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# Resident connection to nature and attitudes towards tourism: findings from three different rural nature tourism destinations in Poland

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## ABSTRACT

Despite the growing literature arguing for the consideration of community perspectives in tourism destination governance, little is understood about how residents' connection to nature affects their perceptions of and responses to tourism. This is especially relevant for rural areas rich in nature as many of them have become refugees for urban dwellers seeking recreation during the COVID-19 pandemic. This study combines the Nature's Contributions to People framework and Weber's Theory of Formal and Substantive Rationality to shed light on how rural residents of three nature-based tourism destinations connect with nature and how this connection to nature affects perceptions of empowerment from tourism and ultimately support for tourism. Results provide credence to the importance of including measures of residents' connections to nature when examining attitudes towards tourism in nature areas with connections to nature having significant and positive influences on psychological empowerment and social empowerment at all three destinations and direct and positive effects on support for tourism across two of the three destinations. Furthermore, results suggest that understanding the role nature connection plays in how residents perceive changes within their community can help manage locally emerging conflicts within rural tourism-dependent communities.

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## KEYWORDS

Resident attitudes towards tourism; nature connectedness; resident empowerment; sustainable tourism; nature's contribution to people

## Introduction

With the increasing popularity of peripheral rural nature areas for tourism and recreational use amidst the COVID-19 pandemic (Jeong & Wen, 2020; Rott, 2020; UNWTO, 2020), questions about rural community responses to tourism in those areas are highly relevant. Just like tourists, residents in nature-based destinations directly benefit from nature and having recreational resources close by. Thus, resident attitudes towards nature and their values of it must be taken into account in decision-making about the extent of interventions in nature areas for tourism and recreational use in order to mitigate potential conflicts (Mimbs et al., 2020). In fact, there is a growing consensus that by knowing how people relate to their surroundings, one can better anticipate resident responses to tourism activities happening around their communities

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(Dwyer et al., 2019; Styliadis et al.). Yet, despite this and the growing literature arguing for the inclusion of community perspectives in tourism destination governance (Bramwell, 2011; Dredge & Jamal, 2015), little is known about how rural residents' sense of nature connectedness shapes rural community strategies towards tourism.

One framework that shows promise for better understanding these relationships is Díaz et al.'s (2018) Nature's Contributions to People (NCP). Nature's contributions to people include "all the contributions, both positive and negative, of living nature (diversity of organisms, ecosystems, and their associated ecological and evolutionary processes) to people's quality of life" (Díaz et al., 2018, p. 270). The NCP approach highlights that as people benefit from cultural ecosystem services (CES), they learn to value nature for what it offers to them (Chan et al., 2018; Ellis et al., 2019). The logic embedded within this framework sheds light on how rural residents' connection to the tourism landscape originates diverse values derived from nature, including instrumental, intrinsic, and relational values (Winkler & Nicholas, 2016). It promotes the view of nature connectedness as a core relational value that covers how we think about nature, our affective relationship with nature, and the extent to which we see ourselves as part of nature (Pritchard et al., 2020; Richardson et al., 2020). The relational character of nature connectedness emerges through residents' experiences of everyday nature and their daily practices (Arias-Arévalo et al., 2017; Costanza et al., 2017; Díaz et al., 2018; Pascual et al., 2017).

While the Nature's Contributions to People approach has often been applied to enable more effective societal engagement in landscape sustainability (Ellis et al., 2019), tourism scholars have yet to incorporate relational values (in general) and nature connectedness (in particular) into the theory and measurement of rural resident attitudes towards tourism development. With this knowledge gap in mind, this study's primary purpose is to understand the effect of resident ties to nature on their perceptions of empowerment from rural nature tourism (Boley & McGehee, 2014), and ultimately their support for it. Rural nature tourism is essentially a nature-based type of tourism that occurs in rural landscapes characterized by agrarian and forest-based economic activities, 'traditional' social structures, and low population density outside the confines of urban or suburban areas (Lane, 1994, 2009). These types of rural nature-based landscapes provide an important context to study the relationship between resident connection to nature and support for tourism because these rural nature-based landscapes are vital to many ecosystem service initiatives and broader landscape protection initiatives such as the EU's Natura 2000, as well as being vulnerable economic areas looking for economic opportunities to sustain residents' rural lifestyles (Lane, 1994; Wilson et al., 2001).

To this end, we merge the Nature's Contributions to People framework (Díaz et al., 2018) with Weber's Theory of Formal and Substantive Rationality (Boley et al., 2014; Kalberg, 1980) to model resident attitudes towards rural nature tourism. Nature's Contributions to People postulates the role of resident connection to nature through empowering them to embrace tourism development, whereas Weber's Theory of Formal and Substantive Rationality illuminates the context in which to assess residents' attitudes towards tourism as influenced by both non-economic factors such as connection to nature and empowerment from tourism as well as tourism's extrinsic economic rewards (Figure 1). The proposed relationships are examined across three rural nature tourism municipalities in the Pomeranian region of Poland: Lipnica, Karsin, Chojnice. The municipalities were selected with the goal to represent different combinations of nature protection regimes, which creates the opportunity to provide insights about potential differences in resident nature connectedness to each case area.

## **Theoretical development**

### ***The relationship between empowerment from rural nature tourism and support for tourism***

Residents' support for tourism is a core characteristic of locally sustainable tourism and has been previously used as a proxy for resident attitudes towards tourism (Cole, 2006; Nunkoo et al.,

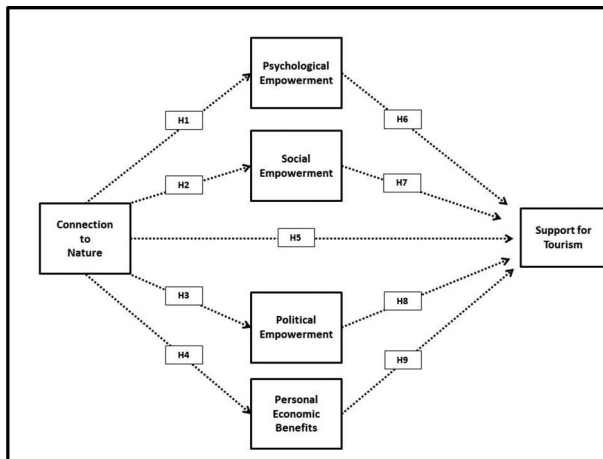


Figure 1. Model of Connection to Nature's influence on resident empowerment and support for tourism.

2013; Strzelecka et al., 2017; ). On the other hand, resident empowerment has been increasingly recognized within tourism research as an integral part of sustainable tourism (Boley & McGehee, 2014; Sofield, 2003; Strzelecka et al., 2017; Joo et al., 2020; Scheyvens, 1999). Given the important implications of resident empowerment and support for tourism to tourism's sustainability, many scholars have studied the mechanisms governing resident empowerment in different tourism development contexts (Boley & McGehee, 2014; Joo et al., 2020; Mendoza-Ramos & Prideaux, 2018; Strzelecka et al., 2017). Nevertheless, there are calls for more research to understand better the source of and the social-psychological factors that reinforce the relationship between resident empowerment and support for tourism, such as rural residents' connection to nature.

Empowerment from tourism is viewed as a multi-dimensional construct with psychological, social, political, and economic facets (Boley et al., 2014; Joo et al., 2020; Strzelecka et al., 2017). In the context of rural nature tourism, psychological empowerment occurs when tourism enhances resident pride and self-esteem, such as when tourists recognize the value and beauty of nature areas surrounding the community they visit (Strzelecka et al., 2017). Resident pride and self-esteem are some of the most significant non-economic benefits of tourism contributing to the host community's wellbeing (Stronza & Gordillo, 2008; Strzelecka et al., 2017). Hence, it is no surprise that many authors have found a strong relationship between residents' psychological empowerment and their support for tourism (e.g., Boley et al., 2014; Strzelecka et al., 2017).

Social empowerment happens when tourism can contribute to community development (Cline et al., 2019) by strengthening local relationships, promoting community cohesion, and positively changing community social structure (Scheyvens, 1999). Social empowerment has been consistently shown to positively influence resident support for tourism (Boley et al., 2014; Maruyama et al., 2017; Strzelecka et al., 2017; Yeager et al., 2020). Nature-tourism can become a catalyst for social change by bringing rural residents together to realize projects, for instance, promoting environmental activism (Anwar-McHenry, 2011; Joo et al., 2020). Tourism can also transform traditional roles within the community (Stronza & Gordillo, 2008). For example, nature tourism can bridge tourism business owners with environmentalists by generating the tangential sustainable outcomes of biodiversity, flood control, water quality, or cultural heritage conservation that stem from the increased incentives to protect natural resources (Boley & Green, 2016).

Politically empowered residents exhibit political efficacy and motivation to employ social and political resources to steer local tourism development to their advantage (Cole, 2006; Strzelecka et al., 2017; Timothy, 2007). Political empowerment "ensures community support and acceptance of tourism development projects" (Cole, 2006, p. 630). In contrast, without political

empowerment, locals "have the inconvenience of tourism without economic advantages" (Sofield, 2003, p. 634). While this form of empowerment from tourism has been frequently hypothesized to have a positive relationship with support for tourism, a positive and significant relationship has yet to materialize (Boley et al., 2014; Maruyama et al., 2017; Strzelecka et al., 2017; Yeager et al., 2020).

Finally, yet importantly, economic empowerment is about opportunities that have arisen in terms of formal and informal sector employment or business opportunities. Thus, it concerns equity in the spread of economic benefits empowerment (Scheyvens, 1999). In this regard, tourism literature has extensively addressed the resident perception of economically benefiting from tourism (e.g., Perdue et al., 1990; Sharpley, 2014). The positive relationship between perceptions of tourism and economic reliance on the tourism sector has been the most consistent finding over the years (Boley et al., 2018).

Tourism scholars have juxtaposed resident perceptions of the economic and non-economic benefits from tourism through the lens of Weber's Theory of Formal and Substantive Rationality (WFSR) (Boley & McGehee, 2014; Strzelecka et al., 2017; Yeager et al., 2020). Weber's Theory of Formal and Substantive Rationality acknowledges that people's decision-making processes are more complicated than sheer motivation for potential economic rewards (e.g., formal rationality) and that people are also influenced by substantive motivations, including their values, morals, and social norms (Kalberg, 1980; McGehee, 2007). Thus, through the substantive rationality piece of Weber's theory, we can argue that perceptions of empowerment from nature tourism are likely to influence their support of tourism.

