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# Understanding Effects of Tourism on Residents: A Contingent Subjective Well-Being Approach

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**Abstract**

Research regarding tourism's effect on the subjective well-being (SWB) of destination residents has provided important insight, but it generally has relied on indirect analyses and diverse measures. This study used livability theory and a novel contingent SWB method in which respondents directly reported anticipated SWB effects. This method is exploratory, but it provides greater confidence in causal relationships. Results from a general population survey in Oregon (USA) suggested the method functioned as intended. County-level population growth and visitor intensity predicted perceived current impacts of tourism. In turn, perceived impacts predicted change in SWB contingent on a vignette reflecting a 20% increase in tourists. Across all individuals and counties, average SWB changes were negative for the environment domain and positive for other domains. Practical implications are discussed, with the most positive SWB effects from tourism development expected to occur in counties with low visitor intensity, especially those with low population growth.

**Keywords**

community impact, resident attitudes, population growth, contingent subjective well-being, livability theory

## Introduction

Subjective well-being (SWB) reflects how people experience and evaluate their lives overall and life domains in particular, with domains representing life components such as social relationships and financial status (Stone and Mackie 2013). There has been substantial interest in assessing SWB as an input for policy decisions (Diener et al. 2009; Stone and Mackie 2013), and tourism analysts have stressed the importance of understanding and monitoring effects of tourism development on resident well-being and quality of life (Bimonte et al. 2019; Travindy 2019; Uysal, Sirgy, and Perdue 2012). Well-being measures can provide insight regarding effects of tourism development paths in terms of directionality (i.e., positive or negative effect on SWB), magnitude, distribution across domains, and distribution across individuals and groups.

SWB analyses in tourism largely have relied on *indirect* approaches where cross-sectional data, longitudinal data, or both have been used for correlating SWB with potential predictors. These analyses have provided important insights, but there are limitations to indirect approaches (e.g., causal uncertainty). Using a statewide survey of residents in Oregon (USA), this methodologically oriented article introduces contingent SWB as a *direct* approach. This method is exploratory and also includes limitations, but it is a potentially important complement to indirect approaches, in a manner analogous to stated preference methods complementing revealed preference methods in the field of nonmarket valuation.

This study contributes to the literature by introducing the contingent SWB method, which apparently has not been used in tourism. An analytical model is developed and evaluated to illustrate this method. The model is based on livability theory, which is well suited to SWB analyses and which complements frameworks, such as social exchange theory, traditionally used in tourism.

The model also extends previous analyses of relationships among regional and respondent characteristics, perceived tourism impacts, and SWB (e.g., Ivlevs 2017; Kim, Uysal, and Sirgy 2013; Nunkoo and So 2016). Moreover, the analysis uses SWB measures consistent with "standardized"

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formats in the parent SWB field to facilitate comparability across studies and fields, as well as efficient development of concepts and theory. SWB represents a subset of measures within well-being and quality of life assessment. Annex A of the Organisation for Economic Co-operation and Development's guide to SWB measurement (OECD 2013) provided standardized formats for SWB measurement across the categories of *evaluative* (satisfaction with life), *eudaimonic* (flourishing, sense of purpose), and *affect* (experienced, hedonic, happiness at specific time periods). Standardized measures are common in the parent SWB literature but less common in tourism. For simplicity, SWB and well-being are used interchangeably here and include measures used in previous studies that diverge from standardized SWB formats.

This study presents a standardized way to measure SWB and, most importantly, a new way to assess how tourism development affects resident SWB. The study draws on theory and methods from psychology (subjective well-being) and economics (scenarios used in stated preference nonmarket valuation) to contribute to the existing literature. In drawing from two disciplines, the study illustrates the bridging approach noted by Kock, Assaf, and Tsionas (2020) as a strategy for research innovation.

In the next section, the theoretical foundation is presented. Given this article's methodological focus, indirect and direct approaches for assessing SWB effects are then described. Empirical evaluations relevant to the present analytical model are reviewed according to the methodology used (indirect or direct).

## Theoretical Foundation

Social exchange theory (Homans 1961) has been widely used for understanding resident perceptions of, and attitudes toward, tourism based on exchange relationships between tourism and residents of destinations (Ap 1992; Nunkoo and So 2016). In the social exchange context, change in SWB due to tourism is a potential predictor of resident support for tourism, which, in turn, may indicate resident willingness to enter an exchange relationship with tourism (Nunkoo and So 2016). However, the present focus is on SWB, rather than on support or exchange, as the ultimate outcome. Therefore, livability theory was used as the foundation for this analysis.

Livability is a broad concept that encompasses human needs ranging from food and basic security to beauty, cultural expression, and a sense of belonging (National Research Council 2002, p. 23). It has been used as a framework for understanding phenomena such as the effect of neighborhood noise, cleanliness, and safety on resident SWB (Mouratidis 2019). More generally, Ballas (2013) notes the importance of understanding how community characteristics affect SWB.

As developed by Veenhoven (2014), livability theory hypothesizes that fulfillment of human needs depends on both inner abilities and external living conditions, such that changes to living conditions may affect need fulfillment and, ultimately, happiness (SWB). Living conditions may be diverse and include factors such as employment opportunities, environmental quality, congestion, and social cohesion (Veenhoven 2015).

Livability theory differs from other theories of factors affecting SWB. Comparison theories hypothesize that SWB depends on comparisons between perceptions of how life should be and how it actually is, whereas trait theories hypothesize that SWB depends on individual static characteristics, such as genetic traits (Veenhoven 2014). Variation in SWB across countries and across time for individuals suggest that SWB is at least partly affected by variation in living conditions, consistent with livability theory. For example, in their cross-national analysis, Veenhoven and Ehrhardt (1995) found that happiness was positively correlated with national per capita income and educational level. In an analysis of European subnational regions, Okulicz-Kozaryn (2012) found that evaluative-type SWB was positively correlated with regional per capita income, whereas Okulicz-Kozaryn and Valente (2019) found that evaluative SWB was positively correlated with the Mercer quality of living index across European cities (see also Oswald and Wu 2009).

Using a livability theory lens, tourism may affect resident SWB insofar as it positively or negatively affects living conditions. Okulicz-Kozaryn and Strzelecka (2017) observed that tourism may contribute to livability, and thereby enhance resident SWB, at early stages of development, as residents experience tourism's positive economic effects when negative effects are less noticeable. Over time, tourism may detract from livability, and thereby reduce resident SWB, as residents increasingly experience negative effects. Such progression is consistent with the tourism area life cycle framework (Butler 1980).

This study also is informed by the literature regarding SWB effects of community population growth. Conclusions regarding effects of population growth on resident SWB may depend on included model covariates and other factors (Glaeser, Gottlieb, and Ziv 2016), but studies suggest that population growth and urbanization may decrease resident SWB due to a potentially negative balance between the benefits and costs of growth for residents (Lucas 2014; Okulicz-Kozaryn and Valente 2019; Winters and Li 2017).

In this study, population growth refers to change in the number of people whose usual residence is in the region, whereas tourism growth refers to change in the number of nonresident visitors to the region, operationalized using visitor nights by county. Population growth and tourism growth may lead to similar effects, such as increases in job creation, cultural and recreational opportunities, congestion on roads and at recreation sites, and effects on the natural environment.

