How can community support be maintained during the COVID-19 pandemic?

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Abstract
This study aims to examine a structural equation model composed of the latent variables of collaboration, perceptions of benefits and costs, and community satisfaction to find a way to enhance community support for community development projects during the COVID-19 pandemic. Using a sample of 600 participants (57.8% male; 42% female) from 30 communities in South Korea, our findings show that collaboration as social cohesion has indirect effects on community support by mediating the perceived benefits and community satisfaction. The results show that perceived benefits and community satisfaction are crucial to enhance community support during times of uncertainty such as the COVID-19 pandemic. We suggest that policy makers and practitioners consider the relationships among collaboration, perceived benefits, and community satisfaction as a catalyst to enhance community support.

Keywords Community support · Collaboration · Perceived benefits · Perceived costs · Community satisfaction

1 Introduction

How can we enhance community support for community development during times of uncertainty and insecurity arising from the COVID-19 pandemic? Recently, fighting with COVID-19 is the most pivotal challenge for economic development as well as health care (Hilson, 2021; Robina-Ramirez et al., 2021; Xu et al., 2021), especially for rural development (Kolodinsky & Goetz, 2021; Phillipson et al., 2020). In this situation, there is an urgent need for research to continue community development by identifying influencing factors that can maintain and increase community support. This is because community support is the most essential factor in carrying out and completing community development (Adongo et al., 2017; Jeong & Kim, 2021; Wang & Pfister, 2008; Woo et al., 2015).
Community support gained by community collaboration is the indisputable way to lead to successful community development and build community capacity even during the COVID-19 pandemic. There has been a remarkable shift in individual and collective social behavior for community daily life. Interorganizational collaboration is recognized as one of the indicators of continued resident support for community development and community governance (Bradshaw, 2000; Cicognani et al., 2020; Emerson et al., 2011; Korea Research Institute for Local Administration [KRILA], 2002; Thomson et al., 2007; Vangen & Winchester, 2014). The nature and scope of problems in any community are diverse and complex, and a specific single institution, civic group, or local government cannot describe and solve all such problems alone (Bradshaw, 2000). Resolving community problems with community support requires a structure that perceives and publicizes community problems by incorporating various interests and networks (Jamal & Getz, 1995; Kania & Kramer, 2011; Lasker et al., 2001). Furthermore, the influence and legitimacy of community governance from community support are verified and built by collaboration (Cicognani et al., 2020; Jamal & Getz, 1995; Nasca et al., 2019). Community support via collaboration is the foundation for building community capacity (Abel & Gillespie, 2015; Abers, 2007).

Community support and collaboration are being emphasized in South Korea because communities must deal with not only community development but also international and sustainable issues on their own (Korean National Commission [KNC] for UNESCO, 2014; KRILA, 2006). Multi-sectional collaborations among community organizations, local governments, government agencies, and various community support organizations embody Agenda 21 [Results of the World Conference on Environment and Development] and maintain sustainable community development practices during threats such as the COVID-19 pandemic and serve as a blueprint for future work (Bradshaw, 2000; Cepiku et al., 2021; KRILA, 2002; Wondirad et al., 2020). However, due to less experience, preconceived notions, and lack of guiding policies, community support generated by such collaborations is still complex (Ministry of Environment [ME], 2006, 2011; KNC for UNESCO, 2014; KRILA, 2002, 2006). If community development occurs without community collaboration and support that build residents’ legal and technical knowledge, resources, social trust, and cultural understanding, there is a high possibility that the community will be adversely affected at a considerable cost (Gray, 2004; Vangen & Winchester, 2014; Wondirad et al., 2020). In particular, community support and collaboration have been important to implement community development projects effectively because rural communities cannot have community meetings and voluntary activities for community development projects during the COVID-19 pandemic. According to the Ministry of Economy and Finance (2021), it is difficult to execute budgets and fulfill development projects joining many people in communities (Ministry of Economy & Finance, 2021). The Ministry of Agricultural, Food, and Rural Affairs (2021) emphasizes that it needs to implement the projects to overcome the pandemic risk.

However, there are relatively few empirical studies that examine the relationship between community support and collaboration. While empirical research on community support has been published (e.g., Kang et al., 2014; Kanwal et al., 2020) and studies concerning collaboration are progressively being published on issues such as generalization of collaboration theory, preconditions, necessity and function, empowerment or governance mechanism, roles of organizations, discouragements, and indicators (Abel & Gillespie, 2015; Abers, 2007; Bradshaw, 2000; Cicognani et al., 2020; Drake et al., 2014; Emerson et al., 2011; Gray, 2004; Gray & Wood, 1991; Jamal & Getz, 1995; Marek et al., 2015; Nasca et al., 2019; Nuttavuthisit et al., 2014; Thomson et al., 2007; Wondirad et al., 2020), these studies commonly only admire and encourage collaboration as an ideal for
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bringing high levels of civic engagement, community governance, and community support. However, research on such collaborations is mainly focused on case studies and literature reviews and lack empirical verification and generalizability (O’Leary & Nidhi, 2012). Moreover, the relationship between community support and collaboration has not received attention even though there have been calls for such work.

