



Benefit-sharing and residents' subjective well-being in rural tourism: An asymmetric approach

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ARTICLE INFO

Keywords:

Benefit-sharing
Perceived community support
Community attachment
Subjective well-being
Rural tourism

ABSTRACT

The subjective well-being (SWB) of residents in a community is a complex psychological phenomenon. Based on complexity theory, this study uses fuzzy-set qualitative comparative analysis (fsQCA) to explore the causal combinations and asymmetric relationships between benefit-sharing and residents' SWB. It deconstructs the concept of benefit-sharing and its six dimensions from the perspective of justice. The results show that married and low-income residents are the main groups with a high level of SWB, indicating that economic income is not the determinant of a high level of SWB of residents. The study further reveals that benefit-sharing can effectively solve the problem of distributive justice and improve residents' SWB. In addition, the analysis of sufficient conditions shows that no single factor alone can achieve high levels of residents' SWB. Seventeen distinct combinations in the fsQCA consistently led to high levels of SWB. These results can help local authorities in rural destinations to design different strategies to promote a continuous improvement in residents' SWB.

1. Introduction

Subjective well-being (SWB) is the sum of an individual's perception of his or her own life and living environment (e.g. social, economic, and environmental factors) in which the individual lives (Diener, 2000), including the level of happiness and satisfaction with life (Diener, 2009). It is the core of a resident's perception and evaluation of the resident's local quality of life and living environment (Vogt, Jordan, Grewe, & Kruger, 2016). People with high levels of SWB are likely to engage in positive activities and behaviors that are beneficial to society (Diener, 2000). SWB has received significant attention because of its association with tourism development in rural areas (Butler, 2019). Rural tourism can enhance the happiness of residents, and having "happy hosts" is the basis for the successful development of tourism (Snaith & Haley, 1999). Shahbaz, Solarin, Azam, and Tiwari (2019) noted that tourism has become a key driver of socio-economic development in terms of an increase in jobs and the generation of new enterprises and infrastructures, thereby improving the social welfare of a country's citizens. Once a community becomes a tourist destination, the residents' quality of life will be influenced by the development of tourism (Uysal, Sirgy, Woo, & Kim, 2016). Community residents who perceive themselves as having a better quality of life tend to support the development of tourism (Woo, Uysal, & Sirgy, 2019, pp. 43–62). Yolal, Gursoy, Uysal, Kim, and

Karacaoglu (2016) also found that in areas that have been opened for tourism, the SWB of the residents has become one of the most important issues associated with the sustainable development of local tourism.

Studies focused on the SWB of residents in a rural tourism context have given more attention to residents' perceptions of the impacts of tourism (Alonso & Nyanjom, 2016; Nawijn & Mitas, 2012), development of tourism (Allen, Long, Perdue, & Kieselbach, 1988; Rivera, Croes, & Lee, 2016), perceived values and fairness (Rivera et al., 2016), place identity and community participation (Lv & Xie, 2017), and the environmental sustainability and perceived socio-economic benefits (Lv, Xie, & Li, 2019; Yu, Chancellor, & Cole, 2011) on residents' quality of life. Allen et al. (1988) investigated 721 residents living in 20 rural Colorado communities and found that with the development of tourism, community life was perceived to decline. Yu et al. (2011) investigated 649 residents living in Orange County, Indiana, and found that environmental sustainability and perceived socio-economic benefits affected residents' quality of life. Alonso and Nyanjom (2016) used the case of a Western Australian town to investigate the quality of life and found that four predominant exchanges between the quality of life and tourism emerged: economic, bonding, material, and cultural. Rivera et al. (2016) studied the relationship between tourism development and happiness from the perspective of locals at a small island destination; the results revealed that tourism development is positively correlated with

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happiness and that non-income factors such as social comparisons have a large impact on happiness. [Nawijn and Mitas \(2012\)](#) investigated the impact of tourism on the SWB of the residents of Palma de Mallorca, and the results revealed that perceived tourism impacts were associated with life satisfaction. [Pratt, McCabe, and Movono \(2016\)](#) measured the Gross Happiness Index of two Fijian villages, and the results indicated that although the village that was a destination for tourism became wealthier in material ways, its residents were less happy than residents of the nontourism village across a significant number of life domains. [Lv et al. \(2019\)](#) collected data from the rural community of Ningde, China, to test the impacts of tourism in terms of personal economic benefits, perceived values, and nonmaterial life domain satisfaction; the researchers found that the personal economic benefits from tourism were positively associated with perceived values and non-material life domain satisfactions. [Lv and Xie \(2017\)](#) used a rural tourism destination in China as a sample, and the research showed that community members' involvement had a positive impact on perceived values and fairness, which contributed to residents' SWB. However, most of the above studies of SWB adopted traditional symmetric methods, such as the multiple linear regression and structural equation models ([Graham, Higuera, & Lora, 2011](#); [Nawijn & Mitas, 2012](#); [Uysal et al., 2016](#)). Because SWB is a complex condition influenced by the internal psychology and incentives of the individual ([Diener, 2000](#)), empirical research on tourism is lacking an analysis of the implications of the complex factors, as well as the multiple concurrent causal relationships, among the antecedent variables of SWB and their asymmetric causal effects on SWB.

In 2017, the Chinese government implemented a program called Rural Revitalization to revive the economy of the countryside, which had become increasingly depressed. The development of rural tourism was one aspect of this program. It has been one important way to improve residents' quality of life in a community ([Uysal & Sirgy, 2019](#)), and it has enabled the majority of residents to have more sense of gain ([Rasoolimanesh, Taheri, Gannon, Vafaei-Zadeh, & Hanifah, 2019](#)). Therefore, rural tourism has received widespread attention because it can be an important way to develop the rural economy in China ([Cheng & Zhang, 2020](#); [Gao & Wu, 2017](#)). However, income growth resulting from tourism may not necessarily improve the SWB of local residents. For example, [Ridderstaat, Croes, and Nijkamp \(2016\)](#) found that economic growth did not seem to enhance the quality of life of the Aruba people. This is because they were marginalized in terms of resource allocation in the development of tourism. Injustices associated with marginalization can have destructive impacts on residents' culture and economic opportunities and, therefore affect residents' well-being ([Camargo & Vázquez-Maguirre, 2020](#)). Therefore, residents with different perceptions of equity had different perceptions of tourism's contributions to a community, and this indicated that distributive justice in the context of a destination is closely related to equity issues ([Woo et al., 2019](#), pp. 43–62). To solve the problem of injustice in tourism development, [Scheyvens and Biddulph \(2017, pp. 1–21\)](#) put forward the concept of inclusive tourism, that is, the participation of marginal groups in the development of tourism and the sharing of the benefits of tourism development by these groups.

In the field of tourism, benefit-sharing is the distribution of the benefits arising from tourism across a wider range of stakeholders ([Heslinga, Groote, & Vanclay, 2018](#)), especially within the local community ([Foxlee, 2007](#)). Some studies pointed out that residents should play leading roles in the process of tourism development to ensure that everyone has opportunities to enjoy a fair distribution of its economic benefits ([Hudayana, 2021](#); [McGehee & Andereck, 2004](#)) and noneconomic benefits. Such benefits include cultural features, environmental attributes, and upgrades of facilities ([Boukas & Ziakas, 2016](#)); community participation ([Jaafar, Noor, & Rasoolimanesh, 2015](#)); participatory planning ([Jamal, 2019](#)); and so on, that is, they are benefits gained from the culture, environment, facilities, community participation, and ideas of development that are part of tourism development. In considering the factors of tourism sustainable development, [Fan and Cheng \(2020\)](#)

pointed out that benefit-sharing should include six aspects, namely, socio-economic sharing, culture sharing, environment sharing, facility sharing, community participation sharing, and the sharing of development ideas. Only then can sharing of the developmental benefits be realized ([Foxlee, 2007](#)) and the ultimate improvement of the SWB of residents takes place ([Lv & Xie, 2017](#)).

The studies cited above indicated that sharing was the way to solve issues of unfairness and injustice. They suggested that a justice-oriented perspective provided a potential new way to better understand and face the challenges related to the development of tourism so that justice could be pursued as the positive aspects of tourism were encouraged ([Jamal, 2019](#)). However, unfair benefit-sharing (e.g., of cultural features, environmental attributes, facilities, community participation, and developmental ideas) brought about by tourism development was largely overlooked in early studies ([Jamal & Camargo, 2014](#)). For this reason, it is necessary to view residents' SWB from a benefit-sharing perspective. Furthermore, some research indicated that residents' quality of life may differ in terms of various demographic variables, such as income levels, occupation, and involvement ([Lankford & Howard, 1994](#); [Uysal et al., 2016](#)) and that enhancing the health, educational, and demographic variables and the involvement may make people happier ([Graham et al., 2011](#)). [Lu \(2008\)](#) found that demographic variables such as gender, age, marital status, and educational level were factors related to SWB. Previous studies have also shown that community attachment ([Andereck, Valentine, Knopf, & Vogt, 2005](#)) and perceived community support ([Cohen & Wills, 1985](#)) were significantly related to SWB. For this reason, this study applied complexity theory to examine the effects of combinations of benefit-sharing, perceived community support, community attachment, and demographic characteristics on residents' SWB.

In this study, the fsQCA method was employed to identify configurations of antecedents that might influence high levels of residents' SWB in Sandaoyan Town in Chengdu. The study has attempted to contribute to the literature on tourism by (1) deconstructing the concept of benefit-sharing and its dimensions from the perspective of justice, (2) exploring the fact that benefit-sharing could effectively solve the problem of distributive justice in tourism development and extend the theoretical discussion of social justice in the development of tourism, (3) confirming the significance of examining complex causal combinations of predictors, contrarian cases, asymmetric relationships between benefit-sharing, perceived community support, community attachment, demographic characteristics, and SWB, and (4) deepening academia's comprehension of the interactions and complexities of the influencing factors of SWB in rural tourism communities. The study can help local government leaders and community managers to take effective measures to solve the problem of distributive justice and improve residents' SWB in rural destinations.