Growth in tourism and population may co-occur and may reinforce each other due to factors such as tourism-induced amenity migration and increased visits by friends and relatives as a result of an expanded population base (Dwyer et al. 2014; Gosnell and Abrams 2011; Jover and Díaz-Parra 2020). Importantly, it may be difficult to distinguish the impact of tourism growth from that of population growth (Smith and Krannich 1998). For example, are increased employment opportunities due to (a) growth in visitor numbers, (b) in-migration of entrepreneurs catalyzed by prior visits, or (c) in-migration of entrepreneurs catalyzed by other factors? Population growth has been included as part of an index of tourism development stage (Kim, Uysal, and Sirgy 2013), as a predictor of attitude toward tourism (Jakus and Siegel 1997), and as a covariate predicting SWB (Okulicz-Kozaryn and Strzelecka 2017). However, inclusion of population growth in any form is relatively uncommon in tourism analyses, and this study's analysis appears to be the first assessment of population growth predicting tourism's perceived impact and, ultimately, SWB effects.

Taken together, livability theory provides a theoretical foundation grounded in SWB and more suitable for this study relative to widely used frameworks such as social exchange theory. Specifically, livability theory provides a lens for understanding how perceived effects of tourism on community livability may affect the SWB of its residents. Livability theory is complemented by insight from the literature on the relationship between population growth and SWB.

### *Indirect Analyses of Relationships among Regional Characteristics, Perceived Impacts, and SWB*

SWB assessment of evaluation objects such as tourism development can be categorized as indirect or direct. The *indirect* approach relies on cross-sectional data, longitudinal data, or both to correlate SWB with potential predictors. For example, Ivlevs (2017) evaluated the association of country-level international tourist arrivals with resident evaluative-type SWB using data from the European Social Survey. Controlling for multiple personal characteristics, Ivlevs (2017) found that SWB was negatively correlated with per capita arrivals, with the strongest effects in countries with high and rapidly increasing per capita arrivals.

Okulicz-Kozaryn and Strzelecka (2017) also used European Social Survey data, but with analyses at the subcountry level and with domestic and international arrivals as separate predictors. SWB was positively associated with per capita domestic tourist arrivals but, contrary to Ivlevs (2017), not significantly associated with international arrivals. Their results were sensitive to time period (change since early 1990s vs since early 2000s), with increases in arrivals since the early 2000s associated with decreases in SWB. Focusing on Germany and using data from the German socioeconomic panel, Tokarchuk, Gabriele, and Maurer (2016) found that evaluative SWB was positively correlated with tourist nights per capita.

These studies evaluated relationships between predictors (column A in Figure 1) and overall SWB (column D), with Tokarchuk, Gabriele, and Maurer (2016) also including domain-level SWB with respect to leisure time (column C). Taken together, results suggested that the association between visitor intensity and well-being may depend on the (a) geography being evaluated (e.g., one vs. multiple countries), (b) spatial resolution of the unit of analysis, (c) measure of visitor intensity, and (d) period of evaluation.

Countries vary in availability of secondary data for indirect analyses, which has led to similar analyses with primary data. For example, Pratt, McCabe, and Movono (2016) conducted surveys of two Fijian villages, with one classified as tourism-oriented based on employment patterns and resort proximity, and the other as non–tourism based on traditional lifestyle and distance from tourism areas. Residents of the nontourism village were happier than residents of the tourism village; that is, happiness was associated with a categorical measure of visitor intensity.

Regional characteristics, notably visitor intensity, also have been evaluated as predictors of perceived tourism impacts (relationship between columns A and B in Figure 1). Although results have varied across studies, Vargas-Sánchez, Porras-Bueno, and Plaza-Mejía (2011) found visitor intensity to be negatively correlated with resident perceptions that the benefits of tourism exceed the costs.

Analysts working with primary data also have evaluated SWB as a function of perceived tourism impacts and, more recently, as a predictor of support for tourism (e.g., Kaplanidou et al. 2013; Wang, Berbekova, and Uysal 2020; Woo, Kim, and Uysal 2015). In their study of residents in Canada's Niagara region, Nunkoo and So (2016) found that perceived positive impact of tourism positively correlated with SWB, whereas perceived negative impact was a nonsignificant predictor (relationship between columns B and D in Figure 1). Kim, Uysal, and Sirgy (2013) grouped perceived impacts by category (e.g., economic, social) rather than directionality (i.e., positive, negative). They also modeled tourism development stage as a moderator between perceived impact and well-being, and found mixed results for moderating effects. Their model reflected a bottom-up approach, with well-being across life domains (e.g., life components such as community and emotional well-being) as predictors of life satisfaction (relationship among columns B, C, and D, with column A being a moderator).

Indirect analysis can provide important insight regarding relationships among regional and personal characteristics, perceived tourism impacts, and SWB, with this being the primary analytical approach for understanding correlates of SWB within tourism, as well as within the parent SWB field. However, there are limitations. Secondary SWB data may not be available for the geographic area of interest. There also may be interest in estimating the SWB effects of tourism beyond historic visitation levels and patterns of development represented in the data. Moreover, relevant predictors of