### ***The role of nature connectedness in the rural resident perception of empowerment from rural nature tourism***

With the Nature's Contributions to People framework focused on the importance of preferences, principles, and virtues based on meaning-saturated connections to nature, the framework offers a robust perspective for understanding how the residents' subjective sense of their relationship with the natural world reinforces local challenges of developing tourism in rural natural areas (Chan et al., 2018; Ramos & Prideaux, 2014). This subjective sense of relationship with the natural world emerges from the value of experiencing nature and the emotional bond between the individual and nature (Beery & Wolf-Watz, 2014; Schultz et al., 2004). It tends to be higher for people who experience nature during their childhood (Hinds & Sparks, 2008) or frequently in their lifetime (Mayer & Frantz, 2004), such as rural residents nearby nature areas. Thus, the strength of one's connection to nature rests on individual geographical, historical knowledge of and familiarity with the surrounding environment (Gustafson, 2001), or provision of other direct cultural ecosystem services (CES) (Wheeler et al., 2015).

The importance of nature connection is evidenced by numerous theories and studies linking it to wellbeing (e.g., Nisbet et al., 2011). The biophilia hypothesis, for example, puts forth that people have an innate need to affiliate with nature, and that satisfaction of this need improves wellbeing such as improved positive affect (Wilson, 1984). The stress reduction theory (SRT) (Ulrich et al., 1991) claims that exposure to nature decreases physiological and psychological stress and thus improves wellbeing. Lastly, attention restoration theory (Kaplan, 1995) predicts that exposure to nature helps reduce attentional fatigue, thus improving cognitive functioning and positive affect. As might be expected, people tend to consider their relationship with nature when they decide on their ecological behaviors (Gosling & Williams, 2010). Strong nature connection fosters empathy and willingness to protect the natural environment (Gosling & Williams, 2010; Kals et al., 1999). It may also be conducive to a sense of environmental responsibility (Roszak, 1992).

Connection to nature is evident in the perception of beautiful landscapes and precious natural heritage that inspire awe amongst residents and visitors alike. However, these different stakeholders might value preserving these natural resources for different reasons (Lai et al., 2013; Wall-Reinius et al., 2019). Protection of nature is usually one of the central goals behind developing sustainable tourism in rural areas nearby natural attractions (Lee, 2013). This form of tourism development can enhance local livelihoods and contribute to synergistic relationships between rural residents and nature conservation efforts (Boley & Green, 2016; Budowski, 1976; Imran et al., 2014). Namely, such nature tourism engages residents to conserve the natural environment as they make a living through its promotion as an attraction, rather than through its extraction (Clements et al., 2013; Nyaupane & Poudel, 2011).

However, tourism can become a contested activity amongst community stakeholders, outlining the importance of understanding which factors affect local attitudes towards tourism. Those with eco-centric views will promote community efforts to preserve the natural landscape, whereas those with views that are more anthropocentric seek changes in the natural environment that fulfill their needs and desires (Uysal et al., 1994). Thus, rural nature tourism can generate conflicts between stakeholders competing with each other in the local economic arena (Wall-Reinius et al., 2019) or those rural stakeholders who compete for different services local ecosystem provides to a community (Falk et al., 2018).

Tourism can also affect how residents connect to their everyday landscape (e.g., Cole, 2006; Margaryan et al., 2018; Robinson & Picard, 2006). The bond that residents form with natural attributes of the landscape can contribute to their involvement in tourism that relies on the preservation and valuation of its natural attributes (Zhang & Lei, 2012). It can add to the proud promotion of this landscape for sustainable tourist consumption (Margaryan et al., 2018), or turn residents' attention to other benefits from tourism (Gursoy et al., 2002; Jones et al., 2000). For instance, when tourism enhances natural attributes of the rural landscape that rural residents value, stronger resident connection to nature will likely correspond to a more positive view of such tourism, including personal, community benefits (Jurowski et al., 1997; Gursoy & Rutherford, 2004) or even tourism economic contributions to nature conservation. In contrast, tourism that brings harm to the natural environment jeopardizes residents' connection to nature. Thus, when residents' bonds with nature are severed because of tourism, their sense of agency in the future direction of their community can be challenged, generating an immediate negative political response to tourism (Devine-Wright, 2009).

As the resident connection to nature tends to be driven by the quality of their experiences of natural surroundings (Beery & Wolf-Watz, 2014; Schultz et al., 2004), this consequently shapes how they perceive the benefits of re-making nature (Margaryan et al., 2018; Zhang & Lei, 2012). Arguably the stronger the bond with nature, the more sensitive residents are to factors that disrupt it. Thus, we propose that the more residents identify with nature and depend on its environment for their lifestyle, the more likely it is that they will feel empowered through tourism that 'cares for nature.' Conversely, weaker bonds with the local environment will not affect so much how residents perceive tourism and therefore generate a weaker resident response to tourism. In other words, when tourism aligns with residents' expectations, strong nature connection may boost the sense of psychological, social, political, and economic empowerment. Ultimately, such perceptions of nature tourism positively affect their support for it.

In contrast, stronger nature bonding may result in the opposite when tourism disrupts a community's relationship to its natural surroundings. Specifically, disruptions in nature bonding are likely to lead to more negative perceptions of tourism within the rural community, such as growing awareness that tourism lacks positive empowering contributions and thus the possible rejection of tourism as a viable development strategy. This means nature ties can strengthen or weaken residents' sensitivity to tourism as an empowering or disempowering experience and influence their support or opposition to tourism. Given the potential effect of nature connection

on resident attitudes, we propose to test the following hypotheses pertaining to connection to nature, empowerment, and support for tourism (Figure 1):

H1: Nature connectedness is a significant predictor of the perceived psychological empowerment through nature tourism.

H2: Nature connectedness is a significant predictor of perceived social empowerment through nature tourism.

H3: Nature connectedness is a significant predictor of the perceived political empowerment through rural nature tourism.

H4: Nature connectedness is a significant predictor of perceived economic benefits from nature tourism.

H5: Connection to nature is a significant predictor of support for tourism

H6: Psychological empowerment is a significant predictor of support for tourism

H7: Social empowerment is a significant predictor of support for tourism

H8: Political empowerment is a significant predictor of support for tourism

H9: Personal economic benefits from tourism is a significant predictor of support for tourism

## Research design

### *Case selection criteria*

In selecting our cases, we used the European Network of Protected Areas (Natura 2000) – the flagship program of the European Union (EU) biodiversity policy implemented in all of the EU member states – as a proxy to determine the ‘naturalness’ of Polish areas. With this strategy, selected study areas hold natural attractiveness for tourists. Natura 2000 is the largest network in the world of Special Protection Areas (SPAs) and Special Areas of Conservation (SACs), designated under the Birds and Habitats Directives, respectively. The network covers more than 18% of the land surface area of the EU (<http://ec.europa.eu>), which forces local communities within the EU to consider Natura 2000 areas in their local development ambitions (Cieślak et al., 2015). Given the European importance of this form of nature protection, the following case selection procedure was applied to all Polish municipalities ( $n = 2477$ ) (Figure 2):

Step 1. Identifying municipalities that meet or exceed a threshold of 50% of Natura 2000 coverage [ $n = 241$  out of 2477 municipalities in Poland]. Municipalities were grouped according to Natura 2000 interaction with the prime large-area protected area types in Poland: a national park and a landscape park. We have distinguished:

- a. Municipalities, where territories of Natura 2000 overlap with a national park,
- b. Municipalities, where territories of Natura 2000 overlap with a landscape park,
- c. Municipalities, where Natura 2000 does not overlap with any of the two forms of nature protection.

Step 2. Selecting only rural municipalities [ $n = 138$  out of 241 fulfilling the first criterion],

Step 3. Selecting municipalities with 5,000 or more inhabitants [ $n = 81$  out of  $n = 138$  municipalities fulfilling the first two criteria].

Step 4. We identified three selected rural nature-based tourism destinations with different combinations of nature protection regimes (a, b, c) but located near each other to control for social, economic, and geographic conditions

The first step aimed to select municipalities with a substantial share of Natura 2000 ( $\geq 50\%$ ) to increase the likelihood that this type of nature protection is considered in decision-making for



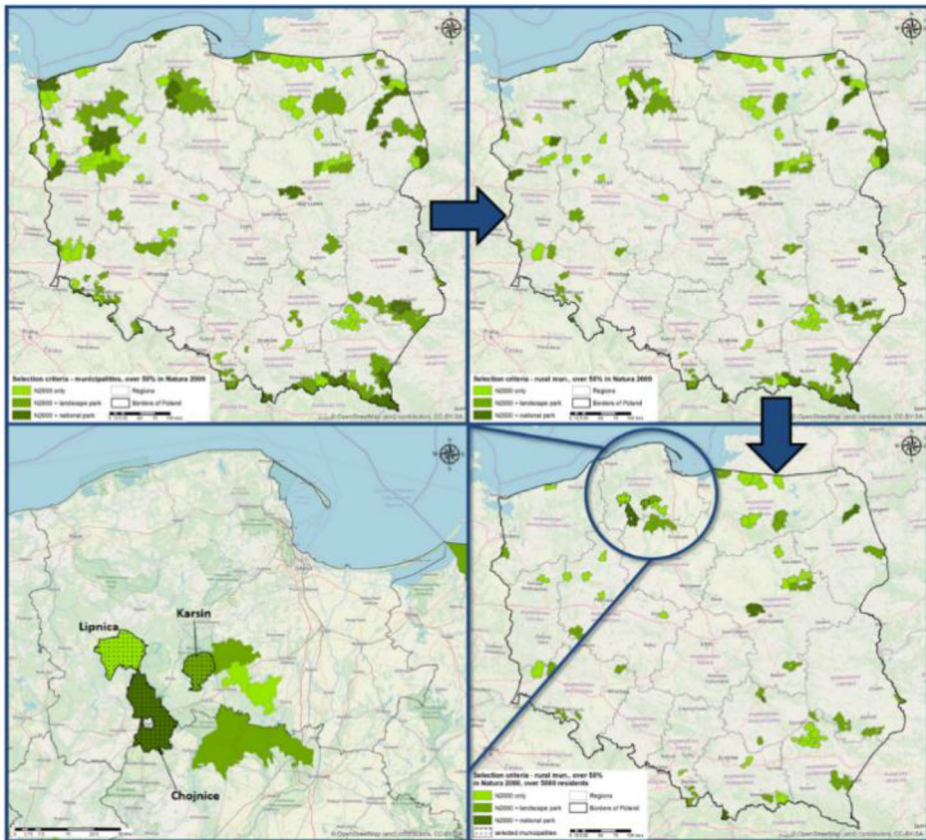


Figure 2. Study area selection: 1) municipalities with more than 50% Natura 2000 coverage ( $n = 241$  out of 2477); 2) rural municipalities ( $n = 138$  out of 241); 3) more than 5,000 residents ( $n = 81$  out of  $n = 138$ ); 4) selected municipalities.

local development. The second step excluded municipalities other than rural municipalities to increase the likelihood of local dependence on land use, farming activities, and local natural resources for local development. The final third criterion delimited municipalities to those with more than 5,000 residents to ensure a sufficient pool of potential respondents. The minimum size of local population requirement was established based on prior research in rural municipalities of the Pomerania region (Strzelecka et al., 2017).

