degree and 27% did not indicated. The participants lived on average in the neighborhood for 12.1 years. The Paradijsvogeltuin neighborhood was chosen because the participants were expected to

be somewhat familiar with the ecovillage in their neighborhood and have some form of relation with it.

Procedure and Design

When recruiting participants, the method of selective convenience sampling was used. The study employs a correlational design with a moderation analysis. Within that design a total of 13 variables were measured, but only three were used for this study. To recruit the participants, we visited the neighborhood of Oosterparkwijk which surrounds the ecovillage Paradijsvogeltuin, and asked each household for participation. Each of us was tasked with recruiting 40 individuals, some of which were sharing a household. Random sampling was not feasible in our study due to practical limitations. We could not ensure that all inhabitants of the Oosterparkwijk had an equal chance of selection, as it was impossible to contact the entire population. Furthermore, our selection process introduced bias, as data collection was restricted to a specific time frame, inadvertently excluding residents that were not at home during that period. We provided the participants with information on the study by providing a flyer and cover letter. The participants were incentivized to complete the survey through the possibility to enter a draw for two prizes. One was made by an individual from the ecovillage and the other was a 25 Euro voucher for bol.com. Additionally, we bought chocolate bars which we offered when a potential participant opened their door. This flyer contained a QR code that the person could scan to access the survey at their own convenience. All participants were free to decide whether they wanted to participate by submitting their consent.

Once the individual began the survey online, it took approximately 10-15 minutes for them to complete it. The survey measured the participants' shared social identity with the eco

village, the place attachment they felt towards their neighbourhood, and finally their Willingness to Participate in the ecovillage.

Measures

Shared Identity

Shared Identity was measured using a validated scale with six items rated on a 7-point Likert scale from 1 ("Strongly disagree") to 7 ("Strongly agree"). Example items include "The residents of the Paradijsvogeltuin and the residents of my neighborhood belong to the same group." and "The residents of the Paradijsvogeltuin and the residents of my neighborhood have shared interests." The third item was used as an attention check, and was later removed from the analysis. Item four and five were reverse coded. Total scores were calculated by averaging the item responses, with higher scores indicating higher shared identity. Internal consistency of the scale was found to be low. For that reason, item two was removed. The variability after the removal was acceptable (*α=.67, M=11.16, SD=5.13*).

Place Attachment

Place Attachment was measured by the Abbreviated Place Attachment Scale (APAS) (Boley et al., 2021) which measures the degree to which individuals identify and connect with their neighbourhood. The scale consists of three items rated on a 7-point Likert scale ranging from 1 ("Strongly disagree") to 7 ("Strongly agree"). An example of an item is "I find the green gnfúfkenvironment of the Oosterparkwijk special". Responses were averaged to create a total Place Attachment score, with higher scores indicating greater Place Attachment. The reliability for the scale in this sample was good (*α= .81, M=18.16, SD=3.04*).

Willingness to Participate

Willingness to Participate in was measured using six items, two of which were adapted from Sloot et al. (2018) and four additional items adapted from Goedkoop and Jans (2023). The six items were designed to discern the level at which participants intended to become involved with the ecovillage, beginning at the lowest and concluding at the highest level of commitment: "I would like to receive information about the Paradijsvogeltuin." to "I want to live in Paradijsvogeltuin". They were scored on a 7-point Likert scale, rating participants' agreement from "strongly disagree" to "strongly agree". The reliability across the scale was high (α*=.86, M=22.77, SD=7.03*).

Data Analysis Plan

In our data analysis, a multiple linear regression analysis was conducted. The analysis will be performed using the statistical analysis tool SPSS-27. All three of the variables are quantitative. First the descriptive statistics will be established, including the Mean, Standard Deviation, and the Pearson's Correlation. Assumptions will be checked for all our data. A scatterplot will be generated to check for linearity. Homoscedasticity will be tested using a scatterplot of residuals, to make sure that the variances are equal across all levels of the independent variable in the regression. Additionally, normality will be checked using a P-P plot to ensure a normal distribution following the line. Lastly, multicollinearity will be tested by checking the VIF values in the collinearity diagnostics of the regression analysis. A significance level of 0.05 will be used in this analysis. Moving to the main analysis, an interaction variable will have to be calculated, by multiplying the independent variable with the moderator using standardized (z-scores) to calculate this. Continuing forward a multiple linear regression analysis will be performed, to ascertain the coefficient for the interaction effect and test for significance.