Only as empirical research continues will the practice of community and inter-organizational collaboration generating greater community support for community development solidify. In particular, it is necessary to study the variables influenced by collaboration to verify changes in the perception and attitude of residents as they consider supporting community development initiatives. If preconceptions and concerns about collaboration can be addressed by empirical research, a roadmap to the destination of greater and more successful community support and civic governance can be produced.

This study aims to examine the structural relationships among collaboration, perceptions of benefits and costs, community satisfaction, and community support for community development to understand the preconditions of constant community support. We examined the data collected from 30 communities joining community development projects to see whether communities maintain positive perceptions and attitudes toward community development projects during the COVID-19 pandemic. According to the findings, we discussed how community support can be maintained during times of uncertainty and insecurity such as the COVID-19 pandemic. Implications for policymakers, legislators, and community development practitioners are presented in the Conclusion section.

1.1 Collaboration, Perceived Benefits and Costs, and Community Satisfaction

GRAY (1989) defined collaboration as “a process through which parties who see different aspects of a problem can constructively explore their differences and search for solutions that go beyond their own limited vision of what is possible” (p. 5), while Thomson et al. (2007) defined it as “a process in which autonomous or semi-autonomous actors interact through formal and informal negotiation, jointly creating rules and structures governing their relationships and ways to act or decide on the issues that brought them together; it is a process involving shared norms and mutually beneficial interactions” (p. 25).

We borrow the concept of “collective identity” to define collaboration according to Melucci’s (1995) recommendation. Melucci expanded the use of collective identity as an analytic tool to develop a better understanding of collective action in the context of culture. Collective identity is a cognitive process of building a collective action system and constructing a relational network. It can be considered a proportion of emotion invested by members for a sense of belonging to certain groups. In other words, collective identity is a meaningful sense of connectedness that cannot be “reduced to cost–benefit calculation and always mobilizes emotion as well” (Melucci, 1995, p. 45). Based on these previous studies, we define collaboration as a process in which groups or individuals: (1) recognize common problems, characteristics of other groups, and needs of interdependence; (2) share knowledge, norms, and emotions; (3) create rules for collective actions; and (4) solve problems through those interactions.

Scholars have proposed various theories that may underlie and explain collaboration. However, there is not convincing evidence that collaboration is derived from a particular theory. Gray and Wood (1991) investigated six theories about collaboration: resource dependence, corporate social performance/institutional economics, strategic management, microeconomics, negotiated order, and political theory. They confessed that these theories
could not answer three core questions (preconditions, process, and outcomes) necessary to develop a general collaboration theory. Thus, a general collaboration theory is in progress as studies pertaining to collaboration by many scholars and practitioners in various domains continue to be published.

The building consensus of such studies is that collaboration increases people’s awareness and changes their attitudes or feelings about their community. Jamal and Getz (1995) presented six propositions that facilitate collaboration in community-based tourism development: perceptions of the need for interdependence, perceptions of benefits, a perception of legitimacy and power of collaboration, involvement of various stakeholder groups in the community, the requirement of a convener, and the formation of a vision, goals, and self-regulation. With these six preconditions present, community stakeholders might perceive that collaboration is essential to community development in order to deal with problems and earn benefits. Moreover, stakeholders might recognize that collaboration can increase legitimacy and power to influence decision making and process management.

The preconditions of collaboration are also the outcomes of collaboration, creating changes in the perceptions or attitudes of residents. Abers (2007) elaborated the sequence of building collaboration with two cases in Brazil. Residents did not have any co-working experience to deal with a common issue. In the first step, workshops created network expansion, helping people get to know each other and organize small groups. In the second step, those small groups started collaborating. Afterward, through further collaboration with a local committee, the residents generated more confidence among themselves. In Abel and Gillespie (2015)’s study, participants in a local social event realized the impact of collaboration and perceived that their community was interested in harmonizing. In a nutshell, collaboration led to changes in community support and an increase in the sense of community.

Collaboration eventually leads to community governance and increased community capacity. Emerson et al. (2011) depicted such an integrative framework for collaborative governance. Collaborative governance is “the processes and structures of public policy decision making and management that engage people constructively across the boundaries of public agencies, levels of government, and/or the public, private and civic spheres in order to carry out a public purpose that could not otherwise be accomplished” (p. 2). Collaboration dynamics consists of “principled engagement, shared motivation, and capacity for joint action,” (p. 6) which produces actions that influence adaptation and change. Nasca et al. (2019) studied the participatory planning process of a two-year community development project in a lower-income neighborhood in Canada, utilizing the communicative planning theory. Collaborative interactions can be a channel to apply outcomes from capacity building and become an opportunity for residents to use their collective power. Collaborative interaction is not a tokenistic phrase, but describes opportunities for marginalized residents to recognize their need for knowledge, to discover their resources, and to share their perspectives in the process of planning and implementation, consequentially increasing community governance. Finally, Cicognani et al. (2020) showed that the quality of collaboration can influence a sense of community responsibility, community health promotion, and empowerment.

