IN PURSUIT OF EXISTENTIAL MEANING: MOTIVATION TO SEARCH FOR MEANING FACILITATES EXPERIENTIAL PURCHASES OVER MATERIAL PURCHASES

A Dissertation

by

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ABSTRACT

People are fundamentally motivated to search for meaning. What do people do when they want to find meaning in life? Despite the universality of humans’ searching for meaning, empirical research has yet sought answers to this question. Guided by theories and empirical evidence suggesting experiential purchases (buying life experiences) as having more existential values than material purchases (buying material possessions), the present research explored how the motivation to search for meaning influences preference for experiential purchases over material purchases. Using various methodologies (e.g., correlational, experimental), four studies tested the hypothesis that experiential purchases are preferred over material purchases as one is motivated to search for meaning.

The present research demonstrated that participants perceived experiential purchases to be more instrumental for finding meaning in life than material purchases as they recommended more experiential than material purchases for people who are actively searching for meaning. The present research also employed a cross-lagged panel design and found that the motivation to search for meaning temporally preceded preference for experiential over material purchase, and vice versa. Establishing the causality, the present research experimentally manipulated the motivation to search for meaning and showed subsequent increase in preference for experiential purchases over material purchases. Finally, the present research developed an intervention method to induce one’s motivation to search for meaning and revealed that participants in the intervention condition exhibited greater preference for experiential purchases over material purchases over time. Importantly, the present research further demonstrated that the induced motivation to search for meaning fostered actual experiential purchases, which in turn enhanced
a sense of meaning in life through relevant psychological functioning (e.g., autonomy). The present research offers implications for the role of the search for meaning in the experience of meaning and opens avenues for future research.
DEDICATION

To my grandmother.
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INTRODUCTION

The purpose of life is not to be happy. It is to be useful, to be honorable, to be compassionate, to have it make some difference that you have lived and lived well. —Ralph Waldo Emerson

Although folk wisdom suggests understanding the meaning of one’s existence is daunting task (Baumeister, 1991), most people seem to seek and find meaning in their lives with relative ease. In fact, people are fundamentally motivated to search for meaning (Frankl, 1946/1985; Wong, 1998a), and usually find it easy to declare various types of personal meaning in their lives (Reker & Wong, 1988). Taking existential, positive, clinical, social, and personality psychological perspectives, a variety of research has garnered empirical evidence that people experience meaning in life through multiple meaning sources (e.g., King, Hicks, Krull, & Del Gaiso, 2006; Lambert et al., 2013; Park, 2013; Schlegel, Hicks, King, & Arndt, 2011), on average maintain an optimal level of meaning in life (Heintzelman & King, 2014), and naturally reinstate and maintain their meaning system when it is threatened (Heine, Proulx, & Vohs, 2006; Proulx & Inzlicht, 2012).

While the empirical study of meaning in life has flourished in the past decade (Hicks & Routledge, 2013; Steger, 2009), the bulk of this research has focused on the presence of meaning rather than the search for meaning itself. For example, many studies seek to understand what psychological factors influence meaning in life judgment (e.g., Hicks & King, 2009; King et al., 2006; Lambert et al., 2013; Park, 2013; Schlegel, Hicks, Arndt, & King, 2009; Schlegel et al., 2011). Research on the search for meaning, however, has focused mainly on its buffering function as a response to traumatic events such as cancer (e.g., O’Connor, Wicker, & Germino,
1990), bereavement (e.g., Gillies & Neimeyer, 2006), or victimization (e.g., Collins, Taylor, & Skokan, 1990). Although a few studies have recently delved into personality characteristics associated with people searching for meaning (e.g., Steger, Kashdan, Sullivan, & Lorentz, 2008a), no research to date has examined what types of dynamic processes occur when individuals actively search for existential meaning.

The current research aims to fill this gap by investigating people’s behavioral preference when they are actively searching for meaning. Understanding types of behavior people prefer engaging in is important given that the search for meaning 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 et al., 2008a, p. 200). To the extent that the search for meaning is akin to a goal-pursuit process (Klinger, 2012; Maddi, 1970), illuminating what kinds of activities are favored over other activities when people hope to “find” meaning would further enhance our knowledge about existential meaning in a more comprehensive manner. In addition, examining whether engaging in such meaning-seeking activities actually fosters an enhanced sense of meaning in life, and if so, what psychological factors are involved in this augmentation of meaning will help paint a clearer picture of the dynamic relationship between the search for meaning and the experience of meaning in life.

In exploring these inquiries, the present research is primarily concerned about the relationship between the motivation to search for meaning and preference for experiential purchases over material purchases. Specifically, guided by theoretical perspectives and empirical evidence linking purchasing behavior with the search for meaning, the current research tested a noble idea that people will prefer experiential purchases (i.e., buying life experiences such as vacations) over material purchases (i.e., buying material possessions such as jewelry) as
they are motivated to search for meaning and may consequently experience an enhanced sense of meaning in life along with increased psychological functioning as underlying psychological mechanisms. While numerous research has documented evidence for the hedonic benefits of experiential purchases over material purchases (e.g., Gilovich, Kumar, & Jampol, 2015; Van Boven, 2005; Van Boven & Gilovich, 2003), the current endeavor attempts to extend the implications of experiential purchases to existential issues of finding meaning in life.

**Purchasing Behavior and the Search for Meaning**

Many theoretical perspectives and empirical research suggest that people engage in purchasing behaviors as a possible means to resolve their *existential concern* (i.e., discovering meaning in life). First, the extended-self theory (Belk, 1988) posits that purchasing behaviors enable the construction (or reconstruction) of self-concept to the extent that purchased material possessions are imbued with self-relevant symbolic meanings (Mehta & Belk, 1991; Schouten, 1991; Solomon, 1983). For instance, certain types of positive self-images (e.g., intelligence) can be added to one’s self-concept through purchasing material goods that convey such desirable images (e.g., sophisticated books). Indeed, research demonstrates that threats to one’s “intelligent” self-concept facilitates a preference for intelligence-related products (e.g., a fountain pen) over intelligence-unrelated products (e.g., M&Ms candies, Gao, Wheeler, & Shiv, 2009; Kim & Rucker, 2012; Morrison & Johnson, 2011). Given that true self-understanding serves as an essential source of meaning in life (e.g., Schlegel et al., 2011), the self-seeking consumption behaviors can be translated into people’s searching for meaning via purchasing behaviors.

