

**The Effect of Customer Co-creation Behaviours on Well-being: The
Mediating Role of Positive Emotions and Social Connectedness**

by

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ABSTRACT

THE EFFECT OF CUSTOMER CO-CREATION BEHAVIOURS ON WELL-BEING: THE MEDIATING ROLE OF POSITIVE EMOTIONS AND SOCIAL CONNECTEDNESS

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This study proposed a conceptual and empirical model to extend customer co-creation behaviours' benefits beyond the economic and managerial and investigate their psychological effects as well. In particular, a combination of hedonic and eudaimonic perspectives was used to obtain a complete picture of well-being. To understand the relations between customer co-creation behaviours and the two types of well-being further, multiple mediators were used: Positive emotions; empowerment, and social connectedness. The study used snowball sampling to collect data from China and online panels (Prolific) to collect data from North America. A total of 410 samples were analysed with Partial Least Squares Structural Equation Modelling. With the exception of the effect of personal interaction, co-creation behaviours had no significant direct effect on well-being, while positive emotions and social connectedness were found to mediate the relation between co-creation behaviours and well-being fully. The study suggests the important role that customers play in their own well-being and active co-creation activities between customers and service providers are encouraged.

Keywords: *value co-creation behaviour, well-being, positive emotions, social connectedness, empowerment, hedonia, eudaimonia*

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TABLE OF CONTENTS

Abstract.....	ii
Acknowledgements.....	iii
Table of Contents.....	iv
List of Tables.....	vi
List of Figures.....	vii
Chapter 1. Introduction.....	1
Chapter 2. Literature Review.....	4
2.1. Value co-creation.....	4
2.2. Well-being.....	7
2.3. Hypothesis development.....	9
2.3.1. Positive emotions.....	11
2.3.2. Empowerment.....	12
2.3.3. Social connectedness.....	13
Chapter 3. Methodology.....	16
3.1. Data collection.....	16
3.2. Measurement scales.....	17
3.3. Data analysis.....	18
Chapter 4. Results.....	19
4.1. Profile of the sample.....	19
4.2. Measurement model.....	21
4.3. Structural model.....	23
4.4. Mediation analysis.....	25
Chapter 5. Discussion.....	27
Chapter 6. Implications.....	31
6.1. Theoretical implications.....	31
6.2. Practical implications.....	32
Chapter 7. Limitations and Future Studies.....	34
Chapter 8. Conclusion.....	37
References.....	39
Appendices.....	49
Appendix 1. Measurement items.....	49
Appendix 2. Questionnaire.....	50

Appendix 3. REB approval letter..... 58

LIST OF TABLES

Table 1. Antecedents and consequences of co-creation practices	6
Table 2. The socio-demographic information of the respondents (N=410).....	20
Table 3. The reliability and convergent validity of the measurement model	21
Table 4. Discriminant validity of constructs.....	22
Table 5. Mediation analysis	26

LIST OF FIGURES

Figure 1. Proposed model	15
Figure 2. Structural equation modeling	25

CHAPTER 1. INTRODUCTION

Value co-creation is a marketing strategy used to develop innovative products and services that satisfy customers' changing needs and improve companies' competitiveness (Agrawal & Rahman, 2015; Prahalad & Ramaswamy, 2000; Torfing, Sørensen, & Røiseland, 2019). According to Kocina (2017), 80% of products or services introduced each year fail. Although there are many reasons for this, a fundamental factor is a lack of knowledge and understanding of customers' needs. In response to this issue, companies integrate customers into the production and consumption process and work with them to create personalized products and experiences. This allows customers to be involved in, and contribute to, each stage of value creation actively rather than receiving value passively. Value co-creation involves active engagement of tourists with tourism businesses, local communities, and other tourists to create unique travel experiences.

The literature on value co-creation is divided chiefly into three areas: Service science, innovation and technology management, and marketing and consumer research (Gummesson, Mele, Polese, Galvagno, & Dalli, 2014), among which marketing and consumer research are the most relevant to this study. Companies are paying more attention to the benefits of co-creation practices through their marketing and consumer efforts (Ranjan & Read, 2016), which will likely nurture customer satisfaction, build loyalty, and increase spending on the company's services (Buonincontri, Morvillo, Okumus, & van Niekerk, 2017; Grisseemann & Stokburger-Sauer, 2012; Haro, Ruiz, & Cañas, 2014; Mathis, Kim, Uysal, Sirgy, & Prebensen, 2016; Sweeney, Danaher, & McColl-Kennedy, 2015). However, utilitarian benefits, such as better service performance, may not live up to the customers' expectations of their co-creation activities' value, particularly if they invest considerable time, skill, and psychological effort in participating in co-creation

activities (Hoyer, Chandy, Dorotic, Krafft, & Singh, 2010). This is because customers seek utilitarian rewards and look for higher-order psychological rewards (Etgar, 2008; Lorenzo-Romero, Constantinides, & Brünink, 2014; Pera & Viglia, 2015). If companies are unable or unwilling to provide those rewards, customers may be less satisfied and less inclined to participate in further co-creation behaviour. As a result, the firms' economic outcomes may be affected, as customers' satisfaction and purchase of a company's products and services are interrelated (Grönroos, 2011). Therefore, to maintain customers' motivation to participate in the co-creation process and encourage long-term relationships, this research suggests that companies need to meet both their customers' utilitarian and higher-level needs.

Recent studies have identified psychological benefits that accrue from value co-creation behaviour (Chen, Cottam, & Lin, 2020; Dekhili & Hallem, 2020; Dennis, Bourlakis, Alamanos, Papagiannidis, & Brakus, 2017), and most have focused on hedonic enjoyment, failing to provide a complete picture of well-being (Huta & Ryan, 2010). This study uses both hedonic and eudaimonic well-being, to reflect different aspects of well-being. Hedonia represents sensory enjoyment and subjective experiences, while eudaimonia has a delayed effect and focuses on psychological wellness. Moreover, to determine the way co-creation behaviours lead to well-being indirectly, two mediators are introduced: positive emotions, which are related closely to joy and pleasure, are used as the direct predictor of hedonic well-being; and empowerment, which involves competency and autonomy, is used with social connectedness as a direct antecedent of both hedonic and eudaimonic well-being, following self-determination theory (Ryan, Huta, & Deci, 2008).

The objectives of this study are to (1) test the relation between co-creation behaviours and two subsequent types of well-being, and (2) identify the way co-creation behaviours enhance

both hedonic and eudaimonic well-being through the intervention of positive emotions, empowerment, and social connectedness (see Figure 1).

The study is structured as follows: First, the relevant literature on value co-creation, well-being, and their relationship is reviewed. Then, the development of the conceptual model and its mediators—positive emotions, empowerment, and social connectedness—are presented. This is followed by a description of the methodology and data collection process. The research findings were used to test the hypotheses. Both theoretical and practical implications are provided according to the research findings. Finally, the paper discusses several limitations and offers suggestions for future research.

CHAPTER 2. LITERATURE REVIEW

2.1. Value co-creation

With consumers having an increasing role in the design, production (innovation), and consumption (participation) of products and services (Prahalad & Ramaswamy, 2000), value co-creation has attracted considerable attention from academics and practitioners over the past two decades. The concept of co-creation fundamentally changed the understanding of the role of customers by transforming customers from passive recipients or destroyers of value into active value co-creators (Agrawal & Rahman, 2015; Haro et al., 2014). Traditionally, value has been viewed as a trade-off between benefits and drawbacks in the exchange process (Zeithaml, 1988), where goods as operand resources are the basis of economic value (Prahalad & Ramaswamy, 2004; Vargo, 2008; Vargo & Lusch, 2004).

Another perspective of value is value-in-use, meaning that value is only created during use and determined only by users. Supported by Holbrook (2006), and Pine and Gilmore (1998, 1999), value-in-use posits that “No value exists without interaction between some subject (consumer) and some object (product)”. In other words, value resides only in a consumption experience rather than in a product or as a possession. Value co-creation is the foundational premise of service-dominant logic (S-D logic) proposed by Vargo and Lusch (2004), which maintains that value is always co-created by companies and customers (Vargo, 2008; Vargo & Lusch, 2004). In this sense, the role of a company is to provide and deliver value propositions to their customers while value realization is attributed to the customer’s participation, engagement, and experience in the process (Lusch, Vargo & Tanniru, 2010; Vargo & Lusch, 2004).

Ranjan and Read (2016) report still another conceptual dimension to value co-creation: co-production, which is often used as an interchangeable concept (Vargo & Lush, 2006). Co-

production occurs when customers participate in the process of design, production, and distribution as “partial employees” of an organization (Haro et al., 2014; Prahalad & Ramaswamy, 2000). Although the production process requires the involvement of both companies and customers, it is still managed by the service provider and regards customers as exogenous agents and resources of the firm. This, however, fails to reflect the nature of the relationship between customers and companies (Ranjan & Read, 2016). Gronroos (2012), on the other hand, conceptualizes value co-creation as “a joint collaborative activity by parties involved in direct interactions, aiming to contribute to the value that emerges for one or both parties.” In essence, value co-creation is an overarching process because it can take place at any point in the company-customer interaction (Prahalad & Ramaswamy, 2004). For example, in tourism, interactions may happen at any time (before, during, or after the journey) and anywhere (with tourism businesses, local inhabitants, and other tourists) (Prebensen, Vittersø & Dahl, 2013; Ramaswamy, 2009; Walls & Wang, 2011).