2. Theoretical background and research model

2.1. Complexity theory in tourism research

Complexity theory has been used for explaining the complex phenomena of nonlinear, heterogeneous, and dynamic processes in many fields, such as the natural and social sciences ([Urry, 2005](#)), marketing ([Kotler, 1967](#); [Woodside, 2014](#)), and hospitality and tourism ([Afonso, Silva, Goncalves, & Duarte, 2017](#); [Elbaz, Haddoud, & Shehawy, 2018](#); [Pappas & Papatheodorou, 2017](#)). It is a set of concepts that model the world in a nonlinear way ([Hoffmann & Riley, 2002](#)) and provide deeper insights into the causal combinations of factors ([Olya & Mehran, 2017](#)); this helps researchers to understand the relationship between antecedent variables and outcome conditions ([Olya & Altinay, 2016](#)). [Baggio \(2008\)](#) stated that complexity theory could contribute to understanding complex systems in which simple linear methods cannot fully describe the interactions between factors, and help in the analysis of complex configurations, contrarian cases, and asymmetric relationships of

indicators (Pappas, Kourouthanassis, Giannakos, & Chrissikopoulos, 2016).

Although complexity theory has been used in the field of management (Hwang & Yuan, 2014), its use in studies of tourism remains limited (Pappas & Papatheodorou, 2017). Pappas and Papatheodorou (2017) used fsQCA to study the relationship between tourism and the refugee crisis, and the results revealed three configurations that explained respondents' decisions. Afonso et al. (2017) applied fsQCA with complexity theory to predict that two sufficient configurations consistently lead to intention in the field of wine production. Elbaz et al. (2018) used complexity theory to address Egyptian travel agents' performance and found that none of the competencies was adequate to lead to their performance and that two different combinations of competencies might produce high performance. Olya and Gavilyan (2017) applied complexity theory to explore the factors that influence residents' support for tourism development, and the results showed that negative effects of tourism and trust in government had both negative and positive effects, which were decided by the attributes of other antecedent variables in the combinations.

At present, most of the research on SWB is based on multiple linear regression analysis and the structural equation model, and this can make it difficult to clearly explain the asymmetric effect of complex interactions between multiple variables (Baggio, 2008). The explanatory power of the theoretical contribution is insufficient (Xu, Zheng, Xu, & Wang, 2016). Furthermore, SWB is a subjective and complex concept because of the complex interactions of social, cultural, and psychological factors. Therefore, based on complexity theory, the research proposed and examined combined models to predict residents' SWB in rural tourist destinations.

2.2. Subjective well-being

The study of SWB was initiated in the early 20th century and developed with the increase of material wealth in Western countries (Diener, Oishi, & Lucas, 2003). Diener (2000) conceptualized it as satisfaction in all areas of life according to a person's subjective criteria. It is a complex psychological state pushed by innate psychological factors and pulled by incentives, and it involves remarkable features of integrity and relative stability. It is an individual's perception of the environment in which the person lives (Diener, Suh, & Oishi, 1997) and involves a positive cognitive evaluation of the person's own life, including the level of happiness and satisfaction with life (Diener, 2009), which has the same meaning with life satisfaction, well-being, and quality of life (Costanza et al., 2007). Lu (2010) also expressed the opinion that the terms happiness and SWB could be used interchangeably. Thus, happiness is sometimes more broadly defined as SWB (McCabe & Johnson, 2013). Improving personal well-being to a meaningful level is the basic goal for all modern people. SWB plays an important role in people's lives; they want to achieve the best operational ability, have full confidence that they can achieve important goals, and have the motivation and energy to continually overcome obstacles as they go through life (Chen, Lehto, & Cai, 2013).

Müller and Hansruedi (1994) especially emphasized the SWB of residents, recognizing that it was related to meaning in an individual's life. Lu (2010) argued that the cultural concepts of happiness were critical aspects of SWB, and then by using inductive and deductive methods, he developed and evaluated the "Individual-oriented and Social-oriented cultural conceptions of SWB scales" (ISSWB) in a series of studies involving Chinese and American participants. Lu and Gilmour (2004) believed that there were different conceptual characteristics of happiness in Asian and Euro-American cultures. Values closely related to the core of collectivism, such as "social integration" and "human-heartedness," bring greater happiness to Chinese people (Lu, 2001). Chinese people's concept of happiness is more of a "harmony of the society" rather than a "happiness of the individual," emphasizing the collective welfare rather than individual hedonistic pursuits (Lu, 2010).

Lu, Kao, Siu, and Lu (2011) also proved this in their later research on the relationship between Chinese work values and work well-being. Community well-being is an important emotional and psychological dimension, involving personal life experiences in the community (Uysal et al., 2016), and its measurement should reflect the influence of cognitive (evaluation) and emotional (experience) components (Busseri & Sadava, 2013). Life satisfaction and happiness are the evaluation/cognitive and hedonic/emotional components of SWB, respectively. Life satisfaction depends on people's memories of events and thoughts about life, whereas happiness depends on people's experiences of life (Sirgy & Cornwell, 2001). In this sense, the SWB of residents is considered to be the main factor in their quality of life.

2.3. Benefit-sharing from tourism and subjective well-being

Sharing occurred even in ancient times between close family members and friends (Belk, 2014). Research on the idea of sharing mainly focuses on the sharing economy (Zervas, Proserpio, & Byers, 2017), a topic that was first put forward by Felton and Spaeth (1978). In the field of tourism, sharing is particularly important because its practice is fundamental to solving problems of fairness and justice, which are factors in the fundamental benefits for residents in tourism areas and the ideal pursued by all human beings. Perceived fairness originates from fairness theory, which shows that after comparing outcomes and inputs by individuals for themselves and other stakeholders, perceived fairness greatly influences the behavior of individuals (Adams, 1963), as well as affects the SWB of residents in a tourism community (Lv & Xie, 2017). Therefore, it can be said that the tourism benefits perceived by community residents are an important part of fairness; that is to say, the essence of benefit-sharing is to ensure that everyone has a fair chance to enjoy the fruits of tourism development and realize its benefits (Scheyvens & Biddulph, 2017, pp. 1–21). Studies have shown that tourism development can bring many benefits to residents. First, it can bring socio-economic benefits (socio-economic sharing) in the form of remuneration (Cheng & Zhang, 2020). The main forms are an increase in household income, an improvement in living standards, the creation of more jobs and employment opportunities, and an increase in tax revenues (Kim, Uysal, & Sirgy, 2013; Nunkoo & Ramkissoon, 2011; Strzelecka, Boley, & Strzelecka, 2017). This leads to an increase in purchasing power, which helps residents to achieve the goal of improving their quality of life and SWB (Tosun, 2000).

As for culture sharing, tourism promotes residents' understanding of their cultural identity and the preservation and revival of traditional arts, cultures, and crafts (Kim, 2002). Tourism development can help local communities to promote their culture, increase cultural exchange opportunities, enhance their cultural confidence, and contribute to the protection of their local culture (Jaafar et al., 2015). When residents see that their cultural heritage is better protected, they have more pride in it and a higher SWB (Chi, Cai, & Li, 2017; Lin, Chen, & Filieri, 2017).

Concerning environmental sharing, if residents cannot enjoy the environmental benefits brought about by tourism development, they are experiencing unfairness (Scheyvens, 1999). Residents' perceptions of how much and how fairly they are enjoying the benefits of tourism development form the key to sustainable tourism development (Liu & Li, 2016). Studies have shown that positive impacts on the environment from tourism include the protection of natural areas (Andereck et al., 2005), improvement in the tourism environment, the provision of high-quality experiences for tourists, and the maintenance of the environmental quality on which the host community and tourists rely (UNWTO, 1995), thereby benefiting residents (Jeon, Kang, & Desmarais, 2016) and improving their quality of life (Akis, Peristianis, & Warner, 1996).

As for facility sharing, tourism is bound to increase the entertainment and recreational facilities in the tourism community (Tovar & Lockwood, 2008), creating more opportunities for upgrading the infrastructure and facilities, such as roads, parks, and outdoor recreational

facilities (Liu & Var, 1986). Research has found that an investment in public facilities and community infrastructure (Andereck et al., 2005) can significantly improve the life satisfaction and quality of life of residents (Kim et al., 2013), aspects that are related to SWB (Nawijn & Mitas, 2012).

The perception of community participation sharing refers to the fact that community residents play a dominant role in and have the right to participate in all stages of tourism during development (Fan & Cheng, 2020). The core of community participation in tourism is the redistribution of rights that accompanies the economic transformation induced by tourism development, enabling the community to share in the benefits of tourism and the decision-making power over its development (Xu, Jiang, Wall, & Wang, 2019). Tosun (2000) found that community participation was a process of education and empowerment and that it involved the degree to which community members participated in specific daily affairs in their communities (Lee, 2013), such as tourism planning, decision making, marketing, and employment (Goodwin, 2002). The purpose of community participation was to enable community residents to gain rights in tourism development (Scheyvens, 2020), improve the sense of efficiency and fairness of participation, and have fair access to the benefits of tourism development (Jamal & Camargo, 2014), thereby improving residents' quality of life and promoting economic development, factors that affected the SWB (Boley, McGehee, Perdue, & Long, 2014).

The idea of development sharing emphasizes that community residents form an identity and consensus for community development (Foxlee, 2007). Research has proven that the identity and consensus generated by the sharing of positive development ideas will promote residents' active participation in behaviors, the sharing of responsibilities, and the promotion of democratic ideas and fairness (Jamal, 2019). At the same time, it strengthens the pursuit of high quality of life by the tourism community (Ko & Stewart, 2002), and this sharing of development ideas has an impact on the SWB (Yuksel, Yuksel, & Bramwell, 1999).

Drawing on the above discussion, this paper deconstructs the benefit-sharing of rural tourism communities into socio-economic sharing, culture sharing, environment sharing, facility sharing, sharing of community participation, and sharing of development ideas. To explore whether benefit-sharing has an impact on SWB, the research combines the six dimensions of sharing into an empirical model to analyze the impact of their complex effects.

2.4. Community attachment, perceived community support, and subjective well-being

Previous studies have shown that community attachment is significantly related to SWB (Andereck et al., 2005). People with high levels of community attachment usually have a sense of belonging to the community and think that they can take some control over the community and be affected by the community (Chi et al., 2017). Wiles et al. (2009) studied elderly persons in Auckland, New Zealand, and concluded that a sense of belonging and place attachment to the area in which they lived was conducive to maintaining their sense of identity and happiness, as well as improving their adaptive ability.

