

**PLEASURE AS A SOURCE OF MEANING OR A MOTIVATOR FOR
MEANING SEARCH: A CROSS-CULTURAL INVESTIGATION**

by

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Abstract

The present work investigates how the relation between pleasure and meaning may vary across cultures, focusing on comparisons between Koreans and Euro-Canadians. Guided by the idea that culture shapes people's perceptions on pleasure, I proposed that the presence of pleasure would serve as a source of meaning in life among Euro-Canadians but as a motivator for the meaning search among Koreans. Specifically, I hypothesized that, relative to Euro-Canadians, Koreans show a greater tendency to search for meaning in the presence than in the absence of pleasure. Four studies, using between and within cultural comparisons, as well as a meta-analysis, provided some support for the prediction. This research provides a new insight into the dynamic association between pleasure and meaning from the cultural perspective.

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Chapter 1

Introduction

People strive to live a good life, often defined as a life furnished with both pleasure and meaning (King & Napa, 1998). For instance, people evaluate pleasure and meaning as essential ingredients for living a “full life” (Peterson, Park, & Seligman 2005; Seligman, 2002). Indeed, the presence of pleasure and meaning entails positive psychological functioning, with each uniquely predicting various well-being and mental health indicators, including positive and negative affect, satisfaction with life, satisfaction of basic psychological needs, and depressive and stress symptoms (e.g., Baumeister, Vohs, Aaker, & Garbinsky, 2013; Fredrickson et al., 2013; Ryan & Deci, 2001; Schueller & Seligman, 2010).

Although pleasure and meaning are distinguished both conceptually and experientially (Ryan & Deci, 2001), they also are inextricably intertwined as often evidenced by their strong positive correlation (Kashdan, Biswas-Diener, & King, 2008; Keyes, Shmotkin, & Ryff, 2002). Of a particular interest to the present study, previous research has shown that pleasure is not only positively associated with meaning but also serves as a *source* of meaning in life (King, Hicks, Krull, & Del Gaiso, 2006). That is, the presence of pleasure signals that one’s life is meaningful (i.e., the presence of meaning). However, little is known about how pleasure informs one’s search for meaning—whether it serves as a *motivator* for meaning in life. Addressing this empirical gap, the current research explores how people from different cultures or with different self-construal may search for meaning, depending on the presence or absence of personal pleasure.

The Roles of Pleasure in Meaning

Broadly stated, pleasure refers to a positive emotional experience that often stems from gratification of physiological needs. From early psychological theories on motivation such as the pleasure principle (Freud, 1920/1950) to more recent ones such as Self-Determination Theory (Ryan & Deci, 2000), pleasure has been regarded as the most fundamental psychological inducement that govern human behavior (e.g., approaching to pleasure and avoiding pain). Since the emergence of hedonic psychology in the early 21st century, meaning of pleasure has been even further broadened such that pleasure is simply described as *feeling good* in the moment (Huta & Ryan, 2010). Indeed, research on hedonic well-being focuses on “what makes experiences and life pleasant and unpleasant” (p. 9, Kahneman, Diener, & Schwarz, 1999) and assesses positive and negative affects to measure well-being (Diener, 1984).¹

The definition of meaning, however, is less straightforward. Generally speaking, meaning is a unified cognitive system in which symbolic ideas and concepts are loosely or tightly related to each other in a *coherent* manner (Baumeister, 1991; Janoff-Bulman, 1992). Depending on how physical realities are ascribed to symbolic ideas (e.g., hug means love), meaning system guides people to the different ways in which they should interpret, react, and predict in a given situation (e.g., my boyfriend is trying to hug me, so he must be in love with me. Do I want to hug him back?). Thus, meaning in life or meaningfulness, which is a focus of the thesis,² is a mental operation of which one’s biological existence is ascribed to symbolic ideas (Baumeister et al., 2013). When one successfully links his or her life with a set of symbolic “meanings,” he or she is

¹ While acknowledging that pleasure is not identical to positive affect, I followed the common practice in research on hedonic well-being and used pleasure and positive affect interchangeably in this thesis.

² Meaning, meaningfulness, and meaning in life are used interchangeably in this thesis.

likely to perceive his or her life as significant, purposeful, coherent, and after all, meaningful (King, Heintzelman, & Wald, 2016). In research on eudaimonic well-being, meaning in life serves as one of the most important indicators for mental health and well-being that goes beyond momentary pleasure and short-term satisfaction, as it entails personal growth, realization of true potentials, and fulfillment of basic psychological needs (Schmutte & Ryff, 1997).

The distinction between pleasure and meaning traces back to the two philosophical traditions on the definition of happiness. To illustrate, Epicurean philosophers argued that pleasure or *hedonia* (ἡδονή) is the only intrinsic and core value of human, and the ultimate goal of life should be maximization of pleasure, whilst Aristotelian philosophy viewed that well-being or *eudaimonia* (εὐδαιμονία) can be only possible through virtuous life and realization of human potential, and pursuit of hedonia is vulgar and unworthy (see Kashdan, Biswas-Diener, & King, 2008 for review). This age-old philosophical debate on well-being has been transmitted to the two different trends in the modern psychological research on well-being: hedonic and eudaimonic well-being (Ryan & Deci, 2001). As mentioned earlier, with the surge of hedonic psychology, research on well-being has focused on pleasure and contentment and operationalized happiness as the affective balance between positive and negative emotions and satisfaction with life's conditions (Diener, 1984). Following hedonic psychology, the eudaimonic view on well-being argues that well-being is not only about feeling pleasant and satisfied, and highlights meaning in life as an indicator of human well-being (Ryan & Deci, 2001).

Supporting the distinction between pleasure and meaning, research found that pleasure and meaning uniquely predict psychological outcomes associated with well-being, such as relatedness and stress (Baumeister et al., 2013; Fredrickson et al., 2013; Ryan & Deci, 2001; Schueller & Seligman, 2010). Moreover, activities that provide pleasure (e.g., partying,

socializing) tend to involve positive experiences with little negativity. In contrast, activities that provide meaningfulness (e.g., listening to others, praying) tend to be associated with not only positive experiences but also negative ones such as worrying, reflecting struggles and challenges, and stress (Baumeister et al., 2013). A recent research found that people particularly seem to distinguish between pleasure and meaning when they are conjointly contrasted (i.e., pleasure without meaning vs. meaning with pleasure, Dwyer, Dunn, & Hershfield, 2017). Furthermore, Tov and Lee (2016) demonstrated that unpleasant experiences (i.e., negative affects) were associated with lower life satisfaction, but higher level of meaning in life. This finding suggests that meaning is not only distinguishable from pleasure, but also involves a complex cognitive process by which one's life is imbued with meaning through negative experiences.

Despite some empirical evidence for the distinction between pleasure and meaning, research also suggests that pleasure and meaning are inextricably intertwined with each other. King and colleagues (2006) have shown that pleasure (i.e., positive affect) and meaning in life were positively correlated with each other, and that pleasure strongly predicted meaning in life (see also Hicks & King, 2008, 2009; Hicks, Schlegel, & King, 2010). In their terms, pleasure serves as a source of meaning. As suggested by the mood-as-information theory, people seem to use current mood as heuristics to evaluate how meaningful their life is (King et al., 2006; Schwarz & Clore, 1983, 2003). When feeling good, people assume that everything is on the right track and thereby judge that their life is good and meaningful, whereas feeling bad makes them wonder if something is not right and begin questioning the meaningfulness of their life (Clore et al., 2001; King et al., 2006; Reker, Peacock & Wong, 1987). By this process, being in a positive mood elevates one's evaluation of meaning. For example, King et al. (2006) demonstrated that American participants induced to feel positive evaluated their life as more meaningful than did

people in the neutral mood condition. Similarly, a series of studies by Hicks and colleagues (2007, 2008, 2009, 2010, 2012) showed that people were more likely to rely on their positive mood to infer the meaning in life particularly when other known sources of meaning (e.g., religiosity, time, social relationships) were perceived to be limited. These findings provide converging evidence for pleasure as an important source of meaning.