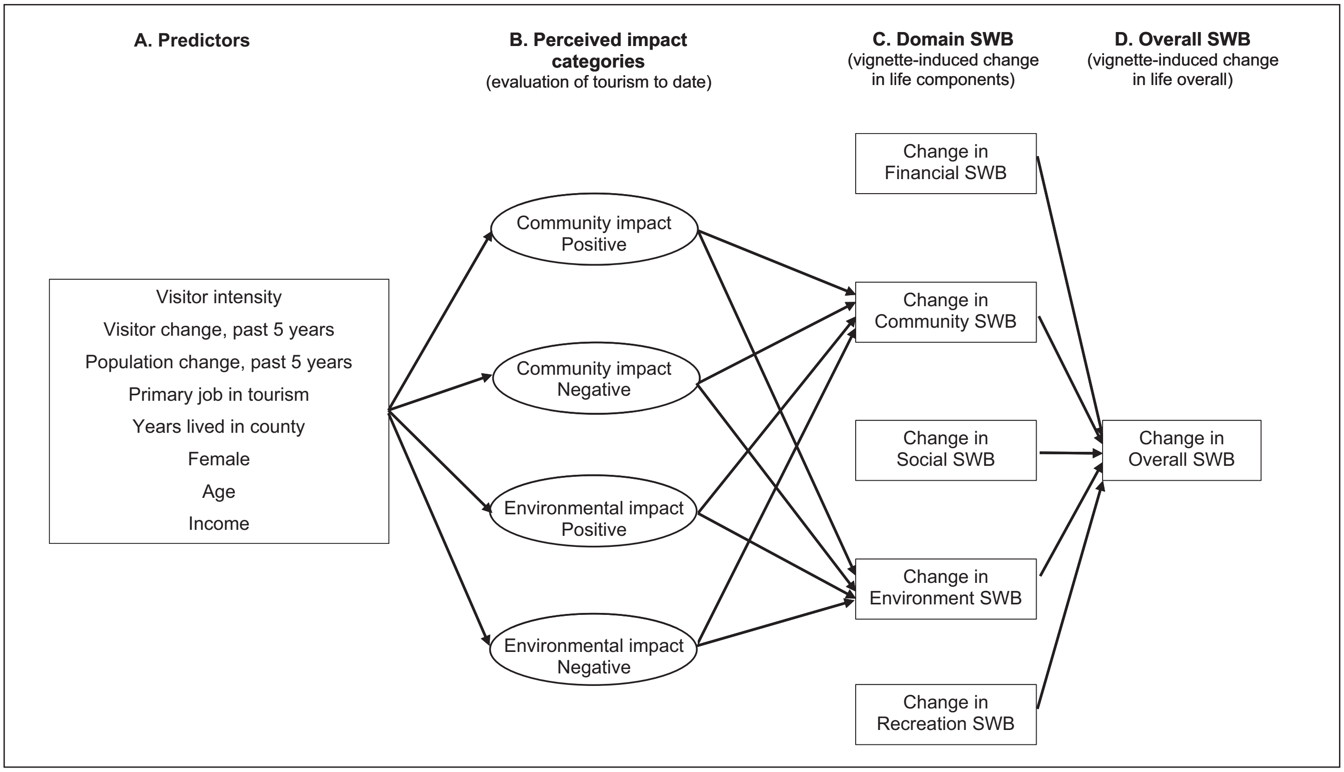


**Figure 1.** Relationships, structural component of analytical model.

SWB may be collinear or unavailable. For example, accurate counts of tourist arrivals may not be available at the level of individual communities, whereas analyses at coarser scales may obscure intercommunity differences in SWB effects.

There also may be uncertainty about causality because of the correlative nature of indirect analyses (Fujiwara and Dolan 2016; Lawless and Lucas 2011). For example, the quality of local natural amenities may affect both visitor intensity and resident SWB, and omission of relevant amenity variables may lead to inaccurate conclusions regarding the specific effect of visitor intensity on SWB. Nunkoo and So (2016) illustrated directional uncertainty in the context of correlative models involving SWB. There was a reasonable conceptual foundation for their base model and each of their four competing models, with fit statistics being similar across models (comparative fit index, root mean square error of approximation, and Akaike information criterion values varied by less than 4%). If one accepts that the base model fit well, one likewise could argue that any of the others also fit well. Citing Cliff (1983, 116–17), Nunkoo and So (2016, 848) reminded that data "do not confirm a model, they only fail to disconfirm it, together with the corollary that when the data do not disconfirm a model, there are many other models that are not disconfirmed either."

Panel longitudinal and randomized control studies can increase confidence in causality, but in this context panel data are uncommon (e.g., Bimonte et al. 2019) and randomized control data typically are unavailable. Instrumental variable analyses have been used for increasing confidence in causality, often in the context of assessing the effect of income on SWB to calculate willingness-to-pay (Fujiwara and Dolan 2016). However, it can be difficult to identify an appropriate instrumental variable. For example, Ivlevs (2017) understandably used tourist arrival rates in prior years as an instrument based on prior-year arrival rates having limited effect on current resident well-being. However, current well-being may be affected by prior-year rates insofar as there is temporal durability in the psychological, infrastructural, or environmental effects of, and policy responses to, tourism. Despite the strengths of indirect analyses, these limitations motivate exploration of complementary methods, such as direct analyses.

### *Direct Analyses and the Contingent SWB Approach*

Some researchers have *directly* asked respondents to report SWB effects retrospectively in response to tourism development. Building on work by Andereck and Nyaupane (2011) and others, Yu, Cole, and Chancellor (2016) asked respondents whether tourism had decreased or increased several quality of life indicators. Jordan, Spencer, and Prayag (2019) asked respondents how often they experienced various affect-type SWB items (e.g., happy or irritable) because of tourism. Suess et al. (2020) asked respondents to prospectively indicate whether an increase in visitors to Airbnbs in their neighborhood would improve or worsen their personal quality of life. Examples of baseline (current) and prospective (contingent) SWB reporting by destination residents in response to vignettes with specific tourism changes were not found in the literature. However, Benjamin et al. (2014) assessed contingent SWB in the context of medical residency programs, and Lindberg, Swearingen, and White (2020) assessed contingent SWB associated with changes in marine and forest reserves.

The contingent SWB approach involves respondents forecasting (anticipating) their SWB contingent on the occurrence of an evaluation object. In an early contingent SWB study (Loewenstein and Frederick 1997), respondents reported baseline evaluative-type SWB and then forecasted how their SWB would change in the next 10 years contingent on the occurrence of evaluation objects such as restricted sport fishing due to pollution. Responses were on a seven-point scale from "decrease by a large amount" to "increase by a large amount."

Respondents in the present study reported baseline evaluative SWB (question 1 in Appendix 1) and then forecasted how their SWB would change contingent on the occurrence of a 20% increase in the number of tourists to their community (column A of question 2 in Appendix 1). The description of the evaluation object (e.g., 20% increase in tourists) is referred to here as the vignette, and it is analogous to the description of evaluation objects used in contingent valuation.

This study relied on cross-sectional data, with concomitant limitations, but the dependent variable in contingent SWB reflects SWB change in response to a vignette stimulus. Relative to indirect methods, the nature of this dependent variable strengthens the causal link with predictors. However, the stimulus is a hypothetical vignette, and responses rely on affective forecasting (predicting how one will feel in response to the stimulus). Respondents may have difficulty visualizing the effect of a vignette change, and may underestimate indirect and cumulative effects within their community (Ivlevs 2017). Studies in the parent SWB field have led to additional considerations. Respondents may mispredict their future tastes and preferences and thus the utility or disutility associated with vignette changes (Frey and Stutzer 2014; Loewenstein and Schkade 1999). In addition, they may underestimate adaptation to vignette changes and therefore overstate SWB effects (Luhmann et al. 2012). Moreover, because of the focusing illusion, respondents may focus "disproportionately on, and thus exaggerate the importance of, things that would change in the future while ignoring things that would remain the same" (Ubel, Loewenstein, and Jepson 2005, p. 112), thereby overstating SWB effects.

Subsequent studies have led some to temper concerns arising from early analyses (Lucas 2016; Wolfers 2018), and similar concerns often also apply to the stated preference responses and even actual market choices (Kahneman 2011) that are widely used in policy evaluation. Nonetheless, such considerations indicate that the present analyses should be viewed as exploratory, with further methodological evaluation and refinement needed.

The catalyst for using contingent SWB parallels that for using stated preference nonmarket valuation techniques, notably the limitations of alternate methods. Recognition of limitations across methods leads to the perspective described by Azevedo, Herriges, and Kling (2003, p. 527), who observed in the context of nonmarket valuation a "shift in focus away from viewing [revealed preference] and [stated preference] as competing sources of values and toward seeing them as complementary sources of information." Direct and indirect SWB approaches involve differing assumptions and limitations, such that they can provide complementary insight.