As mentioned early, research on value co-creation was rarely discussed in the early 2000s. Since 2008, however, interest has grown, especially in marketing and consumer research (Gummesson et al., 2014), and researchers now often explore customer co-creation practices and the antecedents and consequences of value co-creation (see Table 1). To conceptualize customer co-creation behaviours, Yi and Gong (2013) integrated S-D logic into consumer behaviour. Their study measured co-creation practices through customer participation and citizenship behaviours. The typology was extended from the management literature that distinguishes employees in-role behaviours (i.e., task performance) from extra-role behaviours (i.e., citizenship behaviour) (Nezakati, 2010). Service marketing researchers applied organizational citizenship behaviour to the customer domain, believing that customers are “partial employees” and human resources of

the organization (Bettencourt, Ostrom, Brown & Roundtree, 2002; Groth, 200; Yi & Gong, 2008; Yi, Nataraajan & Gong, 2011).

Table 1. Antecedents and Consequences of Co-creation Practices

Authors	Antecedents	Co-creation practices	Mediators	Consequences	Method
Dennis, Bourlakis, Alamanos, Papagiannidis & Brakus (2017)	Social exclusion and self-connection	Value co-creation behaviours	Hedonic experience utilitarian experience	Channel Contribution to Well-Being	quan.
Yen, Teng & Tzeng (2020)	Innovativeness and customer engagement				quan.
Hsieh, Chiu, Tang & Lin (2018)			Perceived service performance and perceived contribution in others' well-being	Well-being	quan.
Sharma, Conduit & Hill (2017)				Hedonic and eudaimonic well-being	qual.
Chen & Wang (2016)		Customer participation	Enjoyment value, economic value and relational value	Satisfaction and loyalty	quan.
Sweeney, Danaher & McColl-Kennedy (2015)			Satisfaction	Quality of life and behavioural intentions	quan.
Haro, Ruiz & Cañas (2014)				Satisfaction, Trust, and Consumer Loyalty	theoretical paper
Dekhili & Hallem (2020)		Degree of co-creation	Empowerment	Well-being and loyalty	quan.
Grissemann & Stokburger-Sauer (2012)	Company support to co-create			Satisfaction, loyalty and more expenditures	quan.
Buonincontri, Morvillo, Okumus & van Niekerk (2017)				Satisfaction, higher expenditure and happiness	quan.
Chen, Cottam & Lin (2020)	Economic benefits, socio-cultural benefits and perceived costs	Citizenship (customer to customer)		Resident subjective well-being	quan.

Customer participation behaviour is defined as “expected and required behaviours necessary for the successful production and/or delivery of the service” (Groth, 2005, p. 11): for example, being present in the service process, providing personal needs and positive interaction with employees (Bove, Pervan, Beatty & Shiu, 2009). In contrast, customer citizenship behaviours are voluntary, discretionary and, though beneficial to organizations, are not required for the completion of service delivery: for example, providing feedback to improve service quality, and making recommendations to and helping other customers (Groth, 2005). In this study, customer participation behaviours are mandatory to implement value co-creation while citizenship behaviours are freely given by the customer.

Although there has been considerable research on value co-creation, previous studies have focused on the managerial outcomes of value co-creation such as higher satisfaction, loyalty, expenditure and repurchase intention, which, in turn, benefit companies (Buonincontri, 2017; Grisseemann & Stokburger-Sauer, 2012; Sweeney et al., 2015). Fewer studies have considered the relational and psychological benefits to customers such as social contact, emotional pleasure and eudaimonic well-being (Chen & Wang, 2016; Dekhili & Hallem, 2020). This is surprising given that customers are not always utilitarian seekers who look for quality services only; many also look for higher-order social and psychological rewards that are independent of economic benefits from the service per se (Etgar, 2008; Pera & Viglia, 2015).

2.2. Well-being

As a trending topic, well-being has been studied extensively in psychology (Deci & Ryan, 2008; Ryff & Keyes, 1995; Seligman, 2000) because it is the essence of living, having both positive physical and mental benefits. Recently, psychologists and academics have advocated two types of well-being: hedonic and eudaimonic (Huta & Ryan, 2010; Lee & Carey, 2013;

Knobloch, Robertson & Aitken, 2017; Thorsteinsen & Vittersø, 2020). In the hedonic view, Aristippus (c. 435 - c. 356 BCE) said that happiness symbolized the maximization of pleasure and the minimization of pain, both referring to positive human affective experiences (Kraut, 1979; Tatarkiewicz, 1976). However, Aristotle (385 - 322 BCE) objected to the idea that “pleasure is the sole good” (Tatarkiewicz, 1976, p. 317), and called for the pursuit of virtue, the highest human good. This eudaimonic view pursues the realization of a person’s fullest potential (e.g., self-actualization) (Ackrill, 1973).

While hedonia and eudaimonia are competing ethical theories when answering questions concerning the nature of a good life in philosophy, both ideas have evolved into compatible operational concepts in modern psychological research. Hedonic well-being (HWB) is chiefly indexed to subjective well-being (SWB), initially suggested by Diener (1984), and incorporates positive and negative affect, together with life satisfaction. Nevertheless, some scholars argued that life satisfaction as a cognitive component of SWB cannot account for the hedonic concept, only the balance between positive and negative affects is usually considered (Deci & Ryan, 2008; Disabato, Goodman, Kashdan, Short & Jarden, 2016; Ryff & Keyes, 1995). However, unlike research on HWB, the elements and research methodologies of eudaimonic well-being (EWB) remain debatable (Disabato et al., 2016; Huta & Waterman, 2014): two of the most recognized approaches to studying EWB are Ryff’s (1989) scales of psychological well-being (PWB) and Waterman’s (1993; 2010) concept of EWB. Ryff (1989) conceptualized PWB into six specific aspects: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life, and self-acceptance, among which personal growth and purpose in life are the dimensions closest to Aristotle’s idea of eudaimonia – of self-actualizing and being a ‘true person’ (Ryff, 1989).

There is limited empirical support for combining hedonia and eudaimonia to understand well-being (Disabato et al., 2016). Most empirical studies focused asymmetrically on hedonic well-being, they did so because (1) hedonic enjoyment springs more easily from the fulfillment of wants, regardless of its source, whereas eudaimonia springs from limited sources such as self-expressive activities (Waterman, 2008); and (2) concepts and methodologies of eudaimonia are more debatable than those of hedonia because the empirical study of the former was over 20 years later than that of the latter (Disabato et al., 2016; Huta & Waterman, 2014). Nonetheless, studies on well-being should not be restricted to hedonia, which addresses instant gratification and subjective experiences while eudaimonia emphasizes positive functioning (Huta & Ryan, 2010). However, Deci and Ryan (2008) argued that immediately gratifying outcomes are more sensory and emotional, but do not necessarily entail happiness. Since hedonia and eudaimonia reflect well-being differently, considering the two perspectives can enlarge and enrich our understanding of well-being and what quality of life means (Huta & Ryan, 2010).

2.3. Hypothesis development

Although several studies have tested the relationship between value co-creation and well-being (Chen, Cottam & Lin, 2020; Dekhili & Hallem, 2020; Hsieh, Chiu, Tang & Lin, 2018), how the relationship works to contribute to both hedonic and eudaimonic well-being is unclear, especially in tourism where subjective well-being appears to be the principal way of conceptualizing the happiness of tourists. Indeed, few studies have considered their positive psychological states (Filep, 2014; Nawijn, 2016). Still, Roy, Balaji, Soutar and Jiang (2020) have shed light on subjective well-being outcomes from customer value co-creation behaviours in the hospitality setting and Gong, Choi & Murdy (2016) show that the general well-being of

customers can be affected by their value co-creation behaviours due to the intervention of customer value.

In contrast, Sharma et al. (2017) differentiated hedonic and eudaimonic well-being derived from value co-creation behaviours. In their qualitative study, the authors found that customers experienced the moment of happiness and pleasure through positive participation behaviours because they feel better and more comfortable once their cognitive needs are met and after acquiring the information they wanted. This finding is relevant before and during travel. A set of participation behaviours can reduce potential travel constraints, risk and uncertainty if tourists learn ahead of time and request that their needs be met at unfamiliar scenes and destinations (Etgar, 2008; Prebensen et al., 2013). Accordingly, this releases tourists from anxieties and worries; they are more likely to be relaxed and carefree, conditions associated with hedonia (Huta & Ryan, 2010). Furthermore, customer participation behaviour can prompt eudaimonic well-being (Sharma et al., 2017). For example, when customers with mental illness strive to understand instructions from counselors, improve their participation skills and follow a consensual care plan, they often feel confident about controlling their health care. This process offers a stage for them to self-express and increases their sense of competence to achieve their potential, which is closely associated with eudaimonic well-being (Ryan et al., 2008; Waterman, 1993, 2008).

Happiness also manifests in citizenship behaviours. Previous studies indicate that volunteerism and prosocial behaviours can lift moods and generate positive feelings. Even fleeting kindnesses can bring emotional well-being (Davila & Finkelstein, 2013; Pressman, Kraft & Cross, 2015; Stukas, Hoye, Nicholson, Brown & Aisbett, 2016). Indeed, Hsieh et al. (2018) found that well-being results from customer citizenship behaviour when customers are aware of

their contribution to the welfare of others. As customers make suggestions to improve a company's service and help other customers to solve problems, such behaviours can positively influence others, be valued by society, and provide a sense of purpose (Sharma et al., 2017).