Surprisingly, little is known about the role of pleasure in another important facet of meaning in life: search for meaning. Although the presence of meaning focuses on the perception of how meaningful one's life is, the search facet highlights one's active motivation and initiative to find meaning, which is conceptualized as "the strength, intensity, and activity of people's desire and efforts to establish and/or augment their understanding of the meaning, significance, and purpose of their lives" (Steger, Kashdan, Sullivan, & Lorentz, 2008, p. 200). One's search for existential meaning is considered a fundamental human motivation (Frankl, 1963; Maddi, 1970). In this sense, inquiring how pleasure may influence the search for meaning is important. Would feeling good elevate one's search for meaning or dampen it? The pleasure-as-source account suggests that the presence of pleasure should quench the need for meaning, as previous research demonstrated that people in a positive mood feel that their life already is meaningful and thus are less motivated to look for it further (King et al., 2006). However, it should be noted that one can still search for meaning even in the presence of meaning, as research also has shown that the presence of and search for meaning can coexist (Steger, Kawabata, Shimai, & Otake, 2008). Moreover, previous research concluded that pleasure serves as a source of meaning by relying exclusively on North American participants. Could the role of pleasure in thinking about meaning be different in other cultures? Below, I argue that in interdependent cultures, due to

their different view on pleasure from independent cultures, the presence of pleasure would foster one's search for meaning, thereby serving as a motivator rather than a source.³

Cultural Perceptions on Pleasure and Personal Happiness

People from different cultures vary in how they view pleasure or personal happiness. Specifically, I argue that the experience of pleasure is viewed as less desirable and incongruent with cultural norms in interdependent cultures, whereas the experience of pleasure is deemed as ideal and well aligned with cultural ideals in independent cultures. This prediction is mainly guided by the theoretical perspectives and empirical findings on cultural differences in self-concept or self-construal. Largely based on cross-cultural examinations between East Asians and European Americans and Canadians, Markus and Kitayama (1991) proposed that people vary in the degree to which they take relational ties into account when construing one's self. That is, individuals with independent self-construal (e.g., most European Americans and Canadians) generally view the self as separated from the social context, whereas people with interdependent self-construal (e.g., most East Asians) define the self as being interconnected with the social groups they belong to. Accordingly, in many Western cultures, individuals' well-being mainly is derived from one's personal happiness or satisfaction that is independent of others' happiness. In many Eastern cultures, on the other hand, individuals' well-being hinges more on the relationships with others than personal happiness (Kwan, Bond, & Singelis, 1997). For example, a series of studies have demonstrated that socially disengaging positive emotions (e.g., feeling proud) promoted American participants' subjective well-being as those emotions affirm their

³ I am not arguing that the roles of pleasure as a source or motivator for meaning are mutually exclusive. Rather, I believe that pleasure is likely to serve as *both* a source of and a motivator for meaning, but the degree to which each function is salient would be culturally contextualized.

internal attributes and personal satisfaction. In contrast, Japanese participants' well-being was better predicted by socially engaging positive emotions (e.g., feeling friendly), which affirm their harmonious relationships with others and social unity (Kitayama, Markus, & Kurokawa, 2000; Kitayama, Mesquita, & Karasawa, 2006; Uchida, Norasakkunkit, & Kitayama, 2004). Furthermore, people with interdependent self-construal tend to prioritize social obligations over one's own pleasure. As a result, they tend to sacrifice their self-interest or personal happiness for the benefit of their ingroup or for interpersonal harmony within their ingroup (Singelis, Triandis, Bhawuk, & Gelfand, 1995).

This cultural difference in self-construal contributes to cultural normativity and desirability of experiencing pleasure. In independent cultures, pleasure likely is to be thought of as uniformly good and desirable, whereas in interdependent cultures, pleasure likely is to be viewed as more ambivalent and avoided to some degree. Indeed, previous research on cultural variations of emotion found that independent people (e.g., European Americans and Canadians) tend to regard positive emotions as desirable and negative emotions as undesirable, which motivates them to maximize positive affect and minimize negative affect (Eid & Diener, 2001; King & Napa, 1998; Miyamoto, Ma, & Wilken, 2017). In contrast, interdependent people (e.g., East Asians) are more likely to think that positive emotions have negative attributes (An, Ji, Marks, & Zhang, 2017; Miyamoto et al., 2017; Sims et al., 2015; Spencer-Rodgers, Peng, & Wang, 2010), as the relationship between positive and negative emotions is believed to be transitory and complementary, such that positive affect can have negative consequences (e.g., "I thought that something bad might happen if I continued feeling delighted"; Miyamoto & Ma, 2011). Moreover, research showed that interdependent people have greater emotional complexity—the concurrence of positive and negative emotions, than independent people (Grossmann &

Ellsworth, 2017; Grossmann, Huynh, & Ellsworth, 2016). They showed that interdependent participants (e.g., Japanese) reported greater frequency of mixed feelings (e.g., concurrence of proud and frustrated) than independent participants (e.g., British, American) when thinking about life events. This is because, argued by the authors, interdependent people tend to believe that people can feel different (both positive and negative) about the same situation, and also notice differences within their own feeling.

Due to this culturally shaped belief about desirability of pleasure, the experience of pleasure would have different implications for people across independent and interdependent cultures. That is, the presence of pleasure is consistent with the cultural values of securing personal happiness in independent cultures while being incongruent with the cultural prescriptions that one should be dedicated to serving social purposes and maintaining group harmony in interdependent cultures. Of course, people tend to behave in accordance with their cultural norms, so, for example, people from interdependent cultures would not experience pleasure as much as people from independent cultures. Indeed, previous research demonstrated that East Asians consistently report that they have a lower level of positive affect and a higher level of negative affect (e.g., Eid & Diener, 2001) and are less likely to up-regulate negative emotions but more likely to down-regulate positive emotions compared to European Americans and Canadians (e.g., Miyamoto & Ma, 2011). Nevertheless, people do vary in their individual experiences of pleasure, and the person-culture incongruence of pleasure will arise when personal experience and cultural endorsement of pleasure do not match.

Overview of the Study

Across four studies, using between and within cross-cultural comparisons, I tested culturally divergent associations between the presence of pleasure and the meaning search.

Specifically, I hypothesized that culture would moderate the relationship between the presence of pleasure and meaning search. In Study 1, I tested whether a high level of pleasure would be associated with more search for meaning for participants in an interdependent culture (i.e., Korea), relative to participants in an independent culture (i.e., Canada). Moreover, in Studies 2 and 3, I examined experimentally whether the presence of pleasure, relative to the absence of pleasure, would lead interdependent participants more than independent participants to search for meaning. In Study 4, I further explored whether individual difference in independence-interdependence (or individualism-collectivism)⁴ within a single culture would moderate the effect of the pleasure presence on meaning search. Specifically, I examined whether pleasure would motivate interdependent individuals to search for meaning more than independent individuals.

Determination of Sample Size

I determined sample sizes based on a priori power analyses using the *R* statistical package WebPower (Zhang & Mai, 2018) in Studies 1 through 4. In Study 1, as no prior research investigated the cultural difference in the relation between the presence of pleasure and the search for meaning, I estimated an effect size based on the previous study demonstrating the small interactive effect of culture (US and Japan) and the search for meaning on the presence of meaning ($\sim f^2 = .05$, Steger et al., 2008). Based on a small effect ($f^2 = .05$), the power analysis revealed that a total sample of 161 was required to achieve a statistical power of .80 for an alpha level of .05, and I ended up recruiting 315 participants. In Study 2 and 3, based on the findings of

⁴ In this paper, I use independence-interdependence and individualism-collectivism interchangeably, due to the significant overlap between the two conceptual frameworks (e.g., Singelis, 1994)

Study 1 and changes in the study design, the power analyses yielded that a sample of 199 was required to achieve a statistical power of .80 for detecting a small-to-medium effect ($f = .20$) at an alpha level of .05, and 221 (Study 2) and 341 (Study 3) participants were recruited. In Study 4, I simulated a statistical power for a linear regression model (5,000 simulations) and found that a minimum of 151 participants were required based on a parameter for an interaction effect of $B = .30$ with the statistical power of .95, and ended up with 228 participants.

Chapter 2

In Study 1, I examined how culture may moderate the relation between the presence of pleasure and search for meaning. Specifically, I tested whether Koreans would be more likely than Canadians to search for meaning in life at the high level of pleasure, relative to at the low level of pleasure.

Method

Participants. One hundred and seventy-one Euro-Canadian undergraduate students (99 women, 71 men, 1 other, $M_{\text{age}} = 18.13$ years, $SD = .73$) from Queen's university and 144 Korean undergraduate students (64 women, 80 men, $M_{\text{age}} = 19.91$ years, $SD = 1.60$) from Sogang university participated in this study. They received partial course credit for their participation.

Materials and procedure. Participants completed all questionnaires on a computer in the lab.⁵ I measured participants' presence of pleasure using a 5-item pleasure presence scale ($M_{\text{Canada}} = 5.47$, $SD = 1.19$, $\alpha = .89$, $M_{\text{Korea}} = 4.73$, $SD = 1.04$, $\alpha = .85$; e.g., "My life has a sense of pleasure."; see Appendix A for the complete items) adapted from Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006). Then, I measured participants' search for meaning using a 5-item Search subscale from the MLQ ($M_{\text{Canada}} = 5.10$, $SD = 1.21$, $\alpha = .88$, $M_{\text{Korea}} = 5.12$, $SD = 1.06$, $\alpha = .90$; e.g., "I am looking for something that makes my life feel meaningful."). Participants indicated the extent to which they agreed with each statement on a 7-

⁵ This study was conducted in a survey package with other studies conducted in the culture and cognition lab. These items were measured first then followed by other measures.

point scale ranging from 1 (*not at all*) to 7 (*very much*).⁶ Participants were tested in their native language. All study materials were first translated from English into Korean and then back-translated into English by two independent bilingual research assistants to ensure equivalence across language. The same procedure was followed for all the studies reported here.

Results and Discussion

To assess whether culture moderates the relation between the presence of pleasure and the search for meaning, I conducted a multiple regression analysis. Specifically, search for meaning was regressed on culture ($-0.50 = \text{Canadian}$, $0.50 = \text{Korean}$), the presence of pleasure (mean-centered), and the interaction of the two. As expected, the results revealed that the culture \times pleasure interaction ($B = .41$, $SE = .12$, $t = 3.59$, $p < .001$), with the simple effect of culture ($B = -.10$, $SE = .13$, $t = .72$, $p = .470$) at the mean of pleasure, and the simple effect of pleasure at the average of culture being not significant ($B = .09$, $SE = .06$, $t = 1.58$, $p = .116$). To understand the interaction effect, I further performed a simple slope test (see Figure 1). In support of my prediction, Koreans showed a greater meaning search as their life was higher in pleasure ($B = .30$, $SE = .09$, $t = 3.31$, $p = .001$). However, Canadians did not show a significant relationship between the presence of pleasure and search for meaning ($B = -.12$, $SE = .07$, $t = -1.61$, $p = .108$), although it was in the negative direction.