We applied these criteria to the geodata set of all Polish municipalities (geodatabases from the Head Office of Geodesy and Cartography of Poland - State Border Register (GUGiK, 2018a) and the General Geographic Database (GUGiK, 2018b)), in the ArcMap 10.5.1. GIS. We also used official data from the Local Data Bank, Central Statistical Office of Poland (BDL GUS, 2018) to impose 'population.'

A small number of municipalities in Poland fulfilled all three criteria. Therefore, we chose three case areas with nature-based tourism within the Pomerania region that represented different combinations of nature protection regimes but were located nearby. Consequently, these case areas were more likely to have similar socio-economic conditions for nature-based tourism: Lipnica, Karsin, Chojnica (Table 1).

### Case areas

Rural nature tourism has been an essential part of the post-socialist processes of restructuring in rural areas of Central and Eastern Europe (CEE) (Hall, 1998; Light, 2001). Moreover, tourism



**Table 1.** Basic demographics for Lipnica, Karsin, Chojnice.

	Lipnica	Karsin	Chojnice
Population	5 216	6 239	19 311
Gender			
females	48,7%	49,7%	49,3%
males	51,3%	50,3%	50,7%
Average age	38,2	38,7	38,4

Source: Statistics Poland, 2019 (<https://stat.gov.pl/en/>).

represents an opportunity for rural communities to diversify their local economic portfolio (Hegarty & Przezborska, 2005) and contribute to local identity-building (Light, 2001). Therefore, it increasingly economically contributes to many rural communities of Pomerania. However, a small number of municipalities in the region share a significant land use under Natura 2020, reside an adequate number of rural communities, and are subject to nature-based tourism activities; those are Lipnica, Karsin, Chojnica (Table 1).

Indeed, tourism in these areas provides an alternative economic activity for younger and more-educated residents, and thus, reduces their migration to more affluent rural regions and cities within the EU (Hadzik & Hadzik, 2008). Lipnica is a rural municipality in the south of the region known for its attractive rural landscape and its forest. Forest covers more than 50% of the municipality, however, it is scenic lakes that mainly attract visitors (22 lakes). In addition, a dense network of trails (for biking, hiking, kayaking, and nordic walking) covers the municipality. As a rural and nature tourism destination, Lipnica has a relatively small tourism infrastructure and little commercial tourism development.

Karsin is famous for its forests. Forest covers more than 50% of the municipality and can be visited through multiple tourist trails. Part of the municipality is included in the Wdydze Landscape Park. The Park, together with the Tuchola, Wda, and Zaborski Landscape Parks forms the buffer zone of the Tuchola Forest Biosphere Reserve, designated under the UNESCO Man and the Biosphere Programme in 2010.

Chojnice is the largest rural municipality of the three. It is famous for its attractive landscape of lakes, rivers, and forests. Visitors from Chojnice can access the Tuchola Forest Landscape Park, the Zabory Landscape Park, and over 50 lakes. Tuchola Forest National Park, the prime tourist attraction of the region, is also partially located within the boundaries of Chojnice municipality.

### **Data collection**

During July and August of 2018, surveys were distributed within 12 (out of 18) rural towns and villages in Lipnica municipality, 11 out of 13 rural towns and villages in Karsin municipality, and 14 out of 37 rural towns and villages in Chojnice municipality. The distribution of the surveys corresponded with the actual number of residents in each village, according to the Central Statistical Office of Poland. The decision to use a census-guided systematic random sampling scheme follows the earlier successful study of the Pomerania region using this approach (Strzelecka et al., 2017).

The data collection method consisted of a self-administered, door-to-door, pen-and-paper survey. The team started in randomly selected locations within each village and visited every household in those selected locations until the quota was met. The head of the household (or their partner) was asked to participate in the study. If the resident agreed, the research team left a survey instrument and picked it up later that day or the following day (i.e., two returns). It took four weeks to collect the data (on weekends and weekdays), beginning the last week of July 2018 and concluding the last week of August 2018. Of the 531 distributed surveys in Lipnica, 402 usable questionnaires were included in the analysis. Of the 669 distributed surveys in Karsin, 413 usable questionnaires were included in the analysis. Finally, 534 usable questionnaires were

**Table 2.** The demographic composition of the samples from Lipnica, Karsin, and Chojnice.

	Lipnica	Karsin	Chojnice
Sample size	402	413	534
Age			
18-25	12.2%	16.9%	16.1%
26-35	24.6%	21.5%	20.6%
36-45	20.1%	21.3%	19.3%
46-55	17.9%	16.5%	22.8%
56 ≤	25.1%	23%	20.5%
Gender			
female	57.0%	58.1%	60.5%
male	40.5%	40.9%	39.3%

included in the analysis for Chojnice. This sampling scheme helped to garner a more representative sample of community residents, increases response rates, and includes those groups that may be left out from other sampling methods (Strzelecka et al., 2017) (Table 2).

### **Measures and variables**

#### ***Nature connectedness scale (NCS)***

To measure residents' connection to nature, a modified version of Mayer and Frantz (2004) 's Nature Connectedness Scale was used. Mayer and Frantz (2004) claim that the NCS measures "individuals' trait levels of feeling emotionally connected to the natural world" (p. 503). The NCS concerns the relationship between one's self-image and nature, which is based on a biophilic disposition (Kellert & Wilson, 1993; Mayer et al., 2009; Schultz et al., 2004). It is one of the frequently applied scales to study how individuals understand their relation to nature (e.g., Dutcher et al., 2007; Frantz et al., 2004; Nisbet et al. 2011.; Restall & Conrad, 2015) and it has been validated cross-culturally (Perrin & Benassi, 2009; Navarro et al., 2017). Yet, Malhotra et al. (1996) recommend focusing on the functional, conceptual, instrument, and metric equivalence to label it as "construct equivalent". The original version of the NCS consists of 14 items measured with a 1-5 range Likert scale (1 strongly disagree to 5 strongly agree). A back-translation technique (Brislin, 1970) where the original English questionnaire was translated into Polish in the first step, and then the Polish version was translated into English with the two final versions compared was implemented to ensure translational equivalence.

Before the NCS' inclusion in the Confirmatory Factor Analysis, three Principal Components Analyses (PCA) with varimax rotation were executed to assess the scale's performance across the three communities. The PCAs identified some problematic items within the NCS that did not load with the same strength across all three communities. Therefore, an abbreviated 7-item NCS was used that demonstrated reliability and validity across all three communities.

#### ***Resident empowerment through tourism scale (RETS) and support for tourism scale***

To measure resident empowerment, Boley and McGehee (2014) Resident Empowerment through Tourism Scale (RETS) was adopted. The RETS is a three-dimensional measure of perceived empowering benefits from tourism that covers the dimensions of psychological empowerment, social empowerment and political empowerment measured with a 1-5 range Likert scale (1 strongly disagree to 5 strongly agree). The RETS reliability and validity have been verified in the USA, Japan and Poland (Boley et al., 2015; Strzelecka et al., 2017). The RETS is restricted to the psychological, social, and political dimensions of empowerment, therefore, to capture perceived economic benefits, Boley et al. (2018) Economic Benefit from Tourism Scale (EBTS) was used as a proxy for economic empowerment. The EBTS is a four-item scale, which was previously validated in the international context for rural tourism in the Pomeranian Region of Poland by Boley et al. (2018). The fact that the validity and reliability of the EBTS have already been established for a

rural destination in Poland gives it an advantage over alternative measures of personal economic benefits. Boley and Strzelecka (2016) four items Support for Tourism Scale (STS) was used to measure resident support for tourism.

## Results

### *Confirmatory factor analysis*

Before performing the confirmatory factor analysis (CFA), the data were checked for normality. A normal distribution is the main assumption of using the maximum likelihood estimator in CFA and structural equation modelling (SEM). All of the items (except one) used within the model exhibited acceptable range of kurtosis (-7 to +7) and skewness (-2 to +2), implying appropriate data normality for further CFA and SEM analysis (Hair et al., 2014). Prior to determining the role of the NC in explaining variances in resident empowerment and support for tourism (from the structural regression model), an initial measurement model was formulated (using confirmatory factor analysis). It included the Nature Connectedness Scale (NCS) items, the Resident Empowerment through Tourism Scale (RETS) items, the Economic Benefit from Tourism Scale (EBTS) items, and the Support for Tourism Scale (STS) items. The purpose of the Confirmatory Factor Analysis (CFA) was to assess the measurement model and ensure model fit and warrant items and constructs validity and reliability (Hair et al., 2014).

The CFA for the four constructs was run separately for each study area. The result from the three CFAs revealed acceptable model fit and construct valid measures across all three samples (Table 3). Regarding model fit, CFI estimates were above 0.90, and RMSEA estimates were below 0.08, indicative of acceptable model fit (Hair et al., 2014). Convergent validity was demonstrated based on all factor loadings being above 0.5 and significant at the .01 level, AVEs being above 50%, and Construct Reliability estimates being above 0.70 for each construct. Even though there were some high correlations between the constructs of Psychological and Social empowerment, every construct within the three models demonstrated discriminant validity through AVE estimates being higher than squared correlations (Table 4a–c). These same correlations provide evidence of nomological validity and that there is support for further investigating these structural relationships with structural equation modelling.

### *SEM results*

To determine whether the level of nature connectedness explains the degree to which residents feel empowered through tourism, and ultimately, their support for tourism, structural equation modelling (SEM) was undertaken (Table 5). The advantage of SEM is that it allows for the prediction of relationships between multiple latent constructs simultaneously (Nachtigall et al., 2003).

Model fit was slightly reduced in all three structural models when compared to the CFAs (CFI = 0.88–0.90, RMSEA = 0.08–0.09). However, model fit estimates will always be lower for structural models when compared to measurement models because SEM models are recursive (Hair et al., 2014). The reduction in model fit was slight and still close to their respective cut off points.

In regard to hypothesis 1, the relationship between Nature Connectedness and Psychological Empowerment was significant across all three municipalities: Lipnica ( $\beta = .44$ ,  $p < .001$ ), Karsin ( $\beta = .46$ ,  $p < .001$ ), Chojnice ( $\beta = .41$ ,  $p < .001$ ) (See Table 3a–c). A similar pattern was found for hypothesis 2 and the relationship between Nature Connectedness and Social Empowerment. For each of the three municipalities, there was a significant and positive relationship between Nature Connectedness and Social Empowerment: Lipnica ( $\beta = .43$ ,  $p < .001$ ), Karsin ( $\beta = .42$ ,  $p < .001$ ), Chojnice ( $\beta = .40$ ,  $p < .001$ ). In contrast to Psychological and Social Empowerment, no relationship was found between Nature Connectedness and Political Empowerment: Lipnica ( $\beta = .02$ ,  $p = .779$ ), Karsin ( $\beta = .04$ ,  $p = .418$ ), Chojnice ( $\beta = .07$ ,  $p = .171$ ) or Connection to Nature and

Table 3. Confirmatory factor analysis a) Lipnica, b) Karsin, c) Chojnice.