If an interaction is present, a simple slope graph will be created to show this. Furthermore, a regression analysis will be run using PROCESS macro (Hayes, 2012) to determine the regression coefficients for the main effects and interaction, as well as the conditional effects at different levels of the moderator

Ethics Statement

On the basis of a checklist developed by the EC-BSS at the University of Groningen, the study was exempt from full ethical review.

Results

Preliminary Analysis

We began our analysis by establishing the descriptive statistics and correlation matrix. The average score for Willingness to Participate was 3.79 (*SD*=1.18), while the scores for Place Attachment (*M*=6.05, *SD*=1.01) and Shared Identity (*M*=4.22, *SD*=1.23) were quite high.

Moving forward, we checked whether the assumptions necessary in performing a linear regression analysis were met. We ran a P-P plot to examine normality and found that the residuals were normally distributed and followed a straight line, which led us to the conclusion that the assumption of normality was met. Additionally, we conducted a regression analysis, to assess whether Shared Identity and Place Attachment (the independent variable and moderator) were themselves correlated. We looked at VIF (1.00) and tolerance scores (1.00). Both VIF and the tolerance score showed low multicollinearity. Hence, the assumption of multicollinearity was not violated. Furthermore, we employed a scatterplot to check for homoscedasticity. The residuals were approximately equally distributed, indicating that homoscedasticity was not violated. Lastly, using the scatterplot, we proceeded to check for linearity. The points followed a

clear linear pattern, which suggested a linear relationship. The tests showed that all the assumptions were adequately met.

Correlation Table

	N	*M*	SD	1	2
Willingness to Participate	182	3.79	1.18		
Place Attachment	182	6.05	1.01	.21**	
Shared Identity	182	4.22	1.23	.31**	.16*

Descriptive Statistics *p<.05, **p<.01, ***p<.001

Main Analysis

In our analysis, we were initially interested to test our first hypothesis, namely that Shared Identity correlates with Willingness to Participate. In order to examine the relationship between the variables we conducted a linear regression analysis. We entered the Shared Identity as the independent variable and Willingness to Participate as the dependent variable and ran the regression. The analysis showed a statistically significant, positive relationship between these two variables (R^2 = .23, F(1, 182) = 10.14, b=.16, p=.002, 95% *CI* [0.60, 0.25]). In line with the hypothesis, our results indicated that Shared Identity is positively related to Willingness to Participate, therefore we found evidence supporting our first hypothesis.

We continued by testing our second hypothesis using linear regression analysis. The hypothesis stated that Place Attachment is positively associated with Willingness to Participate. We found a statistically significant positive correlation between the two variables (R^2 = .18, F(1,

180) = 5.96, b=.21, p=.016, 95% *CI* [0.04, 0.38]). In accordance with our second hypothesis, Place Attachment and Willingness to Participate are positively associated. Hence, our second hypothesis was supported.

In order to test our final hypothesis, we conducted a moderator analysis using stepwise multiple linear regression. Our independent variables were Shared Identity and Place Attachment, and the Interaction between them, while the dependent variable was Willingness to Participate. Before we ran the analysis, we centred the independent variables in order to reduce multicollinearity in the model, and make the model coefficients easier to interpret (R^2 = .29, F(3, 180) = 5.35, p<.001). We found that Shared Identity was a significant positive predictor of Willingness to Participate (b=.15, p=.002, 95% *CI* [0.55, 0.25]). Additionally, Place Attachment was a significant predictor of Willingness to Participate (b=.19, p=.026, 95% *CI* [0.23, 0.36]). However, the interaction term was not statistically significant, and it showed a negligible negative correlation (b= .019, p = *.76*, 95% *CI* [-0.10, 0.14]). When we ran two separate models, one which contained only the independent variable and the moderator as predictors and another that contained the interaction in addition to the other two variables, we can observe that the interaction alone explains no additional variance (*R Square Change*= 0.00). The effect size is minimal and non-significant. According to our statistical output, the evidence doesn't support our third hypothesis.

In order to obtain further confirmation about the moderation model we ran a Hayes process model using bootstrapping (Hayes, 2013). Process is useful for discerning how Shared Identity influences Willingness to Participate on Different levels of Place attachment. We attained the same results, which led us to reject our third hypothesis with more confidence.

Discussion

This study demonstrates that both shared identity and place attachment are positively associated with Willingness to Participate, hence supporting the first two hypotheses. However, the results failed to find support for the third hypothesis, that higher scores of place attachment would be related to a stronger positive relationship between shared identity and Willingness to Participate in an eco-village. This is in line with previous research which stated higher place attachment scores relate to pro-environmental behavior (Scannel & Gifford, 2010; Devine-Wright, 2011). It also supplemented previous findings, by demonstrating a positive relationship between social identity and Willingness to Participate in an eco-village (Goedkoep and Jans, 2023).