Another hint at the relationship between purchasing behaviors and the search for meaning is based on empirical evidence for the role of mortality salience in conspicuous consumption
(Solomon, Greenberg, & Pyszczynski, 2004). Taking the perspective of terror management theory (Greenberg, Pyszczynski, & Solomon, 1986; Solomon, Greenberg, & Pyszczynski, 1991), previous studies found that thinking about one’s own death led people to purchase luxurious products in the future as an instant remedy ameliorating the death-related anxiety (Kasser & Sheldon, 2000). In a sense that death poses an existential threat to fundamental meaning systems (e.g., Greenberg et al., 1986), evidence for consumption behaviors fostered by mortality salience bolsters the assumption that purchasing behaviors offer as an instrument to one’s searching for meaning.

In a related vein, previous research also found that threats to one’s social and interpersonal security engender heightened financial activities (e.g., Clark et al., 2011). For example, Baumeister, DeWall, Mead, and Vohs (2008) showed that social exclusion, a threat to one’s social security, inflated spending intentions. Because social relationships operate as an important source of meaning in life (e.g., Hicks, Schlegel, & King, 2010; Lambert et al., 2013) and the need to belong is a fundamental human motive (Baumeister & Leary, 1995), the evidence for spending intentions vis-à-vis social threats supports the link between purchasing behaviors and the search for meaning.

While all of these theoretical perspectives and empirical evidence converge in suggesting that people engage in purchasing behaviors in pursuit of existential meaning, no prior research has explicitly investigated how one’s motivation to search for meaning relates to purchasing behaviors. Also, purchasing behaviors related to meaning-seeking motivation have been limited to the purchases of material goods. Given the evidence that a pursuit of material possessions is often detrimental to subjective well-being (e.g., Richins & Dawson, 1992), there may be a better form of consumptions that are more closely juxtaposed to the need for meaning. Theories and
prior research suggest that experiential purchases, spending money on life experiences (e.g., European vacation, Van Boven & Gilovich, 2003), is potentially better surrogate purchases.

**Experiential Purchases Versus Material Purchases**

Since Van Boven and Gilovich (2003) introduced the distinction between experiential and material purchases, a host of research has repeatedly documented the hedonic advantages of experiential purchases over material purchases (e.g., Caprariello & Reis, 2013; Carter & Gilovich, 2010, 2012; Guevarra & Howell, 2015; Howell & Hill, 2009). Experiential purchases refer to spending behaviors made with “a primary intention of acquiring a life experience: an event or series of events that one lives through” such as going out to dinner or going on a vacation, while material purchases refer to spending behaviors made with “a primary intention of acquiring a material good: a tangible object that is kept in one’s possession” such as jewelry or clothes (Van Boven & Gilovich, 2003, p. 1194). The focal idea in this distinction is that experiential purchases bring about more happiness and satisfaction with purchasing decisions than material purchases. A variety of psychological mechanisms have been nominated and empirically tested as accounts for the hedonic advantages of experiential purchases over material purchases. To illustrate, compared to material purchases, experiential purchases lead to more feelings of social connectedness (e.g., Caprariello & Reis, 2013), fewer comparisons with other consumers and ruminations over forgone buying opportunities (e.g., Carter & Gilovich, 2010; Rosenzweig & Gilovich, 2012), more feelings in touch with a core aspect of one’s identity (Carter & Gilovich, 2012), and slower adaptation to pleasures derived from the purchases (Nicolao, Irwin, & Goodman, 2009). Depending on the kinds of experiential purchases (e.g., dining out or traveling), all of these psychological mechanisms concurrently or independently underlie hedonic advantages of experiential purchases over material purchases.
While literature on experiential and material purchases has focused heavily on *hedonic* well-being (i.e., pleasure-oriented happiness), one neglected facet of well-being in a relation to experiential and material purchases is *eudaimonic* well-being (i.e., meaning-oriented happiness). Consequently, we are little informed about how experiential and material purchases can be linked with existential meaning. Given the fact that happiness and meaning in life are inextricably interrelated but also phenomenologically distinct dual axes of human functioning (Baumeister, Vohs, Aaker, & Garbinsky, 2013; Keyes & Annas, 2009; King et al., 2006; Ryan & Deci, 2001) and the possibility that meaning is actively sought via purchasing behaviors, it is a worthwhile endeavor to explore how experiential and material purchases are differentiated in their existential values (e.g., instrumentality of finding meaning in life) and whether experiential and material purchases are differently sought to the extent that someone pursues existentially more valuable moments (e.g., living a meaningful life).

**Pursuit of Meaning in Life and Experiential Purchases**

The present research is a direct response to this scholarly call for the empirical investigation about how experiential purchases relate to the pursuit of existential meaning. Guided by theoretical perspectives and empirical evidence on experiential purchases, the current research directly tests the assertion that experiential purchases are more functional, compared to material purchases, for resolving an existential issue of finding meaning in life. Specifically, this notion about the *existential advantages* of experiential purchases is examined by focusing on three a priori hypotheses: (a) People hold a belief that experiential purchases have more existential values than material purchases; (b) presumably due to this perceived existential values of experiential purchases, people have a greater interest in making experiential than material purchases as they are motivated to search for meaning; and (c) beyond this expectation toward
existential advantages of experiential purchases, people experience a boosted sense of meaning in life by actually making experiential purchases through enhanced psychological functioning.