Perceived organizational support is defined as the extent to which employees perceived that their contributions are valued by their organization and that the firm cares about their well-being (Eisenberger, Huntington, Hutchison, & Sowa, 1986). Residents with a strong perception of organizational support believe that more assistance and support can be gotten from the organization (Rhoades & Eisenberger, 2002). Destinations can be regarded as complex organizations within the tourism industry (Buhalis, 2003), and residents of a destination can be seen as the "employees" of a destination because they deliver tourism products and services to visitors (Su, Sun, Min, & Jiao, 2018). Thus, in the destination community context, perceived community support reflects residents' views on the extent to which the destination cares for

their needs and values their participation in tourism (Su, Huang, & Nejati, 2019). Research shows that residents of tourism destinations with a strong perception of community support believe that their demands can and will be satisfied by the community, and they also feel intense emotional connections with and investments in the community (Davidson & Cotter, 1991), and this improves their quality of life (Su et al., 2019). Meanwhile, people with high perceived community support feel high levels of social support from the community, and this has a notable positive impact on their SWB (Cohen & Wills, 1985). Therefore, community attachment and perceived community support have a direct relationship with the SWB of residents.

2.5. Proposed research model

From what has been discussed earlier, one can surmise that the factors influencing community residents' SWB are diverse and complex. Residents are influenced by benefit-sharing, community attachment, and perceived community support. Besides, the SWB of individuals is influenced by factors such as demographic variables (Diener et al., 2003; Graham et al., 2011; Keyes, Shmotkin, & Ryff, 2002). Therefore, if these different types of variables are selected as the conditions of the causal combinations for a complex model simultaneously, it will help us to know the psychological and behavioral mechanisms of SWB as a whole. We have used the Venn diagram and complexity theory to depict the proposed combination model of the SWB of rural community residents, namely, the model A, B, C, D, and E, including six variables related to benefit sharing, community attachment, and perceived community support; five variables related to demographic characteristics; and one variable related to outcome, which is the residents' SWB level. As Fig. 1 shows, the six benefit-sharing variables are socio-economic sharing, culture sharing, environment sharing, facility sharing, sharing of community participation, and sharing of development ideas; they are used as predictors of high levels of SWB (model A). Model B combines the variables of benefit-sharing, community attachment, and perceived community support for simulating high levels of SWB. The marital status, income, educational level, age, and gender were considered indicators of a high level of SWB (model C). As Fig. 1 demonstrates, antecedents of models A and C were combined to analyze model D in simulating a high level of SWB. The complex interactions among the variables of demographic characteristics, benefit-sharing, perceived community support, and community attachment that were used to model a high level of SWB (model E) are shown in Fig. 1.

In exploring the hypothesis that benefit-sharing, community attachment, demographic variables, and perceived community support interact in influencing the SWB, the research on the best configuration of benefit sharing, community attachment, and perceived community support will contribute to the development of literature on the complexity of SWB. With reference to the research of Elbaz, Haddoud, Onjewu, and Abdelhamied (2019) and Woodside (2014), this paper attempts to discuss the following propositions:

Proposition 1. *The use of a single antecedent condition such as community attachment may be necessary to achieve a high score for SWB but it may not be sufficient to do so.*

Proposition 2. *A complex combination of conditions including two or more factors is sufficient to predict a high score for SWB.*

Proposition 3. *A combination is sufficient to predict a high score for SWB but is not necessary for doing so; different causal combinations may produce the same high score for SWB.*

Proposition 4. *If an antecedent condition in the combination has a positive or negative effect on predicting a high score for SWB, it is decided by the absence or presence of other factors in the configuration.*

Proposition 5. *A high score for SWB that depends on a given combination of conditions represents some but not all of the respondents' opinions, so the*

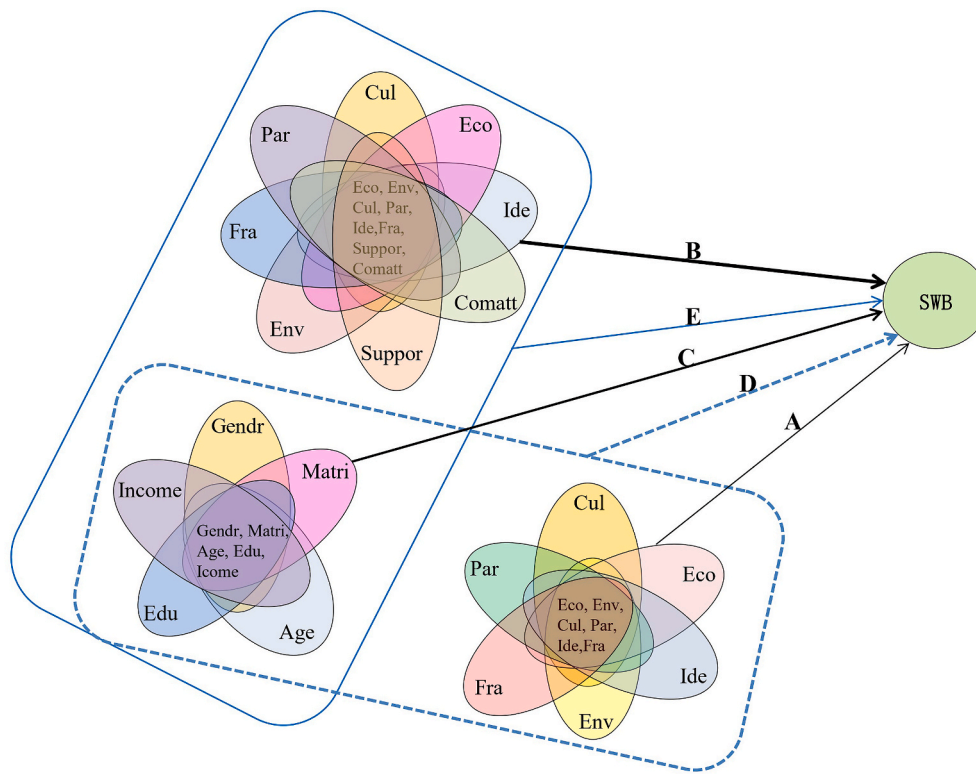


Fig. 1. Complex configurational model. Note: Eco = stands for socio-economic sharing; Par = sharing of community participation; Env = environment sharing; Fra = facility sharing; Cul = culture sharing; Ide = sharing of development ideals; Gendr = gender; Edu = education; Income = family income; Matri = marital status; Suppor = perceived community support; Comatt = community attachment; SWB = high level of subjective well-being. Model A: $SWB = f(Eco, Par, Fra, Env, Cul, Ide)$. Model B: $SWB = f(Eco, Par, Fra, Env, Cul, Ide, Suppor, Comatt)$. Model C: $SWB = f(Matri, Income, Edu, Age, Gendr)$. Model D: $SWB = f(Matri, Income, Edu, Age, Gendr, Eco, Par, Fra, Env, Cul, Ide)$. Model E: $SWB = f(Suppor, Comatt, Eco, Par, Fra, Env, Cul, Ide, Matri, Income, Edu, Age, Gendr)$

coverage of any combination should be less than 1.00.

3. Research method

3.1. Study area

Sandaoyan Town is located in the northwest region of Chengdu, Sichuan Province, China. It is 22 km away from the main urban area of Chengdu and covers an area of 19.86 square kilometers (see Figs. 2 and 3). It has six villages and two communities with a resident population of 32,000. The Huili Scenic Area is located in Sandaoyan Town along a river with a total length of 2000 m, and it covers an area of 50,000 square meters. Buildings in the village are constructed with rural materials such as blue tiles and white walls, and the village has small bridges, flowing water, and weeping willows. It was awarded the title of the most beautiful village in western China. The number of visitors to the area in 2014 was more than 1 million. Qinggangshu Village is located in the eastern part of Sandaoyan Town in the Pidu District of Chengdu, 16 km away from the urban area of Chengdu. There are 11 communes and 967 families in the village, which covers an area of 2.4 square kilometers. In 2012, a program was begun to preserve the land and construct on it the Beautiful Villages. The village has more than 100 farmhouses and inns. In 2016, more than 1 million tourists came to the area, and it was rated as one of China's top ten most beautiful villages and beautiful leisure villages.

In 2012, Huili Scenic Area and the Qinggangshu Village have carried out tourism development planning according to the concept of co-construction and sharing and with the expectation that the community would benefit from the efforts. Residents' opinions on the size, style, and other aspects of the new houses were fully respected, and fairness, justice, and morality were emphasized. In terms of residents' participation, the principle of voluntarism was followed, with the participation rate reaching 97.3%. The income from land sales, collective economic dividends, housing rentals, farm management, and employment and the policies that were put into place were intended to improve the economic status of local people and promote their self-government. Tourism has

caused communities to improve their production and living standards and also improve the ecological environment. Many residents of the areas have enjoyed the benefits of tourism. The two villages in our study have certain characteristics that are typical of China's rural tourism communities.

3.2. Analytical method

Introduced by Ragin (2000), fsQCA is a set-theoretic method that is different from the traditional structural equation model (Rihoux & Ragin, 2008). It takes both "configuration comparison" and "set theory" into account, and can combine the qualitative and quantitative dimensions of variables to a certain extent (Ragin, 2000). Its advantage is that it can deal with relationships among variables that are not simple and linear (Ragin, 2009) and that have outcomes that are usually caused by a combination of many factors rather than any single condition (Ordanini, Parasuraman, & Rubera, 2014). The fsQCA method is based on the complexity theory, which states that various causal recipes can result in the same outcome (Woodside, 2013); this provides a more accurate combination of pathways for predicting the same results by measuring the coverage and consistency analysis leading to the expected outcomes (Olya & Gavilyan, 2017). To predict the different combination pathways of the influencing factors of SWB, fsQCA 3.0 software was used in this study for analysis.