Taken together, these studies suggest that collaboration is an opportunity for change in collective perceptions and behaviors, and a prerequisite of empowerment. This is in line with Arnstein’s (1969) level of citizen participation ladder, in which participation in community work advances from nonparticipation and tokenism to become citizen power. In other words, collaboration is a high level of participation and an optimal state of engagement to build new community governance.
Collaboration cannot succeed based only on a collectivity of residents. Scholars highlight multi-sectional and multi-organizational collaboration (Emerson et al., 2011; Jamal & Getz, 1995; Kania & Kramer, 2011; Lasker et al., 2001; Nasca et al., 2019). Bradshaw (2000) emphasized that multi-sectional collaborations should be included for the success of community development projects in modern complex societies. The increase in multifunctional and multi-jurisdictional features of community development projects could be solved by collaborations among various organizations beyond the boundaries of tasks, resources, experiences, and capacities. Drake et al. (2014) demonstrated how collaborations among residents or groups in the community and supporting organizations can be elaborated. They elucidated that the role of official community-supporting organizations is to be mobilizers, facilitators, and “the glue that brings communities together” (p. 319) to make people or groups speak; the official organizations should not be professional planners. Collaboration among official organizations or agencies can build trust and confidence among the residents and create bottom-up development.

Although collaboration is an ideal notion for community development, it is can be difficult to successfully implement. Factors that hinder collaboration are inherent in history and culture. Wondirad et al. (2020) conducted in-depth interviews and focus group discussions on the factors hindering stakeholder collaboration. They supposed that obstacles could be demolished by “the discussion platforms and discussing issues with scrutiny” (p. 13). Gray (2004) gauged that people’s identity frames are the largest impediments to collaboration. An identity frame is “the ways stakeholders describe themselves in terms of their social group memberships” (p.170). This identity could build a personal identity that could interfere with their community or group engagement. Thus, environments or platforms generating deep listening and dialogue, such as listening pairs and listening circles, can transform existing identity frames into “new common frames” (p. 174).

Collaboration also requires endurance, as continuous dialogue, and discussion that could offset the interference of obstacles. Combining the collaborative studies listed above, collaboration transforms community perceptions, expectations, and community support. Therefore, we developed the theoretical structure model below (Fig. 1) and tested it with the following three hypotheses:

(H1) Collaboration for New Vitalization Plus (NVP) will directly and positively affect the perceived benefits of NVP;

(H2) Collaboration for NVP will directly and negatively affect the perceived costs of NVP; and (H3) Collaboration for NVP will directly and positively affect the perceived community satisfaction of NVP.

![Fig. 1 Research model](image)
1.2 Perceived benefits and costs, community satisfaction, and community support

Since it was introduced in Homans’ (1958) essay, social exchange theory (SET) has been used to predict factors affecting community support. Subsequently, Ap (1992) asserted that residents determine their attitudes by calculating the perceived costs they have to spend on tourism development and the perceived benefits they may earn from tourism (Andereck et al., 2005; Nunkoo & Ramkissoon, 2011a, 2011b). He suggested that SET is an action theory that can help scholars understand individual attitudes and predict behavior in social interrelationships. Our study used this theory to explore possible structures to enhance community support for community development.

Community satisfaction is a pivotal factor in community development and planning (Sirgy & Cornwell, 2001) and a variable that affects community support (Park et al., 2015). By using structural equation modeling, Ko and Stewart (2002) identified that perceptions of positive impacts influenced community satisfaction and attitudes of residents toward subsequent development programs. Perception of negative effects affected both community satisfaction and support. However, community satisfaction did not significantly affect community support.

Park et al. (2015) showed that perceptions of negative environmental impacts, including noise, environmental pollution, traffic congestion, and damage to the natural environment, influenced community satisfaction. Perceptions of positive environmental impacts also affected community satisfaction and community support for tourism development. Community satisfaction also affected community support. Vargas-Sánchez et al. (2009) confirmed that perceived positive impacts positively influence community support and satisfaction. The perceived negative impacts did not affect community satisfaction, but did have an impact on community support. Community satisfaction had a negative effect on community support. In their study, a low level of community satisfaction negatively affected community support. Kanwal et al. (2020) also suggested that perceived community satisfaction positively influenced community support for tourism. Thus, community satisfaction is an important factor that controls community support for community development. Based on this work, we developed three more hypotheses: (H4) The perceived benefits of NVP will directly and positively affect perceived community satisfaction; (H5) the perceived costs of NVP will directly and negatively affect perceived community satisfaction; and (H6) the perceived community satisfaction will directly and positively affect participants’ support for NVP.