**Perceived existential values of experiential purchases.**

When deciding how to allocate their monetary resources to having life experiences or material goods, people make their decisions by taking into account what values each type of purchases would provide in return. For instance, previous research demonstrated people’s hedonic and utilitarian anticipatory valuation of experiential purchases (Kumar, Killingsworth, & Gilovich, 2014; Pchelin & Howell, 2014; Van Boven et al., 2010). That is, not only do people experience more happiness and hedonic well-being by actually making experiential purchases (e.g., Van Boven & Gilovich, 2003) but also expect life experiences to be more pleasurable and worth investing money than material possessions. While these anticipations are primarily concerned with hedonic and utilitarian values of experiential purchases, it also suggests that people may hold a different belief toward experiential and material purchases in their existential values, particularly believing that experiential purchases are more instrumental to learning about one’s meaning in life than material purchases.

Supporting the notion about perceived existential values of experiential purchases, a recent study demonstrating that people perceive experiential purchases to have more true self-knowledge values than material purchases (Kim, Seto, Christy, & Hicks, 2016). As true self-knowledge serves as an important source of meaning in life (e.g., Schlegel et al., 2009), people may also view experiential purchases as existentially more advantageous than material purchases. Moreover, folk wisdom and mass media including self-help books and TV commercials also suggest that people seem to understand that enriching life experiences is a building block for establishing one’s meaning in life. Although people may not explicitly believe
about the existential values of experiential purchases, they are likely to at least implicitly endorse the idea that experiential purchases are more functional for finding one’s meaning in life than material purchases. This hypothesis about the perceived existential values of experiential purchases was tested in Study 1.

**The existential motivation facilitates preference for experiential purchases.**

The existence of the belief about existential values of experiential purchases further suggests that people should favor experiential purchases over material purchases as they need to find meaning in life. In other words, experiential purchases are more likely to be preferred over material purchases to the extent that one is motivated to actively search for meaning. While this hypothesis is concerned about the influence of the search for meaning on intentions to make experiential purchases, it should be noted that how one prefers experiential purchases over material purchases will be affected by the *motivation to search for meaning*, rather than merely the search for meaning. What distinguishes the motivation to search for meaning from the search for meaning is that the former highlights the motivational aspect of intentional and/or behavioral acts of search for existential meaning while the latter is often reflective of the “fact” that one is actively seeking meaning especially in the absence of meaning in life (Steger, Frazier, Oishi, & Kaler, 2006; Steger, Kawabata, Shimai, & Otake, 2008b). This conceptual and terminological clarification is necessary because, as previously described, the search for meaning is akin to a motivational goal-pursuit process (Klinger, 2012; Maddi, 1970). Specifically, the “presence” of meaning can be thought as the end state of the goal pursuit while any deliberate mental and/or physical activities to attain the goal (i.e., finding meaning in life) can be seen as goal-relevant behaviors. Given the importance of motivation in goal-pursuit behavior (e.g., Atkinson, 1957; Bandura, 1997; Wigfield, 1994), one’s level of motivation to seek meaning should influence the
extent to which a person actually utilizes the appropriate means, particularly experiential purchases in the present study. In a related sense, the search for meaning is an effortful and arduous task as it often entails “identifying and organizing information relevant to meaning in life judgments” (Steger, Oishi, & Kesebir, 2011, p. 173). Such meaning-relevant information-processing activities will be more successfully performed to the extent that a person is motivated to search for meaning. Thus, rather than merely the search for meaning primarily capturing a state in which one is working on existential problems or not, the motivation to search for meaning essentially highlighting the reasons behind such activities will be a more precise factor that drives intentional and behavioral preference for making experiential purchases as an instrument for finding meaning in life. Studies 2 through 4 test this hypothesis that the motivation to search for meaning facilitates preference for experiential over material purchases.

**Experiential purchases enhance meaning in life.**

The current research further explores the possibility that beyond the perceived existential values of experiential purchases, actually making experiential purchases enhances a sense of meaning in life. While this is an exploratory attempt, it seems important and even natural to ask whether the motivation to search for meaning actually leads to *behaviorally* preferring experiential purchases over material purchases, and this increases a sense of global meaning in life, which is the fulfillment of the original purpose (i.e., searching for meaning). Theories and previous research unveiling various psychological mechanisms underlying hedonic advantages of experiential purchases suggests that this might be a promising inquiry.

First, self-determination theory (SDT, Ryan & Deci, 2000, 2001) suggests that three basic psychological needs, *autonomy, relatedness,* and *competence,* may link experiential purchases with meaning in life. Autonomy is a fundamental need for optimal functioning when one
engages in activities that are freely chosen and reflective of true identities and core values. Experiential purchases often reveal one’s own true identity and satisfy consumers’ desires to expand their identities in a way that is consistent with their already formulated self-concept (e.g., Guevarra & Howell, 2015). As autonomy represents agent feelings of being in charge of one’s own actions and psychological ownership of such experiences, satisfaction of autonomy via experiential purchases may entail an enhanced understanding of meaning in life (e.g., McAdams, 2013). Relatedness may also serve as a crucial glue to attach experiential purchases to meaning in life. As previously mentioned, social relatedness is the most distinctive characteristic of experiential purchases (Caprariello & Reis, 2013; DeLeire & Kalil, 2010; Howell & Hill, 2009).

Typical examples of experiential purchases, such as dining out at a restaurant or going on a vacation, readily bring to one’s mind an image of socializing with other people and building close relationships with them. In addition to its contributions to hedonic well-being, the socially rich feature of experiential purchases may also help one to find a meaning in his or her life as social relationships serve as an indispensable source of meaning in life (Hicks et al., 2010; Lambert et al., 2013). Additionally, some forms of experiential purchases satisfy one’s need for competence (Guevarra & Howell, 2015). For instance, consuming a musical instrument for actually playing it (an experiential purchase), not merely owning it (a material purchase), would act as an opportunity for a person to utilize his or her musical skills and abilities. This self-competence or self-efficacy feature of experiential purchases may contribute to a sense of meaning as a self-efficacious person (“I know what I can do well”) is more likely to find a purpose in his or her life (“This is a reason why I am living”), which will ultimately be connected to meaning in life (George & Park, 2013; Heintzelman & King, 2014; McKnight & Kashdan, 2009). Taken together, to the extent that experiential purchases are autonomous,
socially connected, and self-efficacious, experiential consumers are likely to experience an enhanced sense of meaning in life.