3.3. Measures

This quantitative study tested the proposed research model by employing a questionnaire. All items were based on past studies. We translated the questionnaires that were initially written in English into Chinese using the expertise of the project team. Then, following the translation and back-translation methods described by Brislin (1980), we asked a Chinese-English bilingual scholar to undertake the back-translation process. After seeking the opinions of five scholars who specialize in rural tourism and five residents of Qinggangshu Village, 50 questionnaires were distributed to residents of Qinggangshu as a



Fig. 2. Location of sichuan province in China.
Source: cited from <http://bzdt.ch.mnr.gov.cn/>.

pre-test. The respondents were asked to provide feedback on their convenience level in completing the questionnaire and to comment on modifications and improvements. After that, the wording of some items was improved. All of the scales exhibited satisfactory reliability levels based on the pre-test (i.e. $\alpha > 0.70$), indicating that no item was redundant, and thus no items were removed. After analyzing the pretest results, we slightly modified some words of the items to enhance the clarity of the questions and to improve respondents' comprehension. Three items of the SWB scale were changed: "My present living conditions are extremely good" was changed to "My living conditions and status are very good"; "My life is roughly what I expected" was changed to "At present my life is close to what I expected in life"; and "I am satisfied with my life" was changed to "I am satisfied with my current life." One item of perceived community support, "The community cares about all aspects of my personal life," was changed to "The community cares about all aspects of my life."

The formal questionnaire included four sections. The first section was about the research background and information of the questionnaire, and its aim was to explain the purpose, significance, and content of the survey to the respondents. The second section consisted of questions relating to benefit-sharing in terms of socio-economic sharing,

culture sharing, environment sharing, facility sharing, community participation sharing, and the sharing of development ideas. Six items measuring socio-economic sharing were adapted from Kim et al. (2013) and Nunkoo and Ramkissoon (2011). The culture sharing measurement scales were developed by Ap and Crompton (1998), Dyer, Gursoy, Sharma, and Carter (2007), and Kim (2002) and had four items. The four environment sharing with four items were taken from Lankford and Howard (1994), Mccool and Martin (1994), and Park, Lee, and Lee (2017). The four items for measuring facility sharing were adapted from Andereck et al. (2005) and Tovar and Lockwood (2008). The four items for the sharing of development ideas were derived from Vogt et al. (2016) and Yuksel et al. (1999). The four items for the sharing of community participation were based on Goodwin (2002). The third section included items measuring community attachment, perceived community support, and SWB. Community attachment was measured with four items from Goudy (1990) and Mccool and Martin (1994). The five items for measuring perceived community support were adapted from Eisenberger et al. (1986). The five items for SWB were taken from Diener and Emmons (1985), and the measurements concerned two factors, cognition (life satisfaction) and emotion (happiness). Three items were used to evaluate cognition (life satisfaction), namely, "My



Fig. 3. Location of sandaoyan town in sichuan province. Source: drawn by the author.

living conditions and status are very good”; “At present my life is close to what I expected in life”; and “I am satisfied with my current life.” Two items were used to assess emotion (happiness), namely, “I have confidence in life” and “My life is full of meaning.” The questionnaire’s measurement applied a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The final section included questions about the demographic characteristics of respondents.

3.4. Sample and data collection

The target population of this study was residents of Qinggangshu Village and the Huili Scenic Area. The paper-based survey was distributed from June 6, 2017, to November 7, 2017, with the support of eight graduate students majoring in tourism management who were part of the research team. Before the questionnaire was distributed, the main purpose and requirements of the questionnaire survey were explained to them to make them familiar with the research topic and allow them to master certain skills of questionnaire distribution. A door-to-door, pen-and-paper questionnaire data collection method was used, and it applied random sampling for inquiring about resident attitudes (McGehee & Andereck, 2004). In each commune in the Huili Scenic Area and Qinggangshu Village, the questionnaire was randomly distributed to households, and only one adult per household was included in the survey. This was done to avoid similar answers on questionnaires because families often discuss issues of tourism development and benefit-sharing and their views on these issues are often quite similar. In the process of the household survey, most of the respondents were actively recommended by other family members, who thought that the individual they were recommending could represent them. Most of the respondents were the pillar of a family, either the head of the household or the member who was most familiar with family affairs. They were responsible for supporting their parents and raising their children, so they had a stronger perception of tourism development and benefit-sharing. The goal of the research was explained to the participants, and a total of 450 residents agreed to participate in the study. As the respondent filled out the questionnaire, a team member stood by and gave detailed explanations of questions to those who had little education. In all, 420 residents completed the questionnaires. The response rate was 93.33% (420/450). Twenty-one questionnaires had unusable answers, so 399 valid questionnaires were obtained. In the configural analysis of data, establishing the robustness of QCA results is more important in large-scale samples (e.g., 150 or more cases) (Ragin, 2008) than it is in

small-scale ones, and the application of QCA to a large number of cases offers a considerable opportunity for both new empirical insights and the generation of new theories (Fiss, Sharapov, & Cronqvist, 2013). The fsQCA is one of the methods of QCA, so having 399 valid questionnaires is sufficient for the fsQCA and the proposed analysis. The valid questionnaires were processed and analyzed applying SPSS 24.0, SmartPLS 3.0, and fsQCA 3.0 software.

Of participants who responded to the formal survey, 58.1% were female and 41.9% were male; this is consistent with the gender proportions in a study of the residents of rural tourism destination by Liu and Li (2016), in which females accounted for 55.9% of residents. Such proportions are very common in rural areas of China, where many adult men go to cities to work and many women stay at home to take care of elders and children. As for age, 25.2% of the respondents were 36–45 years old, 24.2% were 26–35 years old, 23.1% were 46–55 years old, 14.1% were over 55 years old, and 13.6% were 18–25 years old. Most of the questionnaires of the elderly were filled in by the investigators because elderly respondents had difficulty in reading the questions and low levels of education, and they did not have the competence to read and complete the survey in Chinese; some of them refused to participate in the survey. In addition, some of the elderly who agreed to participate had invalid questionnaires. Therefore, the percentage of respondents over 55 years old was relatively low; 48.3% of the respondents were 36–55 years old because this age group contained the main breadwinner of the family, and people in this age group had a certain level of knowledge and work experience and could better provide the energy for rural tourism and also serve as the main participant in rural tourism. Of the participants, 17.5% had graduated from primary school, 35.6% from junior high school, and 30.8% from high school; 9.1% had diplomas from a junior college, and 7% had a bachelor’s degree or higher. Lastly, 54.4% of the sample had a family income of less than 50,000 Yuan per year, and 2.8% had an annual income of more than 200,000 Yuan. Most of the participants were married (55.0%).

4. Results

4.1. Reliability and validity analysis

The number of questionnaires for this reliability test was 399, and the data reliability of 9 variables was tested. The coefficient of Cronbach’s alpha was 0.944; this is higher than 0.7, indicating that the internal consistency of the questionnaire was good, that is, it had a high use value. An exploratory factor analysis (EFA) was conducted to identify the factors and purify the structure of the measurement scale. The KMO value in this study was 0.911 (>0.7), and this suggested desirable sampling adequacy (Kaiser, 1974). The Bartlett test of sphericity was significant ($p < .001$), indicating that sufficient correlations existed among selected variables. An EFA was conducted using a principal component analysis with the Varimax rotation method in SPSS 24.0, taking the factor loading of 0.5 as the benchmark to extract the factors (Shen, 1999). Nine common factors, namely, economy sharing, environment sharing, facility sharing, culture sharing, sharing of development ideas, sharing of community participation, perceived community support, community attachment, and SWB, were extracted. The factorial structure explained 71.059% of the total variance (above the cutoff value of 60%), and this showed that the transformed factors retained most of the information of the original variables (Table 1).

The PLS-SEM (partial least squares–structural equation modeling) approach and statistical software SmartPLS 3.0 were applied to estimate the causal relationship between the observed indicators (variables) and the potential (unobservable) constructs. The convergence validity was generally assessed by the composite reliability (CR), factor loadings, and average variance extracted (AVE) (Hair, Hult, Ringle, & Sarstedt, 2016). As shown in Table 1, the values of Cronbach’s alpha were greater than 0.7, and the factor loadings of all measurement items surpassed the recommended value of 0.5. In this measurement model, the minimum

Table 1
Measurement scales, descriptive statistics, and their sources.

Constructs and indicators	Cronbachs alpha	Factor loading	Mean	SD
Socio-economic sharing	0.897		3.395	0.843
Tourism has increased my income.		0.787		
Tourism has improved my living standard.		0.759		
Tourism has increased my employment/job opportunities.		0.836		
Tourism has improved my technical skills (e.g., in working at the hospitality field).		0.763		
Sharing of community participation	0.892		2.579	0.877
I have participated in local tourism decision making		0.800		
I have participated in discussions on local tourism development.		0.848		
I have participated in the supervision of local tourism (e.g., as a civilization supervisor).		0.807		
The relevant suggestions I have put forward can be adopted and respected by local authorities.		0.738		
Facility sharing	0.813		3.395	0.843
Traffic flow in the village is getting more and more convenient.		0.546		
Recreational facilities in the village are becoming more and more abundant.		0.707		
It is more and more convenient to buy daily necessities in the village.		0.773		
It is more and more convenient to see a doctor in the village.		0.781		
Environment sharing	0.871		3.999	0.719
The environmental green in the village is beautiful.		0.679		
The air in the village is fresh.		0.774		
The village is clean.		0.721		
The landscape of the countryside near the village is beautiful.		0.683		
Culture sharing	0.831		3.693	0.700
There will be performances in the village during every festival.		0.666		
Some cultural exhibitions and publicity activities will be held in the village.		0.702		
Dance teams are organized in the village every year.		0.816		
Festivals are often held in the village (e.g., festivals of the straw braid art).		0.757		
Sharing of development ideas	0.849		4.111	0.594
To develop tourism well, the active participation of everyone in the village is needed.		0.778		
To develop tourism well, the villagers need to cooperate with each other.		0.819		
To develop tourism well, everyone in the village should abide by the relevant regulations of the scenic area.		0.826		
Only when tourism develops well can the village develop well.		0.693		
Perceived community support	0.920		2.961	0.790
The community values my contribution to it.		0.682		
The community attaches importance to my personal goals and values.		0.802		
When I am in trouble, the community can help me.		0.788		

Table 1 (continued)

Constructs and indicators	Cronbachs alpha	Factor loading	Mean	SD
The community cares about all aspects of my life (e.g., physical and mental health).		0.834		
I can always get support from the community.		0.810		
This form of organization in the village will be more conducive to life.		0.576		
Community attachment	0.756		3.723	0.683
If conditions permit, I hope to live in this village permanently.		0.785		
If I have the opportunity to move out of the village, I will feel nostalgic.		0.731		
If I have the chance, I will actively participate in the affairs of the village.		0.743		
Subjective well-being	0.903		3.500	0.753
My living conditions and status are very good.		0.780		
At present my life is close to what I expected in life.		0.739		
I am satisfied with my current life.		0.770		
I have confidence in life.		0.734		
My life is full of meaning.		0.756		

CR value was 0.860 (>0.7) (Table 2), showing that the study data had good reliability. The AVE values surpassed the threshold value of 0.5 (Hair et al., 2016). Therefore, the convergent validity of the data structure was sufficient.