### *COVID-19 Impacts*

In the first half of 2020, the COVID-19 pandemic dramatically decreased visitation in Oregon and elsewhere. It may appear that assessment of the SWB effects of increased visitor intensity has become irrelevant, but it remains relevant both topically and methodologically. Long-term recovery in visitation numbers remains uncertain, but it generally is expected to be faster in the contexts of (a) rural areas offering outdoor experiences, relative to urban areas, and (b) destinations oriented toward domestic markets and transportation via personal vehicles, relative to international markets and dependence on air or cruise travel (Anonymous 2020; Destination Analysts 2020b). There were an estimated 29.4 million overnight visitors, including 4.3 million domestic air arrivals, in Oregon in 2019 (Dean Runyan Associates 2020). There were an estimated 1.1 million annual international visitors (Travel Oregon 2019b). Although Oregon's market is partly international and aviation-dependent, it is primarily domestic, and 77% of visitors drive their vehicles. Likewise, the Portland metropolitan region generates the largest number of person-nights, but rural outdoor experiences are substantial components of tourism in the state's other six travel regions. Therefore, Oregon, and similar destinations elsewhere, may recover visitor intensity more quickly than areas that are more urban, dependent on international markets, or both. Moreover, 41% of the overnight trips in Oregon reflect visiting friends and relatives, and the VFR segment may recover more quickly than other tourism segments (Adams 2020). Indeed, early indications are of substantial recovery in visitor numbers in some areas (Roig 2020).

COVID-19 may affect two additional factors. First, resident evaluation of visitor intensity may change (Destination Analysts 2020a; Flaccus 2020; Mzezewa 2020). The loss of visitation, and its benefits, due to COVID-19 may lead destination residents to more positively value increased visitor intensity. Conversely, the possibility that visitors increase the risk of pathogen transmission within the community may lead residents to more negatively value visitor intensity. The future balance of such evaluations is unknown, but it may be negative and may lead to a stronger SWB response to increased visitation than in the present study. Second, COVID-19 and the associated increase in working-from-home may increase migration to and within Oregon, especially to high-amenity rural or small-city areas (Robbins 2020; Sen 2020). To the extent that perceived impacts of tourism are affected by population growth, COVID-19's effect on migration also may affect responses to increased visitation.

These factors suggest that this study remains topically relevant. Methodologically, COVID-19 enhances the relevance of the contingent SWB approach. This pandemic has been unprecedented in its impact, which means that secondary data are not available for assessing the SWB effects of COVID-19's impact (or the impact of any change in visitation level or pattern substantially beyond those already experienced). Moreover, the pandemic's effect on any secondary SWB data gathered pre- and post-pandemic may be confounded by multiple factors beyond a decline in visitor intensity. For example, would a post-pandemic decrease in SWB in destination communities reflect a decline in visitor intensity, the effect of social distancing on respondent lives, or some other factor? The contingent SWB approach allows evaluations of changes beyond those historically experienced as well as the ability to isolate the specific effect of a change in visitor intensity in the context of broadly impactful changes such as a pandemic.

### Research Questions and Model

This article illustrates contingent SWB as a methodological approach, livability theory as a theoretical foundation, and the potential effect of population growth on perceived tourism impacts. The following research questions are addressed, based on the analytical model in Figure 1, and with questions grouped into methodological (M) and theoretical (T) categories (domains represent life components such as community or environmental quality):

M1. Do respondents articulate changes in domain and overall SWB in response to a vignette describing a generic 20% increase in tourists?

M2. Do domain SWB changes vary across domains?

M3. Do domain SWB changes predict overall SWB changes?

T1. Do perceived tourism impacts in the community and environmental categories predict changes in associated SWB domains? In the context of livability theory, do perceived changes in living conditions attributed to tourism predict changes in SWB contingent on future tourism growth?

T2. Does recent regional population change predict resident perceptions of tourism impacts after controlling for visitor intensity, visitor change, and respondent personal characteristics?

The three methodological questions reflect basic aspects of validity. Based on the literature and anecdotal experience, a 20% increase in the number of tourists should affect SWB (M1) for a portion of respondents. SWB effects are expected to vary by domain, depending on regional and personal characteristics (e.g., current level of tourism in the region and respondent economic dependence on tourism) (M2).

The model involved a bottom–up SWB approach, with overall SWB being predicted by domain SWB (Kim, Uysal, and Sirgy 2013; Sirgy et al. 2010). Change in overall SWB is expected to be predicted in part by change in domain SWB (M3). Beyond their contribution to understanding factors affecting overall SWB, domain-level measures allow an instrument to detect changes in respondent SWB that may be attenuated or obscured at the level of overall SWB.

A 20% increase in tourism is expected to potentially affect living conditions, both positively and negatively, and the change in living conditions is expected to potentially affect SWB (T1). The final research question addresses the potential role of population growth in understanding perceived impacts attributed to tourism as well as associated change in SWB (T2).

This analytical model extends prior models in this field. For example, perceived impacts are disaggregated by directionality (positive and negative) and category (community and environmental). This extends the directional approach of Nunkoo and So (2016) and the categorical approach of Kim, Uysal, and Sirgy (2013). The present study also appears to be the first involving the four components (A, B, C, D) using the hierarchical structure in Figure 1. Included are SWB domains (life components) that are potentially affected by tourism development and consistent with those in the parent field of SWB studies.

Most fundamentally, the present SWB variables reflect SWB change in response to a tourism vignette. This approach differs from the previous focus on cross-sectional SWB, and it potentially provides greater confidence with respect to causal directionality.

## Methods

### Context

Data were from a general population survey of residents in the state of Oregon in summer 2018. Questionnaire content included perceptions of and attitudes toward tourism, as well as the potential effects of tourism on resident well-being. Although variable across communities and disrupted by COVID-19, visitor numbers have been increasing in Oregon, with Dean Runyan Associates (2018) reporting 2.2% average annual growth in overnight person-trips from 2010 to 2017. Tourism is a substantial sector in Oregon's statewide economy and a major component of many local economies. Tourism's economic contribution is often recognized, but there also have been concerns about negative impacts attributed to tourism. For example, in the city of Bend, tourism's contribution with respect to jobs and local government funding has been recognized (Miller 2018). A variety of additional changes, both positive and negative, have been attributed to tourism and the in-migration partially associated with it, including effects on community character, housing prices, wildlife habitat, and congestion at recreation sites and elsewhere in the community (Kohn 2019; Riker 2016; USDA Forest Service 2018). Concerns about changes, especially in destinations with high visitor intensity, have led Travel Oregon to identify as a strategic initiative the provision of assistance for managing tourism-related impacts (Travel Oregon 2019a, p. 4).

## Methods and Measures

The survey was conducted using two modes: (a) an online survey utilizing a Qualtrics panel and (b) a mixed-mode survey with mail invitations and options for either paper or online completion. Invitations for the online survey were stratified by state travel region. The panel questionnaire was started 3,928 times, but attention and quality checks were implemented to minimize measurement error (e.g., respondents who completed the questionnaire in less than one third of the median time were removed). The final sample included 728 responses, which represented a 19% completion rate.

A modified Tailored Design approach was used for the mixed-mode survey (Dillman, Smyth, and Christian 2014). The first postal invitation was a letter that included a website address for the online version. For those who chose to not complete that version, a paper version of the questionnaire (with a letter and postage-paid return envelope) was mailed two weeks later followed by a reminder postcard one week later and another mailing of the paper version two weeks later.