Second, related to autonomy, experiential purchases often reflect how one conceive of his or her most centralized self-concept (i.e., true self; Carter & Gilovich, 2012; Kim, Seto, Christy, & Hicks, 2016). For instance, Carter and Gilovich (2012) demonstrated that compared to material purchases, people positioned their past experiential purchases physically much closer to their self than material purchases, featured their experiential purchases more critically in their life histories, and evaluated one’s record of the past experiential purchases as a more valuable piece of information for knowing his or her true self. This self-centrality and identity-expression property of experiential purchases may act as a bridge to discovering one’s meaning in life because the perceived true self-knowledge (“I feel I know who I really am”) has been consistently found to be a valuable source of meaning in life (Schlegel et al., 2009, 2011).

Another feature of experiential purchases that may be conducive to meaning in life is that experiential purchases can prompt people to aspire intrinsic goals rather than extrinsic goals. Previous research suggests that people are less concerned about extrinsic goals (e.g., economic utility, social desirability, and popularity) but pursue intrinsic goals (e.g., personal growth, belongingness, and physical health) when making experiential purchases rather than material purchases (Howell & Hill, 2009; Van Boven, Campbell, & Gilovich, 2010; Zhang, Howell, & Caprariello, 2013). According the self-concordance model of goal-pursuit (Sheldon & Elliot, 1999) and research on intrinsic and extrinsic aspirations (Kasser, & Ryan, 1996), becoming intrinsically motivated is the kernel of feeling authentic and meaningful in goal pursuits. Thus, experiential consumers may find their various activities to be intrinsically originated and thereby feel that their life is meaningful.
Finally, the hedonic superiority of experiential purchases may also contribute to a sense of meaning in life. This possibility is intriguing given the fact that most of the research focused on positive affect (i.e., happiness) as an outcome of experiential purchases rather than as a potential precursor to other important psychological functioning (e.g., meaning in life). Indeed, positive affect is deemed as an important source of meaning in life. For example, King et al. (2006) demonstrated that daily positive affect prospectively predicted daily meaning in life as well as global meaning in life, and people induced to experience positive affect reported a higher level of meaning in life (see also Hicks & King, 2007, 2009). That positive affect serves as a source of meaning in life is explained by people’s proneness to use “mood-as-information” when making evaluative judgements (Schwarz, 1990; Schwarz & Clore, 1996). Because judging meaningfulness of one’s own life often entails an intuitive thinking process, people tend to use the information about whether they are feeling “good or not” as a heuristic for making meaning in life judgement (King et al., 2006). This suggests that greater positive affect (and perhaps reduced negative affect) from experiential purchases may also contribute to an enhanced sense of meaning in life.

Taken together, actual experiential purchases driven by the motivation to search for meaning may allow for a greater experience of meaning in life, potentially through fulfillment of basic psychological needs (autonomy, relatedness, competence), being in touch with one’s true self, intrinsic goal pursuits (less extrinsic goal pursuits), and/or feeling positive affect (reduced negative affect). Along with the hypothesis that the motivation to search for meaning enhances preference for experiential purchases, this exploratory hypothesis is examined in Study 4.
Overview of the Present Studies

The present research conducted four studies using various methodologies. Study 1 was an experiment testing the hypothesis about perceived existential values of experiential purchases by having participants evaluate functionality of experiential and material purchases for finding meaning in life when someone is searching for existential meaning. Studies 2 through 4 examined the hypothesis that the motivation to search for meaning fosters preference for experiential purchases over material purchases. In Study 2, a cross-lagged panel design was used to examine whether the motivation to search for meaning temporally precedes preference for experiential over material purchase, and potentially the other way around as well. Study 3 experimentally manipulated the motivation to search for meaning by using a previously developed method to instigate the motivation to search for meaning to show its causal impact on preference for experiential purchases over material purchases. Finally, Study 4 adopted an intervention method to induce one’s motivation to search for meaning that was newly developed for effectively and stably motivating people to search for meaning, and examined whether participation in the intervention facilitates preference for experiential purchases and this effect lasts over time (i.e., for one week). By estimating a series of serial mediation models, Study 4 additionally explored that the induced motivation to search for meaning predicts later self-reported actual experiential purchases and subsequently an enhanced sense of meaning in life through various psychological functioning (e.g., basic needs).
STUDY 1: PERCEIVED EXISTENTIAL VALUE OF EXPERIENTIAL PURCHASES

Study 1 explored the perceived existential values of experiential purchases over material purchases. Specifically, it was hypothesized that people would evaluate experiential purchases to be more instrumental to finding one’s meaning in life than material purchases. To test this hypothesis, rather than being explicitly interrogated, participants implicitly revealed their beliefs about existential values of experiential purchases by offering a list of purchases that they believe people would make when searching for meaning. As espousing a belief that experiential purchases serve as a more effective instrument for finding meaning in life than material purchases, participants will compose their list of purchases with more life experiences than material products. Two control conditions, baseline control and depression conditions, were also included in order to account for alternative possibilities that experiential purchases are always preferred to material purchases, and that people favor experiential over material purchases when their psychological functioning is less optimal (i.e., lacking meaning in life). The preponderance of experiential purchases over material purchases will be especially pronounced in the searching for meaning condition, as opposed to two control conditions.
Method

Participants.

Two hundred and three undergraduate students (149 females, 54 males; $M_{\text{age}} = 18.50$, $SD = .83$) recruited from Texas A&M University participated in the study in exchange for course credit. Participants were predominantly White (81.3%) and non-Hispanic (75.4%).

Materials and procedure.