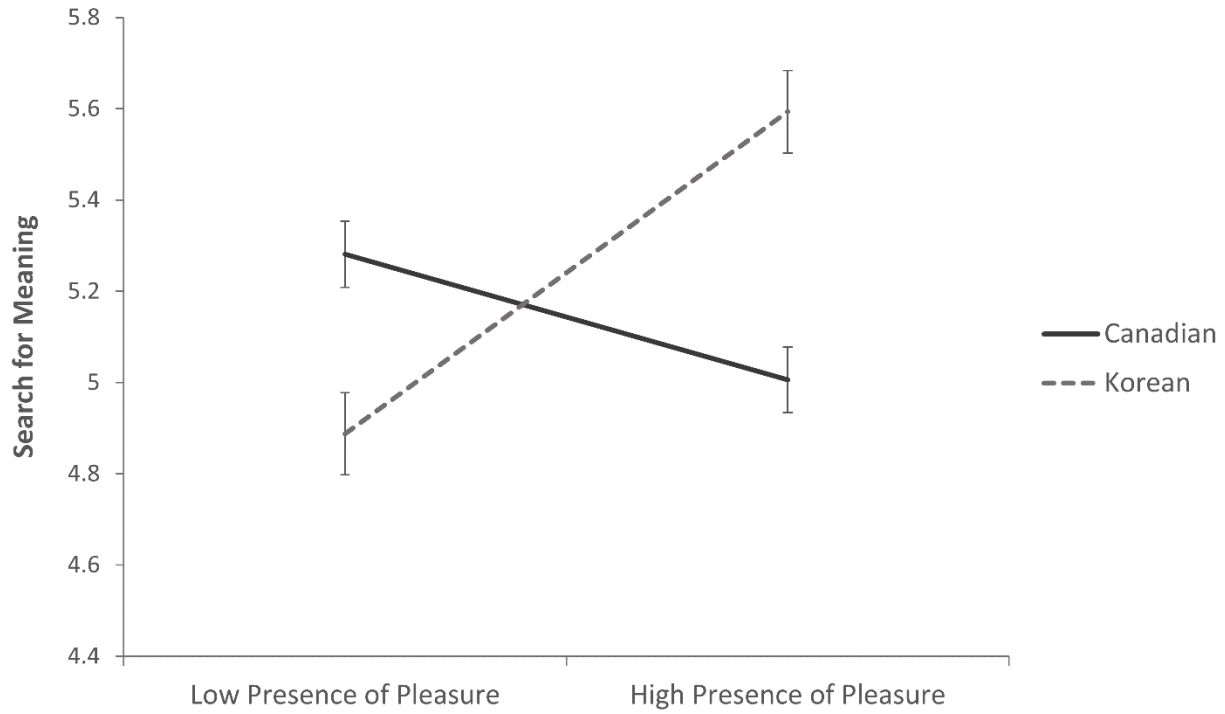


Figure 1. The willingness to search for meaning for Canadian and Korean participants with the low presence of pleasure and the high presence of pleasure in Study 1. Error bars indicate standard errors.

Chapter 3

Study 2 was conducted to replicate and extend the findings of Study 1 by establishing the causal link between the presence of pleasure and the meaning search. Specifically, in Study 2, I manipulated participants' pleasure presence (low vs. high) and then measured their meaning search tendency. To strengthen the ecological validity of the meaning search measurement, I measured participants' meaning search tendency with their intention to engage in actual activities instead of using the meaning search subscale as in Study 1. Furthermore, I attempted to ensure that the presence of pleasure does not influence engagement in positive activities in general, but is specific only to meaningful ones. Therefore, in Study 2, I presented participants with two types of activities: meaningful activities and positive activities that are not meaning-related. I predicted that the presence of pleasure would have distinctive effects on Canadian and Korean participants' willingness to engage in meaningful activities, but not on positive activities in general.

Pretest

I conducted a pretest to validate that the meaningful activities would be perceived as more meaningful than the control activities while not differing from the control activities in other dimensions. Forty-eight Canadian undergraduate students rated how they felt about each activity in terms of their meaningfulness (“brings meaning to my life,” “makes my life significant,” “helps me find my life’s purpose”), boredom (“makes me feel bored,” “makes me feel dull”), excitement (“calms me down”, “gets me excited”), and effortfulness (“is effortful,” “is difficult to do”) on a 7-point scale (1 = *not at all*; 7 = *very much*).

A paired sample *t* test revealed that meaningful activities were perceived to be more meaningful, $t(47) = 11.90, p < .001$, but not significantly different in terms of boredom, $t(47) = 1.29, p = .202$, and excitement, $t(47) = -.99, p = .329$, compared to control activities (see Table 1). Interestingly, I found that the meaningful activities were reported to be more effortful than control activities, $t(47) = 14.17, p < .001$. This finding is consistent with the previous findings that activities that require time and effort (e.g., working, listening, taking care of kids, mediating) are evaluated as meaningful (Baumeister et al., 2013).⁷

⁷ I conducted the same pretest with 22 Korean students. A similar pattern emerged except that Korean participants reported the control activities ($M = 4.60, SD = .37$) as more exciting than meaningful activities ($M = 3.96, SD = .35$), $t(21) = -5.63, p < .001$.

Table 1

Mean and Standard Deviation for the Meaningfulness, Boredom, Excitement, and Effortfulness of Activities in Study 2 Pretest

<i>N</i> = 48	<i>M (SD)</i>								
	brings meaning to my life	makes my life significant	helps me find my life's purpose	makes me feel bored	makes me feel dull	calms me down	gets me excited	is effortful	is difficult to do
Party	2.29 (1.60)	2.31 (1.50)	1.87 (1.23)	1.92 (1.16)	1.71 (.90)	2.65 (1.54)	5.90 (1.4)	4.02 (1.62)	2.75 (1.55)
Shopping	1.90 (1.19)	1.94 (1.30)	1.75 (1.25)	2.48 (1.61)	2.56 (1.86)	3.79 (1.89)	5.17 (2.42)	4.02 (1.90)	2.50 (1.44)
Games	1.81 (1.16)	1.73 (1.01)	1.71 (1.17)	2.83 (1.84)	3.27 (1.94)	5.71 (1.53)	4.77 (1.65)	1.60 (1.18)	1.31 (.75)
Netflix	2.50 (1.53)	2.50 (1.56)	2.21 (1.47)	2.42 (1.54)	2.00 (.99)	4.38 (1.59)	4.81 (1.68)	3.06 (1.59)	2.67 (1.36)
Online	1.54 (1.03)	1.60 (1.01)	1.46 (0.90)	1.98 (1.33)	2.23 (1.59)	4.13 (1.88)	4.94 (1.79)	2.92 (1.80)	1.98 (1.38)
Friend	4.50 (1.73)	4.46 (1.87)	4.04 (1.90)	2.10 (1.29)	1.69 (1.01)	3.21 (1.75)	3.21 (1.85)	4.08 (1.88)	2.98 (1.87)
Volunteer	5.31 (1.50)	5.48 (1.53)	4.92 (1.51)	1.75 (1.06)	1.60 (1.16)	3.31 (1.52)	4.83 (1.58)	4.48 (1.65)	3.73 (1.82)
Career	3.44 (1.83)	3.52 (1.83)	4.13 (1.77)	3.25 (2.01)	2.83 (1.98)	2.48 (1.50)	4.06 (1.88)	4.35 (1.82)	3.44 (1.80)
Marathon	3.88 (1.94)	3.90 (2.01)	3.25 (1.83)	2.67 (2.03)	2.04 (1.58)	3.19 (1.95)	4.15 (2.17)	6.29 (1.11)	6.33 (1.02)
Environment	3.48 (1.88)	3.27 (1.78)	3.29 (1.89)	3.79 (2.10)	3.31 (2.04)	2.94 (1.79)	2.85 (1.68)	3.94 (1.91)	3.08 (1.83)

Note. The actual activities were listening to a friend's problem, volunteering at a special education school, attending a career fair, running a full marathon, reading an article about environmental sustainability, having a party at a club, shopping at a mall, playing games, watching Netflix, and online shopping.

Method

Participants. One hundred and eleven Euro-Canadian undergraduate students (83 women, 28 men, $M_{\text{age}} = 18.38$ years, $SD = .90$) from Queen's university and 110 Korean undergraduate students (68 women, 41 men, 1 unreported, $M_{\text{age}} = 21.06$ years, $SD = 2.21$) from Sogang university participated in this study. They received partial course credit for their participation.