The mixed-mode survey utilized a stratified (by travel region) random sample from all Oregon residential addresses that was obtained from one of the largest commercial sampling firms in the country; 749 of the 4,161 invitees with deliverable addresses completed the questionnaire, for a response rate of 18%. A telephone nonresponse bias check ($n = 98$) involving nine questions from the questionnaire showed no substantive differences between respondents and nonrespondents, as all effect sizes were small (0.02 to 0.20, mean = 0.07).

Samples from the two data collection modes differed in their demographic characteristics, and combining data from the two modes led to demographic distributions closer to that of the population of Oregon residents, based on US census data. Remaining demographic differences between the sample and population were addressed by weighting the data by gender, age, and education. Adjusting for item nonresponse on weighting variables, the data reflected 1,389 respondents, with additional exclusion based on item nonresponse for model variables.

Table 1 presents the variables used in this analysis. Three variables were county-level (regional characteristics) based on secondary data. All remaining variables were respondent-level (personal characteristics) based on primary survey data.

The contingent SWB content was based on previous studies (Lindberg, Swearingen, and White 2020; Lindberg and Wolsko 2019) and modified to the tourism context. Respondents reported their baseline evaluative-type SWB (life satisfaction) for life overall and multiple domains, using a scale of 0 "not satisfied" to 100 "completely satisfied" (Appendix 1). Four domains (financial, social, community, environment) were the focus of this analysis, with a recreation domain included as a potential contributor to the bottom–up model of overall SWB. The four domains reflected those that were both potentially affected by tourism and commonly found in the SWB literature (e.g., Kim, Uysal, and Sirgy 2013; OECD 2013). However, fewer than one-third of respondents reported vignette-induced SWB change in the financial and social domains (Figure 2). Therefore, the analyses focused on the community and environment domains and associated impact categories (Figure 1).

After reporting baseline SWB, respondents reported how a vignette involving a 20% increase in the number of tourists in their community would affect their SWB for life overall and each of the domains. An increase of 20% was used to reflect a change that was both substantial and conceivable. Of the 33 Oregon counties with available data on visitor change in the preceding five years, 13 experienced changes of at least 10% and 3 experienced changes of at least 20% (Dean Runyan Associates 2013, 2018).

Respondents were asked to consider (a) the likely impacts of tourism growth in their community, (b) the importance of those impacts relative to other factors affecting well-being (to potentially reduce focusing illusion effects), and (c) how they might adjust to any impacts (to potentially reduce adaptation effects). The baseline and contingent SWB questions were on the same page (same screen in the online version), so respondents could refer between them.

Respondents were asked to report their SWB change in both ordinal (5-point scale from "decrease a lot" to "increase a lot") and interval terms (new SWB on the 0 to 100 scale, with interval change being the difference from baseline SWB). Analysis of the ordinal and interval responses suggested general consistency in responses (e.g., an ordinal response indicating an increase in SWB followed by a new SWB that was higher than baseline SWB). However, a noticeable number of responses were inconsistent. Therefore, analyses were based on a conservative approach using the ordinal responses, which presumably involved less cognitive effort and thus greater accuracy.

Respondents then indicated their certainty regarding their SWB reports, using a scale of 0 for "not at all certain" to 100 for "completely certain." Analyses presented here involved weighting based on certainty in addition to the demographic characteristics described above. Although respondent

**Table 1.** Variables.

| Variable | Description | Mean | SD |
|---|---|---|---|
| SWB variables, change in satisfaction in. . . (1 = "decrease a lot" to 3 = "no effect" to 5 = "increase a lot") | | | |
| Overall | Your life overall, considering all aspects | 2.98 | 0.84 |
| Financial | Your financial situation (income, savings, cost of living, etc.) | 3.09 | 0.69 |
| Community | Your community and its culture | 3.33 | 1.01 |
| Social | Your social life, beyond family | 3.22 | 0.68 |
| Environment | Quality of the natural environment in the area | 2.70 | 1.01 |
| Recreation | Recreation opportunities in the area | 3.37 | 0.97 |
| Indicators for community impact, positive. Tourism has contributed to. . . (1 = "strongly disagree" to 5 = "strongly agree") | | | |
| Comm_pos_1 | Better infrastructure (e.g., roads) in my community | 2.95 | 1.14 |
| Comm_pos_2 | Greater knowledge of other cultures in my community | 3.35 | 1.05 |
| Comm_pos_3 | Increased opportunities for cultural activities in my community | 3.34 | 1.02 |
| Comm_pos_4 | Creating more support for preservation of historic buildings in my community | 3.31 | 1.03 |
| Indicators for community impact, negative. Tourism has contributed to. . . | | | |
| Comm_neg_1 | Problems of sharing resources or public spaces between residents and tourists in my community | 3.03 | 1.14 |
| Comm_neg_2 | Loss of tranquility in my community | 2.93 | 1.16 |
| Comm_neg_3 | Unpleasant overcrowding in my community | 2.93 | 1.21 |
| Comm_neg_4 | Increasing crime in my community | 2.85 | 1.13 |
| Indicators for environmental impact, positive. Tourism has contributed to. . . | | | |
| Env_pos_1 | Greater protection of the natural environment in my community | 2.91 | 1.13 |
| Env_pos_2 | Improving the natural appearance of my community | 3.14 | 1.10 |
| Indicators for environmental impact, negative. Tourism has contributed to. . . | | | |
| Env_neg_1 | Degradation of wildlife habitat in my community | 2.93 | 1.12 |
| Env_neg_2 | Air pollution in my community | 2.82 | 1.07 |
| Env_neg_3 | Water pollution in my community | 2.79 | 1.07 |
| Predictors, county level (regional characteristics) | | | |
| Visitor intensity | Visitor nights in county, per resident, 2017 | 3.26 | 2.26 |
| Visitor change, past 5 years | Percentage change in number of visitor nights from 2012 to 2017 | 11.67 | 5.76 |
| Population change, past 5 years | Percentage change in county population from 2012 to 2017 | 6.11 | 3.75 |
| Predictors, respondent level (personal characteristics) | | | |
| Primary job in tourism | Dummy variable, = 1 if respondent works in one of the following sectors: lodging, restaurant, outdoor recreation, retail, cultural / historic attractions, events, casino, tour operator, or transport | 0.14 | 0.35 |
| Years lived in county | Number of years lived in county of current residence, divided by 10 | 2.05 | 1.78 |
| Female | Dummy variable, 0 = "male," 1 = "female" | 0.49 | 0.50 |
| Age | Age in decadal units, from 2 = "18 to 29" to 8 = "80 or older" | 4.40 | 1.71 |
| Income | Annual household income before taxes, from 1 = "Under $10,000" to 10 = "$200,000 or more" | 5.34 | 2.17 |
| Certainty | Certainty regarding well-being change, 0 = "not at all certain" to 100 = "completely certain" | 61.52 | 25.61 |

Note: For Certainty, the mean and standard deviation reflect demographic weights. For other variables, the mean and standard deviation reflect weights based on demographics and certainty.

certainty has not been commonly used in the SWB literature, it has been used in nonmarket valuation to increase the accuracy of estimates (Champ, Moore, and Bishop 2009).