Scholars used SET to demonstrate the influence of the perception of benefits and costs on community support for tourism development or community development (Dyer et al., 2007; Gursoy & Rutherford, 2004; Jurowski et al., 1997; Kang et al., 2014; Yoon et al., 2001). The relationship between perceived benefits and community support is relatively robust, as the perception of benefits is an influencing factor increasing community support. But the influence of perceived costs on community support varies slightly. Various studies have verified that positively and negatively perceived impacts of tourism development affect community support for tourism development (Kanwal et al., 2020; Lee, 2013; Nunkoo & Ramkissoon, 2011a, 2011b; Rasoolimaneshe et al., 2015). Gursoy et al. (2002) described how perceived benefits positively influence community support for tourism, but perceived costs did not affect community support. From the literature mentioned above, we included two more hypotheses: (H7) the perceived benefits of NVP will directly and positively affect participants’ support for NVP; and (H8) the perceived costs of NVP will directly and negatively affect participants’ support for NVP.
2 Method

2.1 Study sites

New Vitalization Plus (NVP) is a four-year community development project initiated in 2018, so far joining together 60 municipalities of South Korea. Each municipality is supported by approximately seven billion won (about USD 6,217,000.00) for four years by the central government to build community capacity for sustainability and economic development, including job opportunities and establishing local industries. The fulfillment of these purposes is dependent on participation and collaboration among community activists, action groups, organizations, and local governments to discover and enhance their physical and social resources (Ministry of Agriculture, Food, and Rural Affairs [MAFRA], 2018). We surveyed 30 municipalities that joined NVP in 2018 (n = 10 cities) and 2019 (n = 20 cities) during the COVID-19 pandemic.

2.2 Data collection

We collected data from local officials, nonprofit community development organizations, and residents’ groups involved in NVP projects with a self-administered questionnaire during October 2020. A promotion group that was established in each local government to support residents for NVP projects helped to easily access the respondents using the convenience sampling method (Etikan et al., 2016). We used both an online survey tool (Google Survey) and a paper document to collected data. We gathered 87 paper document responses out of 100, and 527 responses out of 600 were collected with the online tool. Fourteen responses out of 614 were dropped due to outliers or missing data. In total, 600 respondents were analyzed for this study. All 600 respondents were participating in NVP as a member of a local government, support organization for NVP projects, or resident action group.

2.3 Measures

We developed the measurement instruments for this study based on the specific purpose and features of NVP. The questionnaire included 19 items (Table 2) that assess the level of collaboration (three items), perceived benefits (four items), perceived costs (four items), perceived community satisfaction (four items), and community support for NVP. After three professionals met and discussed developing the instrument, a pilot test was carried with five farmers, three experts, and two public officials related to NVP. Due to the absence of empirically valid measures for collaboration, we used research by Melucci (1995), Jamal and Getz (1995), Emerson et al. (2011), Bradshaw (2000), Drake et al. (2014), and Nasca et al. (2019) to develop a three-item scale for collaboration. These items asked respondents to check on a five-point scale the extent of the participation of residents and action groups, the collaboration of action groups or residents’ organizations for NVP, and collaboration of action groups and local administration for NVP. The perceived benefits items were based on the findings of Gursoy and Rutherford (2004), Lee (2013), and Park et al. (2015). To assess perceived costs, we used the measurements and findings of Nunkoo and Ramkissoon (2011a, 2011b), Park et al. (2015), Rasoolimanesh et al. (2015), Gursoy and Rutherford (2004), Gursoy et al. (2002), and Lee (2013). We developed and changed the items of questionnaires for community satisfaction to perceived community
satisfaction for NVP, derived from Rojek et al. (1975), Theodori (2001), Filkins et al. (2000), Fitz et al. (2016), and Park et al. (2017). This is because NVP is a four-year project, not completed in 2020. Items of community support for NVP were derived from Lee (2013), Park et al. (2015), and Rasoolimanesh et al. (2015). We employed a 5-point Likert scale for all items, with 1 referring to strongly disagree and 5 referring to strongly agree. The details of the items are shown in Table 2 in the Results section.

2.4 Analysis

The descriptive statistics, frequency analysis, and Cronbach’s alpha were analyzed using SPSS 25. The confirmatory factor analysis (CFA) and structural equation model (SEM) were analyzed with Amos 25 for model fits, data reliability, convergent validity, discriminant validity, and hypotheses tests. First, we examined the proposed theoretical model (see Fig. 1 above) to assess the convergent validity and discriminant validity of collaboration, perceived benefits, perceived costs, perceived community satisfaction, and community support using CFA. Then we conducted a SEM analysis using maximum likelihood estimation (Anderson & Gerbing, 1988). Second, to find the best-fitted model, we checked and compared the goodness-of-fit index, adjusted the goodness-of-fit index, the normed-fit index (Bentler & Bonett, 1980), the non-normed-fit index, the comparative fit index (Bentler, 1990), and critical N statistic (Hoelter, 1983). The critical N statistic suggests a cutoff of 200 or greater for adequate model fit (Hoelter, 1983). Lastly, we tested the theoretical model as the final model to determine the significant structure influencing community support in a community development program.