Materials and procedure. Participants completed all questionnaires on a computer in the lab. They were randomly assigned to one of the two recall tasks: pleasure absence or pleasure presence. Participants in the pleasure absence condition recalled a moment that made their life feel not pleasant. Participants in the pleasure presence condition recalled a moment that made their life feel pleasant. Then, they reported their preference to engage in 10 activities on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Five of these activities were meaningful activities (e.g., volunteering at a special education school). The other five were control (i.e., positive but not meaningful) activities (e.g., having a party at a club; see the full list in Table 1). I created an index of meaningful activity preference, and an index of control activity preference by averaging the five relevant activities, respectively. Afterward, they rated the meaningfulness and pleasurable-ness, respectively, of each activity on a 7-point scale (1 = *not at all*, 7 = *very much*) to ensure that meaningful activities were perceived as more meaningful than pleasurable, and control activities were perceived as more pleasurable than meaningful. Participants completed the demographic measures before being debriefed.

Results and Discussion

First, to test whether participants actually perceived the meaningful activities as more meaningful than pleasurable, a 2 (Culture: Canadian vs. Korean; between-subjects factor) \times 2 (Activity characteristic: meaningfulness vs. pleasurableness; within-subjects factor) mixed ANOVA was performed on meaningful activities. As intended, the results revealed a significant main effect of activity characteristic, $F(1, 219) = 402.99, p < .001, \eta_p^2 = .65$, such that meaningful activities were rated as more meaningful ($M = 4.86, SD = 1.15$) than pleasurable ($M = 3.45, SD = 1.05$). Interestingly, a culture \times characteristic interaction was significant, $F(1, 219) = 7.10, p = .008, \eta_p^2 = .03$. Specifically, the difference between meaningfulness and pleasurableness for Canadian participants ($M_{\text{meaningful}} = 5.41, SD = 1.02$ vs. $M_{\text{pleasurable}} = 3.80, SD = 1.03$), $F(1, 219) = 259.73, p < .001, \eta_p^2 = .54$, was greater than that for Korean participants ($M_{\text{meaningful}} = 4.32, SD = 1.01$ vs. $M_{\text{pleasurable}} = 3.09, SD = .93$), $F(1, 219) = 150.86, p < .001, \eta_p^2 = .41$. Next, the same mixed ANOVA was submitted to control activities; as expected, there was a significant main effect of activity characteristic, $F(1, 219) = 560.23, p < .001, \eta_p^2 = .72$, showing that control activities (i.e., positive non-meaningful activities) were rated as more pleasurable ($M = 4.64, SD = 1.08$) than meaningful ($M = 2.87, SD = 1.09$). Again, there was also a significant culture \times characteristic interaction, $F(1, 219) = 61.38, p < .001, \eta_p^2 = .22$, indicating that the extent to which Canadian participants reported control activities as more pleasurable than meaningful ($M_{\text{meaningful}} = 2.45, SD = 1.04$ vs. $M_{\text{pleasurable}} = 4.81, SD = 1.09$), $F(1, 219) = 498.50, p < .001, \eta_p^2 = .69$, was greater than that of Korean participants ($M_{\text{meaningful}} = 3.29, SD = .98$ vs. $M_{\text{pleasurable}} = 4.48, SD = 1.04$), $F(1, 219) = 124.80, p < .001, \eta_p^2 = .36$. Although these interaction patterns were unanticipated, simple effects within each culture suggest that both Canadian and Korean participants perceived meaningful activities as more meaningful rather

than pleasurable, and vice versa for control activities. Ratings of meaningfulness and pleasurable for each activity in each culture are presented in Table 2.

Table 2

Mean and Standard Deviation for the Meaningfulness and Pleasurableness of Activities in Studies 2 and 4

Activity	Study 2 (Korean)		Study 2 (Canadian)		Study 4 (Canadian)	
	Meaning	Pleasure	Meaning	Pleasure	Meaning	Pleasure
Friend	5.28 (1.45)	4.15 (1.21)	5.02 (2.32)	4.28 (1.71)	5.85 (1.43)	3.97 (1.68)
Volunteer	4.78 (1.54)	3.36 (1.47)	6.59 (.73)	4.97 (1.79)	6.34 (.97)	4.43 (1.69)
Career	4.20 (1.58)	2.99 (1.40)	5.11 (1.84)	3.28 (1.84)	5.25 (1.49)	3.09 (1.56)
Marathon	3.61 (1.86)	2.51 (1.58)	5.14 (1.83)	3.44 (1.90)	4.63 (1.66)	3.42 (1.90)
Environment	3.71 (1.46)	2.42 (1.86)	5.17 (1.60)	3.04 (1.69)	4.80 (1.74)	2.26 (1.40)
Party	2.94 (1.56)	3.87 (1.89)	2.28 (1.30)	4.86 (1.78)	2.53 (1.52)	5.25 (1.88)
Shop	3.65 (1.37)	4.63 (1.60)	1.95 (1.19)	4.51 (1.88)	2.16 (1.31)	5.01 (1.83)
Games	2.70 (1.86)	4.15 (1.86)	2.39 (1.59)	4.68 (1.85)	2.86 (1.61)	4.94 (1.61)
Netflix	3.54 (1.43)	5.17 (1.33)	2.31 (1.56)	5.59 (1.32)	2.34 (1.46)	6.00 (1.20)
Online Shop	4.56 (1.59)	3.65 (1.43)	3.32 (2.40)	4.41 (1.98)	1.89 (1.15)	4.87 (1.87)
Meaningful	4.32 (1.01)	3.09 (0.93)	5.41 (1.02)	3.80 (1.03)	5.37 (0.91)	3.43 (0.93)
Control	3.29 (0.98)	4.48 (1.04)	2.45 (1.04)	4.81 (1.09)	2.35 (1.00)	5.21 (1.09)

Note. The actual activities were listening to a friend's problem, volunteering at a special education school, attending a career fair, running a full marathon, reading an article about environmental sustainability, having a party at a club, shopping at a mall, playing games, watching Netflix, and online shopping. Means and standard deviations in the rows of Meaningful and Control activity indicates averages of five meaningful activities and five control activities, respectively.

I hypothesized that relative to Canadians, Korean participants would be more willing to engage in meaningful activities in the pleasure presence condition than in the pleasure absence condition. A 2 (Culture: Canadian vs. Korean) \times 2 (Pleasure condition: absence vs. presence) \times 2 (Activity type: meaningful vs. control; within-subjects factor) mixed ANOVA showed a significant three-way interaction, $F(1, 217) = 4.73, p = .031, \eta_p^2 = .021$. To better understand this

three-way interaction effect, I examined meaningful activities and control activities separately. For meaningful activities, a 2 (Culture) \times 2 (Pleasure condition) between-subjects ANOVA revealed an expected two-way interaction, $F(1, 217) = 5.22, p = .023, \eta_p^2 = .023$. Specifically, Canadians showed a trend of being less interested in meaningful activities in the pleasure presence condition ($M = 3.32, SD = 1.07$) than in the pleasure absence condition ($M = 3.66, SD = 1.18$), $F(1, 217) = 3.46, p = .064$. Koreans showed more interest in meaningful activities in the pleasure presence condition ($M = 3.20, SD = .77$) than in the pleasure absence condition ($M = 2.92, SD = .97$), although this effect was not significant statistically, $F(1, 217) = 2.16, p = .143$ (see Figure 2).⁸ A 2 (Culture) \times 2 (Pleasure condition) ANOVA on control activities revealed no significant effects, $F(1, 217) = .29, p = .59, \eta_p^2 = .001$.

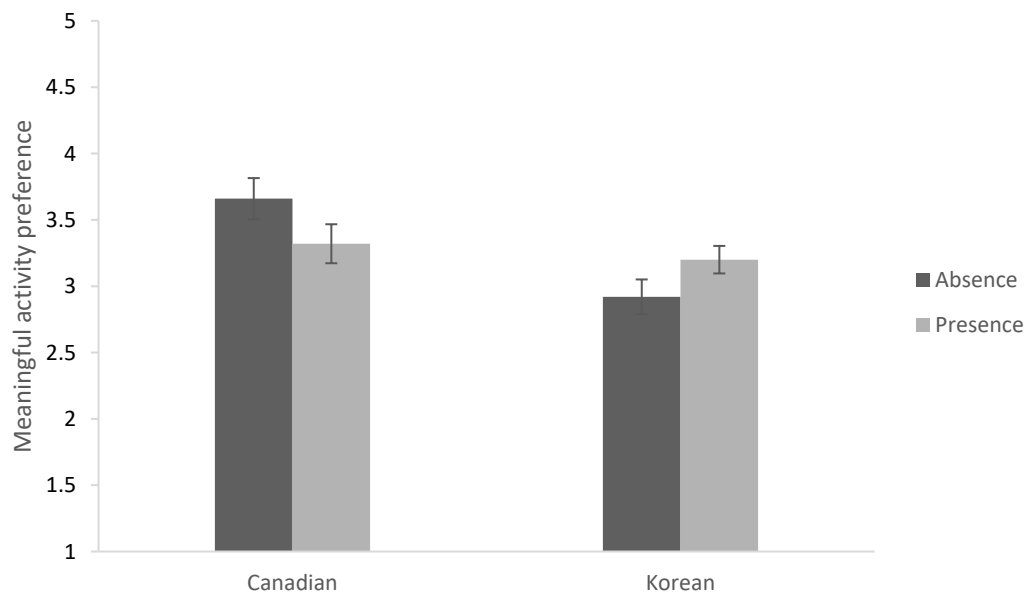


Figure 2. Meaningful activity preference for Canadian and Korean participants in the pleasure absence and presence conditions in Study 2.