Therefore, the following hypotheses were proposed:

H1a: Customer participation behaviours are positively associated with hedonic well-being.

H1b: Customer participation behaviours are positively associated with eudaimonic well-being.

H1c: Customer citizenship behaviours are positively associated with hedonic well-being.

H1d: Customer citizenship behaviours are positively associated with eudaimonic well-being.

2.3.1. Positive emotions

According to Fredrickson (2001), perceived positive emotions – a subset of broader affective phenomena – may occur either consciously or unconsciously and align with positive experiences and physiological changes. In light of the broaden-and-build theory, positive emotions can extend the scope of thought and attention to build a psychological resource, such as optimism and resilience. This, in turn, enhances emotional well-being (Fredrickson, 1998, 2001). This view aligns with work by Lyubomirsky, King & Diener (2005) who maintain that positive emotions can produce desirable outcomes, such as positive traits and successes, that are correlated with well-being. Diener, Sandvik and Pavot (2009) similarly found that happy participants reported positive moods and emotions most of the time, which supports the definition of happiness as “the frequent experience of positive emotions over time” (Lyubomirsky et al., 2005, p. 806). Thus, this study uses positive emotions as the antecedent for predicting hedonic well-being.

The literature indicates that positive emotions are accompanied by value co-creation behaviours (Chen & Wang, 2016; Pressman et al., 2015). Chen and Wang (2016) found that

airline passengers had a positive emotional experience when participating in required behaviours. Furthermore, Pressman et al. (2015) found that a positive effect arose from altruistic behaviour such as helping those in need. Therefore, this study hypothesizes as follows:

H2a: Participation behaviours have a significant positive effect on positive emotions.

H2b: Positive emotions have a significant positive effect on hedonic well-being.

2.3.2. Empowerment

Empowerment, originally defined as authority delegation, is an important guidance factor in human resource management. While many scholars offer various definitions of empowerment beyond authorization, most underline the ‘empowered’ role of subordinates (Joo, Woosnam, Strzelecka & Boley, 2020; Lee & Koh, 2001; Pinderhughes, 1995). This study adopts a conception by Lee and Koh (2001) that empowerment is the psychological state of individuals who can perceive four factors of meaningfulness, competence, self-determination and impact. As empowerment is a superior construct involving autonomy and competence – the prerequisites of eudaimonia – (Lee & Koh, 2001; Ryan et al., 2008), the present study uses it as the antecedent of eudaimonic well-being. Indeed, Dekhili and Hallem (2020) show that a sense of empowerment can affect subjective well-being, which is equivalent to hedonic well-being.

Previous studies have identified a relationship between value co-creation behaviours and empowerment (Bonsu & Darmody, 2008; Dekhili & Hallem, 2020; Sharma et al., 2017). Dekhili and Hallem (2020), for example, say that tourists felt more empowered when they combined experience and personal needs to arrange their trips. More broadly, customers exchanged information and followed prescribed behaviours to reach the desired performance, giving rise to a sense of competence and autonomy over the proffered service and possible outcomes. In health

care, customers who performed music to assist other customers with mental illness were more assertive with self-worth and their impact on others (Sharma et al., 2017). Therefore, empowerment in this study is hypothesized as follows:

H3a: Customer participation behaviours have significant positive effects on empowerment.

H3b: Customer citizenship behaviours have significant positive effects on empowerment.

H3c: Empowerment has a significant positive effect on hedonic well-being.

H3d: Empowerment has a significant positive effect on eudaimonic well-being.

2.3.3. Social connectedness

Social connectedness is the subjective awareness or sense of closeness we feel of our social environment or social world (Lee, Dean & Jung, 2008; Lee & Robbins, 1995). This is often used interchangeably with other concepts, such as a sense of belonging and relatedness, emerging in many studies as an antonym of loneliness and isolation (Hawkey, Browne & Cacioppo, 2005; McWhirter, 1990). Messias and colleagues (2005) suggest that a sense of involvement and connection with other community members increases self-identification and perceived contribution to society, which enhances eudaimonic well-being. This relationship manifests in self-determination theory: that the fulfillment of connectedness is a path to eudaimonic well-being (Ryan et al., 2008). Mogilner (2010) showed that individuals are happier when they are in relationships or more socialized and feel less happy when alone. This suggests that social connectedness is associated with sensory well-being and positive feelings (Brown, Hoyer & Nicholson, 2012).

Value co-creation occurring in social settings involves high customer interactions, either with service providers, residents, or other customers (Prahalad & Ramaswamy, 2004; Yi & Gong, 2013), and lead to closer relationships. Chen and Wang (2016) found that passengers

connected with service providers felt better after their participation, and Taheri, Coelho, Sousa & Evanschitzky (2017) discovered that hotel customers who are highly engaged in activities can build better relationships with their service providers. Apart from co-creation behaviours reducing feelings of isolation, volunteerism embedded in them fosters a sense of connectedness (Brown et al., 2012; Messias et al., 2005). As Messias et al. (2005) found, volunteering can bring a sense of connectedness to women because this prosocial behaviour expands social networks and provides a platform to be connected more often with others. Thus, the following hypotheses were proposed:

H4a: Customer participation behaviours have significant positive effects on social connectedness.

H4b: Customer citizenship behaviours have significant positive effects on social connectedness.

H4c: Social connectedness has a significant positive effect on hedonic well-being.

H4d: Social connectedness has a significant positive effect on eudaimonic well-being.

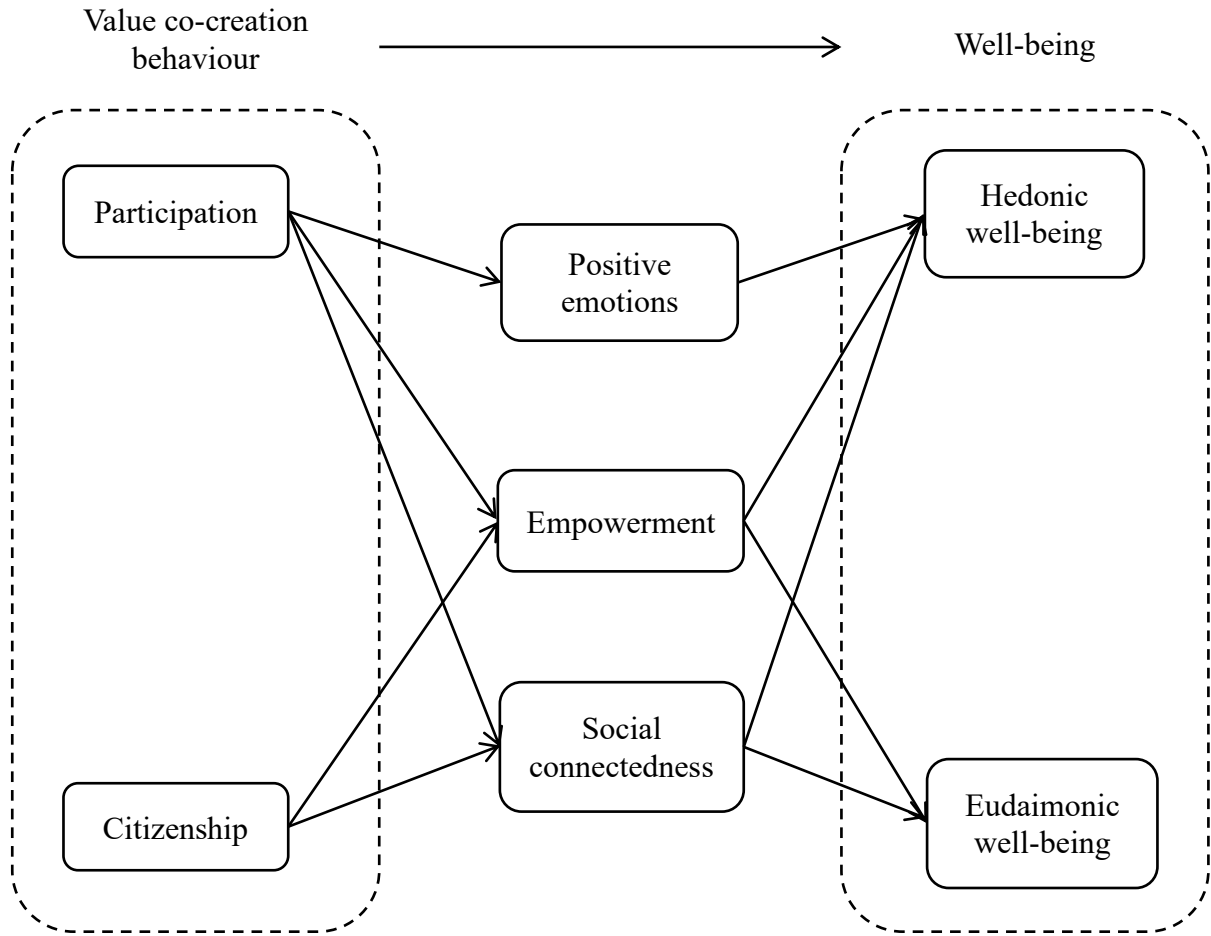


Figure 1. Proposed Model

CHAPTER 3. METHODOLOGY

3.1. Data Collection

The survey was conducted in Mainland China through snowball sampling and in North America through an online panel to collect the data. Prolific is a crowdsourcing Internet platform with over 150,000 active workers from around the world available at any given time (Difallah, Filatova & Ipeirotis, 2018). The questionnaire was created through the online survey tool (Qualtrics) and then the survey link was posted on the Prolific website as a task request. Potential participants were paid once their completed tasks were approved by the researcher. The quality of samples on Prolific was managed by researcher by limiting the task only to participants with high approval rating and rejecting participants who did not pass the attention check. All participants were provided a brief description of the research purpose before completing the survey. The exclusion criteria used to select participants were: (1) must be 18 years and older, (2) must be a permanent resident/citizen of Canada, United States or Mainland China, (3) must have taken at least one overnight travel domestically in the past twenty-four months; and (4) had taken part in co-creation behaviours before, during or after the latest travel experience. The survey was executed over a two-week period from March to April 2021. A total of 561 questionnaires were returned from Mainland China and North America, with 151 responses removed because participants failed to pass either the attention check or skipped a significant number of questions. There were 410 usable responses for data analysis.