FACTOR AND THE CORRESPONDING ITEM	Lipnica (n = 402)			Karsin (n = 413)			Chojnice (n = 534)		
	$\bar{x}$	R	Error	$\bar{x}$	R	Error	$\bar{x}$	R	Error
<b>NATURE CONNECTEDNESS (NCS)</b> (CR = 0.90; AVE = 54%)	4.02	0.74*	.51	4.09	0.71*	.51	4.01	0.66*	.58
1. I often feel a sense of oneness with the natural world around me	4.06	0.80*	.38	4.16	0.79*	.34	4.16	0.68*	.43
2. I think of the natural world as a community to which I belong	4.17	0.77*	.41	4.29	0.71*	.38	4.30	0.66*	.44
3. I recognize and appreciate the intelligence of other living organisms	3.96	0.78*	.43	3.96	0.72*	.56	3.97	0.73*	.53
6. I often feel a kinship with animals and plants	4.02	0.76*	.43	4.01	0.76*	.50	4.02	0.78*	.39
7. I feel as though I belong to the Earth as equally as it belongs to me	3.85	0.69*	.52	3.84	0.75*	.47	3.91	0.80*	.35
9. I often feel part of the web of life.	3.96	0.77*	.47	3.92	0.77*	.46	4.02	0.80*	.34
11. Like a tree can be part of a forest, I feel embedded within the broader natural world.	3.84	0.84*	.44	4.15	0.79*	.42	4.12	0.81*	.37
<b>PSYCHOLOGICAL EMPOWERMENT (PE)</b> (CR = 0.91; AVE = 74%)	3.80	0.88*	.33	4.08	0.85*	.31	4.02	0.83*	.32
1. Tourism makes me proud to be a resident of this municipality	3.73	0.91*	.24	4.02	0.83*	.36	4.00	0.87*	.24
2. Tourism makes me feel special because people travel to see my municipality's unique features	3.77	0.87*	.32	4.08	0.80*	.37	3.97	0.85*	.26
3. Tourism makes me want to tell others about what we have to offer in this municipality.	3.93	0.79*	.49	4.12	0.82*	.40	4.15	0.84*	.27
4. Tourism reminds me that I have a unique culture to share with visitors									
5. Tourism makes me want to work to keep this municipality special									

(continued)

Table 3. Continued.

FACTOR AND THE CORRESPONDING ITEM	Lipnica (n = 402)			Karsin (n = 413)			Chojnice (n = 534)		
	$\bar{x}$	R	Error	$\bar{x}$	R	Error	$\bar{x}$	R	Error
<b>SOCIAL EMPOWERMENT (SE)</b> 1. Tourism makes me feel more connected to my community	(CR =0.87; AVE = 74%) 3.55	0.91*	.24	(CR =0.82; AVE = 66%) 3.89	0.89*	.27	(CR =0.84; AVE = 66%) 3.70	0.89*	.26
2. Tourism fosters a sense of 'community spirit' within me	3.46	0.90*	.25	3.71	0.91*	.22	3.61	0.86*	.30
4. Tourism provides ways for me to get involved in my community	3.44	0.76*	.53	3.62	0.60*	.74	3.61	0.68*	.56
<b>POLITICAL EMPOWERMENT (PLE)</b> 1. My opinion counts in planning for tourism in this municipality	(CR =0.90; AVE = 71%) 2.12	0.88*	.30	(CR =0.88; AVE = 68%) 2.26	0.86*	.37	(CR =0.89; AVE = 66%) 2.29	0.77*	.46
2. Local leaders take into account my ideas about developing tourism in this municipality.	2.14	0.89*	.26	2.29	0.86*	.37	2.38	0.77*	.51
3. I have access to the decision-making process when it comes to tourism in this municipality	2.10	0.86*	.33	2.20	0.86*	.38	2.29	0.88*	.28
4. I have an outlet to share my concerns about tourism development in this municipality	2.38	0.75*	.65	2.42	0.72*	.69	2.56	0.79*	.49
5. My vote makes a difference in how tourism is developed in this municipality	2.09	0.83*	.42	2.17	0.82*	.46	2.31	0.84*	.37
<b>ECONOMIC BENEFITS (EB)</b> 1. Tourism in this municipality helps me pay my bills	(CR =0.82; AVE = 65%) 2.04	.79*	.53	(CR =0.81; AVE = 68%) 2.43	0.83*	.55	(CR =0.79; AVE = 59%) 2.14	0.76*	.62
2. A portion of my income is tied to tourism in this municipality	1.85	.80*	.57	2.10	0.87*	.47	1.75	0.80*	.47
3. I would economically benefit from further development of the tourism sector	2.26	.86*	.45	2.64	0.77*	.83	2.19	0.77*	.64
4. My family's economic future depends upon tourism in this municipality	2.12	.77*	.69	2.31	0.82*	.66	2.00	0.74*	.73

(continued)

Table 3. Continued.

FACTOR AND THE CORRESPONDING ITEM	Lipnica (n = 402)			Karsin (n = 413)			Chojnice (n = 534)		
	$\bar{x}$	R	Error	$\bar{x}$	R	Error	$\bar{x}$	R	Error
<b>SUPPORT FOR TOURISM (SFT)</b> 1. I believe tourism should be actively encouraged in this municipality	4.27 (CR = 0.95; AVE = 84%)	.89*	.23	4.36 (CR = 0.94; AVE = 79%)	0.82*	.30	4.29 (CR = 0.92; AVE = 70%)	0.73*	.44
2. I support tourism and want to see it remain important to this municipality	4.27	.93*	.16	4.44	0.92*	.13	4.39	0.90*	.15
3. This municipality should remain a tourist destination	4.26	.94*	.14	4.39	0.90*	.17	4.31	0.85*	.23
4. This municipality should support the promotion of tourism	4.27	.91*	.20	4.46	0.92*	.14	4.41	0.86*	.19
<i>Model fit</i>	$\chi^2$ (df = 335) = 992.03, $p < .001$ , CFI = 0.928, RMSEA = 0.07.			$\chi^2$ (df = 335) = 867.00, $p < .001$ , CFI = 0.935; RMSEA = 0.06.			$\chi^2$ (df = 335) = 1073.18, $p < 0.001$ , CFI = 0.925; RMSEA = 0.064.		



**Table 4.** Discriminant validity assessment a) Lipnica b) Karsin c) Chojnice.

a)

	1 PE	2 SE	3 PLE	4 EB	5 CNS	6 SFT
<b>1 PE</b>	<b>0.74</b>	0.69	0.04	0.05	0.16	0.24
<b>2 SE</b>	0.83**	<b>0.74</b>	0.09	0.10	0.16	0.23
<b>3 PLE</b>	0.20**	0.30**	<b>0.71</b>	0.21	0.00	0.01
<b>4 EB</b>	0.23**	0.32**	0.46**	<b>0.65</b>	0.00	0.02
<b>5 CNS</b>	0.40**	0.39**	-0.01	0.04	<b>0.54</b>	0.12
<b>6 SFT</b>	0.49**	0.48**	0.08	0.14*	0.34***	<b>0.84</b>

The bold diagonal elements are the measures of average variance explained (AVE) for each factor.

<sup>b</sup>Above diagonal elements are the squared correlations between factors.

<sup>c</sup>Below diagonal element are correlations between factors.

\*Correlations significant at  $p < 0.05$ .

\*\*Correlations significant at  $p < 0.001$ .

b)

	1 PE	2 SE	3 PLE	4 EB	5 CNS	6 SFT
<b>1 PE</b>	<b>0.67</b>	0.51	0.03	0.02	0.19	0.29
<b>2 SE</b>	0.72**	<b>0.66</b>	0.11	0.04	0.16	0.26
<b>3 PLE</b>	0.18**	0.34**	<b>0.68</b>	0.28	0.00	0.00
<b>4 EB</b>	0.13*	0.19**	0.53**	<b>0.68</b>	0.00	0.03
<b>5 CNS</b>	0.44**	0.39**	0.02	-0.03	<b>0.67</b>	0.09
<b>6 SFT</b>	0.54**	0.51**	0.06	0.17*	0.30**	<b>0.79</b>

The bold diagonal elements are the measures of average variance explained (AVE) for each factor.

<sup>b</sup>Above diagonal elements are the squared correlations between factors.

<sup>c</sup>Below diagonal element are correlations between factors.

\*Correlations significant at  $p < 0.05$ .

\*\*Correlations significant at  $p < 0.001$ .

c)

	1 PE	2 SE	3 PLE	4 EB	5 CNS	6 SFT
<b>1 PE</b>	<b>0.71</b>	0.61	0.01	0.00	0.15	0.29
<b>2 SE</b>	0.78**	<b>0.66</b>	0.06	0.02	0.13	0.24
<b>3 PLE</b>	0.12*	0.25	<b>0.66</b>	0.33	0.00	0.00
<b>4 EB</b>	0.00	0.14*	0.57**	<b>0.59</b>	0.00	0.00
<b>5 CNS</b>	0.38**	0.37**	0.05	-0.03	<b>0.54</b>	0.15
<b>6 SFT</b>	0.54**	0.49**	0.01	0.02	0.38**	<b>0.70</b>

The bold diagonal elements are the measures of average variance explained (AVE) for each factor.

<sup>b</sup>Above diagonal elements are the squared correlations between factors.

<sup>c</sup>Below diagonal element are correlations between factors.

\*Correlations significant at  $p < 0.05$ .

\*\*Correlations significant at  $p < 0.001$ .

Personal Economic Benefits from Tourism (Lipnica ( $\beta = .07$ ,  $p = .204$ ), Karsin ( $\beta = -.01$ ,  $p = .898$ ), Chojnice ( $\beta = -.01$ ,  $p = .781$ ) resulting in the rejection of hypotheses 3 and 4.