Chapter 4

Study 2 offered some support to my hypothesis, such that Koreans and Canadians showed different associations between the pleasure presence and meaning search. These results suggest a possibility that the presence and absence of pleasure have different implications for search for meaning between Canadians and Koreans, suggesting that *having* pleasure may serve as a motivator to search for meaning among Koreans more than among Canadians, relative to having no pleasure. I found the expected interaction effect, although the simple effects were not significant. To further test my hypothesis, Study 3 was conducted with two changes from Study 2. First, the absence of pleasure condition in Study 2 might have induced a negative affective state, instead of a low pleasure state. Thus, in Study 3, I introduced a different control condition: feeling “determined”—which is a positive affective state that involves little pleasure in nature. Moreover, these two affective states are comparable in their motivational approach orientation. More specifically, pleasure concerns hedonic approach to well-being, whereas determination concerns a eudaimonic approach to well-being (Ryan & Deci, 2001). Second, I assessed participants’ meaning search using MLQ search subscale, which measures people’s general meaning search. I expected to find that relative to the control (determined) condition, pleasure would lead to more search for meaning among Koreans than among Canadians.

Method

Participants. One hundred and eighty-one Euro-Canadian undergraduate students (35 women, 146 men, $M_{\text{age}} = 18.80$ years, $SD = 1.81$) from Queen’s university and 160 Korean undergraduate students (101 women, 52 men, 3 prefer not to answer, 4 missing, $M_{\text{age}} = 21.49$

years, $SD = 2.24$) from Sogang university participated in this study. Canadian participants received partial course credit for their participation, and Korean participants received monetary compensation for their participation.

Materials and procedure. Participants completed all questionnaires online. Participants were randomly assigned to either the pleasurable or determined (control) condition. Specifically, participants in the pleasurable condition imagined a moment that they would feel pleasurable, where they were gratifying their “sensual needs, frivolous amusement, and instant temptation.” Conversely, participants in the determined condition imagined a moment that they would feel determined, where they were “setting goals, building good habits, and overcoming obstacles.” Then, I measured participants’ meaning search tendency using the MLQ search subscale as in Study 1, except that the items were modified to allow participants to report their momentary level of meaning search tendency (see Appendix A for the full list of items). Participants indicated the extent to which they agreed with each of the five statements ($M_{\text{Canada}} = 5.73$, $SD = 1.30$, $\alpha = .96$, $M_{\text{Korea}} = 5.53$, $SD = 1.05$, $\alpha = .89$; e.g., “I am looking to find my life’s purpose.”) on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). Participants completed the demographic measures before being debriefed.

Results and Discussion

I hypothesized that relative to Canadians, Korean participants would be more prone to meaning search in the pleasure condition than in the determination condition. As expected, a 2 (Culture: Canadian vs. Korean) \times 2 (Imagination task: determination vs. pleasure) ANOVA showed a significant two-way interaction, $F(1, 337) = 3.89$, $p = .049$, $\eta_p^2 = .011$. As seen in Figure 3, Canadians and Koreans showed opposite patterns in response to the two conditions,

although simple effects were not significant: the search for meaning was lower in the pleasure presence ($M = 5.65, SD = 1.35$) condition than in the determined condition ($M = 5.82, SD = 1.26$) for Canadians, $F(1, 337) = .87, p = .352$. Korean participants, however, showed the reversed pattern, such that their search for meaning scores were greater in the pleasure condition ($M = 5.69, SD = .99$) than in the determined condition ($M = 5.35, SD = 1.10$), $F(1, 337) = 3.19, p = .075$, although it was not statistically significant.

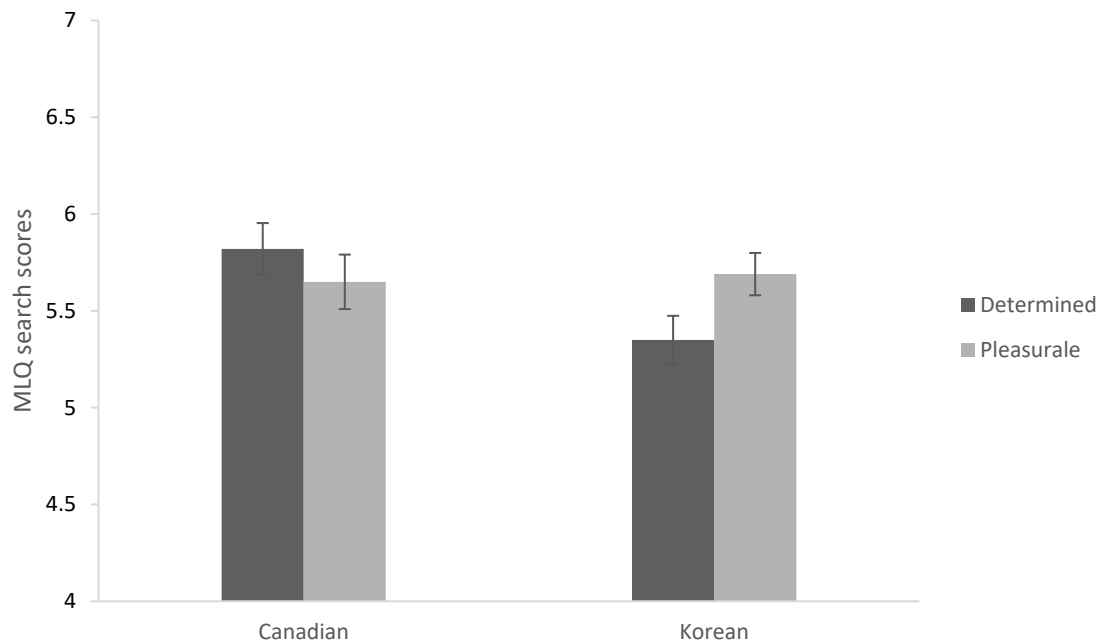


Figure 3. MLQ search scores for Canadian and Korean participants in the determined and pleasurable conditions in Study 3.

Note. MLQ = Meaning in Life Questionnaire

Chapter 5

In Studies 1 through 3, I demonstrated that Koreans and Canadians differ in their association between the pleasure presence and search for meaning. However, I did not directly assess whether the cultural difference was driven by independence-interdependence. Therefore, in Study 4, I measured Canadian participants' independent-interdependent self-construal and examined whether individual difference in independence-interdependence moderates the association between the pleasure presence and meaning search. Although this study was not designed to test whether the cultural difference between Koreans and Canadians was driven by the degree of interdependence, within-cultural examination has a couple of merits in assessing meaning search tendencies. First, the baseline for meaning search tendency is different across cultures (e.g., Steger et al., 2008); thus, within-cultural comparison would better show how meaning search changes as a function of pleasure and cultural orientation. Second, as demonstrated in Study 2, what is meaningful may not be as meaningfully perceived in other culture. For example, among a few meaningful activities, Korean and Canadian participants found only listening to a friend's problem to be similarly meaningful. Therefore, in Study 4, I tested my hypothesis by examining Canadians only and expected that, relative to the control (determined) condition, interdependent Canadians would search for meaning more than independent Canadians in a pleasurable affective state.

Method

Participants. Two hundred and twenty-eight Euro-Canadian undergraduate students (192 women, 36 men, $M_{\text{age}} = 18.29$ years, $SD = .80$) from Queen's University participated in this study for partial course credit.

Materials and procedure. Participants completed all questionnaires on the computer in the lab. First, I measured independence-interdependence through the 34-item individualism-collectivism scale (Singelis, Triandis, Bhawuk, & Gelfand, 1995). Specifically, participants indicated their agreement with the statements for individualism (e.g., "One should live one's life independently of others") and collectivism (e.g., "My happiness depends very much on the happiness of those around me") on a 9-point scale (1 = *never*, 9 = *always*). Their responses to the items were averaged to produce a score of independence ($M = 5.23$, $SD = 1.06$, $\alpha = .83$) and interdependence ($M = 6.35$, $SD = .90$, $\alpha = .82$). I also reverse-coded individualism items and averaged the responses to all items to create an interdependence score ($M = 5.44$, $SD = .69$, $\alpha = .81$). Higher scores indicate greater interdependence. As in Study 3, they were randomly assigned to complete one of the two imagination tasks: pleasure or determination. Then, as in Study 2, they reported their preference to engage in five meaningful activities (e.g., volunteering at a special education school) and five control activities (e.g., having a party at a club) on a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). An index of meaningful activity preference served as an indicator of meaning search tendency. Afterward, they rated the meaningfulness and pleasurableness, respectively, of each activity on a 7-point scale (1 = *not at all*, 7 = *very much*). They completed the demographic measures before being debriefed.