The insufficient evidence that place attachment moderates the relationship between shared identity and Willingness to Participate in the eco village requires further inspection. It is possible that people who have a high Place Attachment are environmentally motivated to participate in an initiative such as eco-villages, regardless of their sense of shared identity, and likewise, people who share identities with the ecovillage members are interested in participating regardless of their attachment to the neighbourhood. Further evidence that the two variables stem from different psychological mechanisms, is that the definition of shared identity relies on collective action and feelings of unity (Postmets et al., 2013), while place attachment is defined in terms of the individual and their personal relationship with a place (Giuliani, 2003).

A possible pitfall in our study was that we focused on the Natural aspect of Place Attachment. In our questionnaire we utilized the Abbreviated Place Attachment Scale (APAS) (Boley et al., 2021) and excluded the items about civic attachment. Place Attachment contains many facets beyond its natural aspect and a particular dimension could be useful when regarded in relation to Shared Identity. That would be a definition of Place Attachment that considers

social relationships, as offered by Monzo's (2003) critique of the traditional understanding of Place Attachment. Further research could employ qualitative methods to get a more holistic insight into people's relation to their place of residence and how an environmental community within that place interacts with their attachment. Dixon-Woods et al. (2005) provide a range of methods through which qualitative and quantitative data can be synthesized to target the relationship and content of variables from multiple angles, ensuring that all relevant research is available to policy makers and applied social psychologists.

Moreover, our study is a snapshot of participants' current views regarding their attachment to their neighbourhood, their sense of shared identity with the ecovillage as well as their willingness to participate in the ecovillage. In the future, it would be useful to conduct a longitudinal study, to examine how the changes in the independent variable and the moderator over time, influence their desire to participate in the eco-village. Alternatively, it could test whether prolonged exposure to the eco-village increases the sense of shared identity and in turn facilitates willingness to participate.

A third limitation concerns the phase of data collection. Since we didn't visit the houses in the eco-village neighbourhood around the clock, it is possible that we excluded people who were working irregular hours, and weren't able to answer the door. A true random sample in a correlational field study is improbable, but we could have mitigated the selection bias by randomly choosing the houses we visited.

Finally, a factor that could be taken into consideration is the specific context of our study. The Paradijsvogeltuin eco-village is already embedded within a broader neighborhood, and thus its residents and those of the surrounding community may have long-standing, complex relationships that were not fully accounted for in our study. The level of integration between the

eco-village and the neighborhood may influence whether shared identity and place attachment interact in motivating participation. Further research might consider whether similar patterns hold in more isolated or newly established eco-villages, where shared identity may therefore play a more central role. Moreover, it would be interesting to see if the relationship of the two variables and willingness to participate varies according to one's proximity with the eco-village. According to Alvi et al. (2024), perceived convenience of a pro-environmental action positively correlates with performing that action, therefore distance could hinder people's willingness to participate in the eco-village.

Our research further enhances the database of information regarding social factors that promote participation in eco-villages. They emphasize the role of Shared Identity in enabling environmental engagement while simultaneously stressing the independent contribution of place attachment. Understanding these processes can inform the establishment of strategies to promote the involvement in eco-villages locally. Additionally, organizers of new eco-village communities can take in consideration the pre-existing attachments and identities of people when deciding where to base a new initiative. Finally, our findings can be useful to policy makers for the development of different actions, from community-oriented urban planning, to providing financial and institutional support.

Conclusion

Our study focuses on one determined attempt to mitigate climate change, through a committed change of lifestyle in the self organized communities of eco-villages. It gives insight to the question: what does it take to participate in the shift? We asked locally and found that people's attachment to their neighbourhood, and how much they identified with the eco-village community, enhanced their willingness to be a part of it. There is still a long way to go, when it

comes to mobilizing the public to embrace pro-environmental practices, and our study is but a small contribution in that direction.

References

Bonaiuto (Eds.), Psychological theories for environmental issues (pp. 137–170). Aldershot: Ashgate.

Boley, B. B., Strzelecka, M., Yeager, E. P., Ribeiro, M. A., Aleshinloye, K. D., Woosnam, K. M., & Mimbs, B. P. (2021). Measuring place attachment with the abbreviated place attachment scale (APAS). *Journal of environmental psychology,* 74, 101577.