The relationship between Nature Connectedness and Support for Tourism tested through hypothesis 5 was partially supported with the relationship confirmed in Lipnica ( $\beta = .16$ ,  $p = .009$ ) and Chojnice ( $\beta = .19$ ,  $p < .001$ ), but not in Karsin ( $\beta = .05$ ,  $p = .403$ ). Hypotheses 6 and 7 were supported confirming the relationship between Psychological Empowerment and Support for Tourism (Lipnica ( $\beta = .28$ ,  $p < .001$ ), Karsin ( $\beta = .34$ ,  $p < .001$ ), Chojnice ( $\beta = .36$ ,  $p < .001$ ) and Social Empowerment and Support for Tourism (Lipnica ( $\beta = .21$ ,  $p < .001$ ), Karsin ( $\beta = .29$ ,  $p < .001$ ), Chojnice ( $\beta = .19$ ,  $p < .001$ ) across all three communities. However, there was no support for hypotheses 8 and the relationships between Political Empowerment and Support for Tourism (Lipnica ( $\beta = -.04$ ,  $p = .379$ ), Karsin ( $\beta = -.17$ ,  $p < .001$ ), Chojnice ( $\beta = -.11$ ,  $p = .007$ ) because there was either no relationship as found in Lipnica or there was a negative relationship as

Table 5. Regression paths a) Lipnica, b) Karsin, c) Chojnice.

Regression paths a) Lipnica	$\beta$	$p$	Sup
H1: CSN → PE	.44	.001	YES
H2: CSN → SE	.43	.001	YES
H3: CSN → PLE	.02	.779	No
H4: CSN → EB	.07	.204	No
H5: CSN → SFT	.16	.009	YES
H6: PE → SFT	.28	.001	YES
H7: SE → SFT	.21	.001	YES
H8: PLE → SFT	-.04	.376	No
H9: EB → SFT	.03	.585	No
- $\chi^2$ (df = 341) = 1411.06, $p < 0.001$ , CFI = 0.88, RMSEA = 0.09. PE ( $R^2 = .19$ ); SE ( $R^2 = .18$ ); PLE ( $R^2 = .00$ ); EB ( $R^2 = .01$ ); SFT ( $R^2 = .24$ )			
Regression paths b) Karsin	$\beta$	$p$	Sup
H1: CSN → PE	.46	.001	YES
H2: CSN → SE	.42	.001	YES
H3: CSN → PLE	.04	.418	NO
H4: CSN → EB	-.01	.898	NO
H5: CSN → SFT	.05	.403	NO
H6: PE → SFT	.34	.001	YES
H7: SE → SFT	.29	.001	YES
H8: PLE → SFT	-.17	.001	NO
H9: EB → SFT	.16	.001	YES
- $\chi^2$ (df = 341) = 1187.17, $p < 0.001$ , CFI = 0.90, RMSEA = 0.08. -PE ( $R^2 = .22$ ); SE ( $R^2 = .18$ ); PLE ( $R^2 = .002$ ); EB ( $R^2 = .000$ ); SFT ( $R^2 = .32$ )			
Regression paths c) Chojnice	$\beta$	$p$	Sup
H1: CSN → PE	.41	.001	YES
H2: CSN → SE	.40	.001	YES
H3: CSN → PLE	.07	.171	NO
H4: CSN → EB	-.01	.781	NO
H5: CSN → SFT	.19	.001	YES
H6: PE → SFT	.36	.001	YES
H7: SE → SFT	.19	.001	YES
H8: PLE → SFT	-.11	.007	NO
H9: EB → SFT	.06	.156	NO
- $\chi^2$ (df = 341) = 1564.61, $p < 0.001$ , CFI = 0.88, RMSEA = 0.08. -PE ( $R^2 = .172$ ); SE ( $R^2 = .161$ ); PLE ( $R^2 = .004$ ); EB ( $R^2 = .000$ ); SFT ( $R^2 = .318$ )			

found in Karsin and Chojnice. Lastly, in regard to hypothesis 9 and the relationship between Personal Economic Benefits from Tourism and Support for Tourism there were mixed findings with a relationship found in Karsin ( $\beta = .16$ ,  $p < .001$ ), but not in Lipnica ( $\beta = 0.03$ ,  $p = .585$ ) or Chojnice ( $\beta = .06$ ,  $p = .156$ ).

### ANOVA results

After running structural models for each municipality, mean scores on the construct of Connectedness to Nature were compared for significant differences using ANOVA (Table 6). As ANOVA results do not identify where the differences between pairs lie, a Bonferroni post hoc test was used to show where the differences can be found.

No significant mean differences were observed between municipalities in terms of Connectedness to Nature. For Psychological and Social Empowerment, significant mean differences were observed between Lipnica and Karsin as well as Lipnica and Chojnice. Though, significant differences in Political Empowerment were recorded between Lipnica and Chojnice municipalities only. For Personal Economic Benefits, significant differences were observed between Lipnica and Karsin as well as Karsin and Chojnice, but none were recorded for the perception of Personal Economic Benefits between samples from Lipnica and Chojnice. Finally, the

Table 6. ANOVA and a Bonferroni Post-Hoc analysis a) Lipnica, b) Karsin, c) Chojnice.

	Lipnica <sup>a</sup> (n = 402) x̄	Karsin <sup>b</sup> (n = 413) x̄	Chojnice <sup>c</sup> (n = 534) x̄	F	P
<b>CONNECTEDNESS TO NATURE (CNS)<sup>1</sup></b>	<b>4.00</b>	<b>4.04</b>	<b>4.05</b>	<b>0.48</b>	<b>0.62</b>
1. I often feel a sense of oneness with the natural world around me	4.02	4.09	4.01	0.77	0.46
2. I think of the natural world as a community to which I belong	4.06	4.16	4.16	1.56	0.21
3. I recognize and appreciate the intelligence of other living organisms	4.17	4.29	4.30	2.69	0.07*
6. I often feel a kinship with animals and plants	3.96	3.96	3.97	0.03	0.97
7. I feel as though I belong to the Earth as equally as it belongs to me	4.02	4.01	4.02	0.02	0.98
9. I often feel part of the web of life.	3.85	3.84	3.91	0.82	0.44
11. Like a tree can be part of a forest; I feel embedded within the broader natural world.	3.96	3.92	4.02	1.02	0.36
<b>PSYCHOLOGICAL EMPOWERMENT (PE)</b>	<b>3.81<sup>bc</sup></b>	<b>4.09<sup>a</sup></b>	<b>4.05<sup>a</sup></b>	<b>10.65</b>	<b>0.01<sup>**</sup></b>
1. Tourism makes me proud to be a resident of this municipality	3.84 <sup>bc</sup>	4.15 <sup>a</sup>	4.12 <sup>a</sup>	9.96	0.01 <sup>**</sup>
2. Tourism makes me feel special because people travel to see my municipality's unique features	3.80 <sup>bc</sup>	4.08 <sup>a</sup>	4.02 <sup>a</sup>	8.02	0.01 <sup>**</sup>
3. Tourism makes me want to tell others about what we have to offer in this municipality.	3.73 <sup>bc</sup>	4.02 <sup>a</sup>	4.00 <sup>a</sup>	9.83	0.01 <sup>**</sup>
4. Tourism reminds me that I have a unique culture to share with visitors	3.77 <sup>bc</sup>	4.08 <sup>a</sup>	3.97 <sup>a</sup>	9.05	0.01 <sup>**</sup>
5. Tourism makes me want to work to keep this municipality special	3.93 <sup>bc</sup>	4.12 <sup>a</sup>	4.15 <sup>a</sup>	5.37	0.01 <sup>**</sup>
<b>SOCIAL EMPOWERMENT (SE)</b>	<b>3.48<sup>bc</sup></b>	<b>3.74<sup>a</sup></b>	<b>3.64<sup>a</sup></b>	<b>7.18</b>	<b>0.01<sup>**</sup></b>
1. Tourism makes me feel more connected to my community	3.55 <sup>b</sup>	3.89 <sup>bc</sup>	3.70 <sup>b</sup>	9.22	0.01 <sup>**</sup>
2. Tourism fosters a sense of 'community spirit' within me	3.46 <sup>b</sup>	3.71 <sup>a</sup>	3.61	5.21	0.01 <sup>**</sup>
4. Tourism provides ways for me to get involved in my community	3.44 <sup>b</sup>	3.62 <sup>a</sup>	3.61	3.66	0.03*
<b>POLITICAL EMPOWERMENT (PLE)</b>	<b>2.17<sup>c</sup></b>	<b>2.27</b>	<b>2.37<sup>a</sup></b>	<b>4.65</b>	<b>0.01<sup>**</sup></b>
1. My opinion counts in planning for tourism in this municipality	2.12	2.26	2.29	2.77	0.06
2. Local leaders take into account my ideas about developing tourism in this municipality.	2.14 <sup>c</sup>	2.29	2.38 <sup>a</sup>	5.09	0.01 <sup>**</sup>
3. I have access to the decision-making process when it comes to tourism in this municipality	2.10 <sup>c</sup>	2.20	2.29 <sup>a</sup>	3.29	0.04*
4. I have an outlet to share my concerns about tourism development in this municipality	2.38	2.42	2.56	2.85	0.06
5. My vote makes a difference in how tourism is developed in this municipality	2.09 <sup>c</sup>	2.17	2.31 <sup>a</sup>	4.36	0.01 <sup>**</sup>

(continued)

Table 6. Continued.

	Lipnica <sup>a</sup> (n = 402)	Karsin <sup>b</sup> (n = 413)	Chojnice <sup>c</sup> (n = 534)	F	P
	$\bar{x}$	$\bar{x}$	$\bar{x}$		
<b>ECONOMIC BENEFITS (EB)</b>	<b>2.07<sup>b</sup></b>	<b>2.37<sup>ac</sup></b>	<b>2.02<sup>b</sup></b>	<b>12.87</b>	<b>0.01<sup>**</sup></b>
1. Tourism in this municipality helps me pay my bills	2.04 <sup>b</sup>	2.43 <sup>ac</sup>	2.14 <sup>b</sup>	10.56	0.01 <sup>**</sup>
2. A portion of my income is tied to tourism in this municipality	1.85 <sup>b</sup>	2.10 <sup>ac</sup>	1.75 <sup>b</sup>	9.12	0.01 <sup>**</sup>
3. I would economically benefit from further development of the tourism sector	2.26 <sup>b</sup>	2.64 <sup>ac</sup>	2.19 <sup>b</sup>	14.55	0.01 <sup>**</sup>
4. My family's economic future depends upon tourism in this municipality	2.12	2.31 <sup>c</sup>	2.00 <sup>b</sup>	6.39	0.01 <sup>**</sup>
<b>SUPPORT FOR TOURISM (SFT)</b>	<b>4.27</b>	<b>4.41</b>	<b>4.35</b>	<b>2.76</b>	<b>0.06</b>
1. I believe tourism should be actively encouraged in this municipality	4.27	4.36	4.29	0.90	0.41
2. I support tourism and want to see it remain important to this municipality	4.27 <sup>b</sup>	4.44 <sup>a</sup>	4.39	3.41	0.03
3. This municipality should remain a tourist destination	4.26	4.39	4.31	1.87	0.15
4. This municipality should support the promotion of tourism	4.27 <sup>b</sup>	4.46 <sup>a</sup>	4.41	4.39	0.01 <sup>**</sup>

<sup>1</sup>All questions ask on a 5 point Likert Scale with 1= Strongly Disagree, and 5= Strongly Agree.