3 Results

3.1 Profiles of the respondents

We recruited 600 participants from the 30 sites. Of them, 57.8% are male and 42% female. The largest age group are those in their 50s (31.3%), followed by those in their 40s (28.3%). The majority (62.8%) hold a bachelor’s degree, and the annual income was between USD 27,000 and USD 45,000 for 35% of them. Nearly half (40.6%) knew about NVP from resident or organization groups. See Table 1 for more demographic information.

3.2 Measurement model

We conducted a confirmatory factor analysis (CFA) to verify data quality using the maximum likelihood method. The results of the goodness-of-fit analysis indicated an adequate measurement model fit with the following data: (1) $\chi^2 = 429.752$, $df = 142$, $\chi^2/df = 3.026$, and $p < 0.001$; (2) RMSEA = 0.058, RMR = 0.022, and SRMR = 0.0294; (3) GFI = 0.928; (4) NFI = 0.965, IFI = 0.971; and (5) CFI = 0.971 (Hair et al., 2011; Muthén & Muthén, 2012).

Table 2 shows the results of the CFA, including factor loadings, Cronbach’s alpha (CA), composite reliability (CR), and average variance extracted (AVE). Factor loadings for all the items were higher than 0.70 ($p < 0.001$), CA > 0.70, CR > 0.70, and AVE > 0.50, exceeding suggested thresholds (Bagozzi et al., 1991; Fornell & Larcker, 1981; Hair et al.,...
This outcome demonstrates the convergent validity of the measurement model for this study.

Discriminant validity was verified with the results shown in Table 3, indicating that the square root AVE was higher than the inter-correlation of each construct (Fornell & Larcker, 1981; Hair et al., 2010; Hair et al., 2011).

### 3.3 Structural equation model

The competing models were assessed to determine the best-fitted model. Table 4 lists the fit indices for the final model and competing models. We determined the best-fitting model by comparing the three competing models with the initial theoretical model (TM). The estimation of TM showed the following fit indices: $\chi^2 = 458.83 \ (p < 0.001)$; goodness-of-fit index = 0.92; adjusted goodness-of-fit index = 0.90; comparative fit index = 0.97; and root-mean-square error of approximation = 0.06. Consequently, TM was chosen as the final model for this study.

We developed a structural equation model to test eight hypotheses for this study. The model generally fits the data well ($\chi^2 = 458.826 \; df=144; \chi^2/df=3.186; \; p<0.001$; RMSEA = 0.060; RMR = 0.044; GFI = 0.924; NFI = 0.955; NNFI = 0.963; IFI = 0.969; AGFI = 0.900; CFI = 0.968; Kline, 2005). $R^2$ values for perceived community satisfaction and community support for NVP were 74% and 78%, respectively, indicating high explanatory power (Hair et al., 2011).
Table 2  Results of confirmatory factor analysis

| Variables                              | Factor loading | Cronbach’s alpha | Composite reliability (CR) | Average variance extracted (AVE) |
|----------------------------------------|----------------|------------------|----------------------------|---------------------------------|
| **Collaboration**                      |                |                  |                            |                                 |
| 1. The project planning was conducted  | 0.893          | 0.906            | 0.762                      |                                 |
| by participation of residents and action groups |                |                  |                            |                                 |
| 2. Collaboration of action groups or resident’s organizations was increased through the project processes | 0.882          | 0.906            | 0.762                      |                                 |
| 3. Collaboration between action groups and local administration was increased through the project processes | 0.861          | 0.906            | 0.762                      |                                 |
| **Perceived benefits**                 | 0.918          | 0.944            | 0.809                      |                                 |
| 1. NVP will grant revenues for local government | 0.869          | 0.944            | 0.809                      |                                 |
| 2. NVP will increase the cultural pride of residents | 0.840          | 0.944            | 0.809                      |                                 |
| 3. NVP will increase the income of residents | 0.867          | 0.944            | 0.809                      |                                 |
| 4. NVP will have a good effect on residents in general | 0.865          | 0.944            | 0.809                      |                                 |
| **Perceived costs**                    | 0.911          | 0.918            | 0.738                      |                                 |
| 1. NVP will increase the rate of crime | 0.803          | 0.918            | 0.738                      |                                 |
| 2. NVP will increase the rejection of outsiders | 0.870          | 0.918            | 0.738                      |                                 |
| 3. NVP will increase traffic congestion, noise, and pollution | 0.849          | 0.918            | 0.738                      |                                 |
| 4. Local residents will suffer from NVP | 0.873          | 0.918            | 0.738                      |                                 |
| **Perceived community satisfaction**   | 0.920          | 0.943            | 0.806                      |                                 |
| 1. Economy of community will be expanded by NVP | 0.818          | 0.943            | 0.806                      |                                 |
| 2. Environmental conditions will be advanced by NVP | 0.855          | 0.943            | 0.806                      |                                 |
| 3. The community vitalization will be brought by NVP | 0.890          | 0.943            | 0.806                      |                                 |
| 4. Trust of community will be strengthened by NVP | 0.891          | 0.943            | 0.806                      |                                 |
| **Community support for NVP**          | 0.930          | 0.955            | 0.843                      |                                 |
| 1. I take pride in being chosen of our local government at NVP | 0.863          | 0.955            | 0.843                      |                                 |
| 2. NVP was the right direction for our community | 0.894          | 0.955            | 0.843                      |                                 |
| 3. I believe the future of our community is bright because of NVP | 0.898          | 0.955            | 0.843                      |                                 |
| 4. I will continue to support NVP project | 0.852          | 0.955            | 0.843                      |                                 |