The discriminant validity was evaluated by examining the square root of AVE and heterotrait–monotrait (HTMT) ratio (Henseler, Ringle, & Sarstedt, 2015). As illustrated in Table 2, the values of the square root of the AVE were higher than the correlations of the latent variables, indicating that the measurement model had satisfactory discriminant validity (Fornell & Larcker, 1981). As shown in Table 3, all of the HTMT ratios were below the critical threshold of 0.850, establishing the discriminant validity of the measures (Henseler et al., 2015).

The coefficient of determination (R^2) measures the explanatory ability of exogenous variables to endogenous variables in the model, and the larger its value, the stronger its explanatory ability will be. Specifically, the value of R^2 should be greater than 0.1 (Duarte, Alves, & Raposo, 2010). According to the results of the study, in the SWB model of residents ($N = 399$), $R^2 = 0.487$ (>0.1), showing that the exogenous variables such as benefit-sharing, perceived community support, and community attachment had a good explanatory ability for the endogenous SWB. Stone-Geisser's Q^2 value (Q^2) was used to test the predictive relevance of the model; a Q^2 of less than 0 shows that the model has no predictive relevance to endogenous latent variables, and a Q^2 of greater than 0 indicates that the model has predictive relevance. The Q^2 of this research model was 0.193, indicating that the prediction correlation of the model was significant. GoF (goodness of fit) is the evaluation of the effectiveness of the whole model, and the higher its value, the greater is the influence of the antecedent variables on the outcome variables. According to Tenenhaus, Amato, and Esposito Vinzi (2004), the value of the GoF is 0.1, 0.25, or 0.36, indicating a small, medium, or large GoF, respectively. The value of the GOF in our model was 0.480, indicating that the model had a strong ability to estimate the path relationship between variables.

It can be seen from Table 2 that the absolute values of the correlation coefficients between the latent variables are less than 0.60, indicating that the relationship between latent variables may be asymmetric; this indicates that different combinations of antecedents may lead to the same result (Pappas & Papatheodorou, 2017). Therefore, this study used the asymmetric method (fsQCA) to analyze the various combinations

Table 2
Results of the measurement model.

	Par	Cul	Env	Ide	SWB	Comatt	Suppor	Eco	Fra
Par	0.869								
Cul	0.273	0.815							
Env	0.136	0.489	0.849						
Ide	0.211	0.367	0.369	0.831					
SWB	0.264	0.428	0.555	0.384	0.849				
Comatt	0.260	0.181	0.359	0.322	0.363	0.819			
Suppor	0.586	0.397	0.309	0.293	0.480	0.333	0.871		
Eco	0.418	0.327	0.429	0.381	0.492	0.429	0.394	0.874	
Fra	0.135	0.427	0.670	0.324	0.491	0.283	0.342	0.358	0.802
Structural equation model test									
CR	0.925	0.887	0.912	0.898	0.928	0.860	0.940	0.928	0.877
AVE	0.756	0.664	0.721	0.690	0.721	0.671	0.758	0.764	0.643
R ²					0.487				
Q ²					0.193				
GOF					0.480				

Note: The bold numbers on the diagonal are the square root of the AVEs. The values under the diagonal in the first part of the table are the correlations of the latent variables.

Table 3
Assessment of discriminant validity using HTMT.

Constructs	SWB	Par	Cul	Env	Ide	Comatt	Suppor	Eco	Fra
SWB									
Par	0.292								
Cul	0.500	0.311							
Env	0.623	0.150	0.584						
Ide	0.441	0.245	0.439	0.437					
Comatt	0.439	0.312	0.225	0.437	0.402				
Suppor	0.564	0.632	0.477	0.377	0.349	0.441			
Eco	0.540	0.463	0.378	0.476	0.439	0.517	0.445		
Fra	0.561	0.157	0.520	0.778	0.386	0.349	0.421	0.402	

that affected residents' SWB and to comprehensively understand their determinants.

4.2. Results of cross-tabulation analysis

According to Pappas and Papatheodorou (2017), to show that there may be a positive, negative, or no relationship in the same data set, contrarian case analysis is needed. The crossover between perceived

community support and SWB is presented in Table 4. Just as we expected, low levels of perceived community support resulted in low scores for SWB (30 cases) and high levels of perceived community support resulted in scores for SWB (74 cases). Moreover, the main effect presented a notable positive correlation based on correlation analysis. However, there were 33 negative contrarian cases and 1 positive contrarian case. Therefore, fsQCA was used to analyze the data to take into account the views of negative and positive, and contrarian cases

Table 4
Results of cross-tabulation of perceived community support and subjective well-being..

		Negative contrarian cases indicating ~A→O						
Results of cross-tabulation of perceived community support and subjective well-being								
Perceived Community Support Cramer's V = 0.371, P < 0.01			Subjective Well-being			Strongly Agree	Total	
		Strongly Disagree	Disagree	Neutral	Agree			
Strongly disagree	Count	3	6	4	2	1	16	
	% of Total	0.8%	1.5%	1.0%	0.5%	0.3%	4.0%	
Disagree	Count	0	21	39	28	2	90	
	% of Total	0.0%	5.3%	9.8%	7.0%	0.5%	22.6%	
Neutral	Count	1	8	74	104	9	196	
	% of Total	0.3%	2.0%	18.5%	26.1%	2.3%	49.1%	
Agree	Count	0	0	21	52	7	80	
	% of Total	0.0%	0.0%	5.3%	13.0%	1.8%	20.1%	
Strongly agree	Count	0	1	1	3	12	17	
	% of Total	0.0%	0.3%	0.3%	0.8%	3.0%	4.3%	
Total	Count	4	36	139	189	31	399	
	% of Total	1.0%	9.0%	34.8%	47.4%	7.8%	100.0%	
		Positive contrarian cases indicating A→~O						

that predicted high scores for SWB.

4.3. Calibration

The fsQCA is based on Boolean algebra, and thus it is required to calibrate all the measured values into fuzzy sets from 0 (no set membership) to 1 (full set membership) (Ragin, 2009). Therefore, we needed to calibrate the causal conditions (benefit-sharing, perceived community support, community attachment) and the outcome (SWB) using fuzzy-set scores. The variables are translated into a calibrated set using the fsQCA program, by setting the following important threshold value: 0.05 (full nonmembership), 0.5 (the crossover point), and 0.95 (full membership) (Ragin, 2009). For the five-point Likert scale used in the research, the original values 1, 3, and 5 were the full nonmembership, crossover point, and full membership, respectively, and the fuzzy scores of 1–5 in the five-point Likert scale were 0.05, 0.25, 0.50, 0.75, and 0.95.

4.4. Analysis of necessary conditions

Before analyzing the sufficient conditions of fsQCA, we needed to identify the necessary conditions (Afonso et al., 2017). To determine whether any of these 13 antecedents (benefit sharing, community attachment, perceived community support, and demographic characteristics) were necessary conditions for high levels of SWB, this research analyzed whether an antecedent was always present when high levels of SWB were present. Therefore, if the antecedent mentioned in the question was present, SWB could be achieved, and the extent to which the cases conformed to this rule reflected “consistency” (Afonso et al., 2017). In the analysis of the necessary conditions, if the consistency of a condition exceeded 0.9, then it could be regarded as a necessary condition. If it exceeded 0.8, it was considered to be almost always necessary (Ragin, 2009).

The analysis outcomes of the fsQCA for the necessary conditions for high levels of SWB are presented in Table 5. The results show that high levels of facility sharing (Fra), environment sharing (Env), culture sharing (Cul), sharing of development ideas (Ide), and community attachment (Comatt) were necessary conditions for SWB, and the necessary conditions for SWB indicated that Fra, Env, Cul, Ide, and Comatt were integral factors leading to high scores for residents’ SWB. That is crucial for commercial theory and practice. Without these factors, the results will not occur. If they are missing, other factors will not compensate for them. Whereas socio-economic sharing (Eco), low family income (~Income), and married status (Matri) were “almost always necessary” conditions for SWB, the results showed that ~Income was an important condition for achieving a high level of SWB.

Table 5
Necessary conditions for the outcome.

Outcome: SWB					
Condition	Consistency	Coverage	Condition	Consistency	Coverage
Eco	0.844	0.888	Cul	0.912	0.841
~Eco	0.470	0.809	~Cul	0.383	0.857
Par	0.554	0.936	Ide	0.974	0.782
~Par	0.744	0.791	~Ide	0.253	0.885
Fra	0.934	0.830	Suppor	0.707	0.944
~Fra	0.347	0.852	~Suppor	0.628	0.803
Env	0.968	0.811	Comatt	0.921	0.838
~Env	0.281	0.830	~Comatt	0.379	0.875
Age	0.646	0.821	~age	0.616	0.827
Edu	0.495	0.885	~edu	0.765	0.786
Income	0.306	0.930	~income	0.880	0.732
Gendr	0.421	0.653	~gendr	0.595	0.670
Matri	0.844	0.665	~matri	0.171	0.650

4.5. Analysis of sufficient conditions

Based on the above analysis, one can see that this study sufficiently analyzed the combination of antecedents that could contribute to a high level of SWB to explain which causal recipes would be sufficient to achieve the results (Ragin, 2009). The analysis outcomes of the intermediate solutions of the five models are presented in Table 6. Ragin (2009) believed that the consistency should be better than 0.75 and could be ignored if it were lower than 0.7. The coverage was satisfactory when it was close to 0.6 and could be ignored if it were lower than 0.2. The analysis results indicated that the consistency and coverage values of the intermediate solutions of the five models and their respective combinations surpassed the minimum acceptable value; this suggested that there was a sufficient relationship between the SWB and a subset of certain conditions (see Table 6).