Results and Discussion

Paired-sample t tests revealed that the five meaningful activities were evaluated as more meaningful than pleasurable, whereas the five positive non-meaningful activities were evaluated as more pleasurable than meaningful, all $ps < .001$ (see Table 2). To test the main hypothesis, I conducted a multiple regression analysis. Interest in the meaningful activities was regressed on condition ($-.50 = pleasurable, .50 = determined$), interdependence (mean-centered), and the interaction of the two variables. The results revealed a significant condition \times interdependence interaction effect ($B = .58, SE = .19, t = 3.07, p = .002$), with a significant simple effect of interdependence ($B = -.35, SE = .09, t = -3.70, p < .001$) at the average of condition and a non-significant simple effect of the condition ($B = .07, SE = .13, t = .56, p = .578$) at the average of interdependence. As illustrated in Figure 4, a simple slope test showed that independent participants (1 SD below the mean) were less willing to engage in meaningful activities after they had imagined a pleasurable moment than a determined moment ($B = -.47, SE = .18, t = -2.55, p = .012$), whereas interdependent participants (1 SD above the mean) showed a nonsignificant trend of being more interested in meaningful activities in the pleasurable condition than in the determined condition ($B = .33, SE = .18, t = 1.80, p = .073$). A similar analysis was conducted for the control activities, but revealed no significant effects, $ps \geq .449$.

I also conducted a similar multiple regression analysis in which scores of independence and interdependence were entered at the same time. Specifically, I examined whether independence and interdependence independently moderated the effect of condition on the interest in meaningful activities. To this end, as recommended by Yzerbyt, Muller, & Judd (2004), interest in meaningful activities was simultaneously regressed on condition ($-.50 = pleasurable, .50 = determined$), independence (mean-centered), interdependence (mean-

centered), and the interaction terms of condition and independence or interdependence. The results found that a nonsignificant simple effect of condition ($B = .09, SE = .13, t = .74, p = .462$) at the average of independence and the average of interdependence, a nonsignificant simple effect of independence ($B = -.11, SE = .06, t = -1.80, p = .074$) at the average of condition and the average of interdependence, and a significant simple effect of interdependence ($B = .27, SE = .07, t = 3.79, p < .001$) at the average of condition and the average of independence. More importantly, I found that there was a significant interaction effect between condition and independence ($B = .31, SE = .12, t = 2.57, p = .011$) and a marginally significant interaction effect between condition and interdependence ($B = -.26, SE = .14, t = -1.78, p = .077$). As shown in Figure 5, a simple slope test revealed that those high in independence (1 *SD* above the mean) were significantly less interested in meaningful activities in the pleasurable condition than the determined condition ($B = .42, SE = .18, t = 2.32, p = .021$). However, those low in independence (1 *SD* below the mean) did not differ in their interests in meaningful activities across condition although it was in the predicted direction ($B = -.23, SE = .18, t = -1.29, p = .20$). Similarly, although marginally significant, a simple slope test revealed that those low in interdependence (1 *SD* below the mean) were less interested in meaningful activities in the pleasurable condition than the determined condition ($B = .33, SE = .19, t = 1.76, p = .081$), while those high in interdependence (1 *SD* above the mean) did not differ in their interests in meaningful activities across condition ($B = -.14, SE = .18, t = -.76, p = .45$).

Taken together, these findings were consistent with results of Studies 2 and 3, in that, relative to the control condition, the presence of pleasure motivated interdependent participants more than independent participants to search for meaning.

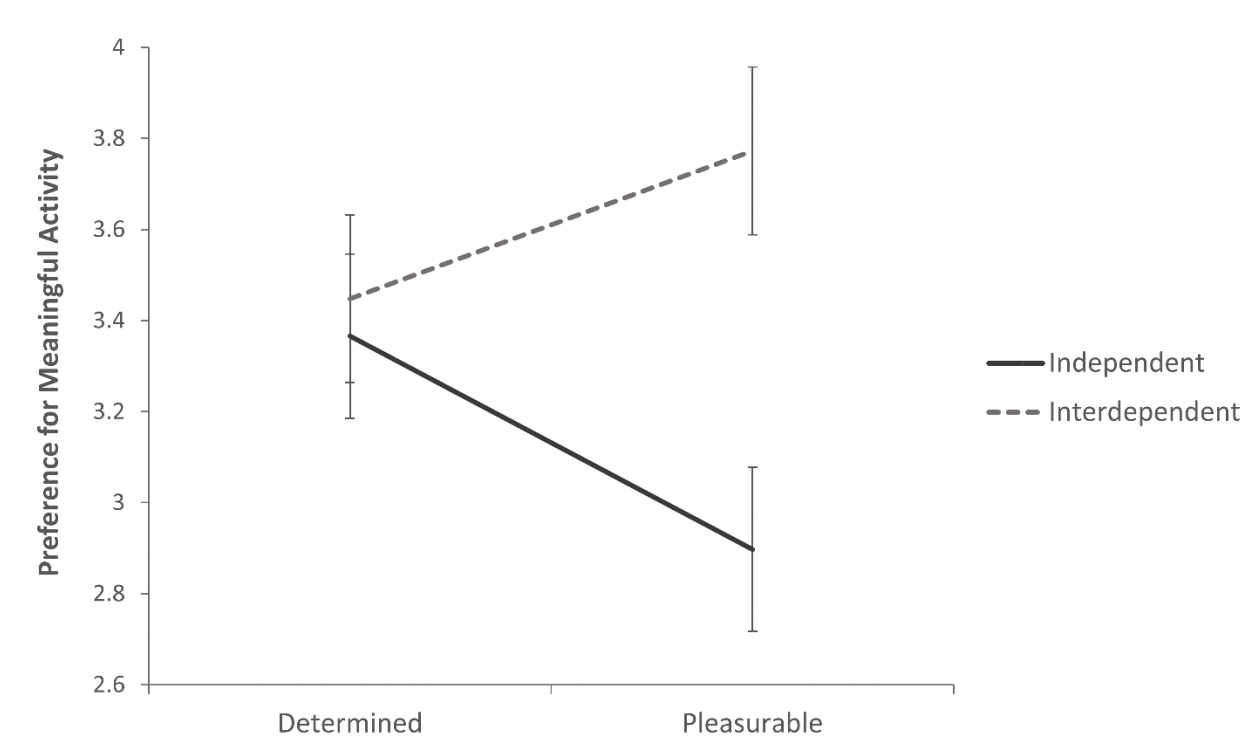


Figure 4. The willingness to search for meaning for independent and interdependent participants with the low presence of pleasure and the high presence of pleasure in Study 4. Error bars indicate standard errors.

Internal Meta-Analysis

I hypothesized that independent people would search for meaning at a low level of pleasure than at a high level of pleasure, while a reverse pattern would be the case for interdependent people. I consistently found supporting evidence for our focal hypothesis concerning the interaction effect. However, the predicted simple effect of pleasure on meaning search did not always reach statistical significance although trending toward the expected direction. To examine the reliability of the simple effects, I performed an internal meta-analysis based on the recent methodological recommendations (e.g., Fabrigar & Wegener, 2016; Goh, Hall, & Rosenthal, 2016).

I conducted a random-effects meta-analysis to examine whether pleasure presence was differently linked with meaning search for independent vs. interdependent participants across Studies 1 through 4 using the *R* statistical package *metafor* (Viechtbauer, 2010). For the analysis, I used Pearson correlation as effect size and transformed it to Fisher's *z*. I then back transformed to Pearson correlations for presentation. The test for residual heterogeneity was not significant, $\tau^2 = .001$, $SE = .004$, $Q_E(6) = 3.00$, $p = .809$. More importantly, the test of moderation yielded a significant effect, $Q_M(1) = 24.97$, $p < .001$, such that significant correlation coefficients emerged for both independent participants, $r = -.11$, $p = .008$, 95% CI = [-.194, -.029] and interdependent participants, $r = .30$, $p < .001$, 95% CI = [.185, .424]. Consistent with our hypothesis, this meta-analytic finding suggests an overall effect that independent participants sought more meaning in the presence of low pleasure, whereas interdependent participants sought more meaning in the presence of high pleasure.

Chapter 6

General Discussion

In summary, the present research has shown that pleasure, relative to lack of it, motivates meaning search for interdependent people more than for independent people. Four studies demonstrated the culturally divergent associations between the presence of pleasure and the search for meaning. In other words, I found that the relationship between presence of pleasure and search for meaning was moderated by culture. For interdependent participants, higher level of pleasure was associated with greater meaning search, whereas independent participants' meaning search was associated more with lower levels of pleasure, although these effects were not always significant statistically. The different patterns between independent and interdependent people emerged consistently as independence and interdependence were operationalized both at a cross-cultural level (Studies 1-3) and at a within-cultural level (Study 4, examining individual differences within Canadians).

Limitations and Future Directions

Although the present study consistently demonstrated the significant interaction between culture and pleasure presence on meaning search, the interaction was sometimes driven by the presence of pleasure condition (e.g., Study 4), and sometimes driven by the lack of pleasure condition (i.e. control conditions)(e.g., Studies 2 and 3). Although we hypothesized that the presence of pleasure would be the driving force for between group differences, the data indicate that both the presence and absence of pleasure could be at work. One possibility is that the induced pleasurable state may have not been significantly different from participants' default affective state. As shown in Study 1, participants generally reported that their life was pleasurable, reporting above average rating for pleasure presence. Thus, the pleasure

manipulation may not have gone beyond the level that deviates from Korean's social norm. In other words, recalling or imagining pleasurable experiences may have been similarly acceptable and psychologically beneficial for both Koreans and Canadians, thus resulting in non-significant difference across culture. In terms of the pleasure absence condition, as pleasure is valued more in Canada than in Korea, the absence of it may have fostered greater meaning search for Canadians than Koreans. This is speculative, and requires more future research to make further investigation. That being said, the patterns within cultures are more consistent across different studies reported here: Euro-Canadians sought for meaning more in the absence than the presence of pleasure, whereas Koreans did so more in the presence than absence of pleasure. Future research should test systematically how the presence vs. absence of pleasure may work out differently in different cultures, and perhaps under different circumstances.