NVP New vitalization plus
Collaboration was positively related to perceived benefits of NVP ($\beta=0.642$, $p<0.001$), supporting H1. The perceived cost of NVP was negatively affected by collaboration ($\beta=-0.183$, $p<0.001$); thus, H2 was supported. Collaboration positively affected perceived community satisfaction ($\beta=0.194$, $p<0.001$), supporting H3. Perceived benefits were positively related to perceived community satisfaction ($\beta=0.722$, $p<0.001$), supporting H4. But perceived costs did not show any significant relationships, rejecting H5. Perceived community satisfaction positively affected community support for NVP ($\beta=0.703$, $p<0.001$), supporting H6. Perceived benefits positively affected community support for NVP ($\beta=0.18$, $p<0.01$); thus, H7 was supported. Perceived costs negatively influenced community support for NVP ($\beta=-0.11$, $p<0.001$), supporting H8. The results are summarized in Table 5 and Fig. 2.

3.4 Discussion

Collaboration with community development organizations, action groups, and local administrations is a variable that increases participants’ perception of benefits from NVP in economic and cultural aspects (H1). Collaboration affects participants in NVP to perceive the cost they should pay due to the project, such as the increasing rate of crime, traffic congestion, rejection of outsiders, etc. (H2). In a nutshell, collaboration makes participants aware that they could receive benefits from and also pay costs for community development projects. Collaboration also leads communities to anticipate satisfactory outcomes such as better economic and environmental conditions, community vitalization, and enhancing community trust after the implementation of the NVP project (H3). These findings are largely in line with the literature concerning collaboration that we discussed in the previous study section. Collaboration brings about an extension of the perception of realistic situations of residents such as a lack of knowledge, experience, and competence to do the work; incurrence of costs; and risks of sharing scarce resources (Jamal & Getz, 1995; Nasca et al., 2019). In the course of the collaboration with multi-sectional agents such as nonprofit organizations and administrative officials, participants might learn from each other’s knowledge, experience, and capabilities, build networks and have the legitimacy of collaboration and increased self-esteem (Abel & Gillespie, 2014), or collective identity (Melucci, 1995). Collective identity generated from collaboration might work as a device that increases positive perceptions of benefits at a much greater level, even in the time of a pandemic. Thus, collaboration could be transformed into collaborative governance through collaboration dynamics that are generated with principled engagement, capacity building, and shared motivation (Emerson et al., 2011).

Perceived benefits positively affected perceived community satisfaction (H4). Participants who anticipated the benefits of NVP might expect that the community development projects would lead to improvement of economic and environmental conditions, vitalization, and trust of community. This finding is consistent with the results of previous work (Ko & Stewart., 2002; Park et al., 2015; Vargas-Sánchez et al., 2009). However, the perceived costs did not significantly affect perceived community satisfaction (rejected H5). This result is consistent with Vargas-Sánchez et al.’s (2009) finding and is contrary to Ko and Stewart’s (2002) and Park et al.’s (2015) findings. There are three reasons our data may have led to a rejected H5. First, communities with development experience may have the ability to deal with negative perceptions or opinions, so their negative perceptions may not affect perceived community satisfaction. (Allen et al., 1988; Faulkner & Tideswell, 1997; Gursoy et al., 2002; Ko & Stewart, 2002). All 30 communities currently participating in
NVP have experience with previous government-funded development projects. Participants may have experienced the process of coping with negative problems, such as increased crime rates, increased rejection of outsiders, traffic congestion, noise, and pollution. The respondents’ participation level is expected to be a rung above tokenism on Arnstein’s (1969) civic engagement ladder. Thus, they may have expected the perceived costs to be trivial and potentially handled by collaboration. Second, collective identity as the emotions generated in the collaborative network might work (Melucci, 1995). The meaningful identity gained from two years of participation in NVP might make the perception of costs much lower. Conversely, this particular collective sentiment may have increased the perception of benefits, offsetting the perception of costs.

Perceived community satisfaction was the strongest factor in maintaining a willingness to support community development in our model (H6). This is consistent with the results of Park et al. (2015). Vargas-Sánchez et al.’s (2009) findings showed a negative impact of community satisfaction on community attitude. Vargas-Sánchez et al.’s survey was conducted on a community with no experience in development projects, showing a low community satisfaction average ($M=2.57$, $SD=0.86$) which likely negatively affected community support. Their unsatisfied community statement was reflected in the low community support. In our study, the perceived community satisfaction average was high ($M=4.14$, $SD=0.75$) and demonstrated that the higher community satisfaction, the stronger the support for community development projects.