Model A simulated high scores of SWB from benefit-sharing and had two intermediate solution configurations (see Table 6). Among them, configuration A2 had a higher value of consistency (0.941) (i.e., high levels of Eco, Fra, Env, Cul, and Ide can achieve a high SWB score). Also,

Table 6
Analysis of sufficiency.

Models for Predicting High Score of Outcomes (SWB)	Row Coverage	Unique Coverage	Consistency
A: SWB = f (Eco, Par, Fra, Env, Cul, Ide)			
A1: ~Par * Fra * Env * Ide	0.695	0.089	0.894
A2: Eco * Fra * Env * Cul * Ide	0.767	0.161	0.941
Solution coverage: 0.856			
Solution consistency: 0.890			
B: SWB = f (Eco, Par, Fra, Env, Cul, Ide, Suppor, Comatt)			
B1: ~Par * Fra * Env * Cul * Ide * ~Suppor	0.541	0.018	0.928
B2: ~Par * Fra * Env * Cul * Ide * Comatt	0.643	0.019	0.939
B3: Eco * Fra * Env * Cul * Ide * Comatt	0.738	0.149	0.953
B4: ~Eco * ~Par * Fra * ~Cul * Ide * ~Suppor * Comatt	0.295	0.010	0.953
B5: Eco * ~Par * Fra * Env * Ide * Suppor * Comatt	0.499	0.007	0.991
Solution coverage: 0.828			
Solution consistency: 0.914			
C: SWB = f (Matri, Income, Edu, Age, Gendr)			
C1: ~Age * ~Income * ~Gendr	0.348	0.065	0.852
C2: ~Age * Edu * ~Income	0.400	0.083	0.918
C3: Age * ~Edu * ~Gendr * Matri	0.341	0.025	0.830
C4: Age * ~Edu * ~Income * Matri	0.522	0.123	0.835
Solution coverage: 0.793			
Solution consistency: 0.817			
D: SWB = f (Matri, Income, Edu, Age, Gendr, Eco, Par, Fra, Env, Cul, Ide)			
D1: ~Par * Fra * Env * Cul * Age * ~Edu * ~Income * Matri	0.402	0.032	0.935
D2: Eco * Fra * Env * Cul * Age * ~Edu * ~Income * Matri	0.440	0.069	0.968
D3: Eco * ~Par * Fra * Env * Cul * Age * ~Edu * ~Gendr * Matri	0.235	0.014	0.981
Solution coverage: 0.485			
Solution consistency: 0.934			
E: SWB = f (Suppor, Comatt, Eco, Par, Fra, Env, Cul, Ide, matri, income, edu, age, gendr)			
E1: Comatt * Eco * ~Par * Fra * Env * Cul * Ide * Age * ~Edu * ~Income * Matri	0.363	0.045	0.983
E2: Suppor * Comatt * Eco * Fra * Env * Cul * Ide * Age * ~Edu * ~Income * Matri	0.377	0.019	0.990
E3: Suppor * Comatt * Eco * Par * Fra * Env * Cul * Ide * ~Edu * ~Income * ~Gendr * Matri	0.232	0.032	0.993
Solution coverage: 0.454			
Solution consistency: 0.980			

a combination of low levels of Par (~Par) and high levels of Fra, Env, and Ide can lead to SWB (configuration A1).

Model B showed sufficient causal configurations to predict high levels of SWB associated with benefit sharing, community attachment, and perceived community support as ingredients of the causal recipes; there were five intermediate solution configurations (see Table 6). These combinations showed that a high level of Fra, Env, Cul, and Ide were all necessary (but were not enough conditions) to achieve SWB; these four factors required that high levels of Eco and Comatt (configuration B3), or low levels of Par and high levels of Comatt (configuration B2), or low levels of Par and Suppor (configuration B1) were also needed. Besides, low levels of Par, high levels of Fra, Ide, and Comatt combined, respectively, with low levels of Eco, Cul, and Suppor (configuration B4) or with high levels of Eco, Env, and Suppor can lead to high SWB (configuration B5). Further analysis found that the variable of Eco had different directions in model B, and the combination of low levels of Eco and other factors (configuration B4) could also achieve a high level of SWB.

Model C employed a combination of five demographic variables as antecedents, and they helped to predict high levels of SWB, and Model C had three different causal recipes (intermediate solutions). Among them, the variable of low income appeared in the three causal combinations of high SWB, illustrating that the low-income families were the main group with high levels of SWB. Also, the two variables of gender and marital status were focused in the same direction in model C (married women). This may be because the development of tourism provided more employment opportunities for married women, and this also benefited families, so the women had a higher level of SWB. The two variables of age and education showed different directions in the four combinations of model C, which indicated that the role of these two variables in predicting high SWB was affected by other variables that had a certain amount of uncertainty and complexity.

Model D showed sufficient causal configurations to predict high levels of SWB that represented benefit-sharing and demographic factors as ingredients of causal recipes; they had three intermediate solution configurations (see Table 6). These configurations showed that high Fra, high Env, high Cul, older Age, low Edu, and Matri were all necessary (but were not enough conditions) to achieve SWB; these six factors required high levels of Eco and low Income (configuration D2), or low levels of Par and low Income (configuration D1), or low levels of Par, high Eco, and female Gender (configuration D3). The variable of low Income appeared in two of the causal combinations of high SWB in model D; this is the same conclusion as was drawn in model C. However, unlike the configurations in model C, in model D, the two variables of Age and Edu had the same direction, indicating that these two variables

were associated with uncertainties and complexities in predicting high levels of SWB.

Model E showed perceived community support, community attachment, benefit-sharing, and five demographic variables, and it had three causal combinations of high SWB. These configurations showed that high Comatt, high Eco, high Fra, high Env, high Cul, high Ide, low Edu, low Income, and Matri were all necessary (but were not enough conditions) to achieve SWB, and these nine factors required high Suppor and young Age (configuration E2), or high Suppor and female Gender (configuration E3), or low Par and young Age (configuration E1). The analysis found that the low-income indicators appeared in the three configurations of high SWB in model E. This further indicated that the SWB of low-income residents was higher.

The relationship between the causal algorithm (Eco * ~Par * Fra * Env * Ide * Suppor * Comatt) and the outcome condition (SWB) of model B5 could be illustrated by the fuzzy XY plot; both were solvable using an asymmetric approach (see Fig. 4), that is, a sufficient and unnecessary relationship, indicating that the five conditional combinations were sufficient conditions for a high SWB.

4.6. Predictive validity

Although the fitting effect of the proposed model was perfect, it cannot prove the predictive validity for the results under different data sets, so a predictive validity analysis is needed (Woodside, 2013). First, the research samples were divided into subsample 1 and subsample 2. Asymmetric modeling was built in subsample 1 by using fsQCA. Then, sub-sample 2 was used to analyze the causal combinations for simulating high scores of SWB (Olya & Gavilyan, 2017). The evidence for the predictive validity of SWB is illustrated in Table 7. The outcomes of the combinations from subsample 1 offered the same consistent outcomes as combinations for simulating high levels of SWB in the total sample (Table 6, model A). Table 7 showed that the results for SWB support the findings that the models for subsample 1 had high predictive abilities for

Table 7
Results of predictive validity.

Models for Predicting High Score of Outcomes (SWB)	Row Coverage	Unique Coverage	Consistency
Subsample 1: SWB = f(Eco, Par, Fra, Env, Cul, Ide)			
S1: ~Par*Fra*Env*Ide	0.782	0.119	0.875
S2: Eco*Fra*Env*Cul*Ide	0.774	0.112	0.930
Solution coverage: 0.893			
Solution consistency: 0.868			

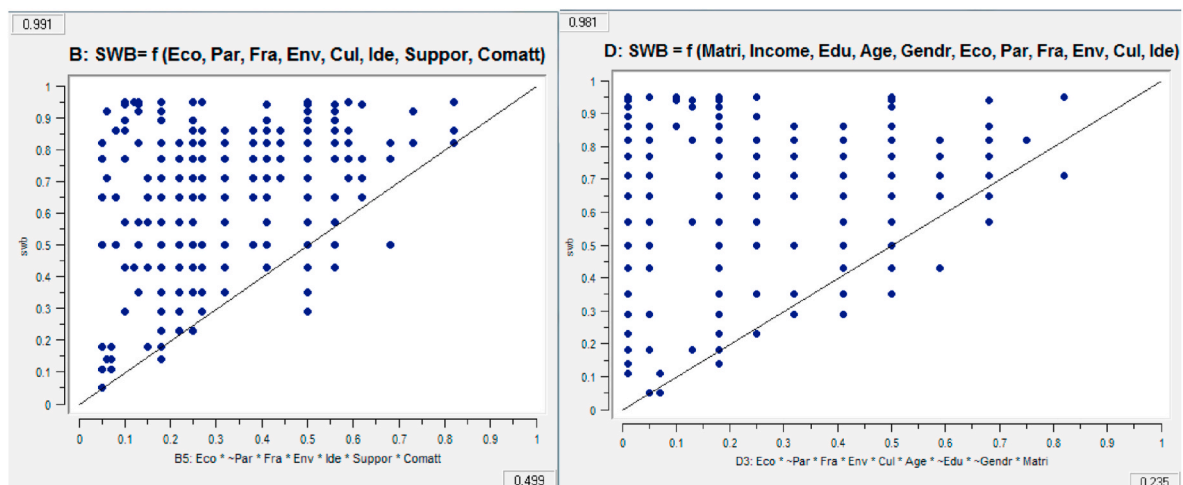


Fig. 4. The XY plots.

subsample 2. According to the two XY plots of the model in subsample 2 (see Fig. 5), the relationship between consistent (consistency = 0.952) and sufficient (coverage = 0.760) was obtained, which was similar to that of S2. These findings confirmed the predictive validity of the proposed complex model in different data sets.