Brieger, S. A. (2019). Social identity and environmental concern: The importance of contextual effects. *Environment and Behavior,* 51(7), 828-855.

Clayton, S. (2003). Environmental identity: conceptual and operational definition. In S. Clayton, & S. Opotow (Eds.), Identity and the natural environment: The psychological significance of nature (pp. 45–65). Cambridge, MA: MIT Press.

Devine-Wright, P. (2011). Place attachment and public acceptance of renewable energy: A tidal

energy case study. *Journal of Environmental Psychology*, 31(4), 336-343.

Dixon-Woods, M., Agarwal, S., Jones, D., Young, B., & Sutton, A. (2005). Synthesising qualitative and quantitative evidence: a review of possible methods. *Journal of health services research & policy,* 10(1), 45-53.

Ellemers, N., Kortekaas, P., & Ouwerkerk, J. W. (1999). Self‐categorisation, commitment to the group and group self‐esteem as related but distinct aspects of social identity. *European journal of social psychology,* 29(2‐3), 371-389.

Escalera-Reyes, J. (2020). Place attachment, feeling of belonging and collective identity in socio-ecological systems: Study case of Pegalajar (Andalusia-Spain). *Sustainability*, 12(8), 3388. https://www.mdpi.com/696992

Gaertner, S. L., & Dovidio, J. F. (2014). Reducing intergroup bias: *The common ingroup identity model.* Psychology Press.

Gilman, R. (1995). What is an Ecovillage?.

Giuliani, M. V. (2003). Theory of attachment and place attachment. In M. Bonnes, T. Lee, & M.

Goedkoop, F. & Jans, L. (2023). Effects of energy community set-ups on support for and willingness to join energy communities. Report on experimental studies on energy

IPCC. (2023): Climate Change 2023: Synthesis Report. *Intergovernmental Panel on Climate Change* (6th ed., pp. 35-115). 10.59327/IPCC/AR6-9789291691647

Jackson, R. (2004). The ecovillage movement. *Permaculture magazine*, 40(0), 1-11.

Jans, L. (2021). Changing environmental behaviour from the bottom up: The formation of pro-environmental social identities. *Journal of Environmental Psychology*, 73, 101531.

communities, 42-47

Masson, T., & Fritsche, I. (2021). We need climate change mitigation and climate change mitigation needs the 'We': a state-of-the-art review of social identity effects motivating climate change action. *Current opinion in behavioral sciences*, 42, 89-96.

Manzo, L. C. (2003). Beyond house and haven: Toward a revisioning of emotional relationships with places. *Journal of environmental psychology*, 23(1), 47-61.

Manzo, L. C., & Perkins, D. D. (2006). Finding common ground: The importance of place attachment to community participation and planning. *Journal of planning literature*, 20(4), 335-350.

Nolan, J. M., Schultz, P. W., Cialdini, R. B., Goldstein, N. J., & Griskevicius, V. (2008). Normative Social Influence is Underdetected. Personality and Social Psychology Bulletin, 34(7), 913-923. https://doi.org/10.1177/0146167208316691

Postmes, T., Haslam, S. A., & Jans, L. (2013). A single‐item measure of social identification: Reliability, validity, and utility. *British journal of social psychology,* 52(4), 597-617.

Scannell, L., & Gifford, R. (2010). The relations between natural and civic place attachment and pro-environmental behavior. *Journal of environmental psychology*, 30(3), 289-297.

Scannell, L., & Gifford, R. (2010). Defining place attachment: a tripartite organizing framework. *Journal of Environmental Psychology,* 30, 1–10.