Participants were randomly assigned to one of three conditions. In the searching for meaning condition, participants were asked to imagine people who are currently searching for meaning and think about how these people would spend their money. Participants then jot down a list of five purchases that they believe people searching for meaning would likely make. As mentioned above, there were two control conditions included to account for alternative explanations. First, in the depression condition, participants thought about people who are momentarily depressed and wrote down a list of five purchases those depressed people would likely make. The alternative possibility this condition was specifically concerned about is that people do not necessarily hold a belief about the existential values of experiential purchases, but merely believe that experiential purchases should be prioritized over material purchases as sort of a psychological remedy when people are not optimally functioning, that is, lacking meaning in life in this context. This seems a valid argument especially from the deficit perspective that searching for meaning signals that the life at present is not sufficiently meaningful (e.g., Steger et al., 2006; Steger et al., 2008b). To explain away this alternative account, the depression

\footnote{Demographic variables such as age, gender, and socioeconomic status (SES) had no systematic influence the primary results by and large throughout the studies. Otherwise, it is briefly discussed in footnotes.}
condition was included as it is a marked sign of poor psychological functioning and devoid of *happiness*, an essential component of a “good life” along with meaning (e.g., King & Napa, 1998; Ryff, 1989). Lastly, participants assigned to the *baseline control condition* also produced a list of five purchases, but they focus on the purchases people would normally make with some extra money. This condition served as a baseline for people’s belief about how people usually make purchasing decisions and addresses another alternative possibility that experiential purchases are preferred to material purchases as default.

Upon the completion of listing up the five purchases, participants were asked to indicate whether each of the purchases they provided fell into a category of experiential or material purchases. They completed the categorization by rating the extent to which each purchase was characterized as “something that would provide you with a life experience” (i.e., experiential purchases) and “a materialistic possession” (i.e., material purchases) on a 7-point scale (1 = *not at all*, 7 = *a great deal*). Ratings on the characteristics of the purchases were averaged separately for experiential purchases and material purchases, which served as the main dependent variables.

**Results**

A 2 (purchase characteristic: experiential vs. material) × 3 (condition: search for meaning vs. depression vs. baseline) mixed design ANOVA was conducted with the purchase characteristic being a within-subject factor and the condition being a between-subject factor. The analysis revealed a significant main effect of the purchase characteristic, \( F(1, 200) = 11.23, p = .001 \), partial \( \eta^2 = .05 \), indicating that the purchases were characterized as more material purchases (\( M = 4.57, SD = 1.30 \)) than experiential purchases (\( M = 4.16, SD = 1.36 \)). However, this main effect was qualified by a significant interaction effect, \( F(2, 200) = 23.34, p < .001 \), partial \( \eta^2 = .19 \). As shown in Figure 1, consistent with the hypothesis, participants in the search for meaning
condition characterized the purchases as more experiential purchases \( (M = 5.11, SD = 1.02) \) than material purchases \( (M = 4.37, SD = 1.18) \), \( F(1, 200) = 12.98, p < .001, \text{ partial } \eta^2 = .06 \).

Conversely, those in the depression and baseline control conditions evaluated the purchases as more material purchases \( (M_{\text{depression}} = 4.23, SD = 1.56; M_{\text{baseline}} = 5.11, SD = .93) \) than experiential purchases \( (M_{\text{depression}} = 3.18, SD = 1.25; M_{\text{baseline}} = 4.25, SD = 1.04) \), \( F(1, 200) = 27.68, p < .001, \text{ partial } \eta^2 = .12; F(1, 200) = 18.10, p < .001, \text{ partial } \eta^2 = .08 \), respectively.

**Figure 1.** Evaluated characteristics of the self-provided purchases as experiential and material purchases across the searching for meaning, depression, and baseline control conditions in Study 1.
Discussion

Study 1 provided the initial evidence for the commonly shared idea about perceived existential values of experiential purchases. Participants revealed this belief in an implicit fashion by coming up with more experiential purchases compared to material purchases for people who are searching for meaning in life. While not speaking to the possibility that people consciously believe that experiential purchases have more existential values, the current findings evade a potential issue of demand characteristics and therefore add to the validity of the perceived existential values of experiential purchases. Moreover, findings from two control conditions explained away alternative possibilities that experiential purchases are preferred to material purchases when people undergo a deficit of important psychological resources (e.g., meaning or happiness) or simply make purchasing decisions with extra money. Of particular interest, participants believed that people would be more interested in making material than experiential purchases whether they are depressed or even functioning regularly, which further suggests that experiential purchases are uniquely and importantly related to searching for meaning.
STUDY 2: LONGITUDINAL STUDY

Findings of Study 1 suggest a possibility that people tend to prefer experiential purchases over material purchases as they are motivated to search for meaning because they believe, at least implicitly, that experiential purchases are more instrumental to finding one’s meaning in life than material purchases. Study 2 tested the hypothesis concerning this causal relationship between the motivation to search for meaning and preference for experiential purchases. Specifically, Study 2 employed a 3-wave cross-lagged panel design and examined how motivation to search for meaning was associated with preference for experiential purchases over time. It was hypothesized that earlier reports of the degree to which one is motivated to search for meaning will positively predict later reports of his or her preference for making experiential over material purchases. While this causal path is the main interest, the reversed direction, from preference for experiential purchases to motivation to search for meaning, may also be plausible and thus explored to find evidence suggesting a bi-directional relationship between motivation to search for meaning and experiential purchases.

Another aim of Study 2 was to distinguish between the motivation to search for meaning and merely searching for meaning particularly in terms of their predictive values for interests in making experiential purchases. As mentioned earlier, the search for meaning is defined 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 et al., 2008a, p. 200). But the reasons behind this meaning-augmenting endeavor and aspiration are often missing, rendering even well-established measures of the search for meaning somewhat biased with behavioral aspects of searching for meaning focused only (e.g., the search for meaning
subscale in MLQ, Steger et al., 2006). In contrast, the motivation to search for meaning is proposed and operationalized to capture the motivational facet of the search for meaning.