4.7. Testing propositions and application of complexity theory

Based on the complexity theory, the fsQCA method is used to explore the role of demographic characteristics, benefit-sharing, perceived community support, and community attachment in residents' SWB. The results from the fsQCA support the proposed five propositions. As Table 6 presents, a single antecedent condition such as community attachment is necessary but not sufficient to predict a high score for SWB. This is consistent with Proposition 1. As illustrated in Table 6, 17 combinations with high consistency are considered to be related to high levels of SWB, but no solution with one factor has appeared as a remarkable predictor of SWB, so Proposition 2 is acceptable. As outlined in Table 6, a combination is sufficient but not necessary to predict a high score for SWB, and the 17 causal combinations can produce the same high score for SWB. Therefore, Proposition 3 is supported. Complexity theory is necessary to explain the appearance of contrarian cases and heterogeneity in predicting a high score for SWB. For example, when comparing model B4 (~Eco * ~Par * Fra * ~Cul * Ide * ~Suppor * Comatt) and model B3 (Eco * Fra * Env * Cul * Ide * Comatt) in Table 6 (see model B), socio-economic sharing positively (model B3) and negatively (model B4) contributes to predicting a high score for SWB, which is decided by the presence or absence and positivity or negativity of the other antecedents in the combinations. Such findings provide evidence for supporting Proposition 4. As Fig. 4 and Table 6 show, the coverage of each configuration is less than 1.00, showing that the given combination of conditions only represents some but not all of the respondents' opinions. Therefore, Proposition 5 is acceptable. Therefore, the five propositions based on complexity theory were tested in the findings of fsQCA, and the findings of the paper are beneficial to the application of complexity theory and provide richer insights into predicting a high score for SWB.

5. Discussion

This study deconstructed the concept of benefit-sharing and its dimensions comprised of socio-economic sharing, culture sharing, environment sharing, facility sharing, community participation sharing, and the sharing of development ideas. Then it analyzed the impact of benefit

sharing, perceived community support, and community attachment on residents' SWB in rural tourism communities in China. The complexity of residents' SWB is verified. The outcomes of the fsQCA test about necessary conditions illustrate that a high level of facility sharing, environment sharing, culture sharing, sharing of development ideas, and community attachment is necessary for high levels of SWB. If these conditions are absent, high levels of SWB will not be achieved. The fsQCA was used to analyze the sufficiency of the combination of conditions of the five complex models, and the fsQCA algorithm was used to generate a truth table with 2^k rows, where k represented the number of conditions for predicting the outcome and each row represented each possible configuration (Pappas et al., 2016). According to the different antecedents included in each complex model and the requirement that consistency and coverage should be greater than 0.75 and 0.2, respectively, 17 sufficient combinations obtained by fsQCA analysis can consistently lead to high levels of SWB; they provided multiple intervention paths for improving residents' SWB. The models proposed by this paper show that the SWB of residents is dependent on the complex interactions among benefit-sharing, perceived community support, community attachment, and the demographic characteristics variables. This indicates the complexity and heterogeneity of SWB. At the same time, the study found that the antecedent conditions for high levels of SWB were heterogeneous and complex, and some of them had negative or positive effects or no effects; this showed that the attribute of a single factor such as positive, negative, presence, or absence depended on the attributes of other factors in the combination, which also indicated that there is a certain interaction between the antecedents of residents' high SWB. The findings of this research highlight the significance of fsQCA when exploring residents' SWB, and the fsQCA can explain the complex interactions of antecedent conditions.

First of all, socio-economic sharing is not a necessary factor for achieving high levels of residents' SWB, and it can act both positively (model B3: Eco * Fra * Env * Cul * Ide * Comatt) and negatively (model B4: ~Eco * ~Par * Fra * ~Cul * Ide * ~Suppor * Comatt) as a consistent and sufficient antecedent of a high-level SWB; this indicates that economic income is not the determinant of a high-level SWB of residents. Further analysis found that low-income married residents were the main group with high-level SWB in rural tourism communities in China. This is different from previous scholars' views that socio-economic sharing had a positive effect on the SWB of residents (Kim et al., 2013; Lin et al., 2017; Strzelecka et al., 2017). With the development of tourism in Qinggangshu Village and the Huili Scenic Area, the local native residents changed their way of earning a livelihood from farming to operating teahouses, farmhouses, shops, snack stands, toy stands, and other

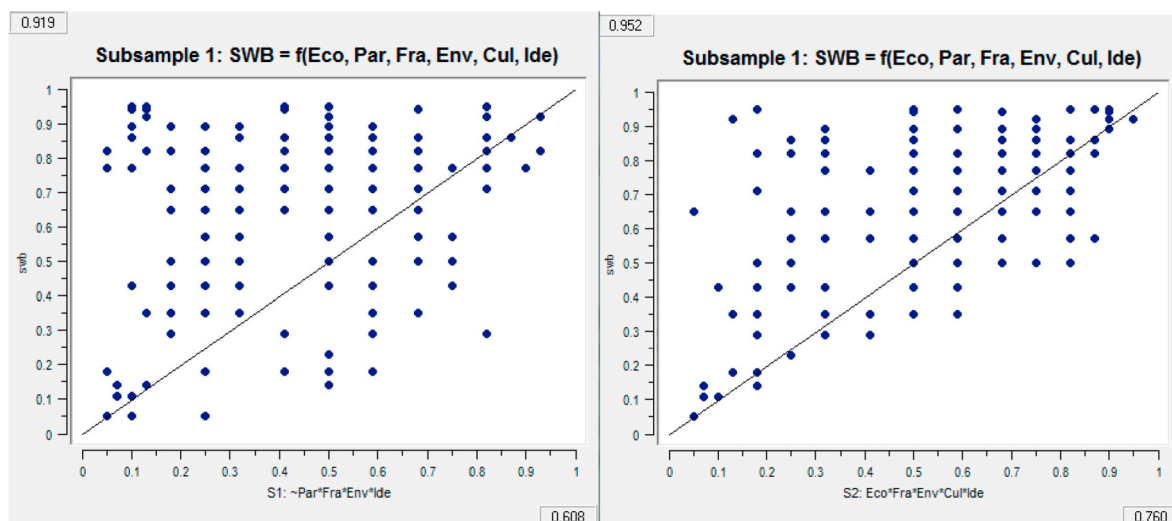


Fig. 5. The XY plots.

businesses and were managed by the Travel Development Co., Ltd. Many residents feel that their freedom of operation is restricted to some extent, and they believe that the company is not concerned about benefits for the residents. Some planning measures have affected residents' socio-economic benefits and hindered their business activities. Some residents think that the travel development company retains the benefits of the tourism industry for their gain and that "the trouble lies not in scarcity but uneven distribution." The residents' perception of socio-economic sharing is influenced to a certain extent. Some villagers also think that the fruits of tourism development are not shared enough. The residents in Qinggangshu Village have low socio-economic perceptions because of the uneven development of the south and north of the village.

Second, the author's investigations in Sandaoyan Town found that the local residents are most concerned about two things, benefits and fairness. Therefore, transparency regarding the distribution of benefits and fairness in the distribution of resources and facilities is of great significance to the SWB of the community. This study found that high levels of facility sharing, environment sharing, and culture sharing appeared in models A, B, D, and E, whereas high levels of the sharing of development ideas appeared in models A, B, and E; this shows that the four conditions have positive and significant effects on residents' SWB. The findings of this research are in line with those of previous studies by Cohen and Wills (1985) and Lin et al. (2017). It shows that the four conditions for achieving high levels of SWB are necessary but may not always be sufficient in and of themselves. Only the four necessary factors combined with other factors can achieve high scores of SWB.

Third, previous studies have attested to the positive effect of community participation on residents' SWB (Boley et al., 2014; Yuksel et al., 1999). The results of the current study reveal that a low level of community participation sharing exists in models A1 (~Par * Fra * Env * Ide), B1 (~Par * Fra * Env * Cul * Ide * ~Suppor), B2 (~Par * Fra * Env * Cul * Ide * Comatt), B4 (~Eco * ~Par * Fra * ~Cul * Ide * ~Suppor * Comatt), B5 (Eco * ~Par * Fra * Env * Ide * Suppor * Comatt), D1 (~Par * Fra * Env * Cul * Age * ~Edu * ~Income * Matri), and D3 (Eco * ~Par * Fra * Env * Cul * Age * ~Edu * ~Gendr * Matri); this indicates that the sharing of community participation negatively affects residents' SWB in the causal combinations, a finding that is inconsistent with previous studies. This indirectly indicates that residents in Sandaoyan Town have a low perception of community participation, a feeling that is due to the limitation of the power structure and administrative level. At present, developmental decision making for Qinggangshu Village and the Huili Scenic Area is controlled by the Village Council and the village co-operatives, and democratic community management and the autonomy of community residents are affected by the village-level organizations and the tourism development company. In actual management practice, many villagers feel that the sharing of community participation does not meet their ideal expectations, and to a certain extent, this causes dissatisfaction among local residents. They tend to express it by resistance to management, a refusal to participate in business meetings, a refusal to pay management fees, and other ways. However, the high perception of facility sharing, environment sharing, and sharing of development ideas makes up for the shortcomings of this negative perception.

Fourth, the study found that residents of Qinggangshu Village and the Huili Scenic Area have a higher level of community attachment. This is due to the development of tourism, which brings many benefits to the local residents, such as an increase in the local reputation, continuous growth in the numbers of tourists who visit the area, an increase in income, good social security, an increase in community residents' satisfaction, and a building up of residents' sense of pride. Also, the large number of employment opportunities brought by tourism has caused many young people who had left to return to their hometowns. To some extent, tourism has alleviated the problem of "rural hollowing" in the area and improved the sense of belonging of local residents. Six of the eight configurations in models B and E include high-level community

attachment; this indicates that community attachment has a positive impact on residents' SWB, a finding that is in line with the study by Andereck et al. (2005). The analysis of the combination effects also shows that perceived community support has a positive or negative impact on residents' SWB, which depends on the combined effects of other variables.

Finally, in terms of demographic variables, the indicators of low family income and married status appear in the causal combinations of models C, D, and E, which shows that married persons and low-income families are the groups with high SWB in rural tourism communities in China. In the early stage of rural tourism development, to encourage residents to participate in the new endeavor, policies such as new-village sign-up awards and subsidies for replacing old houses with new ones were introduced, which allowed low-income families to improve their living conditions. All of the houses were built in the style of western Sichuan traditional folk houses, which have a unique aesthetic appearance and are quite different from the houses that were originally in the area. Also, tourism development has brought many opportunities to increase the family income for low-income and married groups. Therefore, tourism has given people hope and a high sense of their SWB. However, age, gender, and education have taken different directions in predicting the causal combination for high-level SWB, and this further demonstrates the complexity and instability of the relationship between these three demographic factors and SWB.