<sup>abc</sup>Superscripts represent statistically significant differences tested through a Bonferroni Post-Hoc analysis.

\*Represents a significant difference at the .05 level; \*\*represents a significant difference at the .001 level.

community of Karsin had the highest levels of Support for Tourism, but the differences between the three communities were not significant at the construct level. However, on the individual item level, Karsin had significantly higher scores than Lipnica on the questions of "I support tourism" and "This municipality should support the promotion of tourism."

## Discussion

With the growing recognition that it is vital to incorporate resident perspectives in destination governance (Cole, 2006), the study explored how rural residents' connection to nature relates to perceived empowering benefits from tourism and support of tourism across three rural municipalities in Poland: Lipnica, Karsin, Chojnice. Understanding how local communities perceive nature-based tourism and what is important to rural residents is more important than ever with the increasing popularity of peripheral nature areas for tourism and recreational use (Jeong & Wen, 2020; Rott, 2020). While there have been numerous projects advocating consideration of resident attitudes towards tourism or highlighting different factors that shape their perceptions of tourism, our study is the first call for including resident relational values of nature when theorizing social-psychological factors in resident attitudes theory. This is precisely what makes this work stand out from all prior studies advocating for resident perspectives in tourism development.

This study makes a significant theoretical contribution to the field of tourism management by illustrating how the Nature's Contributions to People (NCP) approach can help to frame interlinkages between residents, nature-based tourism, and cultural ecosystem services in rural areas. As a new conceptual perspective, NCP has not been previously used in the context of tourism management. However, it offers a robust perspective for understanding the complexity of human-tourism-nature interlinkages in natural areas as it highlights the importance of preferences, principles, and virtues based on ties that people form with nature (Chan et al., 2018). This essentially

enables researchers to incorporate residents' perceptions of their relationship with the natural world as a determinant of residents' empowerment as well as their response to tourism (Pritchard et al., 2020).

The study results provide credence to the importance of including measures of resident bonds with nature when examining their attitudes towards tourism in natural areas. Residents' connections to nature had significant and positive influences on psychological empowerment and social empowerment for all three destinations. Thus, by integrating NCP thinking into tourism attitude research, we established that residents with a stronger sense of nature connection are prouder of showcasing their natural environment to tourists than those with a weaker connection to nature. Furthermore, as residents feel a strong connection to nature, they see it as a means to interact productively with tourists and tourism stakeholders as well as each other. However, this also means that if tourism threatens to spoil the quality of this nature, they will be reticent towards its development. Conversely, weaker nature connection among rural residents will likely generate a weaker response to tourism disruptions.

By considering nature's indirect contributions to rural residents' wellbeing, such as economic and non-economic benefits from nature-based tourism, this study offers a more holistic approach to the examination of resident attitudes towards tourism. The results provide further credence to the use of Weber's Theory of Formal and Substantive Rationality to explore both the economic and non-economic benefits of tourism and how these relate to support for tourism. Namely, the study results point out that perceptions of psychological empowerment and social empowerment from tourism contribute to higher support for tourism. These findings are consistent with results from Boley et al. (2014) study conducted in rural destinations in the USA, as well as Strzelecka's et al. (2017) application of the empowerment model in the rural municipality of Choczewo in Poland, and Maruyama's et al. (2017) study in the town of Oizumi, Japan. However, only for residents of Karsin were perceptions of economic benefits from tourism associated with higher support for this form of rural development.

Noteworthy, prior research suggests that differences in terms of how people connect to nature can arise due to different past experiences of nature (Chawla, 2020). Since those experiences largely depend on the quality of the surrounding natural environment, we decided to examine potential differences between resident samples from different municipalities in how they connect to nature. Arguably, differences in strength of nature connectedness could potentially influence the character of the relationship between nature connection and perceived empowerment or support for tourism. Despite differences between municipalities in terms of nature protection regimes, we found no significant differences in residents' connectedness to nature. Consequently, the difference in terms of nature protection regime in between all of the three study areas does not appear to generate differences in terms of nature connectedness. This suggests that different forms of nature protection have little influence over how rural residents connect to the natural landscape. In contrast, we found statistically significant differences between the resident samples in terms of perceived empowering benefits and personal economic benefits from tourism. This could be because the character and size of tourism in Karsin generates higher perceived economic benefits for residents.

Differences in perceived economic benefits between Karsin and the other two study areas appear to have implications for the relationship between nature connectedness and support for tourism. Namely, residents' connections to nature had a positive and significant influence on support for tourism across two of the study's destinations. Resident support for tourism is more sensitive to nature connection when the nature-based tourism sector is relatively small (i.e. Lipnica), or when it develops around environmentally sensitive areas such as a national park in Chojnice, where residents, who expressed a stronger connection to nature, are more likely to support tourism. Chojnice is an example of a municipality where 'attractive nature' is condensed to a relatively small area, the Tuchola Forest National Park, and in this regards it 'stands out' from the other two municipalities included in the study. However, Karsin residents' support for

tourism was not significantly influenced by their connection to nature possibly due to the larger size of the industry and the strong relationship between economic empowerment and support for tourism overshadowing the influence of connection to nature.

## Conclusion

To summarize, the study asserts that when the character of a tourism destination reflects resident values of nature, strong nature connectedness may boost perceived non-economic benefits from tourism and, ultimately, residents' support for tourism development. In contrast, when tourism disrupts resident values of nature, stronger nature connectedness may generate opposition to tourism and possible rejection of tourism as a viable rural development strategy. Subsequently, those who strongly oppose tourism will use the opportunities tourism provides to express their opposition to tourism development. This means residents' nature ties should be taken into account when theorizing residents' responses to tourism's sustainability or lack of it as well as included in the future applications of resident attitude framework in nature-based tourism.

## Managerial implications

These findings can inform practitioners concerned with the management of tourism in natural areas. First, results show that tourism planners should promote a form of tourism development that considers residents' connections to the natural environment. Nature connection can be used to understand the extent to which changes in the natural environment can occur without having adverse effects on resident perceptions of empowerment through nature tourism—a fundamental prerequisite for sustainable tourism (Cole, 2006; Scheyvens, 1999).

Secondly, managers interested in empowering residents through tourism development need first to gauge residents' connections to local natural surroundings. If residents are not invested in the community, then it is unlikely that tourism initiatives aimed at psychological, social, or political empowerment will bear fruit (Strzelecka et al., 2017). Therefore, managers desiring to empower residents through tourism and ultimately win their support may need to design communication on the tourism development initiatives towards residents based on their connection to nature.

Understanding the role nature connectedness plays in how residents perceive changes within their community will likely help manage locally emerging conflicts within rural communities. Due to invasive tourism development, tourism conflicts are more likely to occur when residents' connection to nature is strong. Tourism can either positively contribute to this bond or destroy it.

## Limitations and future research

Even though this study is the first to incorporate residents' Connections to Nature in the study of their perceptions of empowerment and support for tourism through the NCP framework, certain limitations need to be acknowledged. The first pertains to the selection of the communities for the study. While the process went through four objective stages to reduce the potential communities, the differences in natural resources surrounding the three communities of Lipnica, Karsin, and Chojnice are more subjective in nature and derived from the author's experience in the region. This does not discount the strong relationship found between Connection to Nature and Psychological Empowerment and Social Empowerment but may explain why Connection to Nature only had a significant relationship with Support for Tourism across Lipnica and Chojnice and not Karsin. Future research should investigate how the level of nature protection at the local, state, and federal level influences residents' connection to nature and their subsequent



attitudes towards tourism across a variety of communities around the world. A second limitation and opportunity for future research concerns the lack of relationship or negative relationship between political empowerment and support for tourism. While political empowerment is often lauded as a prerequisite to sustainable tourism (Cole, 2006; Scheyvens, 1999), our study and many others (Boley et al., 2014; Maruyama et al., 2017; Strzelecka et al., 2017; Yeager et al., 2020) have yet to empirically find a positive relationship between perceptions of political empowerment and support for tourism. This exposes an issue worth exploring; why and when does political empowerment have a positive impact on resident support for tourism development. Lastly, we used a quantitative approach to assert the extent to which a sense of nature connectedness can determine resident responses to nature-based tourism. While the interlinkages between different constructs are shown in the model, a qualitative approach is also needed to explore and better understand how these nature bonds are formed in the tourism context and why they are shown to influence perceptions of empowerment and support for tourism.

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## References

- Anwar-McHenry, J. (2011). Rural empowerment through the arts: The role of the arts in civic and social participation in the Mid-West region of Western Australia. *Journal of Rural Studies*, 27(3), 245–253.
- Arias-Arévalo, P., Martín-López, B., & Gómez-Baggethun, E. (2017). Exploring intrinsic, instrumental, and relational values for sustainable management of social-ecological systems. *Ecology and Society*, 22(4), 43. <https://doi.org/10.5751/ES-09812-220443>
- BDL GUS. (2018). Local Data Bank, Central Statistical Office of Poland [Bank Danych Lokalnych, Główny Urząd Statystyczny]
- Beery, T. H., & Wolf-Watz, D. (2014). Nature to place: Rethinking the environmental connectedness perspective. *Journal of Environmental Psychology*, 40, 198–205. [Database] <https://doi.org/10.1016/j.jenvp.2014.06.006>
- Boley, B. B., & Green, G. T. (2016). Ecotourism and natural resource conservation: The 'potential' for a sustainable symbiotic relationship. *Journal of Ecotourism*, 15(1), 36–50. <https://doi.org/10.1080/14724049.2015.1094080>
- Boley, B., Maruyama, N., & Woosnam, K. M. (2015). Measuring empowerment in an eastern context: Findings from Japan. *Tourism Management*, 50, 112–122. <https://doi.org/10.1016/j.tourman.2015.01.011>
- Boley, B. B., & McGehee, N. G. (2014). Measuring empowerment: Developing and validating the resident empowerment through tourism scale (RETS). *Tourism Management*, 45, 85–94. <https://doi.org/10.1016/j.tourman.2014.04.003>
- Boley, B. B., McGehee, N. G., Perdue, R. R., & Long, P. (2014). Empowerment and resident attitudes toward tourism: Strengthening the theoretical foundation through a Weberian lens. *Annals of Tourism Research*, 49, 33–50. <https://doi.org/10.1016/j.annals.2014.08.005>
- Boley, B. B., & Strzelecka, M. (2016). Towards a universal measure of support for tourism. *Annals of Tourism Research*, 61, 238–241. <https://doi.org/10.1016/j.annals.2016.09.001>
- Boley, B. B., Strzelecka, M., & Woosnam, K. M. (2018). Resident perceptions of the economic benefits of tourism: Toward a common measure. *Journal of Hospitality & Tourism Research*, 42(8), 1295–1314. <https://doi.org/10.1177/1096348018759056>