**Method**

**Participants.**

Three hundred and eighty-one undergraduate students (290 females, 86 males, 5 unidentified; $M_{age} = 18.58, SD = 1.06$) recruited from Texas A&M University participated in the three-wave longitudinal study in exchange for course credit. Participants were predominantly White (79.1%) and non-Hispanic (75.4%).

**Materials and procedure.**

Participants completed each of the three surveys online, with three-week time lags between waves. This three-wave design with an approximate three-week time lags between each wave was opted for to provide good coverage of a single academic semester while keeping the overall study short enough to minimize participant attrition. Each wave of the survey included variables of interest (e.g., preference for experiential purchases) as well as other measures that are irrelevant to the current study.

**Search for meaning measures.**

To assess the motivation to search for meaning, three items adapted from the Search for Meaning Questionnaire (SMQ; Alter & Hershfield, 2014) were used. The SMQ basically assesses the extent to which a person puts values on the pursuit of meaning in his or her life, reflecting the motivation to search for meaning. Among all twelve items of the SMQ, the selected three items well captured the motivational aspect of searching for meaning and included as: “It is important to me to make a meaningful difference in this world,” “I measure the quality of my life by how positive an impact I have on other people,” and “I have a strong will to live a
Participants indicated their agreement with each item on a 7-point scale (1 = *strongly disagree*, 7 = *strongly agree*). It revealed a good reliability (α’s > .77), and therefore participants’ responses were averaged to produce a composite score of their motivation to search for meaning.

Participants also completed the 5-item search for meaning subscale from the Meaning in Life Questionnaire (MLQ; Steger et al., 2006) to assess whether they actively probe their own discovery of meaning. Example item includes “I am looking for something that makes my life feel meaningful,” and participants rated their agreement with each item using a 7-point scale (1 = *absolutely untrue*, 7 = *absolutely true*). As in previous research (e.g., Steger et al., 2006), it found a good reliability (α’s > .88), and the responses were averaged to serve a composite score of the search for meaning.

*Preference for experiential purchases.*

To measure the preference for experiential purchases to material purchases, participants completed the Experiential Buying Tendency Scale (EBTS; Howell, Pchelin, & Iyer, 2012). The EBTS consists of four items, assessing people’s dispositional tendency to prefer spending money on life experiences versus material products (e.g., “In general, when I have extra money I am likely to buy...” 1 = *a material item*, 7 = *a life experience*). Prior to completing the EBTS, participants read a brief description of how experiential and material purchases are differently defined (Van Boven & Gilovich, 2003):

A material purchase is to spend money with the primary intention of acquiring a material possession—an tangible object that you obtain and keep in your possession such as jewelry or clothes. An experiential purchase is to spend money with the primary intention
of acquiring a life experience—an event or series of events that you personally encounter or live through such as going out to dinner or going on vacation.

The EBTS is shown to be a reliable and valid measure and uniquely predicts consumer choice and psychological well-being (Howell et al., 2012). Given the acceptable reliability ($\alpha > .61$), a composite score of the EBTS were created by averaging the responses.

Descriptive statistics and internal reliabilities for the primary scales at each wave are presented in Table 1. There was attrition, but the analyses used Full Information Maximum Likelihood Estimation which is often recommended for handling missing data in longitudinal studies (Allison, 2003; Schlomer, Bauman, & Card, 2010). Attrition analyses found that there were no significant differences in scores of the motivation to search for meaning ($M_{\text{no drop}} = 5.60$ vs. $M_{\text{drop}} = 5.51$; $p = .49$), the search for meaning MLQ subscale ($M_{\text{no drop}} = 4.91$ vs. $M_{\text{drop}} = 4.87$; $p = .78$), and the EBTS ($M_{\text{no drop}} = 4.69$ vs. $M_{\text{drop}} = 4.62$; $p = .56$) reported at Wave 1 between participants who remained in every wave ($n = 280$) and those who dropped out from any wave ($n = 97$).

<table>
<thead>
<tr>
<th>Wave</th>
<th># of responses (% of full sample)</th>
<th>Mean (SD)</th>
<th>Cronbach’s $\alpha$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>MSM</td>
<td>MLQ</td>
</tr>
<tr>
<td>1</td>
<td>378 (99.2%)</td>
<td>5.58 (1.06)</td>
<td>4.90 (1.40)</td>
</tr>
<tr>
<td>2</td>
<td>335 (87.9%)</td>
<td>5.59 (1.04)</td>
<td>4.73 (1.42)</td>
</tr>
<tr>
<td>3</td>
<td>299 (78.5%)</td>
<td>5.59 (1.05)</td>
<td>4.72 (1.44)</td>
</tr>
</tbody>
</table>

*Note.* MSM = Motivation to search for meaning. MLQ = Meaning in life questionnaire. EBTS = Experiential buying tendency scale.
Analytic procedure.

To evaluate the bi-directionality between the motivation to search for meaning and preference for experiential purchases over material purchases, the analyses were conducted by estimating a structural equation model (SEM) using a cross-lagged panel model (CLPM; Rogosa, 1980) and the full information maximum likelihood estimation which is often recommended for handling missing data in longitudinal studies (Allison, 2003; Schlomer et al., 2010). By appropriately controlling for correlations between two constructs within time-points and stability of each construct over time, a CLPM allows for testing temporal precedence in interrelations of the constructs (e.g., Deary, Allerhand, & Der, 2009; Soenens, Luyckx, Vansteekiste, Duriez, & Goossens, 2008; Wood, Maltby, Gillett, Linley, & Joseph, 2008).