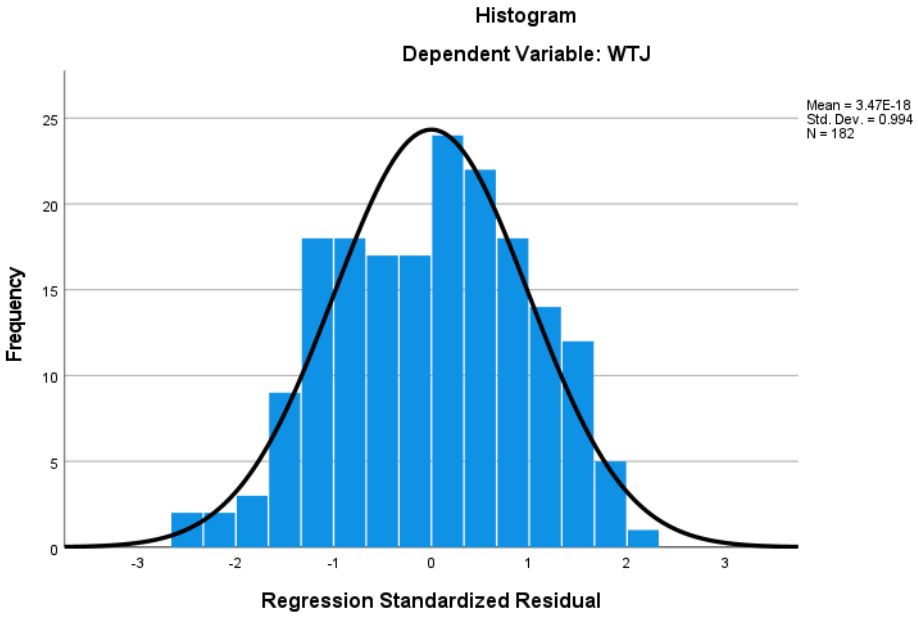
Sloot, D., Jans, L., & Steg, L. (2019). In it for the money, the environment, or the community? Motives for being involved in community energy initiatives. *Global Environmental Change*, 57, 101936.

Sutton, S. (1998). Predicting and explaining intentions and behavior: How well are we doing?. *Journal of applied social psychology*, *28*(15), 1317-1338.

Tajfel, H., & Turner, J. C. (1978). Intergroup behavior. Introducing social psychology, 401(466), 149-178.

Vu, T. H. (2024). Perceived Convenience, Social Influence and Household Waste Sorting Behavior of Young Residents: An Empirical Study From a Developing Country. *The Journal of Environment & Development,* 10704965241284008.

Appendix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Std. Dev. = 0.994
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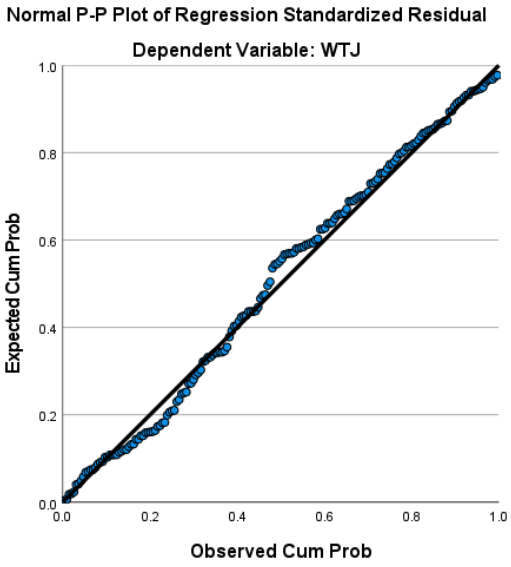
20
15
10
5
0
-3
-2
-1
0
1
2
3
Regression Standardized Residual