Each of the indicators for perceived impacts was measured using a five-point scale (Table 1). Visitor intensity is per capita visitor nights in each county in 2017, whereas visitor change is the percentage change in visitor nights from 2012 to 2017 (Dean Runyan Associates 2013, 2018). Visitor data for 2012 were unavailable for three of Oregon's 36 counties (Gilliam, Polk, and Sherman), representing fewer than 1% of observations. These observations were excluded from the analysis. Population change is the percentage change in county population from 2012 to 2017, calculated based on data from Portland State University (2018).

## Analyses

Figure 1 illustrates the structural component of the structural equation model analyzed. For the focal community and environment domains, change in domain SWB was modeled as a

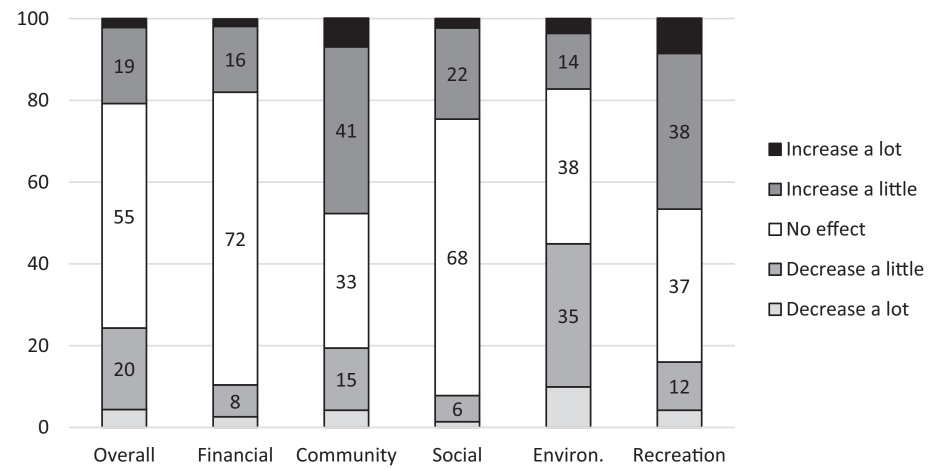


**Figure 2.** Vignette-induced change in SWB by domain, percent.

function of perceived impacts relevant to that domain. Each perceived impact category was modeled as a latent variable with two or more indicators. The impact categories also were evaluated as predictors of the unrelated domain (e.g., positive community impact predicting the environment domain) to provide an indication of discriminant validity. Each impact category was evaluated as a function of regional and personal characteristics.

The model was estimated in Mplus version 7.4 using the MLR estimator. The SWB change and perceived impact indicator variables reflected five response categories and thus potentially could be treated as either ordinal or interval. These variables were treated as interval because (a) the variables demonstrated reasonable spread and approximated the normal distribution, (b) Mplus generates fewer goodness-of-fit measures for ordinal models, and (c) previous SWB research indicates similar results when modeling as ordinal or interval (Ferrer-i-Carbonell and Ramos 2014).

For the SWB change and perceived impact indicator variables, the maximum absolute values were below 0.5 for skewness and below 2.0 for kurtosis. Among the indicators, the maximum relative variance was 1.5, which is well within the guideline of 10 for the ratio of largest to smallest. All indicators had $R^2$ values of at least 44% (Table 2).

An exploratory factor analysis of all variables without rotation and with the number of factors fixed to one showed that the factor explained 29% of the variance. This approach, coupled with the confirmatory factor analysis findings in the measurement models, represent Harman single-factor tests (Podsakoff et al. 2003) and suggest that common method variance or bias was generally absent.

There was a modest degree of collinearity among the domain SWB variables (Appendix 2 shows correlations). However, ordinary least squares regression analysis of the domains as predictors of change in overall SWB generated variance inflation factors below 2.0 for all domain SWB variables. Likewise, the pairwise correlation between visitor change in the past five years and population change in the same period was 0.76, but all variance inflation factors were below 3.5 when modeling the set of predictors on perceived impact indicators.

## Results

Of the 1,389 respondents, 88% indicated some level of vignette-induced change in life overall or at least one domain. The distributions in Figure 2 and the means in Table 1 indicate that a 20% increase in tourists would have a negligible negative effect on life overall when averaged across all respondents and counties, a negative effect on environment SWB, and a positive effect on the other domains. Two-thirds of respondents indicated an effect in the community domain, with slightly fewer indicating effects in the environment and recreation domains. Fewer than one-third indicated effects in the financial or social domains.

The estimated model is presented in Tables 2 (measurement component) and 3 (structural component). The model chi-square was 798 with 230 degrees of freedom, for a ratio of 3.5. The comparative fit index was .91, and the root mean square error of approximation was .04 with a 90% confidence interval of .04 to .05. Table 2 presents the measurement models and the two covariances specified within those models due to similarity in item content. The Cronbach's alpha reliability values were good to excellent.

Results in Table 3 provide insight into factors affecting SWB of residents in destination communities. With respect to effect of domain SWB on Overall SWB, change in each domain SWB was positively correlated with change in Overall SWB, with change in Environment SWB having the greatest relative effect. Change in Social SWB had the next largest effect, but an increase in tourism was less likely to affect Social SWB (Figure 2) and thus Overall SWB.

**Table 2.** Model of Change in Subjective Well-Being, Measurement Models.

| | Unstandardized Coefficient | Significance | Standardized Coefficient | $R^2$ | Cronbach's Alpha if Item Deleted | Cronbach's Alpha |
|---|---|---|---|---|---|---|
| Community impact—positive by | | | | | | .81 |
| Comm_pos_1 | 1 | | 0.69 | 0.47 | .82 | |
| Comm_pos_2 | 0.91 | 0.000 | 0.68 | 0.46 | .72 | |
| Comm_pos_3 | 0.87 | 0.000 | 0.67 | 0.45 | .72 | |
| Comm_pos_4 | 0.88 | 0.000 | 0.67 | 0.44 | .79 | |
| Community impact—negative by | | | | | | .90 |
| Comm_neg_1 | 1 | | 0.81 | 0.65 | .87 | |
| Comm_neg_2 | 1.13 | 0.000 | 0.89 | 0.79 | .84 | |
| Comm_neg_3 | 1.18 | 0.000 | 0.89 | 0.79 | .85 | |
| Comm_neg_4 | 0.91 | 0.000 | 0.74 | 0.55 | .90 | |
| Environmental impact—positive by | | | | | | .85 |
| Env_pos_1 | 1 | | 0.84 | 0.70 | | |
| Env_pos_2 | 1.03 | 0.000 | 0.87 | 0.76 | | |
| Environmental impact—negative by | | | | | | .90 |
| Env_neg_1 | 1 | | 0.87 | 0.76 | .91 | |
| Env_neg_2 | 0.86 | 0.000 | 0.78 | 0.61 | .85 | |
| Env_neg_3 | 0.89 | 0.000 | 0.81 | 0.66 | .82 | |
| Covariances | | | | | | |
| Comm_pos_2 with Comm_pos_3 | 0.32 | 0.000 | 0.56 | | | |
| Env_neg_2 with Env_neg_3 | 0.21 | 0.000 | 0.50 | | | |

Note: "By" is short for "measured by" and defines latent variables. In each measurement model, the loading for the first indicator among unstandardized coefficients was set to 1 to scale the latent variable. Those indicators do not have a significance value.