The analyses were performed by using Mplus (Muthén & Muthén, 1998–2012) to estimate the CLPM which is illustrated in Figure 2. In this model, the autoregressive paths (e.g., MSM₁ to MSM₂) reflect the degree of stability of each construct over time. The cross-lagged paths (e.g., MSM₁ to EBTS₂) indicate the predictive associations between the motivation to search for meaning and future preference for experiential purchases, and vice versa. The analyses also compared an unconstrained model with a constrained model in which autoregressive and cross-lagged paths were held equal across each interval to increase the precision of estimates. In other words, for example, the predictive effect of the motivation to search for meaning at Wave 1 on preference for experiential purchases at Wave 2 was held equal to the predictive effect of the motivation to search for meaning at Wave 2 on preference for experiential purchases at Wave 3. The rationale for imposing this equality constraint was based on the assumption that the autoregressive and cross-lagged effects should not vary across time lags in this study (e.g., Curran, Howard, Bainter, Lane, & McGinley, 2014).
Model fit for the SEM was assessed by considering the chi-square value, the RMSEA value, and the CFI values. Exact fitting models have a chi-square value that is not statistically significant. Models with acceptable fit usually have RMSEA values that are less than or equal to .05 and CFI values about .95 (e.g., Kline, 2016). In interpreting autoregressive and cross-lagged paths, the alpha level of .05 was used to determine statistical significance.

**Results**

**Preliminary analyses.**

Bivariate correlation coefficients among the primary variables across waves are exhibited in Table 2. As seen in the table, the motivation to search for meaning at every wave was positively correlated with the EBTS at every wave ($r$'s > .19), which supports the notion of the association between the motivation to search for meaning and preference for experiential purchases. However, the search for meaning subscale from MLQ was not significantly correlated with the EBTS except for one between the search for meaning at Wave 2 and EBTS at Wave 1 ($r = .11$).

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
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<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
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<tbody>
<tr>
<td>1. MSM1</td>
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<td>2. MSM2</td>
<td>.66***</td>
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<td></td>
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<tr>
<td>3. MSM3</td>
<td>.58***</td>
<td>.67***</td>
<td>–</td>
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<td>4. MLQ1</td>
<td>.13†</td>
<td>.13†</td>
<td>.09</td>
<td>–</td>
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<tr>
<td>5. MLQ2</td>
<td>.19**</td>
<td>.15**</td>
<td>.13†</td>
<td>.65***</td>
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<tr>
<td>6. MLQ3</td>
<td>.14*</td>
<td>.20**</td>
<td>.20**</td>
<td>.66***</td>
<td>.70***</td>
<td>–</td>
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<tr>
<td>7. EBTS1</td>
<td>.24***</td>
<td>.35***</td>
<td>.31***</td>
<td>.01</td>
<td>.11</td>
<td>.08</td>
<td>–</td>
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<tr>
<td>8. EBTS2</td>
<td>.19**</td>
<td>.23***</td>
<td>.33***</td>
<td>.01</td>
<td>.05</td>
<td>.05</td>
<td>.64***</td>
<td>–</td>
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<tr>
<td>9. EBTS3</td>
<td>.29***</td>
<td>.29***</td>
<td>.34***</td>
<td>.03</td>
<td>.05</td>
<td>.10†</td>
<td>.63***</td>
<td>.72***</td>
<td>–</td>
</tr>
</tbody>
</table>

Table 2. Bivariate correlation coefficients among the motivation to search for meaning, MLQ (search for meaning), and EBTS in Study 2.
Primary analyses.

First, the SEM analysis was estimated on the unconstrained CLPM and revealed that the model fit was acceptable, $\chi^2(4) = 42.21, p < .001$ (RMSEA = .159, 90% CI = [.118, .204]; CFI = .954). In this unconstrained model, the separate wave to wave autoregressive paths and the cross-lagged paths were freely estimated. As this is not a parsimonious model, the additional analysis estimated the constrained model in which equality constraints were imposed on the autoregressive (e.g., the path from preference for experiential purchases at Wave 1 to Wave 2 and the same path from Wave 2 to Wave 3) and cross-lagged paths (e.g., the path from the motivation to search for meaning at Wave 1 to preference for experiential purchases at Wave 2 and the same path from Wave 2 to Wave 3). Imposing the constraints did not worsen the model fit ($\Delta \chi^2 = 5.46, \Delta df = 4, \Delta p = .243$) and thus produced a more parsimonious model, $\chi^2(8) = 48.74, p < .001$ (RMSEA = .116, 90% CI = [.086, .148]; CFI = .951).

Standardized estimates from the constrained CLPM were displayed in Figure 2. As predicted, the cross-lagged effect of the motivation to search for meaning on preference for experiential purchases was significant. That is, the motivation to search for meaning at a previous wave positively predicted the future preference for experiential over material purchases (e.g., $\beta = .07$ predicting preference for experiential purchases at Wave 2 from the motivation to search for meaning at Wave 3). In addition, the reversed path from preference for experiential purchases to the motivation to search for meaning was significant and also stronger in the
magnitude of the effect than the other path (e.g., $\beta = .170$ predicting the motivation to search for meaning at Wave 2 from preference for experiential purchases at Wave 3). Consistent with the prediction, this suggests that there is a bi-directional link between the motivation to search for meaning and preference for experiential over material purchases. Further supporting the bi-directionality, the analysis imposing the equality constraints on both cross-lags did not significantly impair the model fit, although marginal ($\Delta \chi^2 = 2.99$, $\Delta df = 1$, $\Delta p = .084$), and thus serve as a more parsimonious model, $\chi^2(9) = 44.48$, $p < .001$ (RMSEA = .102, 90% CI = [.073, .133]; CFI = .945).