Normal P-P Plot of Regression Standardized Residual
Dependent Variable: WTJ
Expected Cum Prob
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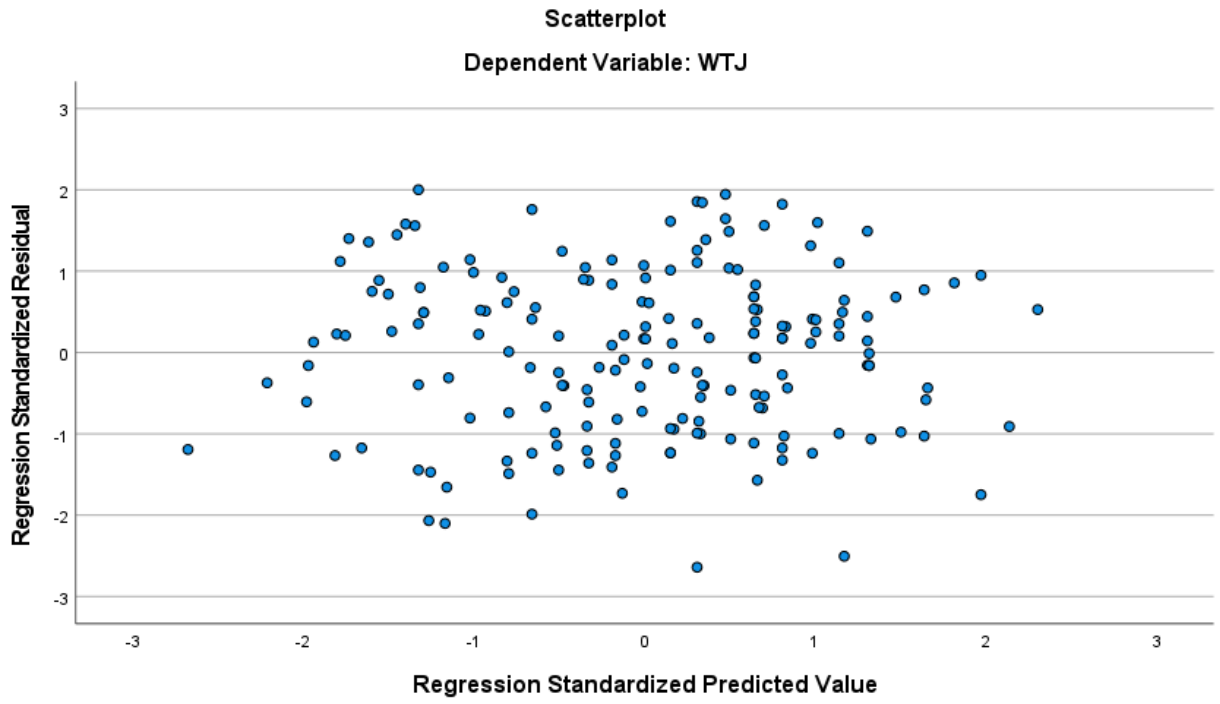
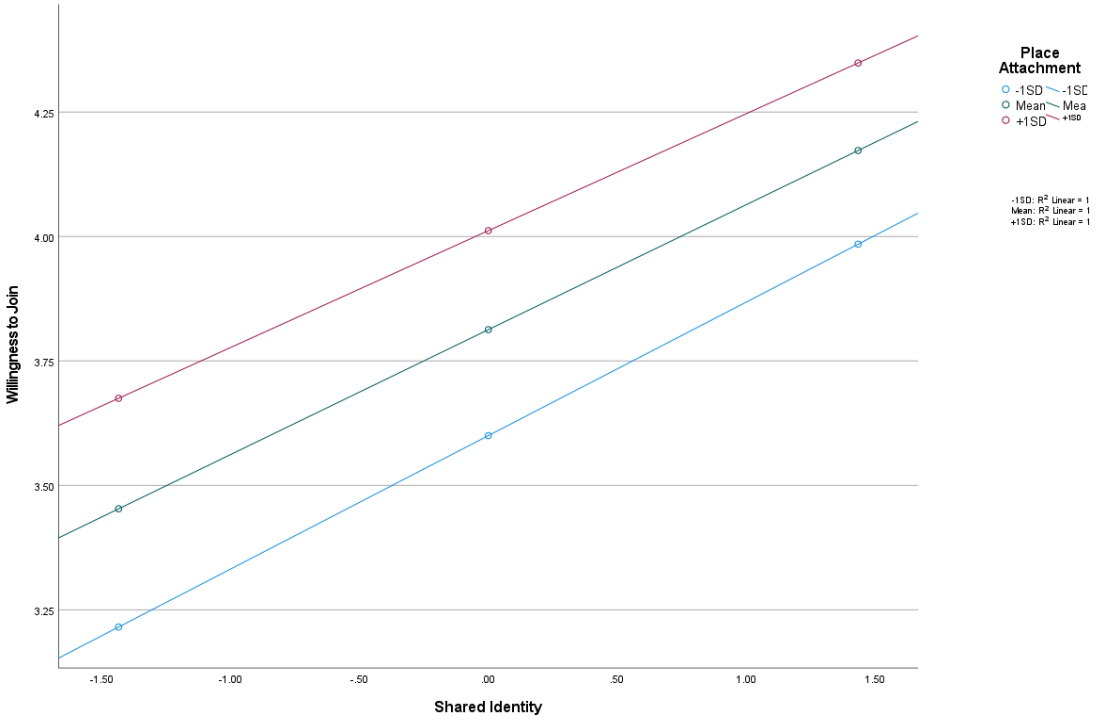
0.6
0.4
0.2
0.0
0.0
0.2
0.4
0.6
0.8
1.0
Observed Cum Prob


Scatterplot
Dependent Variable: WTJ
Regression Standardized Residual
Regression Standardized Predicted Value
3
2
1
0
-1
-2
-3


Willingness to Join
Shared Identity
Place Attachment
-1SD
Mean
+1SD
4.25
4.00
3.75
3.50
3.25
-1.50
-1.00
-.50
.00
.50
1.00
1.50