Change in Community SWB was associated with perceived positive and negative impacts in the community category, but not with perceived impacts in the environmental category. Change in Environment SWB was associated with perceived negative impacts, but not positive impacts, in the environmental category. It also was associated with perceived positive impacts in the community category. Thus, results were somewhat mixed with respect to discriminant validity.

Visitor intensity and population change in the past five years were consistent predictors of perceived impacts, with higher values of each predictor decreasing positive perceived impacts and increasing negative perceived impacts. Visitor change in the past five years was a significant predictor for only one of the four impact categories (positive community impacts), where it had the opposite sign relative to visitor intensity and population change. Across the four perceived impact categories, there was no consistent pattern (at $\alpha = 0.05$) for personal characteristic predictors.

By way of illustration of effects across the modeled chain (Figure 1), respondents in counties with high visitor intensity were likely to report lower agreement with positive community impacts and higher agreement with negative community impacts, relative to respondents in counties with low visitor intensity. In turn, these levels of agreement with positive and negative community impacts were associated with less positive change in community SWB in response to the vignette and, ultimately, less positive change in overall SWB. This effect was reinforced in counties that also had high population growth in the past five years. Conversely, respondents in counties with low visitor intensity and population growth reported more positive change in SWB.

## Discussion

This article illustrated a direct approach to understanding effects of tourism on resident well-being, an approach that is new to tourism evaluation and increases confidence in causal relationships. The analysis should be viewed as exploratory, and further methodological evaluation and refinement are needed. Regardless, results were consistent with the previous thematic conclusion of heterogeneity in perceived impacts and SWB change due partly to diversity in regional tourism and population growth patterns.

With respect to research question M1, 88% of respondents indicated a vignette-induced change in at least one SWB component. For research question M2, there was substantial variation in responses across SWB domains. The community domain was the most frequently affected, followed by the environment domain. Changes in environment SWB were the most negative, whereas respondents, on average, reported positive SWB changes in other domains. For research question M3, changes in the assessed domains explained 35% of the variance for change in overall SWB. Changes in the environment and social domains were the strongest predictors of change in overall SWB, based on

**Table 3.** Model of Change in Subjective Well-Being, Structural Model.

| | Unstandardized Coefficient | Significance | Standardized Coefficient |
|---|---|---|---|
| Change in Overall SWB on | $R^2$ = .35 | | |
| Intercept | 0.37 | 0.060 | 0.37 |
| Change in Financial SWB | 0.15 | 0.001 | 0.13 |
| Change in Community SWB | 0.14 | 0.000 | 0.18 |
| Change in Social SWB | 0.23 | 0.000 | 0.20 |
| Change in Environment SWB | 0.27 | 0.000 | 0.35 |
| Change in Recreation SWB | 0.10 | 0.015 | 0.12 |
| Change in Community SWB on | $R^2$ = .38 | | |
| Intercept | 3.83 | 0.000 | 3.84 |
| Community impact—pos. | 0.57 | 0.003 | 0.44 |
| Community impact—neg. | −0.26 | 0.006 | −0.24 |
| Environmental impact—pos. | −0.10 | 0.558 | −0.09 |
| Environmental impact—neg. | −0.15 | 0.109 | −0.15 |
| Change in Environment SWB on | $R^2$ = .38 | | |
| Intercept | 3.07 | 0.000 | 3.06 |
| Community impact—positive | 0.47 | 0.018 | 0.36 |
| Community impact—negative | −0.02 | 0.788 | −0.02 |
| Environmental impact—positive | −0.01 | 0.943 | −0.01 |
| Environmental impact—negative | −0.37 | 0.000 | −0.36 |
| Community impact—positive on | $R^2$ = .08 | | |
| Visitor intensity | −0.05 | 0.003 | −0.16 |
| Visitor change, past 5 years | 0.03 | 0.007 | 0.21 |
| Population change, past 5 yrs | −0.08 | 0.000 | −0.38 |
| Primary job in tourism | 0.13 | 0.249 | 0.06 |
| Years lived in county | −0.05 | 0.007 | −0.12 |
| Female | −0.10 | 0.153 | −0.06 |
| Age | −0.02 | 0.286 | −0.05 |
| Income | 0.01 | 0.729 | 0.02 |
| Community impact—negative on | $R^2$ = .16 | | |
| Visitor intensity | 0.12 | 0.000 | 0.31 |
| Visitor change, past 5 years | −0.01 | 0.312 | −0.07 |
| Population change, past 5 yrs | 0.09 | 0.000 | 0.38 |
| Primary job in tourism | −0.03 | 0.788 | −0.01 |
| Years lived in county | 0.04 | 0.065 | 0.07 |
| Female | 0.05 | 0.502 | 0.02 |
| Age | −0.03 | 0.166 | −0.06 |
| Income | −0.01 | 0.503 | −0.03 |
| Environmental impact—positive on | $R^2$ = .06 | | |
| Visitor intensity | −0.07 | 0.000 | −0.18 |
| Visitor change, past 5 years | 0.02 | 0.184 | 0.09 |
| Population change, past 5 years | −0.07 | 0.000 | −0.28 |
| Primary job in tourism | 0.04 | 0.753 | 0.01 |
| Years lived in county | −0.05 | 0.051 | −0.09 |
| Female | −0.04 | 0.583 | −0.02 |
| Age | 0.00 | 0.877 | 0.01 |
| Income | 0.02 | 0.220 | 0.05 |
| Environmental impact—negative on | $R^2$ = .13 | | |
| Visitor intensity | 0.09 | 0.000 | 0.22 |
| Visitor change, past 5 years | −0.02 | 0.125 | −0.13 |
| Population change, past 5 years | 0.10 | 0.000 | 0.39 |
| Primary job in tourism | 0.01 | 0.915 | 0.01 |
| Years lived in county | 0.02 | 0.342 | 0.04 |

*(continued)*

**Table 3. (continued)**

| | Unstandardized Coefficient | Significance | Standardized Coefficient |
|---|---|---|---|
| Female | 0.11 | 0.143 | 0.06 |
| Age | −0.09 | 0.000 | −0.16 |
| Income | −0.02 | 0.429 | −0.03 |
| Covariances | | | |
| Community impact—positive with | | | |
| Community impact—negative | −0.25 | 0.000 | −0.40 |
| Environmental impact—positive | 0.53 | 0.000 | 0.79 |
| Environmental impact—negative | −0.27 | 0.000 | −0.40 |
| Community impact—negative with | | | |
| Environmental impact—positive | −0.39 | 0.000 | −0.52 |
| Environmental impact—negative | 0.59 | 0.000 | 0.78 |
| Environmental impact—positive with | | | |
| Environmental impact—negative | −0.42 | 0.000 | −0.52 |

Note: "On" is short for "regressed on" and defines regression relationships.

coefficient magnitude. Although further evaluation of contingent SWB is needed, the above results provided support for the validity of the method.