The perception of benefits from NVP had a positive impact on community support for development (H7). This was consistent with the findings of Gursoy et al. (2002), Kanwal et al. (2020), Lee (2013), Nunkoo and Ramkissoon (2011a, 2011b), and Rasoolimanesh et al. (2015). The perceived costs had a negative impact on community support (H8). This result was identical to the findings of Vargas-Sánchez et al. (2009), Rasoolimanesh et al. (2015), Lee (2013), Gursoy et al. (2002), Ko and Stewart (2002), and Nunkoo and Ramkissoon (2011a, 2011b). Perceived costs would decrease community support toward NVP projects during the COVID-19 pandemic. However, the dominant direct influence on community support was perceived community satisfaction, followed by perceived benefits. Perceptions of community satisfaction in income, living environment, community revitalization, and strengthening community trust could build robust structures to keep community support high toward community development programs. Although unexpected situations or problems such as the COVID-19 pandemic emerge, if perceived community satisfaction is high, community support might also remain high.

We can confirm the significant path in our model that influences community support. Community support might be established and maintained as collaboration increases the perceived benefits and community satisfaction. Participants might perceive that the more local administrative officials, nonprofit NVP-support organizations, and residents’ organizations collaborate together, the greater the benefits they could receive from the project. The higher the perceived benefits of the collaborators, the higher the perceived community satisfaction to increase community support. Therefore, collaboration, perceived benefits, and perceived community satisfaction can be identified as a path to increase and keep community support for community development during the COVID-19 pandemic in our theoretical model. Collaboration might positively shape and build psychological perceptions and confirmations that participants can handle problems rationally together during times of uncertainty such as the COVID-19 pandemic. This finding is in tune with a previous study (Sue, 2020) warning of authoritarianism, which is officially growing with the COVID-19 pandemic.
How can community support be maintained during the COVID-19 pandemic. Authoritarianism will be severely judged and criticized by the public and lose community support. Conversely, collaborative activities between communities and various organizations to solve the problem will raise the perception of benefits and community satisfaction, consequently indirectly increasing community support. In particular, collaboration and community support will be an essential resource for healing communities from COVID-19.

Table 3  Correlation matrix of the latent variables

|       | 1     | 2     | 3     | 4     | 5     | Mean | SD      |
|-------|-------|-------|-------|-------|-------|------|--------|
| 1. Collaboration | 0.873 |      |       |       |       | 3.903| .848   |
| 2. Perceived benefits | 0.620 | 0.900 |       |       |       | 4.117| .732   |
| 3. Perceived costs  | −0.164| −0.296| 0.859 |       |       | 3.597| .662   |
| 4. Perceived community satisfaction | 0.647 | 0.850 | −0.271| 0.898 |       | 4.135| .752   |
| 5. Community support for NVP | 0.572 | 0.800 | −0.345| 0.876 | 0.918 | 4.311| .718   |

Goodness-of-fit statistics: $\chi^2 = 429.752; df = 142; \frac{\chi^2}{df} = 3.026; p < 0.000; \text{RMSEA} = 0.058; \text{RMR} = 0.022; \text{SRMR} = 0.0294; \text{GFI} = 0.928; \text{NFI} = 0.965; \text{NNFI} = 0.965; \text{IFI} = 0.971; \text{AGFI} = 0.904; \text{CFI} = 0.971$

Diagonal values indicated the square root of average variance extracted of each construct. All coefficients are significant at $p < .01$ level

Table 4  Fit Indices for the theoretical model (TM) and competing models (CM)

| Competing models | TM     | CM₁    | CM₂    | CM₃    |
|------------------|--------|--------|--------|--------|
| $\chi^2$         | 458.83***| 513.92***| 486.86***| 458.70***|
| $\chi^2/df$      | 3.19   | 3.50   | 3.34   | 3.21   |
| GFI              | 0.92   | 0.92   | 0.92   | 0.92   |
| AGFI             | 0.90   | 0.89   | 0.89   | 0.90   |
| NFI              | 0.96   | 0.95   | 0.95   | 0.96   |
| NNFI             | 0.96   | 0.95   | 0.96   | 0.96   |
| CFI              | 0.97   | 0.96   | 0.97   | 0.97   |
| IFI              | 0.97   | 0.96   | 0.97   | 0.97   |
| ECVI             | 0.92   | 1.00   | 0.96   | 0.92   |
| RMSEA            | 0.06   | 0.07   | 0.06   | 0.06   |
| SRMR             | 0.06   | 0.07   | 0.07   | 0.06   |
| Critical N       | 226    | 206    | 216    | 225    |
| $R^2$ for Perceived community satisfaction | .744 | .757 | .763 | .744 |
| $R^2$ for community support for NVP | .782 | .785 | .784 | .782 |