3.2. Measurement Scales

Customer participation behaviours were measured by the 21 items adapted from Yi and Gong (2013). Three items adapted from Su, Huang, van der Veen & Chen (2014) were used to assess Positive emotions while Empowerment was measured by two items adapted from Patrick & Hagtvedt (2012) and Yuksel, Milne & Miller (2016). To capture tourists' sense of social connectedness, the wording of the eight items found in Social Connectedness Scale (Lee & Robbins, 1995) was modified into positive statements because negative-wording items could cause relatively more reliability and internal validity problems (Irions, 2018). To capture tourists' general well-being, eight items were used to measure hedonic well-being (Diener, Emmons, Larsen & Griffin, 1985; Su, Swanson & Chen, 2018) while seven items from the Flourishing scale were used to assess eudaimonic well-being (Ahn, Back & Boger, 2019; Diener, Ng, Harter & Arora, 2010). Descriptions and examples of each measurement construct were provided to participants and the beginning of each set of questions.

All constructs relied on a five-point Likert scale (1= “strongly disagree”; 5 = “strongly agree”) except for empowerment, which was measured by a seven-point Likert scale to yield better quality data. This questionnaire was developed in English and was then translated into Chinese. To ensure the quality and accuracy of the translation, the questionnaire was back translated from the target language (Chinese) back to the source language (English). Although the second English version was not exactly identical to the original English version, a back translation helped to recognize the ambiguities and confusion from the nuances of language (McGowan, 2014). For back-translators, bilingual speakers with a tourism and hospitality background were given priority. A pre-test with graduate students and faculty in tourism and hospitality program was carried out to ensure each question was clear and easily understandable. The measurement item of eudaimonic well-being “If I could live my time over, I would change

almost nothing” was removed and the item of information searching “I searched the travel magazines for information about transportation, accommodation and/or food options” was changed to “I searched the travel media posts information about transportation, accommodation and/or food options” after the pre-test.

3.3. Data Analysis

Descriptive statistics were estimated using IBM SPSS Statistics 27.0 to summarize the demographic information of respondents. In order to estimate the theoretical model, we employed the statistical software, SmartPLS 3.3.3 to run partial least squares structural equation modeling (PLS-SEM). The PLS-SEM was chosen as it is particularly suitable for exploratory research and complex structural models (Hair, Ringle & Sarstedt, 2011). As recommended by Hair, Ringle, and Sarstedt (2011), a two-step procedure was taken to test our hypotheses. The first step examined the measurement model by testing reliability and validity of constructs. The second step tested the structural model by testing hypothesized relationships between independent and dependent variables.

CHAPTER 4. RESULTS

4.1. Profile of the sample

Table 2 provides the socio-demographic profiles of study participants. Participation in this study was limited to adults (18 or older) from North America and Mainland China. North American and Chinese samples varied by age, gender, educational level and so on. Most North American participants (48.1%) fell between 25 and 34 years of age while over half of Chinese respondents (63.8%) were aged between 18 to 24. In terms of gender and education level, North America and Mainland China shared similar outcomes that there are more female participants than male, and that respondents with a university education represented approximately 50% of the sample. There was a large household income difference between participants from North American versus China. This is not surprising due to discriminative costs of living. More than two thirds of the respondents (68.5%) travelled after the first outbreak of Covid-19 and 31.5% of respondents travelled before the first outbreak of Covid-19 pandemic.

Table 2. The socio-demographic information of the respondents (N=410)

Characteristics		North American (%, N=208)	Chinese (%, N=202)	Total (%, N=410)
Gender	Female	51	64.9	57.8
	Male	47.6	30.7	42.2
	Not listed	1.4	4.5	2.9
Age	18-24	15.9	57.4	36.3
	25-34	48.1	24.8	36.6
	35-44	19.2	6.4	12.9
	45-54	9.6	7.9	8.8
	55+	7.2	3.5	5.4
Marital status	Married	45.2	27.7	36.6
	Never married	50	67.3	58.5
	Others	4.8	5	4.9
Education	Less than high school	1.4	4	2.7
	High school diploma	18.8	1	10
	2-year college/ Associate degree	13	13.9	13.4
	4-year college/ Bachelor's degree	44.7	57.9	51.2
	Graduate Degree or above	22.1	23.3	22.7
Annually household income	Below \$25,000	12		
	\$25,001 - \$50,000	23.1		
	\$50,001 - \$75,000	19.7		
	\$75,001 - \$100,000	23.6		
	\$100,001 - \$125,000	14.4		
	\$125,001 or more	7.2		
Monthly household income	Below \$1,000		21.3	
	\$1,001 - \$2,000		34.6	
	\$2,001 or more		44.1	
Date of last trip	Before the first outbreak of Covid-19	47	15	31.5
	After the first outbreak of Covid-19	53	85	68.5

Note: The dates for first outbreak of Covid-19 are different in China (Feb.2020) and in North America (March. 2020).

4.2. Measurement model

Before proceeding to test the structural model, the model fit was tested by Standardized Root Mean Square Residual (SRMR) and Normed Fit Index (NFI). The SRMR value was 0.042 (< 0.08) and NFI value was 0.869, which was a little below the criteria of 0.9 (Bentler,1990). Based on the indices, the sample had an acceptable fit to the 9-factor model.

The primary evaluation criteria for the measurement model included reliability, convergent, and discriminant validity (Hair et al., 2011). To assess the measures' reliability, the construct's composite reliability (CR) must be higher than 0.7 and all measurement items should load at their constructs with a value higher than 0.7 (Hair et al., 2011). The Cronbach's alpha was also used to examine the internal consistency of the constructs (Cronbach, 1951). Information searching, responsible behaviour and feedback were removed during the reliability analysis due to low standardized factor loadings (<0.60). As shown in Table 2, the results of the relevant tests indicated acceptable reliability of the constructs.

Table 3. The reliability and convergent validity of the measurement model

Construct measure	Factor Loading	C.R.	AVE	Cronbach's alpha
Information sharing (IS)		0.732	0.578	0.730
I clearly explained to the service providers what I wanted to do at the hotel, restaurant and/or airport (or e.g., train station, car rental center).	0.805			
I provided the information about my service needs so that I could get personalized service.	0.713			
Personal interaction (PI)		0.879	0.785	0.877
I was friendly to the service providers.	0.931			
I was polite to the service providers.	0.839			
Advocacy		0.792	0.560	0.795
I provided positive feedback about the service provider(s) to others when asked.	0.808			
I recommended the service provider(s) to others.	0.705			
I encouraged friends and relatives to use services of travel companies.	0.727			
Helping		0.901	0.751	0.900
I assisted other tourists if they need my help.	0.869			
I helped other tourists if they appeared to be struggling.	0.870			
I taught other tourists to use the service correctly when asked.	0.860			
Emotion		0.909	0.770	0.908

Happy	0.818			
Joyful	0.905			
Delighted	0.907			
Empowerment		0.736	0.584	0.728
Empowered	0.838			
In control	0.684			
Social connectedness (SC)		0.896	0.590	0.896
I felt connected with the world around me.	0.727			
I felt understood by the people I know.	0.762			
I felt close to people.	0.771			
I had a sense of togetherness with my peers.	0.786			
I found myself having a sense of connectedness with society.	0.810			
I found myself actively involved in people's lives.	0.749			
Hedonic well-being (HWB)		0.910	0.627	0.910
In general, I consider myself a very happy person.	0.836			
Compared to most of my peers, I consider myself happier.	0.825			
I am generally very happy and enjoy life.	0.813			
In most ways, my life is close to my ideal.	0.776			
The conditions of my life are excellent.	0.769			
I am satisfied with my life.	0.730			
Eudaimonic well-being (EWB)		0.833	0.556	0.833
My social relationships are supportive and rewarding.	0.740			
I actively contribute to the happiness and well-being of others.	0.768			
I am a good person and live a good life.	0.711			
People respect me.	0.762			

Note: C.R.=composite reliability, AVE=Averaged Variance Extracted

Table 4. Discriminant validity of constructs

	AVE	EWB	HWB	IS	PI	SC	Advocacy	PE	Empower	Helping
EWB	0.556	0.745								
HWB	0.627	0.886	0.792							
IS	0.578	0.248	0.233	0.761						
PI	0.785	0.320	0.201	0.244	0.886					
SC	0.590	0.670	0.615	0.426	0.252	0.768				
Advocacy	0.560	0.453	0.397	0.544	0.312	0.502	0.748			
PE	0.770	0.486	0.420	0.485	0.365	0.508	0.539	0.878		
Empower	0.584	0.496	0.433	0.487	0.275	0.692	0.521	0.603	0.764	
Helping	0.751	0.376	0.392	0.324	0.149	0.443	0.560	0.365	0.384	0.867

Note: IS = Information sharing, PI = Personal interaction, SC = Social connectedness, HWB = Hedonic well-being, EWB = Eudaimonic well-being; PE = Positive emotions

To establish convergent validity of the constructs, Averaged Variance Extracted (AVE) was computed. The lowest value AVE value is 0.560 for Advocacy, which is above the recommended level of 0.50 (Hair et al., 2011). Thus, convergent validity of the measures was

confirmed. Discriminant validity was examined by traditional assessment methods: cross-loadings and Fornell–Larcker criterion (Hair Jr, Hult, Ringle & Sarstedt, 2016). In cross-loadings, each indicator's loading on its assigned construct exceeded all of its cross-loadings with other constructs, verifying discriminant validity of constructs. In Fornell and Larcker testing (Fornell & Larcker, 1981), the square roots of the AVE values for each construct should be higher than its highest correlation with any other construct. While the square roots of the AVE value for HWB and EWB are less than the absolute value of correlation (0.886) with each other, the remaining constructs indicated a satisfactory degree of discriminant validity (see Table 3). Overall, the discriminant validity of the model was found to be appropriate.