Given the novelty of this approach, there are no direct comparators in the literature. Results were consistent with the significance of the nonmaterial life domain in Woo, Kim, and Uysal (2015), but not consistent with the nonsignificance of the sense of community well-being domain in Kim, Uysal, and Sirgy (2013). However, differences in overall approach and in specific measures preclude strong comparisons with these studies.

With respect to research question T1, perceived impacts generally predicted changes in the relevant SWB domain, consistent with livability theory. Importantly, the model allowed perceived impacts in one category (e.g., environmental) to predict SWB change in a different category (e.g., community). Results suggested that change in domain SWB generally was predicted by perceived changes in the associated impact category, but also that discrimination was imperfect. Change in community SWB was correlated with perceived community impacts, and not with environmental impacts. However, change in environment SWB was correlated with perceived positive community impacts, but not perceived positive environmental impacts. This finding may be due partly to the idiosyncrasies of this study, including the wording of specific indicators, but results also might be explained by potential porosity across resident conceptualizations of these two impact categories.

With respect to research question T2, results in Table 3 suggested that resident perceptions of tourism's impacts were substantially predicted by population growth; across the four impact components, the standardized coefficients for population change were greater than those of any other predictor. Population growth may make residents more sensitive to the effects of tourism growth. Moreover, the two phenomena may be intermingled, and it can be difficult to isolate the effect of each (Smith and Krannich 1998). This result was consistent with the finding of Jakus and Siegel (1997) that population growth was negatively associated with attitude toward tourism growth, although the relationship was only significant for one of their four attitudinal measures.

Regarding other regional and personal characteristic predictors, results were consistent with Ivlevs (2017), but not Tokarchuk, Gabriele, and Maurer (2016), insofar as visitor intensity indirectly negatively predicted SWB. The lower the current visitor nights per capita, the more positive the expected well-being impact of a future 20% increase in tourist numbers. Conversely, the greater the current visitor nights per capita, the more negative the expected well-being impact of an increase. This finding was consistent with the sentiment of Uysal, Sirgy, and Perdue (2012), who noted that well-being should be monitored over time, particularly at popular destinations (i.e., high visitor intensity).

With respect to destination management implications, substantive results indicated that the most positive SWB effects from tourism growth will occur in counties with low visitor intensity, especially those with low population growth. Conversely, the most negative SWB effects will occur in counties with high visitor intensity, especially those with high population growth. This insight may guide investment and management decisions. For example, before this study, Travel Oregon identified as a strategic initiative the provision of assistance for managing tourism-related impacts at high-intensity destinations (Travel Oregon 2019a, p. 4). Such initiatives reflect the transition of some destination marketing organizations to become destination management organizations. Using a lens of livability theory, one intent may be to manage the effect of tourism such that it has an overall positive effect on living conditions and thus resident SWB.

Given that the most negative SWB effects were in the environment domain, additional effort might be devoted toward understanding what perceived impacts affect this domain, together with managing for more favorable net impacts and raising public awareness of such efforts. An example of existing efforts at the state level is Travel Oregon's "Take Care Out There" campaign, which includes respecting natural areas and other users of recreational trails. Examples at the local destination level include Visit Bend's "Bend Pledge," "Visit Like a Local," and "Pledge for the Wild" campaigns, with the latter facilitating donations to outdoor-oriented nonprofit organizations.

Although the contingent SWB approach remains exploratory, the methodological results suggest it may be a useful tool for understanding and forecasting potential resident SWB effects of alternate tourism development paths. Such direct approaches may be particularly relevant in novel contexts such as COVID-19, which lack the precedent necessary for assessing SWB effects using indirect approaches with secondary data. For example, contingent SWB vignettes could be used for exploring anticipated well-being effects of alternate "reopening" paths, with vignettes reflecting variation in characteristics of the public health situation (e.g., specified rates of infection at which re-opening stages will occur) and industry requirements (e.g., degrees of social distancing in attraction, lodging, dining, or transport contexts).

Future methodological assessment of contingent SWB would benefit from split-sample assessment of multiple levels of tourism increases (10%, 20%, and so on), and COVID-19 is a reminder that tourism decreases also should be evaluated. Alternatively, multiattribute, multilevel vignettes, analogous to choice experiments, might be useful for this purpose (Lindberg, Swearingen, and White 2020). Such multiattribute approaches also could be used to evaluate alternative types of tourism development (e.g., winery vs. nature / adventure tourism) where realistic given the destinations being surveyed.

Contingent SWB has been evaluated with respect to consistency with choice experiment responses and expected predictors (Benjamin et al. 2013; Lindberg and Wolsko 2019). Results have suggested broad consistency, but such studies represent limited evaluations. Ideally, continued evaluation will inform "best practices" with respect to the method.

Longitudinal evaluation with a panel sample also is recommended, where baseline SWB, contingent SWB, and control variables are assessed and then reassessed with the same sample of respondents over time. Ideally, the sample would include respondents across destinations exhibiting variable outcomes with respect to the changes envisioned in the initial vignette (e.g., in the present case, some communities actually experience a 20% tourism increase after the baseline, whereas others do not).

One issue in future applications may be the balance between task complexity and the salience of the evaluation object (Lindberg, Swearingen, and White 2020). Where high task complexity is needed to achieve information needs, it may be possible to increase respondent engagement, such as by reducing non-SWB questionnaire content or conducting in-person interviews (e.g., Bishop et al. 2017). Such interviews also may facilitate debriefing of respondents—beyond the certainty reporting used here—as one way of understanding respondent cognitive processes when engaged in the contingent SWB task.

With respect to theoretical foundation, social exchange theory has long been used for understanding resident attitudes toward tourism. When resident SWB is the focus, livability theory is encouraged as an alternate or complementary foundation. The underlying conceptualization of livability theory is consistent with that of the social exchange and tourism area life cycle frameworks (Ap 1992; Butler 1980), but livability theory specifically focuses on SWB and incorporates additional phenomena, such as population growth, that may affect SWB.

Given the significance of the population change coefficients and the potential relationship between population and visitor change over time, inclusion of population change as a predictor is encouraged in future studies, notably those involving cross-sectional analyses across regions (using either indirect and direct approaches). Such inclusion may be particularly informative in studies involving locations with substantial increases in both visitation and in-migration.

The use of standardized SWB measures is also encouraged to more effectively compare results across studies, both within tourism and with those in the parent SWB field. This transition will occur naturally for studies using secondary data sets containing standardized SWB variables (e.g., Ivlevs 2017), but it also is encouraged for primary data collection.

As usual, the analyses here reflect the study context, including the specific evaluation object of a generic 20% increase in tourists. Additional research is needed to understand responses across diverse study contexts and evaluation objects, including regions with different types and levels of tourism development and with different potential future changes in tourism. This analysis was limited to measurement models for latent variables predicting two SWB domains relevant to tourism. Future analyses may benefit from further development and evaluation of perceived impact items.

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## Supplemental Material

Supplemental material for this article is available online.

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