6. Conclusion

6.1. Theoretical implications

The findings contribute to the literature in several ways. First, previous studies on SWB mainly used multiple regression analysis and structural equation modeling and focused on the main impact of various factors on one or more dependent variables, but neglected the interdependent and interrelated causal structures between the antecedent conditions (Woodside, 2014). The application of fsQCA in host communities is innovative because only a few studies have applied it to the field of tourism (Olya & Gavilyan, 2017). The research, which is based on complexity theory and uses asymmetric modeling (i.e., fsQCA), employs a configurational method to explain how benefit-sharing, perceived community support, community attachment, and demographic characteristics combine to form combinations that impact residents' SWB, thereby contributing to the literature. Complexity theory explains the influence of interaction between the antecedents on the high levels of SWB, and the fsQCA findings supported the five propositions. The findings confirmed the significance of exploring the causal combinations and asymmetric relationships between benefit-sharing, perceived community support, community attachment, demographic characteristics, and residents' SWB, and the predictive validity of the proposed configurational model.

Second, 17 combined antecedents were obtained as the causal model to predict high-level SWB as an outcome. Any one of the 17 can be factored into the high-level SWB of rural tourism community residents, meaning that each antecedent can have a positive or negative effect in predicting the SWB, being; the decision depends on the attributes of other antecedent conditions. This step could deepen academia's comprehension of the interactions and complexities of the influencing factors of SWB in rural tourism communities. The results show that no single factor alone can bring about a high level of residents' SWB but that a combination of multiple factors is needed to do so. The variables studied were complex and multi-dimensional, and this may suggest that other complex issues are also involved in tourism research.

Third, from the perspective of justice, this empirical study deconstructed the concept of benefit-sharing and its dimensions comprised of socio-economic sharing, culture sharing, environment sharing, facility sharing, community participation sharing, and the sharing of development ideas. Benefit-sharing can provide directions for guiding and

evaluating equitable and just practices in the distribution of resources among the residents in rural destinations. This is consistent with the spiritual concept of traditional Chinese philosophy. Chinese philosophy has been focusing on the problems of human beings, and this is reflected in its integration of Confucianism, Taoism, and Buddhism (Hwang, 2011). For ordinary people, the beliefs of Confucianism, Taoism, and Buddhism have been merged and utilized to promote a good life (Lu, 2001). For example, Confucianism advocates a person “not worry about a low distribution but do worry about uneven distribution.” Taoism advocates that “the law of nature is to reduce a surplus and provide for those who do not have enough, and this can achieve a balance among everyone.” Buddhism advocates that “everyone is born equal.” These traditional thoughts represent the public’s desire for fairness and justice. No matter what the level of distribution, people are willing to accept the distributive results as long as they seem equal (Bond, 1996; Bond & Hwang, 1986; Jing & Fu, 2001). Therefore, sharing reflects a philosophy of collective well-being in traditional Chinese culture. The present study extends the theoretical discussion of Scheyvens and Biddulph (2017, pp. 1–21) on social justice in the development of tourism. This study also strongly confirms the theory that benefit-sharing is the reason for residents’ SWB in rural tourism communities in China and explores the fact that benefit-sharing could effectively solve the problem of distributive justice in tourism development. In essence, the solution to obtaining high levels of SWB is to improve fairness in benefit sharing.

Finally, Chinese SWB is closely related to the traditional Chinese philosophy. The spiritual cultivation and mind work preached by all schools of Chinese philosophy opens up another passage to the depth of SWB. The core of Chinese philosophy is Confucianism, Taoism, and Buddhism (Lu, 2001). Confucianism emphasizes the happiness of reason. In Taoism, the individual SWB is the pursuit of spiritual happiness and compliance with nature. The concept of SWB in Buddhism emphasizes the peace and harmony of the individual mind (Bond, 2010; Lu, 2010). The SWB of Chinese people is closely related to morality, and it does not emphasize personal emotions; it does emphasize collective well-being in interpersonal relationships and social harmony (Lu, 2010; Lu & Gilmour, 2004). It also pursues the happiness of rationality and emphasizes more spiritual enrichment and spiritual satisfaction (Lu et al., 2011). Happy is he who is content, teach Confucianism, Taoism, and Buddhism, and this belief seems to bring a deeper and more lasting sense of SWB of the Chinese people (Lu & Gilmour, 2004). All these Chinese traditional teachings place great emphasis on spiritual enrichment and play down and even deny the role of material gratification, physical comfort, and hedonic pleasures in the happiness experience (Lu, 2001). This study confirms this view that economic income is not the determinant of the high-level SWB of residents. Further analysis found that low-income married residents were the main group with high-level SWB in rural tourism communities in China. This is different from Euro-American scholars’ views (Kim et al., 2013; Lin et al., 2017; Strzelecka et al., 2017). As Lu and Gilmour (2004) said, for Asians, SWB is socially oriented and emphasizes role obligations and dialectical balance. In addition, residents in Sandaoyan Town have a low perception of community participation, but it does not affect the SWB of residents. Because Chinese people are influenced by traditional philosophies such as Confucianism, Taoism, and Buddhism, which advocate obedience to one’s environment rather than a conquest of the environment, they tend to obey authority. Moreover, the high perceptions of facility sharing, environment sharing, and sharing of development ideas that embody Chinese collectivistic values improve residents’ SWB. This study can enrich the theoretical research on the SWB of residents in rural tourism communities from the perspective of Chinese philosophy, because most rural areas in China share a common culture. Hence, the findings can provide some valuable insights for other rural tourism destinations in China. In addition, our work also can be generalized to people living in other East Asian countries in what is known as “the Confucian circle” (Berger, 1988), such as Japan, Korea, and Singapore, because those countries share similar collectivistic cultures (Lu, 2010).

6.2. Managerial implications

The findings of the research provide meaningful guidance for managers and policymakers. The results show that 17 sufficient combinations obtained by fsQCA consistently achieve high levels of SWB and that any of the configurations could achieve a high level of SWB of residents in rural tourism communities. Upon consideration of these results, it must be emphasized that the antecedent conditions are complementary and none of them is optimal. As Pappas and Papatheodorou (2017) point out, fsQCA can provide multiple paths or sufficient complex solutions that lead to the same outcome, but fsQCA cannot achieve a single and “neat” solution. Nonetheless, that is not an issue, because the replaceable combinations proposed by fsQCA give policymakers and managers flexibility to choose the most suitable path according to the actual conditions. Therefore, the authorities of Sandaoyan must be fair in distributing the benefits of local tourism and flexible in designing a practical and feasible program based on the causal recipes presented in Table 6 to improve residents’ SWB.

Furthermore, the results show that facility sharing, environment sharing, culture sharing, and the sharing of development ideas are necessary conditions for achieving high levels of SWB. In other words, stimulating the investments in infrastructure, developing environmental protection projects, and organizing cultural exhibitions and publicity activities are important for improving residents’ SWB. Moreover, the communities in rural destinations should encourage wider participation in tourism development in Sandaoyan, from the tourism planning stage to the implementation stage. The policymakers of Sandaoyan can take effective measures to make local rural tourism development more inclusive. Local residents who have in the past been excluded from tourism production and consumption or marginalized in the sharing of the benefits of tourism development can receive understanding and respect and have more equitable outcomes and improved levels of SWB.

Lastly, the current results reveal that local residents are most concerned about two things, benefits and fairness. According to Scheyvens (2020), empowerment will stimulate the confidence and ability of previously disadvantaged persons to challenge unequal power relationships, take better control of their lives, and strive to achieve social justice. Therefore, Sandaoyan’s policymakers should monitor tourism activities to make sure that residents feel they are being treated fairly in the sharing of the benefits of tourism and that local communities continue to be empowered. The four aspects of accessing resources, promoting proper formal regulations and policies, raising personal consciousness and building self-confidence, and shifting directions in discriminatory or exclusionary informal norms and values proposed by Scheyvens (2020) provide beneficial guidance for policymakers in Sandaoyan as they plan empowering initiatives. The participation of local community residents in tourism development can be empowered by economic, social, psychological, and political dimensions (Scheyvens, 1999). Only in this way can local tourism managers and operators share the benefits of tourism among local residents in rural destinations, find more ways to accomplish sharing, and improve residents’ perceptions of benefit sharing, thereby improving residents’ SWB so as to realize the sustainable development of rural tourism.

6.3. Limitations and future research

Limitations of this research provide an opportunity for further research. First, because the current research was conducted in the context of Chinese culture, future studies will use a Chinese scale of SWB to emphasize the role of traditional Chinese culture. Chinese philosophy can be a major force in constructing the concept of happiness, so as to shape the subjective experience of its members (Lu, 2010). People in different cultural systems may hold different views on SWB, and the degree of congruence between people’s individual psychological culture and the larger cultural environment within which they live is crucial for SWB (Lu, 2006). For Chinese people, the trinity of Confucianism,

Taoism, and Buddhism constitutes the backbone of Chinese traditional culture, and its philosophy has an important impact on the SWB of Chinese people (Lu, 2008). Future studies on the SWB of residents in tourist destinations will add constructs from Chinese psychology, such as traditional Chinese collectivistic values, the ancient Yin–Yang philosophy, harmony of the society, and others to analyze the cultural roots that affect the SWB of residents in rural tourism destinations. Second, residents' SWB might be influenced by many factors, such as place attachment, community participation, and social responsibility (Lv & Xie, 2017; Wiles et al., 2009). Future research on residents' SWB could increase the knowledge of the roles of place attachment, community participation, social responsibility, and other antecedent variables.

Funding

This work was supported by the Sichuan University Cluster for Regional History and Frontier Studies [grant number 2018–0332], the Ministry of Culture and Tourism of China [grant number 18TACG006], and “From 0 to 1” Innovation Research Project of Sichuan University, No: 2021CX15.

Author statement

The authors would like to thank the support of Huili Scenic Area and the Qinggangshu Village Committees and Sichuan Maigao Tourism Resources Development Co., Ltd on this research project. The authors would also like to acknowledge the editor and the anonymous reviewers for their insightful and crucial comments that helped improve the article.

Declaration of competing interest

None.

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