- Bramwell, B. (2011). Governance, the state and sustainable tourism: A political economy approach. *Journal of Sustainable Tourism*, 19(4–5), 459–477. <https://doi.org/10.1080/09669582.2011.576765>
- Brislin, R. W. (1970). Back-translation for cross-cultural research. *Journal of Cross-Cultural Psychology*, 1(3), 185–216. <https://doi.org/10.1177/135910457000100301>
- Budowski, G. (1976). Tourism and environmental conservation: Conflict, coexistence, or symbiosis? *Environmental Conservation*, 3(1), 27–31. <https://doi.org/10.1017/S0376892900017707>
- Chan, K. M. A., Gould, R. K., & Pascual, U. (2018). Editorial overview: Relational values: What are they, and what's the fuss about? *Current Opinion in Environmental Sustainability*, 35, A1–A7. <https://doi.org/10.1016/j.cosust.2018.11.003>
- Cieślak, I., Pawlewicz, K., Pawlewicz, A., & Szuniewicz, K. (2015). Impact of the NATURA 2000 Network on social-economic development of rural communities in Poland. *Research for Rural Development*, 2, 169–175.
- Clements, T., Rainey, H., An, D., Rours, V., Tan, S., Thong, S., Sutherland, W. J., & Milner-Gulland, E. J. (2013). An evaluation of the effectiveness of a rect payment for biodiversity conservation: The bird nest protection program in the Northern Plains of Cambodia. *Biological Conservation*, 157, 50–59. <https://doi.org/10.1016/j.biocon.2012.07.020>
- Cole, S. (2006). Information and empowerment: The keys to achieving sustainable tourism. *Journal of Sustainable Tourism*, 14(6), 629–644. <https://doi.org/10.2167/jost607.0>
- Costanza, R., de Groot, R., Braat, L., Ida Kubiszewski, I., Fioramonti, L., Sutton, P., Farber, S., & Grasso, M. (2017). Twenty years of ecosystem services: How far have we come and how far do we still need to go? *Ecosystem Services*, 28, 1–16. <https://doi.org/10.1016/j.ecoser.2017.09.008>
- Devine-Wright, P. (2009). Rethinking NIMBYism: The role of place attachment and place identity in explaining place-protective action. *Journal of Community & Applied Social Psychology*, 19(6), 426–441. <https://doi.org/10.1002/casp.1004>
- Díaz, S., Demissew, S., Carabias, J., Joly, C., Lonsdale, M., Ash, N., Larigauderie, A., Adhikari, J. R., Arico, S., Báldi, A., Bartuska, A., Baste, I. A., Bilgin, A., Brondizio, E., Chan, K. M., Figueroa, V. E., Duraippah, A., Fischer, M., Hill, R., ... Zlatanova, D. (2015). The IPBES conceptual framework connecting nature and people. *Current Opinion in Environmental Sustainability*, 14, 1–16. <https://doi.org/10.1016/j.cosust.2014.11.002>
- Díaz, S., Pascual, U., Stenseke, M., Martín-López, B., Watson, R. T., Molnár, Z., Hill, R., Chan, K. M. A., Baste, I. A., Brauman, K. A., Polasky, S., Church, A., Lonsdale, M., Larigauderie, A., Leadley, P. W., van Oudenhoven, A. P. E., van der Plaats, F., Schröter, M., Lavorel, S., ... Shirayama, Y. (2018). Assessing nature's contributions to people. *Science (New York, N.Y.)*, 359(6373), 270–272. <https://doi.org/10.1126/science.aap8826>
- Dredge, D., & Jamal, T. (2015). Progress in tourism planning and policy: A post-structural perspective on knowledge production. *Tourism Management*, 51, 285–297. <https://doi.org/10.1016/j.tourman.2015.06.002>
- Dutcher, D. D., Finley, J. C., Luloff, A. E., & Johnson, J. B. (2007). Connectivity with nature as a measure of environmental values. *Environment and Behavior*, 39(4), 474–493.
- Dwyer, L., Chen, N. (C.), & Lee, (J.) J. (2019). The role of place attachment in tourism research. *Journal of Travel & Tourism Marketing*, 36(5), 645–652. <https://doi.org/10.1080/10548408.2019.1612824>
- Ellis, E. C., Pascual, U., & Mertz, O. (2019). Ecosystem services and nature's contribution to people: Negotiating diverse values and trade-offs in land systems. *Current Opinion in Environmental Sustainability*, 38, 86–94. <https://doi.org/10.1016/j.cosust.2019.05.001>
- Falk, T., Spangenberg, J. H., Siegmund-Schultze, M., Kobbe, S., Feike, T., Kuebler, D., Settele, J., & Vorlaufer, T. (2018). Identifying governance challenges in ecosystem services management – Conceptual considerations and comparison of global forest cases. *Ecosystem Services*, 32, 193–203. <https://doi.org/10.1016/j.ecoser.2018.07.012>
- Gosling, E., & Williams, K. J. H. (2010). Connectedness to nature, place attachment and conservation behaviour: Testing connectedness theory among farmers. *Journal of Environmental Psychology*, 30(3), 298–304. <https://doi.org/10.1016/j.jenvp.2010.01.005>
- GUGiK. (2018a). *State border register [Państwowy Rejestr Granic]*. <http://www.gugik.gov.pl/pzggik/zamow-dane/panstwowo-rejestr-granic-i-powierzchni-jednostek-podzialow-terytorialnych-kraju>
- GUGiK. (2018b). *General geographic database [Baza Danych Ogólnogeograficznych]*. <http://www.gugik.gov.pl/pzggik/zamow-dane/baza-danych-objektow-ogolnogeograficznych>
- Gursoy, D., & Rutherford, D. G. (2004). Host attitudes toward tourism an improved structural model. *Annals of Tourism Research*, 31, 495–516.
- Gursoy, D., Jurowski, C., & Uysal, M. (2002). Resident attitudes – A structural modelling approach. *Annals of Tourism Research*, 29(1), 79–105. [https://doi.org/10.1016/S0160-7383\(01\)00028-7](https://doi.org/10.1016/S0160-7383(01)00028-7)
- Gustafson, P. E. R. (2001). Meanings of place: Everyday experience and theoretical conceptualizations. *Journal of Environmental Psychology*, 21(1), 5–16. <https://doi.org/10.1006/jenvp.2000.0185>
- Hadzik, A., & Hadzik, A. (2008). Wybrane aspekty turystyki zrównoważonej na wiejskich obszarach uzdrowiskowych [The chosen aspects of sustainable tourism on country health resort areas]. *Infrastruktura i Ekologia Terenów Wiejskich [Infrastructure and Ecology of Rural Areas]*, 2, 287–296.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2014). *Multivariate data analysis: Pearson new international edition*. Pearson Education Limited.

- Hall, D. (1998). Tourism development and sustainability issues in Central and South-Eastern Europe. *Tourism Management*, 19(5), 423–431. [https://doi.org/10.1016/S0261-5177\(98\)00039-9](https://doi.org/10.1016/S0261-5177(98)00039-9)
- Hegarty, C., & Przeborska, L. (2005). Rural and agri-tourism as a tool for reorganizing rural areas in old and new member states—a comparison study of Ireland and Poland. *International Journal of Tourism Research*, 7(2), 63–77. <https://doi.org/10.1002/jtr.513>
- Hinds, J., & Sparks, P. (2008). Engaging with the natural environment: The role of affective connection and identity. *Journal of Environmental Psychology*, 28(2), 109–120. <https://doi.org/10.1016/j.jenvp.2007.11.001>
- Imran, S., Alam, K., & Beaumont, N. (2014). Environmental orientations and environmental behaviour: Perceptions of protected area tourism stakeholders. *Tourism Management*, 40, 290–299. <https://doi.org/10.1016/j.tourman.2013.07.003>
- Jeong, A., & Wen, P. (2020, July 18). Travel is bouncing back from coronavirus, but tourists stick close to home. *The Wall Street Journal*. Retrieved August 26, 2020, from <https://www.wsj.com/articles/travel-is-bouncing-back-from-coronavirus-but-tourists-stick-close-to-home-11595064589>.
- Jones, D. L., Jurowski, C., & Uysal, M. (2000). Host community residents' attitudes: A comparison of environmental viewpoints. *Tourism and Hospitality Research*, 2(2), 129–155. <https://doi.org/10.1177/146735840000200203>
- Joo, D., Woosnam, K. L. M., Strzelecka, M., & Boley, B. B. (2020). Knowledge, empowerment, and action: Testing the empowerment theory in a tourism context. *Journal of Sustainable Tourism*, 28(1), 69–85. <https://doi.org/10.1080/09669582.2019.1675673>
- Jurowski, C., Uysal, M., & Williams, D. R. (1997). A theoretical analysis of host community resident reactions to tourism. *Journal of Travel Research*, 36(2), 3–11.
- Kalberg, S. (1980). Max Weber's types of rationality: Cornerstones for the analysis of rationalization processes in history. *American Journal of Sociology*, 85(5), 1145–1179. <https://doi.org/10.1086/227128>
- Kals, E., Schumacher, D., & Montada, L. (1999). Emotional affinity toward nature as a motivational basis to protect nature. *Environment and Behavior*, 31(2), 178–202. <https://doi.org/10.1177/00139169921972056>
- Kaplan, S. (1995). The restorative benefits of nature: Toward an integrative framework. *Journal of Environmental Psychology*, 15(3), 169–182. [https://doi.org/10.1016/0272-4944\(95\)90001-2](https://doi.org/10.1016/0272-4944(95)90001-2)
- Kellert, S. R., & Wilson, E. O. (1993). *The biophilia hypothesis*. Island Press, 484 pages.
- Lai, P. H., Hsu, Y. C., & Nepal, S. K. (2013). Representing the landscape of Yushan national park. *Annals of Tourism Research*, 43, 37–57. <https://doi.org/10.1016/j.annals.2013.03.004>
- Lane, B. (1994). What is rural tourism? *Journal of Sustainable Tourism*, 2(1–2), 7–21. <https://doi.org/10.1080/09669589409510680>
- Lane, B. (2009). Rural tourism: An overview. In T. Jamal & M. Robinson (Eds.), *The SAGE handbook of tourism studies* (pp. 355–371). SAGE Publications Ltd.
- Lee, T. H. (2013). Influence analysis of community resident support for sustainable tourism development. *Tourism Management*, 34, 37–46. <https://doi.org/10.1016/j.tourman.2012.03.007>
- Light, D. (2001). Facing the future: Tourism and identity-building in post-socialist Romania. *Political Geography*, 20(8), 1053–1074. [https://doi.org/10.1016/S0962-6298\(01\)00044-0](https://doi.org/10.1016/S0962-6298(01)00044-0)
- Malhotra, N. K., Agarwal, J., & Peterson, M. (1996). Methodological issues in cross-cultural marketing research: a state-of-the-art review. *International Marketing Review*, 13(5), 7–43.
- Margaryan, L., Prince, S., Ioannides, D., & Röslmaier, M. (2018). Dancing with cranes: A humanist perspective on cultural ecosystem services of wetlands. *Tourism Geographies*, 1–22. <https://doi.org/10.1080/14616688.2018.1522512>
- Maruyama, U. N., Woosnam, K. M., & Boley, B. B. (2017). Residents' attitudes toward ethnic neighbourhood tourism (ENT): Perspectives of ethnicity and empowerment. *Tourism Geographies*, 19(2), 265–286. <https://doi.org/10.1080/14616688.2016.1258432>
- Mayer, F. S., Frantz, C. M., Bruehlman-Senecal, E., & Dolliver, K. (2009). Why is nature beneficial? The role of connectedness to nature. *Environment and Behavior*, 41(5), 607–643.
- Mayer, F. S., & Frantz, C. M. (2004). The connectedness to nature scale: A measure of individuals' feeling in community with nature. *Journal of Environmental Psychology*, 24(4), 503–515. <https://doi.org/10.1016/j.jenvp.2004.10.001>
- McGehee, N. G. (2007). An agritourism systems model: A Weberian perspective. *Journal of Sustainable Tourism*, 15(2), 111–124. <https://doi.org/10.2167/jost634.0>
- Mendoza-Ramos, A., & Prideaux, B. (2018). Assessing ecotourism in an Indigenous community: Using, testing and proving the wheel of empowerment framework as a measurement tool. *Journal of Sustainable Tourism*, 26(2), 277–291. <https://doi.org/10.1080/09669582.2017.1347176>
- Mimbs, B. P., Boley, B. B., Bowker, J. M., Woosnam, K. M., & Green, G. T. (2020). Importance-performance analysis of residents and tourists' preferences for water-based recreation in the Southeastern United States. *Journal of Outdoor Recreation and Tourism*, 31, 100324. <https://doi.org/10.1016/j.jort.2020.100324>
- Nachtigall, C., Kroehne, U., Funke, F., & Steyer, R. (2003). Pros and cons of structural equation modelling. *Methods of Psychological Research Online*, 8(2), 1–22.
- Navarro, L. M., Fernández, N., Guerra, C., et al. (2017). Monitoring biodiversity change through effective global coordination. *Current Opinion in Environmental Sustainability*, 29, 158–169.