*p < 0.05; **p < 0.01; ***p < 0.001
Table 5  Results of structural model analysis

| Linkage                                      | $\beta$ | $t$     | Hypothesis     |
|----------------------------------------------|---------|---------|----------------|
| H1  Collaboration → Perceived benefits      | 0.624   | 14.59***| Supported      |
| H2  Collaboration → Perceived costs         | −0.183  | −4.067***| Supported      |
| H3  Collaboration → Perceived community satisfaction | 0.194   | 5.195***| Supported      |
| H4  Perceived benefits → Perceived community satisfaction | 0.722   | 16.435***| Supported      |
| H5  Perceived costs → Perceived community satisfaction | −0.04   | −1.464  | Rejected       |
| H6  Perceived community satisfaction → Community support for NVP | 0.703   | 11.456***| Supported      |
| H7  Perceived benefits → Community support for NVP | 0.18    | 3.217** | Supported      |
| H8  Perceived costs → Community support for NVP | −0.11   | −4.291***| Supported      |

Total variance explained: $R^2$ for Perceived community satisfaction = .744; $R^2$ for Community support for NVP = .782

Goodness-of-fit statistics: $\chi^2 = 458.826; df = 144; \chi^2/df = 3.186; p < 0.000; RMSEA = 0.060; RMR = 0.044; GFI = 0.924; NFI = 0.955; IFI = 0.969; AGFI = 0.900; CFI = 0.968

*p < 0.05; **p < 0.01; ***p < 0.001
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To find ways to enhance community support for rural community development projects during the COVID-19 pandemic is one of the urgent challenges to study because government budgets for rural development highly depend on community support by virtue of collaboration, perceived impacts, and community satisfaction. The results of this study reveal that the priority condition for increasing and maintaining community support is community collaboration, perceived impacts, and community satisfaction. Collaboration is a crucial factor to initiate perceived benefits, satisfaction, and community support for government-funded community development projects from the case of South Korea. Collaboration builds psychological perceptions and confirmations that participants can handle problems rationally and cooperatively.

The results of this study have policy and practical implications for maintaining community support during times of uncertainty, such as the current COVID-19 pandemic. For the policy implications, first, policies to induce collaboration, especially multi-sectional collaboration, that increase perceived benefits and perceived community satisfaction in the context of the COVID-19 pandemic should be promoted. If only residents cooperate for the projects, the practice of relying on external experts or local public officials will inevitably continue due to a lack of resources such as laws, systems, and knowledge. Collaboration with various organizations could help communities find balanced solutions and implementations and develop their willingness and confidence to work together.

Second, the funders, who are mostly central government organizations, should test the community collaboration level and environment before the nomination of communities for financial support. To gain government funds, local communities should build community capacities for multi-sectional collaboration networks and a collaborative culture as the priority for development projects. Collaboration is a fundamental environment to enhance community support for community development projects. This is because the COVID-19 pandemic hinders community meetings and forums to make collaborations for community people. Third, educational programs for community development organizations should be included in the funds and goals to make them skilled collaborators. Community development organizations should have the capacity of developing collaborative interactions. Capacity building programs should be given by the funders regularly. Fourth, local policies to enhance collaboration among local governments, community development organizations, and residents’ organizations should be conducted as the kernel of citizen governance. In the field, local governments tend to dominate the planning and implementation
of projects. However, community support could be improved in the collaborative culture and structure. Three agents should participate in the progress of projects equally and cooperatively.

Collaborative interactions should be implemented at the planning stage and each subsequent stage of the process, thus helping residents recognize everything from benefits to costs (Emerson et al., 2011). For the practical implications, first, perceptions of costs should not be ignored by community practitioners in the field; rather, they should be used to ignite collaborative interactions. The experience of overcoming the costs through collaboration might build civic governance that operates subsequent community development projects. Second, an environment of listening and speaking constantly and regularly, which embraces the history and culture of community groups and accepts their opinions and concerns, will increase perceived community satisfaction and community support (Gray, 2004; Wondirad et al., 2020). Third, transparency might help recognize that collaboration is legitimate and is exerting an influence at all stages of the community development process (Jamal & Getz, 1995). Collaboration brings creativity and extended thinking (Lasker et al., 2001), so the planned process and methods must be modifiable by collaboration at any time. Then, the modification and changes from collaboration should be presented (Abel & Gillespie, 2015) to increase the positive perception and collaborative governance.

This study is limited to South Korea and more especially the NVP projects. The variables in the theoretical model could not present the whole structure of NVP or explain influences on all factors of community support. Convenience sampling errors might be in this study due to non-probability sampling. The data collected at the end of the NVP project are needed to confirm that collaboration could keep community support over the whole durations. Future empirical studies on collaboration to understand how collaboration influences civic governance and community support to handle uncertainty such as pandemics in each procedure of community development projects will be needed. For this, measurement of community collaboration should be studied. In addition, the context of community collaboration bringing community satisfaction and community support should be studied with an in-depth methodology.

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