4.3. Structural model

As Hair et al. (2011) suggested that R-square and the path coefficients' significance should be employed to assess the structural model. Figure 1 shows that the R-squared values for positive emotion (R-square= .30), empowerment (R-squared= .35), social connectedness (R-squared= .33), hedonic well-being (R-squared= .42) and eudaimonic well-being (R-squared= .50) were greater than 0.30. Therefore, the model's explanatory power is considered adequate (Hair et al., 2011).

The results for the path analysis indicated that most proposed paths were supported. Personal interaction was found to have a positive influence on eudaimonic well-being ($\beta = .15$, $SD = .06$, $p < 0.05$) but not on hedonic well-being, and citizenship behaviours are not significantly related to well-being, which partially supported hypotheses 1. Positive emotion was significantly predicted by information sharing ($\beta = .42$, $SD = .07$, $p < 0.001$) and personal interaction ($\beta = .26$, $SD = .06$, $p < 0.001$), indicating hypotheses 2a and 2b were supported.

Information sharing and advocacy were significantly related to Empowerment ($\beta = .28$, $SD = .09$, $p = 0.001$; $\beta = .27$, $SD = .10$, $p < 0.05$), thus hypothesis 3a and 3b can be partially supported. However, empowerment is neither significantly related to hedonic nor eudaimonic well-being, rejecting hypothesis 3c and 3d. Therefore, hypotheses three were partially supported. As expected, social connectedness was caused by information sharing ($\beta = .20$, $SD = .07$, $p < 0.01$), advocacy ($\beta = .23$, $SD = .09$, $p < 0.05$) and helping ($\beta = .23$, $SD = .06$, $p < 0.001$), thus hypotheses 4a was partially supported and 4b was fully supported. Meanwhile, social connectedness greatly led to hedonic well-being ($\beta = .54$, $SD = .09$, $p < 0.001$) and eudaimonic well-being ($\beta = .58$, $SD = .09$, $p < 0.001$), supporting hypotheses 4c and 4d. Thus, hypotheses four were partially confirmed.

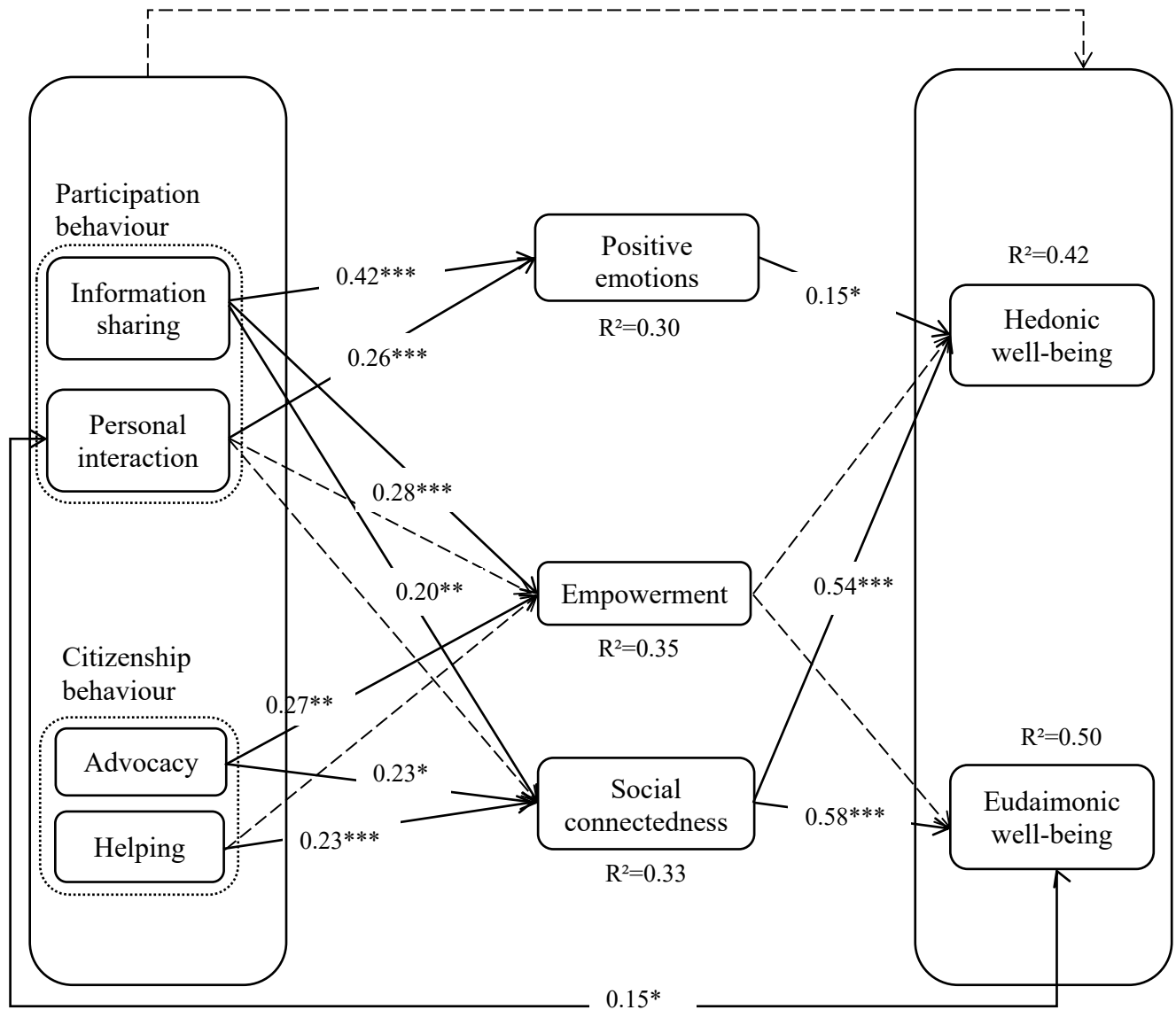


Figure 2. Structural Equation Modeling

4.4. Mediation analysis

To further explain the relationship between value co-creation behaviour and well-being, the mediation effects were examined. The study performed a bootstrapping procedure with 5000 samples and 95% confidence intervals via SmartPLS to examine mediation effects.

As shown in the Figure 1, Empowerment did not predict either hedonic well-being or eudaimonic well-being. Therefore, empowerment failed to meet the preconditions for mediation (Zhao, Lynch & Chen, 2010).

As shown in the Table 4, there were mediating effects of emotion and social connectedness. Furthermore, the direct effects between (1) information sharing and well-being, (2) advocacy and well-being, (3) helping and well-being, (4) personal interaction and hedonic well-being were insignificant, reflecting Indirect-only mediation (also known as full mediation by Baron and Kenny (1986) (Zhao et al., 2010).

Table 5. Mediation analysis

Hypotheses	Direct Effect	Indirect Effect	Result
IS→Emotion→HWB	-0.126	0.06*	Indirect-only mediation (Full mediation)
PI→Emotion→HWB	0.016	0.04*	Indirect-only mediation (Full mediation)
IS→SC→HWB	-0.104	0.11*	Indirect-only mediation (Full mediation)
IS→SC→EWB	-0.145	0.12*	Indirect-only mediation (Full mediation)
Advocacy→SC→HWB	0.099	0.13*	Indirect-only mediation (Full mediation)
Advocacy→SC→EWB	0.162	0.14*	Indirect-only mediation (Full mediation)
Helping→SC→HWB	0.118	0.13**	Indirect-only mediation (Full mediation)
Helping→SC→EWB	0.044	0.14**	Indirect-only mediation (Full mediation)

Note: IS = Information sharing, PI = Personal interaction, SC = Social connectedness, HWB = Hedonic well-being, EWB = Eudaimonic well-being; ** statistically significant at $p < 0.01$, * statistically significant at $p < 0.05$.

CHAPTER 5. DISCUSSION

This study developed and tested a conceptual model of the relationships between co-creation behaviours and well-being. The study findings indicated a satisfactory measurement model and proposed relationships in the model were partially supported. Only personal interaction had a direct effect on eudemonic well-being while the co-creation behaviour variables of information sharing, advocacy and helping had no relation with both eudemonic and hedonic well-being. However, co-creation behaviours indirectly transmitted effects on well-being through positive emotion and social connectedness.