The present study proposed that independence-interdependence is one of the mechanisms that could drive cultural differences in the association between the presence of pleasure and meaning search. However, the four studies only indirectly suggest this possibility. In other words, I found cross-cultural differences in meaning search, but the data were limited in showing whether the difference between Korean and Canadian participants was due to the degree of independence or interdependence, as independence and interdependence were not measured in these cross-cultural studies. This also leaves the door open for alternative explanations of the results. For instance, research shows that cross-cultural differences in wealth and religiosity influence individuals' sense of meaning in life (Oishi & Diener, 2014). More pertinent to the present research, dialecticism also contributes to attitudes towards positive and negative affects (Miyamoto et al., 2010; Schimmack, 2001). To address these limitations, a future study may directly investigate whether the differences in interdependence, while controlling for

dialecticism, mediates the association between pleasure presence and meaning search across cultures.

Moreover, there is another alternative account to be addressed: assimilation and contrast effect. According to the assimilation-contrast theory, when making judgments, people use their initial judgment as an anchor to make a future judgment (Schwarz, Strack, & Mai, 1991).

Assimilation occurs when the context and the target of judgement are similar, whereas contrast occurs when the context and the target of judgment are dissimilar. Pertinent to this research, participants may have referred to the experience of pleasure to evaluate their meaningfulness. It is possible that independent participants assimilated their pleasure into their overall meaning in life, resulting in less need to search for meaning in the presence (vs. absence) of pleasure. In contrast, interdependent participants may contrast their pleasure presence with meaningfulness, resulting in more search for meaning in the presence (vs. absence) of pleasure. Although I have not found any research to support such cultural differences in relying on assimilation and contrasting effects in the judgment of well-being, this possibility should be explored more directly in future research.

Implications

The present research has implications for the mood-as-information hypothesis. People often use their experienced affect as information in evaluating their life (Schwarz & Clore, 1983, 2003). For example, feeling happy led American college students to see greater meaning in life (King et al., 2006). For East Asians, however, as they do not value positive affect as much (e.g., Miyamoto & Ma, 2011), they may differ from North Americans in at least two ways: First, they may not consider positive affect as informative as North Americans do in evaluating their life; Second, even if they do recognize the informational value of the positive affect (or pleasure),

they may draw different conclusions from it. The present research supports the view of the latter. Future research may explore the former possibility, testing potential cultural differences in using affect as information in social judgment.

The present study suggests a possibility that the meaning search is a product of cultural misfit of pleasure. Previous research has demonstrated that personality traits, self-concepts, values, and goals that are aligned with cultural norms and ideals are consequential for various adaptive outcomes including self-esteem and subjective well-being (Fulmer et al., 2010), authenticity (Schmader & Sedikides, 2018), health (Yoo, Miyamoto, Rigotti, & Ryff, 2017), and academic achievement (Stephens, Fryberg, Markus, Johnson, & Covarrubias, 2012). Guided by these investigations and perspectives on cultural fit (e.g., Yoo & Miyamoto, 2018), I speculate that the person-culture misfit of pleasure may influence one's meaning system. Specifically, when an individual's personal experience of pleasure is dissonant with cultural values and mandates, one's meaning system could be disrupted, which subsequently leads to motivational attempts to search for meaning (e.g., intentions to engage in meaning-seeking behaviors) as a means to restore a threatened meaning system (Heine, Proulx, & Voh, 2006). For instance, in interdependent cultures (e.g., Korea), the presence of pleasure, particularly that is self-focused, may foster meaning search as the experience of pleasure is less central with the dominant values of interdependent cultures. Likewise, in the present study, Koreans may have sought meaning in order to regulate the hyphenated pleasure, and indeed meaning search could be a meaning maintaining strategy to help them justify that their life is still meaningful.

The present findings draw connections between ideal affect and the search for meaning. European Americans and Canadians value high-arousal positive affects (e.g., excited, joyful), whereas East Asians value low-arousal positive affects (e.g., calm, relaxed; Tsai, 2007 for

review). Perhaps the meaning search may be an outcome of the misfit of the ideal-actual affective states. For instance, the absence of excitement may motivate European Americans and Canadians to search for meaning, whereas the absence of calmness may motivate East Asians' meaning search. Moreover, East Asians have greater tolerance towards negative affect as they believe that negativity is not absolutely bad and can become positive (Ji et al., 2001; Peng & Nisbett, 1999). Thus, although feeling bad may lead people to evaluate their life as not meaningful, European Americans and Canadians would do this more so than East Asians, which may result in greater meaning search for the former than the latter group. Future research should extend findings of the present study by exploring how discrete emotions are culturally valued, and how such affective-value system influences people's meaning in life.

The present study is consistent with the emotion regulation literature. People constantly monitor their current affective state and compare it to the optimal level of affects. When their current and desired emotional states were discrepant, people are motivated to regulate their emotion to reduce such gap by adjusting their cognition or behavior (Higgins, 1997). As the desirability of affect (even within positive affect) is culturally shaped, emotion regulation is also culturally specific. For example, European Americans and Canadians choose to engage in active individual activities (e.g., running) to match with the high arousal ideal affect (e.g., excitement), whereas East Asians seek out to engage in passive collective activities (e.g., picnicking) to achieve their low arousal ideal affect (e.g., calmness; Tsai, 2007). Moreover, Miyamoto and Ma (2011) demonstrated that East Asians do not pursue maximum positivity as they believe that positive affect can have negative consequences. As a result, when experiencing too much positive affect, they tend to down-regulate it rather than hedonically savoring it. I argue that the meaning search may be another way to regulate emotion. Perhaps East Asians search for

meaning to match their heightened level of pleasure, or to down regulate their pleasure, to feel that their life is not exceedingly pleasurable over meaningful.

The present study also contributes to the well-being research in various ways. The present research explored the uncovered facet of meaning: the search domain. While the presence of meaning focuses on the perception whether one's life is meaningful, the search facet highlights one's active motivation to find meaning. Examining the search domain is particularly important in moving the previous research forward as the relation between the presence of meaning and the search for meaning is culturally divergent (Steger et al., 2008). Steger and colleagues have demonstrated that European Americans and Canadians treat search for meaning as an indicator of absence of meaning (e.g., one searches for meaning because one does not have meaning), thus resulting in a negative correlation between the presence of meaning and search for meaning. In contrast, endorsing the coexistence of two opposite forces (e.g., the presence of meaning and the search for meaning), East Asians' presence of meaning is not significantly correlated with less search for meaning. In the present research, I exclusively examined the link between the pleasure presence and the meaning search. A future study may investigate the intricate link between pleasure and meaning by directly testing whether the presence of meaning leads to different levels of meaning search through perceived level of meaning presence.

Moreover, the relationship between search for pleasure and presence of pleasure is culturally divergent. For example, Mauss and colleagues (2011, 2012) demonstrated that searching for happiness is negatively associated with one's actual level of happiness, at least in the independent cultures. However, Ford and colleagues (2015) further demonstrated that pursuit of happiness actually predicted higher well-being for people from interdependent cultures, as their attempts to enhance their own happiness are done in socially engaging ways. It is unclear

whether participants in the present study thought of pleasure that involves social engagement or not, and whether this may vary across cultures. Future research should investigate how the types of pleasure (enjoyed by oneself vs. with others) may influence meaning search and how such an effect may depend on culture.

In conclusion, the present research has extended past research on pleasure and meaning by taking a cultural perspective. Likely due to culturally specific views on pleasure, pleasure (vs. lack of pleasure) functions as a source of meaning in independent cultures where individuals' own happiness is highly valued, whereas it serves as a motivator for the meaning search in interdependent cultures where social well-being is prioritized over personal happiness.

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Appendix A

Supplementary Material

Meaning in Life Questionnaire (MLQ) search (Steger et al., 2006) (Studies 1&3)

Please take a moment to think about what makes your life and existence feel important and significant to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

1 = *absolutely untrue* 2 = *mostly untrue* 3 = *somewhat untrue* 4 = *can't say true or false* 5 = *somewhat true* 6 = *mostly true* 7 = *absolutely true*

(Study 1)

1. I am looking for something that makes my life feel meaningful.
2. I am always looking to find my life's purpose.
3. I am always searching for something that makes my life feel significant.
4. I am seeking a purpose or mission for my life.
5. I am searching for meaning in my life.

(Study 3)

6. I am looking for something that makes my life feel meaningful.
7. I am looking to find my life's purpose.
8. I am searching for something that makes my life feel significant.
9. I am seeking a purpose or mission for my life.
10. I am searching for meaning in my life.

Pleasure in Life Questionnaire (PLQ) presence (Study 1)

Please take a moment to think about what makes your life pleasant. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective questions and that there are no right or wrong answers. Please answer according to the scale below:

1 = *absolutely untrue* 2 = *mostly untrue* 3 = *somewhat untrue* 4 = *can't say true or false* 5 = *somewhat true* 6 = *mostly true* 7 = *absolutely true*

1. I have found pleasure in my life.
2. My life has a sense of pleasure.
3. I have a good sense of what makes my life pleasant.
4. I have discovered something enjoyable in my life.
5. My life has no sense of pleasure.