- Nisbet, E. K., Zelenski, J. M., & Murphy, S. A. (2011). Happiness is in our nature: Exploring nature relatedness as a contributor to subjective wellbeing. *Journal of Happiness Studies*, 12(2), 303–322. <https://doi.org/10.1007/s10902-010-9197-7>
- Nunkoo, R., Smith, S. L. J., & Ramkissoon, H. (2013). Residents' attitudes to tourism: a longitudinal study of 140 articles from 1984 to 2010. *Journal of Sustainable Tourism*, 21(1), 5–25.
- Nyaupane, G. P., & Poudel, S. (2011). Linkages among biodiversity, livelihood, and tourism. *Annals of Tourism Research*, 38(4), 1344–1366. <https://doi.org/10.1016/j.annals.2011.03.006>
- Pascual, U., Balvanera, P., Díaz, S., Pataki, G., Roth, E., Stenseke, M., Watson, R. T., Başak Dessane, E., Islar, M., Kelemen, E., Maris, V., Quaas, M., Subramanian, S. M., Wittmer, H., Adlan, A., Ahn, S. E., Al-Hafedh, Y. S., Amankwah, E., Asah, S. T., ... Yagi, N. (2017). Valuing nature's contributions to people: The IPBES approach. *Current Opinion in Environmental Sustainability*, 26–27, 7–16. <https://doi.org/10.1016/j.cosust.2016.12.006>
- Perdue, R. R., Long, P. T., & Allen, L. (1990). Resident support for tourism development. *Annals of Tourism Research*, 17(4), 586–599. [https://doi.org/10.1016/0160-7383\(90\)90029-Q](https://doi.org/10.1016/0160-7383(90)90029-Q)
- Perrin, J. L., & Benassi, V. A. (2009). The connectedness to nature scale: A measure of emotional connection to nature? *Journal of Environmental Psychology*, 29(4), 434–440.
- Pritchard, A., Richardson, M., Sheffield, D., & McEwan, K. (2020). The relationship between nature connectedness and eudaimonic well-being: A meta-analysis. *Journal of Happiness Studies*, 21(3), 1145–1167. <https://doi.org/10.1007/s10902-019-00118-6>
- Ramos, A. M., & Prideaux, B. (2014). Indigenous ecotourism in the Mayan rainforest of Palenque: Empowerment issues in sustainable development. *Journal of Sustainable Tourism*, 22(3), 461–479. <https://doi.org/10.1080/09669582.2013.828730>
- Restall, B., & Conrad, E. (2015). A literature review of connectedness to nature and its potential for environmental management. *Journal of Environmental Management*, 159, 264–278.
- Richardson, M., Dobson, J., Abson, D. J., Lumber, R., Hunt, A., Young, R., & Moorhouse, B. (2020). Applying the pathways to nature connectedness at a societal scale: A leverage points perspective. *Ecosystems and People*, 16(1), 387–401. <https://doi.org/10.1080/26395916.2020.1844296>
- Robinson, M., & Picard, D. (2006). *Tourism, culture and sustainable development. Culture and development section.* UNESCO.
- Rozsak, T. (1992). *The voice of the earth: An exploration of ecopsychology.* Simon & Schuster.
- Rott, N. (2020, August 11). We had to get out': Despite the risks, business is booming at national parks. *National Public Radio*. Retrieved August 26, 2020, from <https://www.npr.org/2020/08/11/900270344/we-had-to-get-out-despite-the-risks-business-is-booming-at-national-parks>
- Scheyvens, R. (1999). Ecotourism and the empowerment of local communities. *Tourism Management*, 20(2), 245–249. [https://doi.org/10.1016/S0261-5177\(98\)00069-7](https://doi.org/10.1016/S0261-5177(98)00069-7)
- Schroeder, T. (1996). The relationship of residents' image of their state as a tourist destination and their support for tourism. *Journal of Travel Research*, 34(4), 71–73. <https://doi.org/10.1177/004728759603400411>
- Schultz, P. W., Shriver, C., Tabanico, J. J., & Khazian, A. M. (2004). Implicit connections with nature. *Journal of Environmental Psychology*, 24(1), 31–42. [https://doi.org/10.1016/S0272-4944\(03\)00022-7](https://doi.org/10.1016/S0272-4944(03)00022-7)
- Sofield, T. H. (2003). *Empowerment for sustainable tourism development.* Pergamon.
- Statistics Poland. (2019). *Demographic Yearbook of Poland 2019.* Warsaw. <https://stat.gov.pl/en/>
- Stronza, A., & Gordillo, J. (2008). Community views of ecotourism. *Annals of Tourism Research*, 35(2), 448–468. <https://doi.org/10.1016/j.annals.2008.01.002>
- Strzelecka, M., Boley, B. B., & Woosnam, K. M. (2017). Place attachment and empowerment: Do residents need to be attached to be empowered? *Annals of Tourism Research*, 66, 61–73. <https://doi.org/10.1016/j.annals.2017.06.002>
- Strzelecka, M., Bynum Boley, B., & Strzelecka, C. (2017). Empowerment and resident support for tourism in rural Central and Eastern Europe (CEE): The case of Pomerania, Poland. *Journal of Sustainable Tourism*, 25(4), 554–572. <https://doi.org/10.1080/09669582.2016.1224891>
- Stylidis, D., Biran, A., Sit, J., & Szivas, E. M. (2014). Residents' support for tourism development: The role of residents' place image and perceived tourism impacts. *Tourism Management*, 45, 260–274. <https://doi.org/10.1016/j.tourman.2014.05.006>
- Timothy, D. J. (2007). Empowerment and stakeholder participation in tourism destination communities. In A. Church & V. T. Coles (Eds.), *Tourism, power and space* (pp. 203–216). London.
- Ulrich, R. S., Simons, R. F., Losito, B. D., Fiorito, E., Miles, M. A., & Zelson, M. (1991). Stress recovery during exposure to natural and urban environments. *Journal of Environmental Psychology*, 11(3), 201–230. [https://doi.org/10.1016/S0272-4944\(05\)80184-7](https://doi.org/10.1016/S0272-4944(05)80184-7)
- Uysal, M., Jurowski, C., Noe, F. P., & McDonald, C. D. (1994). Environmental attitude by trip and visitor characteristics: US Virgin Islands National Park. *Tourism Management*, 15(4), 284–294. [https://doi.org/10.1016/0261-5177\(94\)90046-9](https://doi.org/10.1016/0261-5177(94)90046-9)
- Wall-Reinius, S., Prince, S., & Dahlberg, A. (2019). Everyday life in a magnificent landscape: Making sense of nature/culture dichotomy in the mountains of Jämtland, Sweden. *Environment and Planning E: Nature and Space*, 2(1), 3–22. <https://doi.org/10.1177/2514848619825988>

- Wheeler, B. W., Lovell, R., Higgins, S. L., White, M. P., Alcock, I., Osborne, N. J., Husk, K., Sabel, C. E., & Depledge, M. H. (2015). Beyond greenspace: An ecological study of population general health and indicators of natural environment type and quality. *International Journal of Health Geography, 14*, 17.
- Wilson, E. O. (1984). *Biophilia*. Harvard University Press.
- Wilson, S., Fesenmaier, D. R., Fesenmaier, J., & Van Es, J. C. (2001). Factors for success in rural tourism development. *Journal of Travel Research, 40*(2), 132–138. <https://doi.org/10.1177/004728750104000203>
- Winkler, K. J., & Nicholas, K. A. (2016). More than wine: Cultural ecosystem services in vineyard landscapes in England and California. *Ecological Economics, 124*, 86–98. <https://doi.org/10.1016/j.ecolecon.2016.01.013>
- Yeager, E. P., Boley, B. B., Woosnam, K. M., & Green, G. T. (2020). Modelling residents' attitudes toward short-term vacation rentals. *Journal of Travel Research, 59*(6), 955–974. <https://doi.org/10.1177/0047287519870255>
- Zhang, H., & Lei, S. L. (2012). A structural model of residents' intention to participate in ecotourism: The case of a wetland community. *Tourism Management, 33*(4), 916–925. <https://doi.org/10.1016/j.tourman.2011.09.012>