Positive Emotions. The finding that tourists expressed happiness and enjoyment when they engaged actively with their travel service provider, specifically shared their needs in a friendly, interactive manner, is supported by previous research (Chen & Wang, 2016). Etgar (2008) and Prebensen (2013), suggested that this tourist response could be associated with a perceived lower travel risk and uncertainty by communicating their expected service requirements to the hotel/restaurant staff in advance when travelling or experiencing unfamiliar environments and destinations. Therefore, customer participation behaviour may relieve tourists' anxieties when traveling to new locations and increase their enjoyment. Moreover, positive emotions were found to be associated significantly with hedonic well-being, which was consistent with the findings in Diener et al.'s study (2009). Participants in their study who reported that they had a happy life experienced positive moods and emotions frequently that persisted over time. This study confirmed positive emotions' important mediating role between participation behaviour and hedonic well-being. Thus, tourists who experienced pleasure attributable to their involvement with the staff during the service process reported a higher level of hedonic well-being.

Social connectedness. Both participation behaviour and citizenship behaviour played a significant role on social connectedness, consistent with previous research (Brown et al., 2012; Messias et al., 2005; Taheri, Coelho, Sousa & Evanschitzky, 2017). It is worth noting that the tourists felt connected with service providers not just because of the personal interaction but through additionally explaining what they expected from the service. One hypothesis for this social connectedness results may be that tourists felt heard and understood by being asked to articulate their specific travel needs (Reis, Lemay & Finkenauer, 2017). It is also possible that by working collectively with service providers towards achieving a shared goal of personalized service, and eventually delivering against this goal, that trust was established between the tourist and service provider (Sutcliffe & Wang, 2012). Politeness and courteous interactions in this study, did not influence social connectedness. This finding echoes the results of other studies, which may suggest that politeness serves to signify and create social distance rather than social connectiveness (Stephan, Liberman & Trope, 2010). Although polite interaction can make participants feel respected, it does not necessarily establish intimacy between tourists and service providers and in many cases, its formality may present people as emotionally distant and or detached. As expected, customer citizenship behaviours are significantly related to social connectedness. Research has shown that tourists are likely to grow their social networks and feel less isolated when performing voluntary and pro-social behaviours (Messias et al., 2005). Additionally, Mogilner (2010) and Ryan et al. (2008), both found that social connectedness strongly predicts both hedonic and eudaimonic well-being. That is, tourists would be happier if they socialized more and this socialization with other tourists and service providers could lead also to a more meaningful life. Based on the above findings, it is concluded that social connectedness has a full mediation effect on the relationship between co-creation behaviours and

well-being. Results from this study suggest that effective collaboration with tourism practitioners could create interactions that are both supportive and rewarding enhancing tourists' social relationships which in turn could increase tourists' well-being.

Empowerment. The study findings showed that tourists felt more empowered after sharing their travel needs and recommending good services they experienced, which were congruent with earlier studies (Bonsu & Darmody, 2008; Dekhili & Hallem, 2020; Sharma et al., 2017). Contrary to hypothesis, engaging in courteous interactions and helping others while travelling did not lead to feelings of empowerment. This may be because psychological empowerment includes four different cognitions of meaningfulness, competence, self-determination and impact and the feeling of empowerment would decrease for an individual if any of the four dimensions were not present while doing the task (Cho & Faerman, 2010; Lee & Koh, 2001). For example, competence, defined as an individual's belief in his/her capability to skillfully perform tasks, is predicted by perceived challenges and difficulties to perform the task. (Bandura, 2001; Gist, 1987). Competence in a task may not be achieved if tourists did not expend much effort in simple polite interactions or small acts of kindness while travelling (e.g., pointing a finger for directions for other tourists) (Ford & Dickson, 2012). Thus, this may be the case that polite interaction and helping did not affect empowerment. Another notable finding was that empowerment had no significant influence over either hedonic or eudaimonic well-being, which was found to predict well-being in other studies (Dekhili & Hallem, 2020; Ryan et al., 2008). The non-significant relations may be because that the study sample was skewed toward young adults and they perceived lower feeling of empowerment relative to middle-aged adults and older adults (Ryff, 1989). Another possible explanation may have been the impact of the Covid-19 pandemic. Tourists who traveled after the outbreak of Covid-19 may feel less empowered than

those who had travelled before. To conclude, there is no mediation effect via empowerment as the empowerment variable had no direct effect on well-being.

Overall, the findings partially supported the proposed model and empowerment did not significantly influence well-being.

CHAPTER 6. IMPLICATIONS

6.1. Theoretical Implications

Three major theoretical implications can be drawn from our study. First, the study contributes to the value co-creation literature by proposing and testing a model of the effect of value co-creation behaviours on well-being. Even though recent studies have identified psychological outcomes from value co-creation such as well-being (Chen et al., 2020), few studies have examined the direct causal relations between co-creation behaviours and well-being. This exploratory study is the first attempt to examine the mediation effect of positive emotions and social connectedness between co-creation behaviours and well-being. Prior to this study, the relation between social connectedness and co-creation (Messias et al., 2005; Taheri et al., 2017) and between social connectedness and well-being (Mogilner, 2010; Ryan et al., 2008) had been studied separately. Contrary to expectations, this study suggests that co-creation behaviours may not impact consumer well-being without the intervention of positive emotions and social connectedness. Therefore, this research highlights the important mediating roles of positive emotions and social connectedness in the relationships between co-creation behaviours and well-being.

The second theoretical contribution advances the understanding of well-being as a multidimensional phenomenon. Unlike previous studies that solely embraced hedonic or subjective well-being as an outcome variable (Chen et al., 2020; Dennis et al., 2017; Pera & Viglia, 2015), this study integrated both hedonic and eudaimonic perspectives to measure customers' happiness. This integration echoes previous research by Tomer (2011) who demonstrated that greater well-being is obtained by pursuing both hedonia and eudaimonia rather than either one alone. In addition, only one previous study using qualitative methods had

explored two dimensions of well-being from value co-creation in the health care setting (Sharma et al., 2017). Therefore, this study fills a gap in knowledge by providing empirical evidence of the relationship between value co-creation and two types of well-beings in a broader consumer setting.

Lastly, this study responds to recent calls for more transformative service research, which is a new research paradigm aiming to improving consumer well-being (Rosenbaum et al., 2011). Previous researchers focused heavily on managerially relevant outcomes of value co-creation, such as satisfaction, loyalty and repurchase intentions but many ignored customers' welfare (Chen & Wang, 2016; Grisseemann & Stokburger-Sauer, 2012; Haro, Ruiz & Cañas, 2014). Transformative service research advocates borrowing theories from other disciplines, such as consumer research and public health fields, to understand how service providers can enhance consumer mental health and well-being (Rosenbaum, 2015). By demonstrating the psychological benefits of co-creation behaviours beyond the economic benefits, the study enriches transformative service research from the perspective of consumer behaviours.

6.2. Practical implications

The study findings have several practical implications for practitioners. Given the positive relationships between co-creation behaviours and customers' well-being, tourism and hospitality service providers should encourage customers to actively engage in value co-creation and create more channels for them to interact with service providers and other customers. For example, a live chat tool can be set at the bottom on travel websites or on the "Contact Us" page. Potential customers may become overwhelmed by too much online information and may find it difficult to obtain the particular information that they are looking for. Live chat may allow customers to immediately initiate a conversation with a service agent, which can largely increase customer

engagement (Cornell, 2021). Cleveland (2015) found that more than half of consumers prefer live chat over phone support, and live chat has become a favorite communication channel among consumers (MacDonald, 2021). In order to facilitate value co-creation among customers, online communities can be created by travel service businesses as well. Using Facebook groups as an example, customers can freely share their experience and interact with other customers by means of the embedded Q&A and recommendation functions.

As suggested by this study findings, co-creation behaviours will only have meaning when they elicit customers' positive emotions and a sense of social connectedness. Therefore, service providers should keep an eye on customers' emotions and make an effort to create a feeling of closeness with customers in their communications. Referring to the live chat example again, service agents' name and photos could be displayed on the chat box, providing a conversational chatting style. The use of profile photos has been demonstrated to increase interpersonal connection and trust between customers and service agents (Teubner, Adam, Camacho & Hassanein, 2014).

Finally, the study highlights the psychological rewards of value co-creation rather than its economic rewards. The service industry tends to focus on their own commercial intents and have been criticized for ignoring or even hurting consumer well-being (Rosenbaum, 2015). Tourism and hospitality operators should weigh consumer well-being on the same level as managerial goals like customer loyalty and repurchase intention when adopting value co-creation as a marketing strategy. Operators should also build employees' awareness of consumer well-being. By doing so, travel businesses and destination marketing organizations could benefit financially because customers are more likely to show high affective bond and loyalty to service organizations that care about their well-being (Vada, Prentice & Hsiao, 2019).

CHAPTER 7. LIMITATIONS AND FUTURE STUDIES

Despite some important findings, this study has several limitations.

The generalizability of the study results may be limited as the data was strongly skewed towards young people. Respondents who were under the age of 35 occupied around 73 percent of the total sample, which might lead to age bias. Ryff (1989) found that young adults rated themselves much lower on autonomy (synonym of empowerment) than did middle-aged adults and older adults. Life span developmental theories also claimed that autonomy is less easily achieved by young people. Therefore, data with a wider age range would be valuable in examining the variations in psychological factors.