Activity pretest (Study 2)

We are interested in how you feel about engaging in particular activities.

How do you feel about [activity]?

(listening to a friend's problem, volunteering at a special education school, attending a career fair, running a full marathon, reading an article about environmental sustainability, having a party at a club, shopping at a mall, playing games, watching Netflix, online shopping)

The order of activities are randomized.

1 = *not at all* 4 = *moderately* 7 = *very much*

1. brings meaning to my life
2. makes my life significant
3. helps me find my life's purpose
4. makes me feel bored
5. makes me feel dull
6. calms me down
7. gets me excited
8. is effortful
9. is difficult to do

Activity preference (Studies 2&4)

The below are activities that college students may engage in during their spare time. Read each activity carefully and indicate the extent to which you would like to engage in your spare time by using the scale below. To what extent do you want to engage in each activity in your spare time?

1 = *not at all* 4 = *moderately* 7 = *very much*

Meaning-oriented activities

1. listening to a friend's problem
2. volunteering at a special education school
3. attending a career fair
4. running a full marathon
5. reading an article about environmental sustainability

Control activities

1. having a party at a club
2. shopping at a mall
3. playing games
4. watching Netflix
5. online shopping

Meaningfulness/pleasurableness of activity (Studies 2&4)

1 = *not at all meaningful (pleasurable)* 7 = *very much meaningful (pleasurable)*

Please indicate the extent to which each activity you find to be meaningful.

Please indicate the extent to which each activity you find to be pleasurable.

Individualism-collectivism scale (Singelis et al., 1995) (Study 4)

Below are statements that you may agree or disagree with. Read each sentence and indicate to what extent you agree or disagree with each item. Please answer according to the scale below.

1 = *never* 9 = *always*

1. I prefer to be direct and forthright when I talk with people
2. One should live one's life independently of others
3. I often do my own thing
4. I am a unique individual
5. I like my privacy
6. When I succeeded, it is usually because of my abilities
7. What happens to me is my own doing
8. I enjoy being unique and different from the others in many ways
9. Winning is everything
10. It annoys me when others people perform better than I do
11. It is important for me that I do my job better than the others
12. I enjoy working in situations involving competition with others
13. Competition is law of nature
14. When another person does better than I do, I get tense and aroused
15. Without competition it is impossible to have a good society
16. Some people emphasize winning; I am not one of them
17. My happiness depends very much on the happiness of those around me
18. I like sharing little things with my neighbors
19. The wellbeing of my coworkers is important to me
20. It is important for me to maintain harmony within my group
21. If a relative were in financial difficulty, I would help within my means
22. If a co-worker gets a price I would feel proud
23. To me pleasure is spending time with others
24. I feel good when I cooperate with others
25. I think cooperation in workplace is more important than competition
26. I think it is important everyone has equal access to healthcare
27. I would do what would please my family
28. I usually sacrifice my self-interest for the benefit of my group
29. We should keep our aging parents with us at home
30. Children should feel honored if their parents receive a distinguished award
31. Children should be taught to place duty before pleasure
32. I would sacrifice an activity that I enjoy very much if my family did not approve of it
33. I hate to disagree with others in my group
34. Before making a major trip, I consult with most members of my family and many friends

Pleasure manipulation (Study 2)

Pleasure presence condition

Please think about a situation or an event that made you feel your life is pleasant. Then, write about that situation or event that made you think that your life is pleasurable in the blank below. Please describe your thoughts and feelings involved in that situation or event in as much detail as possible so that people reading your essay can put themselves in your shoes and feel your thoughts and feelings involved in that situation or event.

Pleasure absence condition

Please think about a situation or an event that made you feel your life is not pleasant. Then, write about that situation or event that made you think that your life is not pleasurable in the blank below. Please describe your thoughts and feelings involved in that situation or event in as much detail as possible so that people reading your essay can put themselves in your shoes and feel your thoughts and feelings involved in that situation or event.

Pleasure manipulation (Studies 3&4)

Pleasurable condition

Simply put, “pleasure” is feeling happiness and enjoyment. Pleasurable feelings equate to a state of gratification. Pleasure can be achieved through gratifying sensual needs, frivolous amusement, and instant temptation. Some examples of pleasure-seeking include eating food that you want without thinking about calories or diet (e.g., sweets, junk food, drinks), spending money on luxury goods (e.g., name brand clothes, electronics, leisure items), partying over night (e.g., at a house party, night club, party island), or imagining yourself in a sensual relationship (e.g., someone you know, character in a movie). Now, please imagine yourself engaging in a pleasurable moment. It may be like one of the examples mentioned above, or it may be something completely different, as long as it provides you a sense of pleasure from sensual, frivolous, and instant gratification. For the next two minutes, please close your eyes and imagine yourself in a pleasurable moment in as much in detail as possible.

Determined condition

Simply put, “determination” is feeling firm and resolute. Determined feelings equate to a state of persistence. Determined feelings equate to a state of firmness. Determination can be achieved through setting goals, building good habits, and overcoming obstacles. Some examples of being determined include healthy eating (e.g., avoiding sweets, junk food, drinks), making smart money decisions (e.g., controlling spending, making savings), setting a plan for school (e.g., study schedule, grades to achieve for classes), or being confident about carrying on what believe (e.g., opinion, choices). Now, please imagine yourself in a moment being determined. It may be like one of the examples mentioned above, or it may be something completely different, as long as it provides you a sense of determination. For the next

two minutes, please close your eyes and imagine yourself in a moment being determined in as much in detail as possible.

Appendix B

Additional Analysis

Measurement invariance

In Studies 1 and 3, prior to the main analyses, measurement invariance was evaluated for the scales of interest to exhibit measurement and structural invariance across Koreans and Canadians. Specifically, multi-group confirmatory factor analyses (CFA) were performed with Mplus (8.0 version, Muthén, & Muthén, 1998-2017) to examine configural and metric invariance of the scales across groups. In the configural invariance models, only the general factor structure was estimated to be equivalent across groups; the factor mean was fixed to 0, and the factor variance was fixed to 1 for identification within each group. In the metric invariance models, equality of the item factor loadings across groups was examined by specifying the factor variance to be fixed to 1 for Canadians but freely estimated for Koreans; the factor means were fixed to 0 in both groups. As the metric invariance model was nested within the configural invariance model, I used the χ^2 difference test to compare both models. If the metric invariance model did not significantly worsen the fit than the configural invariance model (i.e., χ^2 difference of $p > .05$), then it suggests that the assumption of metric invariance is supported.

Study 1

First, I specified the configural invariance model in which two-factors structure of MLQ-search and PLQ-presence was equivalent across two cultures. It revealed that the configural model had good fit ($\chi^2(68) = 165.30, p < .001$; RMSEA = .095, 90% CI = [.077, .114]; CFI = .912), allowing for testing a potential decrease in fit due to measurement non-invariance in the metric model. While the metric model showed good model fit ($\chi^2(76) = 183.33, p < .001$; RMSEA = .095, 90% CI = [.077, .112]; CFI = .903), χ^2 difference test revealed a significant

difference between the configural and metric models ($\Delta\chi^2(8) = 17.90, p = .022$), indicating that there was evidence for measurement non-invariance. By following an established procedure when measurement invariance is not supported (Millsap & Olivera-Aguilar, 2012), I investigated partial metric invariance. Specifically, I probed the rank ordering and absolute magnitude of factor loadings in the configural model and identified that the factor loading of the PLQ item 4 (“I have discovered something enjoyable in my life”) was the most prominently discrepant between two cultures. Thus, I estimated a partial metric invariance model in which the factor loading of this item freely vary across groups while the factor loadings of other items remained constrained. This model showed good fit ($\chi^2(75) = 178.27, p < .001$; RMSEA = .094, 90% CI = [.076, .111]; CFI = .906), and χ^2 difference test also revealed that the configural and partial metric models did not significantly differ ($\Delta\chi^2(7) = 12.08, p = .098$), supporting the assumption of metric invariance. Based on this finding, I analyzed the data by excluding the PLQ item 4 in the primary analysis and found that the results did not differ from ones that included the PLQ item 4.

Study 3

As in Study 1, I first specified the configural invariance model in which one factor structure of MLQ-search scale was equivalent across two cultures. The configural invariance was supported as the model fit the data well ($\chi^2(10) = 23.08, p = .01$; RMSEA = .088, 90% CI = [.040, .135]; CFI = .972). The metric invariance model exhibited good model fit ($\chi^2(14) = 32.66, p = .003$; RMSEA = .088, 90% CI = [.049, .128]; CFI = .960), but worsened the fit when compared with the configural model ($\Delta\chi^2(4) = 9.84, p = .043$). By following the same procedure in Study 1, I inspected the configural model and found that the MLQ item 3 (“I am searching for something that makes my life feel significant”) showed the most discrepant factor loading

between the two groups. Then, I estimated the partial metric invariance model in which the factor loading of the MLQ item 3 was allowed to vary freely, and found that it did not significantly worsen the fit ($\Delta\chi^2(3) = 6.78, p = .079$). Although excluding this item in the primary analysis led to a marginally significant interaction effect ($p = .07$), the main expected pattern remained similar.