Additionally, the study focused on the customers' point of view while value co-creation needs collaborative effort between customers and service providers. Co-creation behaviours may not transfer positive psychological outcomes without the support from employees. For example, if hotel employees showed an indifferent attitude towards customers when asking for their special service needs, customer may not feel pleasant. Future studies may take employee-related factors into consideration to further explore the psychological effects of value co-creation.

There was a discriminant validity issue between hedonic well-being and eudaimonic well-being as the correlation is lower than the square roots of the AVE value, which reflects one major controversy in extant literature that hedonia and eudaimonia may be the same well-being construct (Disabato et al., 2016). However, most scholars believe that hedonia and eudaimia are two different dimensions of well-being (Thorsteinsen & Vittersø, 2020). Therefore, future studies need to be clear about the relations between these two concepts from both philosophic and psychological perspectives.

The study used a relatively heterogeneous sample with general tourists, which may influence the findings of the proposed model because: (1) Individuals' well-being is also greatly influenced by employment, health conditions, and so on (Mousteri, Daly & Delaney, 2018); (2) the effects of value co-creation may be more prominent on vulnerable population as their needs have been disproportionately ignored by service providers (Navarro et al., 2014). While vulnerable population such as people with disabilities encounter many more barriers and challenges relative to other travelers, very few value co-creation studies have touched on them (McKercher & Darcy, 2018; Navarro, Andreu & Cervera, 2014). Therefore, future studies can test the proposed model on tourists with disabilities and compare the effects of co-creation behaviours between different groups.

There was a difference between Chinese and North American respondents in the feeling of empowerment and hedonic well-being which may affect the study's findings. Future studies should consider cultural differences when testing the proposed model between participants from two different cultural settings. Furthermore, there were differences in empowerment and well-being for marital status (married and never married) which may also affect the understanding of the relations in the proposed model.

The inconsistent use of two non-probability sampling methods, convenience sampling for North America and snowball sampling for China, may cause possible bias. In order to reduce the possible biases, bootstrapping method was utilized to resample from the original dataset.

Lastly, the data was collected during novel Covid-19 pandemic which may affect data quality because: (1) Nearly half of North American respondents replied that the last time they had travelled was from before the imposed travel restrictions which was slightly over one year from when the survey had occurred. As such, the memory of their trip may not be remembered

as clearly which may influence the study results; (2) For tourists that travelled after the travel restrictions, many of the pre-pandemic entertainment activities were unavailable, which may have affected their feelings of empowerment. The cancellations of live performance events or the restrictions imposed on dine-in restaurants may cause tourists to have feelings of helplessness as they have no control over the disruptions to their leisure trips.

CHAPTER 8. CONCLUSION

This study proposed and examined a model of the effect of value co-creation behaviours on hedonic and eudaimonic well-beings. In attempt to gain an in-depth understanding of the relations between co-creation behaviours and well-being, multiple mediators (Positive emotions, Empowerment and Social connectedness) were tested. The data was collected from North American tourists and Chinese tourists who had travelled domestically in the past 24 months.

The research findings indicate that among the four co-creation behaviours, only personal interaction is a significant predictor of eudaimonic well-being. Nonetheless, the multiple mediation analysis offers further explanation for the relations between co-creation behaviours and well-being. Positive emotions were found to fully mediate the relations between participation behaviours (information sharing and personal interaction) and hedonic well-being. Social connectedness was found to fully mediate the relations between participation behaviour (information sharing) and citizenship behaviours (advocacy and helping) and two types of well-beings. However, even though empowerment was predicted by participation behaviour (information sharing) and citizenship behaviour (advocacy), it was found to have no impact on either hedonic or eudaimonic well-being. Therefore, empowerment had no mediation effect between co-creation behaviours and well-being.

The theoretical implications of this study include identifying important roles of positive emotions and social connectedness in understanding the relationship between co-creation behaviours and well-being; capturing a comprehensive overview of well-being from hedonic and eudaimonic perspectives; contributing to transformative service research and calling for more studies focusing on consumer well-being. Tourism and hospitality industry operators should take actions to provide more channels for customers to participate in value co-creation. In the

meantime, marketer should consider customers' well-being beyond merely managerial goals when initiating a marketing strategy.

Future studies should try to adopt employee-related factors as a moderating variable to further explore the relationship between value co-creation behaviours and consumer well-being and to compare the psychological effects of value co-creation between people with disabilities and without disabilities.

Overall, the study primarily examined the direct and indirect effect of value co-creation on hedonic and eudaimonic well-being. It is meaningful to test well-being as a final variable as the pursuit of greatest well-being is our end goal.

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APPENDICES

Appendix 1. Measurement items

Table 6. Measurement items

Participation behaviour	Information sharing	<ol style="list-style-type: none"> 1. I clearly explained to the service providers what I wanted to do at the hotel, restaurant and/or airport (or e.g., train station, car rental center). 2. I provided the information about my service needs so that I could get personalized service.
	Personal interaction	<ol style="list-style-type: none"> 1. I was friendly to the service providers. 2. I was polite to the service providers.
Citizenship behaviour	Advocacy	<ol style="list-style-type: none"> 1. I provided positive feedback about the service provider(s) to others when asked. 2. I recommended the service provider(s) to others. 3. I encouraged friends and relatives to use services of the service provider(s).
	Helping	<ol style="list-style-type: none"> 1. I assisted other tourists if they need my help. 2. I helped other tourists if they appeared to be struggling. 3. I taught other tourists to use the service correctly when asked.

Positive emotions	<ol style="list-style-type: none"> 1. Happy 2. Joyful 3. Delighted
Empowerment	<ol style="list-style-type: none"> 1. Empowered 2. In control
Social connectedness	<ol style="list-style-type: none"> 1. I felt connected with the world around me. 2. I felt understood by the people I know. 3. I felt close to people. 4. I had a sense of togetherness with my peers. 5. I found myself having a sense of connectedness with society. 6. I found myself actively involved in people's lives.
Hedonic well-being	<ol style="list-style-type: none"> 1. In general, I consider myself a very happy person. 2. Compared to most of my peers, I consider myself happier. 3. I am generally very happy and enjoy life. 4. In most ways, my life is close to my ideal. 5. The conditions of my life are excellent. 6. I am satisfied with my life.
Eudaimonic well-being	<ol style="list-style-type: none"> 1. My social relationships are supportive and rewarding. 2. I actively contribute to the happiness and well-being of others. 3. I am a good person and live a good life. 4. People respect me.

Appendix 2. Questionnaire

Screening questions

1. Are you 18 years or over?

1. Yes
2. No (stop the survey)

2. Are you a permanent resident/citizen of Canada or North America / Mainland China?

1. Yes
2. No (stop the survey)

3. Did you take at least one overnight travel domestically in the past twenty-four months?

1. Yes
2. No (stop the survey)

4. Did you interact with travel service providers and other tourists in your latest travel through the following ways? (a/b/ab/c)

a. Gathered information for your trip and/or Shared your needs and/or Followed the guidelines set by the service providers

b. Provided feedback the service provider(s) and/or Helped other tourists and/or Said some positive comments about the service(s) to others

1. Only a
2. Only b
3. Both and b
4. Neither a nor b (stop the survey)

Section I: Involvement and Engagement

DESCRIPTION: Please recall the services received during your latest travel experience. This section is assessing your level of involvement and engagement with the service providers and other tourists when planning the trip and during the trip. More descriptions about the statements are given as follows.

Travel service providers' refer to public transportation (i.e. airlines, train stations), private transportation (i.e. car rental), hotels, restaurants, store front travel agencies, online travel agencies (i.e. Expedia in Canada, Ctrip in Mainland China, Yanolja in South Korea).

The travel service(s) refers to travel transportation, accommodation, food and tour arrangement.

Directions: Please click one response according to the level of agreement with the statement. (1 = strongly disagree, 2 =disagree, 3 =neutral, 4=agree, 5 = strongly agree)

Your involvement and engagement actions before and during the travel	Strongly Disagree		Neutral		Strongly Agree
Information gathering (The following 6 statements pertain to the information gathering actions taken when planning your trip and/or staying in a destination.)					
1. I requested information from the travel service providers about transportation, accommodation and/or food options.	1	2	3	4	5
2. I requested information from my friends and family about transportation, accommodation and/or food options.	1	2	3	4	5
3. I searched the destination websites for information about transportation, accommodation and/or food options.	1	2	3	4	5
4. I searched online travel agencies for information about transportation, accommodation and/or food options.	1	2	3	4	5
5. I searched the travel magazines for information about transportation, accommodation and/or food options.	1	2	3	4	5
6. I observed the behaviour of other tourists when traveling to inform me how to correctly use the available service(s) (i.e., transportation, accommodation or food).	1	2	3	4	5
Information sharing (The following statements, 7-9, are to determine whether you shared your particular travel needs to the service providers.)					
7. I clearly explained to the service providers what I wanted to do at the hotel, restaurant and/or airport (or e.g. train station, car rental center).	1	2	3	4	5
8. I answered all the questions service providers asked me so they could meet my service expectations.	1	2	3	4	5
9. I provided the information about my service needs so that I could get personalized service.	1	2	3	4	5
Responsible behaviour (The following statements, 10 & 11, are to assess your sense of duty and responsibility before and during your travel experience, e.g. cannot take photos in museum.)					
10. I followed the guidelines set by the service providers. (e.g., When instructed to wear a sit belt, I did; If a tip is required in the country, I left a tip).	1	2	3	4	5
11. I was a responsible guest as I complied to the rules and regulations set by the service providers.	1	2	3	4	5

Personal interaction (The following statements, 12-14, are to assess both your remote and/or face-to-face interactions with the service providers.)	Strongly Disagree		Neutral		Strongly Agree
12. I was friendly to the service providers.	1	2	3	4	5
13. I was polite to the service providers.	1	2	3	4	5
14. I didn't act rudely to the service providers.	1	2	3	4	5

Section II

DESCRIPTION: This section assesses how you felt emotionally while performing the actions described in section I (i.e., your involvement and engagement with the service providers).

Directions: Please click one response according to the level of agreement with the statement. (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree).

I felt _____ with my involvement and engagement actions described by the statements in section I.	Strongly Disagree		Neutral		Strongly Agree
1. Happy	1	2	3	4	5
2. Joyful	1	2	3	4	5
3. Delighted	1	2	3	4	5

Section III: Support and Helping Others

DESCRIPTION: This section assesses your level of support and help given to the service providers and other tourist during and after the trip.

Directions: Please click one response according to the level of agreement with the statement. (1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, 5 = strongly agree)

Your support and helping interactions during and after the travel	Strongly Disagree		Neutral		Strongly Agree
Feedback (The following statements, 15-17 assess the feedback provided to the service provider(s) during and after your travel experience.)					
15. If I had a useful idea on how to improve service, I let the service providers know.	1	2	3	4	5
16. When I received good service from the service providers, I commented about it.	1	2	3	4	5
17. When I experienced a problem, I let the service providers know about it.	1	2	3	4	5
Advocacy (The following statements, 18-20, assess your level of support or recommendation of the service provider.)					

18. I provided positive feedback about the service provider(s) to others when asked.	1	2	3	4	5
19. I recommended the service provider(s) to others.	1	2	3	4	5
20. I encouraged friends and relatives to use services of the service provider(s).	1	2	3	4	5
Helping (The following statements, 21-23, assess your level of assistance and help to others during and after your travel experience.)					
21. I assisted other tourists if they need my help.	1	2	3	4	5
22. I helped other tourists if they appeared to be struggling.	1	2	3	4	5
23. I taught other tourists to use the service correctly when asked.	1	2	3	4	5

Section IV:

DESCRIPTION: This section assesses your sense of empowerment after your:

- 1. involvement and engagement actions taken with the service providers as defined by the statements in Section I.**
- 2. supporting and helping actions taken as defined by the statements from section III.**

Empowerment in this case, refers to the degree of autonomy and confidence you felt before, during or after traveling. (e.g., I am confident about my ability to arrange the trip; I have a great deal of control over what happens during my trip, etc.).

Directions: Please click one response according to the level of agreement with the statement. (1 = strongly disagree, 4 =neutral, 7 = strongly agree).

After the actions taken with service providers and/or other tourists, as described by the statements in section 1 & 3, I felt_____.	Strongly Disagree			Neutral			Strongly Agree
1. Empowered	1	2	3	4	5	6	7
2. In control	1	2	3	4	5	6	7

Section V: Social connectedness

DESCRIPTION: This section assesses your sense of social connectedness after your:

1. involvement and engagement actions taken with the service providers as defined by the statements in Section I

2. supporting and helping actions taken as defined by the statements from section III.

Social connectedness in this case, refers to the degree of closeness between the self and other people, the community, and society at large.

Directions: Please click one response according to the level of agreement with the statement. (1 = strongly disagree, 2 =disagree, 3 =neutral, 4=agree, 5 = strongly agree).

After the actions taken with service providers and/or other tourists, as described by the statements in section 1 & 3, I felt_____.	Strongly Disagree		Neutral		Strongly Agree
1. I felt connected with the world around me.	1	2	3	4	5
2. I felt understood by the people I know.	1	2	3	4	5
3. I felt close to people.	1	2	3	4	5
4. I had a sense of togetherness with my peers.	1	2	3	4	5
5. I felt related to other people.	1	2	3	4	5
6. I found myself having a sense of connectedness with society.	1	2	3	4	5
7. My friends felt like family.	1	2	3	4	5
8. I found myself actively involved in people's lives.	1	2	3	4	5

Note: The the statements about your last travel have been finished. The next section is about your general state.

Section VI.

DESCRIPTION: This section is assessing your current well-being and state of being comfortable, happy and satisfied.

Directions: Please mark one response according to the level of agreement with the statement. (1 = strongly disagree, 2 =disagree, 3 =neutral, 4=agree, 5 = strongly agree).

	Strongly Disagree		Neutral		Strongly Agree
1. In general, I consider myself a very happy person.	1	2	3	4	5
2. Compared to most of my peers, I consider myself happier.	1	2	3	4	5
3. I am generally very happy and enjoy life.	1	2	3	4	5
4. In most ways, my life is close to my ideal.	1	2	3	4	5
5. The conditions of my life are excellent.	1	2	3	4	5
6. I am satisfied with my life.	1	2	3	4	5
7. So far, I have gotten the important things I want in life.	1	2	3	4	5
8. If I could live my time over, I would change almost nothing.	1	2	3	4	5
9. I lead a purposeful and meaningful life.	1	2	3	4	5
10. My social relationships are supportive and rewarding.	1	2	3	4	5
11. I am engaged and interested in my daily activities.	1	2	3	4	5
12. I actively contribute to the happiness and well-being of others.	1	2	3	4	5
13. I am competent and capable of doing the activities that are important to me.	1	2	3	4	5
14. I am a good person and live a good life.	1	2	3	4	5
15. People respect me.	1	2	3	4	5

Section VII.

1. When was the latest overnight trip taken?

Year _____ Month _____

2. How many nights were you away from home on this trip?

_____ nights

3. Who is your traveling companion?

1. Alone
2. Family members
3. Friends
4. Relatives

5. Other
4. What mode of transportation did you use to the destination?
 1. Car/Bus
 2. Train
 3. Airplane
 4. others
5. Gender:
 1. Female
 2. Male
 3. Not listed
6. Age
 1. 18-24
 2. 25-34
 3. 35-44
 4. 45-54
 5. 55-64
 6. 65 and above
 - g. Not listed
7. What is your marital status?
 1. Married
 2. Never married
 3. Others
8. What is your highest education completed?
 - 1: _____ Less than high school
 - 2: _____ High school diploma
 - 3: _____ 2-year college/ Associate degree
 - 4: _____ 4-year college/ Bachelor's degree
 - 5: _____ Graduate Degree or above
9. What was your annual household income level during 2019 calendar year?
 1. Below \$25,000
 2. \$25,001 - \$50,000
 3. \$50,001 - \$75,000
 4. \$75,001 - \$100,000
 5. \$100,001 - \$125,000
 6. \$125,001 or more
10. What was your monthly household income level during 2019 calendar year (RMB) (for Chinese participants)?
 1. Below 2000 (<CAD\$398)
 2. 2000-3999 (CAD\$398 - 796)
 3. 4000-6999 (CAD\$796 - 1394)

4. 7000-9999 (CAD\$1394 - 1991)
5. 10,000-19,999 (CAD\$1991 - 3982)
6. 20,000-29,999 (CAD\$3982 - 5972)
7. 30,000-39,999 (CAD\$5972 - 7963)
8. 40,000-49,999 (CAD\$7963 - 9954)
9. 50,000 and above (\geq CAD\$9954)

Appendix 3. REB approval letter



RESEARCH ETHICS BOARDS

*Certification of Ethical Acceptability of Research
Involving Human Participants*

APPROVAL PERIOD: March 24, 2021
EXPIRY DATE: March 23, 2022
REB: G
REB NUMBER: 20-12-023
TYPE OF REVIEW: Delegated
PRINCIPAL INVESTIGATOR: Choi, Hwan-Suk (hwchoi@uoguelph.ca)
DEPARTMENT: School of Hospitality & Tourism Management
SPONSOR(S): N/A
TITLE OF PROJECT: The effect of value co-creation behaviors on well-being:
The comparative analysis of tourists with physical disabilities and without disabilities.

The members of the University of Guelph Research Ethics Board have examined the protocol which describes the participation of the human participants in the above-named research project and considers the procedures, as described by the applicant, to conform to the University's ethical standards and the Tri-Council Policy Statement, 2nd Edition.

The REB requires that researchers:

- Adhere to the protocol as last reviewed and **approved** by the REB.
- Receive approval from the REB for any **modifications** before they can be implemented.
- Report any **change in the source of funding**.
- Report **unexpected events or incidental findings** to the REB as soon as possible with an indication of how these events affect, in the view of the Principal Investigator, the safety of the participants, and the continuation of the protocol.
- Are responsible for **ascertaining and complying with all applicable legal and regulatory requirements** with respect to consent and the protection of privacy of participants in the jurisdiction of the research project.

The Principal Investigator must:

- Ensure that the ethical guidelines and approvals of facilities or institutions involved in the research are obtained and filed with the REB prior to the initiation of any research protocols.
- Submit an **Annual Renewal** to the REB upon completion of the project. If the research is a multi-year project, a status report must be submitted annually prior to the expiry date. Failure to submit an annual status report will lead to your study being suspended and potentially terminated.

The approval for this protocol terminates on the **EXPIRY DATE**, or the term of your appointment or employment at the University of Guelph whichever comes first.

Signature:

Date: March 24, 2021

Stephen P. Lewis
Chair, Research Ethics Board-General