Figure 2. Cross-lagged panel model (CLPM) of the reciprocal relationship between the motivation to search for meaning (MSM) and experiential buying tendency scale (EBTS) across three waves, with three-week time lags in Study 2. Note. Numbers attached to arrows between the same variables (e.g., MSM$_1$ to MSM$_2$) indicate standardized autoregressive parameter estimates; numbers attached to arrows between different latent variables (e.g., MSM$_1$ to EBTS$_2$) indicate standardized cross-lagged parameter estimates; numbers given in brackets indicate 95% confidence intervals. The subscript numbers attached to MSM and EBTS indicate wave numbers. † $p < .10$, * $p < .05$. ** $p < .001$. 
Is this reciprocal link unique to the motivation to search for meaning? To explore this question, the identical analyses were conducted with the motivation to search for meaning replaced with the search for meaning subscale of the MLQ. The analyses revealed that the models did not fit the data well (Unconstrained model: $\chi^2(4) = 72.33, p < .001; \text{RMSEA} = .213, 90\% \text{CI} = [.171, .257]; \text{CFI} = .919$; Constrained model: $\chi^2(8) = 78.69, p < .001; \text{RMSEA} = .153, 90\% \text{CI} = [.123, .185]; \text{CFI} = .917$). Of particular importance, the cross-lagged paths from the search for meaning to preference for experiential purchases were not significant in both models (e.g., $\beta = .006, p = .834$) while the reversed cross-lagged paths were marginally significant although somewhat inconsistent (e.g., $\beta = .053, p = .061$).

**Discussion**

Study 2 provided the initial evidence that the motivation to search for meaning is a precursor of preference for experiential purchases over material purchases. The cross-lagged panel study demonstrated that the motivation to search for meaning temporally preceded preference for experiential purchases, suggesting that the motivation to find meaning guides people to make more experiential choices rather than material consumptions. Importantly, there was no cross-lagged effect when the *search* for meaning, assessed through the widely-employed measure of MLQ, predicted preference for experiential purchases in the CLPM. This suggests that the search for meaning per se does not necessarily capture a motivational aspect of meaning search but perhaps focus on a behavioral aspect of meaning search, and further provides indirect evidence for incremental validity of the motivation to search for meaning.

Intriguingly, preference for experiential purchases also emerged as a significant predictor for the motivation to search for meaning, suggesting the bi-directional relationship between the
motivation to search for meaning and preference for experiential purchases. It is particularly noteworthy that this cross-lagged effect was stronger compared to the cross-lagged path from the motivation to search for meaning to preference for experiential purchases (imposing the equality constraints on both cross-lagged effects marginally significantly worsened the model fit). While this might have accurately estimated the true effect of the relationship (i.e., intentions to make experiential purchases lead you to be more motivated to find meaning, presumably by actually making experiential purchases), the effect of the other relationship might have been underestimated. For example, participants may have been so motivated to seek meaning that they had spent a decent amount of money on acquiring life experiences within three weeks, and therefore exhibited reduced interests in making another resource-consuming experiential purchase by the time they were re-contacted. Whether the magnitude of this temporal effect is moderated by a length of time lag or other factors (e.g., budget) awaits further investigation.

While the cross-lagged panel design of Study 2 allows for making reliable inferences about the causality between the motivation to search for meaning and preference for experiential purchases, the cross-lagged effects were essentially correlational. To more rigorously establish the proposed causal effect of the motivation to search for meaning on making experiential purchases over material purchases, experiments were adopted in Studies 3 and 4.
STUDY 3: EXPERIMENTAL STUDY

Study 3 tested the hypothesis that the motivation to search for meaning fosters a greater interest in making experiential purchases by conducting an experiment. In manipulating the extent to which one is motivated to search for meaning, the experimental manipulation used in Alter and Hershfield (2014) was adopted. Specifically, Alter and Hershfield investigated the interesting idea that as people are about to enter a new decade in chronological age (e.g., turning 30, 40, 50, etc.), they become more vigilant about how their life has turned out so far and seek to understand an existential meaning of their life. Alter and Hershfield hypothesized that people who are approaching a new decade in chronological age will reevaluate their life and question about life’s meaning “because the approach of a new decade represents a salient boundary between life stages and functions as a marker of progress through the life span, and because life transitions tend to prompt changes in evaluations of the self” (p. 17066, Alter & Hershfield, 2014). Across a series of studies, they showed that participants who were entering a new decade in their life (i.e., “9-enders” such as a 39-year old man or) reported an inclination towards resolving existential concerns and engaging in various meaning-seeking activities (e.g., running a marathon for the first time). Of a particular interest, they conducted one experiment (Study 2, Alter & Hershfield, 2014) in which participants were asked to either imagine that tomorrow is their birthday turning a new decade age (e.g., a 42-year old woman who imagined that tomorrow is her 50th birthday) or simply think about tomorrow as a baseline control condition. The entering-new-decade experimental manipulation increased the search for meaning, assessed by the 12-item SMQ (Alter & Hershfield, 2014), to a greater degree than the baseline control
condition. Study 3 was a direct replication of Alter and Hershfield’s experiment with some modifications (see footnote 1), particularly the inclusion of the EBTS as a primary dependent variable.

**Method**

**Participants.**

A sample of 501 adults were recruited through Amazon’s Mechanical Turk (MTurk; 258 male, 243 female). All participants were between the ages of 30 and 49 ($M = 36.48$, $SD = 5.35$) and received $0.50 in exchange for their participation. This age restriction was planned a priori, based on indications in the original data (i.e., Study 2 in Alter & Hershfield, 2014) that the effects were strongest in this age range, and would thus enhance the effectiveness of the manipulation in affecting the motivation to search for meaning as well as preference for experiential purchases. Participants were predominantly White (83%) and non-Hispanic (94%). Responses of two participants were excluded from data analyses because they did not complete the writing task as instructed (e.g., one of them wrote “does anybody even read this?”).

**Materials and procedure.**

After accepting the HIT on MTurk, participants consented and then indicated their age (and gender) to check their eligibility. If their age was under 29 or over 50, the survey auto-directed to the end and told they were ineligible to participate in the survey. Eligible participants

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2 Alter and Hershfield also included the birthday control condition, where participants were asked to imagine that tomorrow is their next birthday (e.g., a 42-year old woman imagined that tomorrow is her 43rd birthday). This condition was compared to the experimental condition to account for an alternative possibility that the effect is not driven by thinking about a new decade in life but by simply thinking about a next birthday. Alter and Hershfield showed that there was a significant difference in the search for meaning between the experimental and birthday control conditions, and thus explained away the alternative possibility. In the present study, the birthday control condition was omitted mainly because the purpose of adopting this manipulation was to effectively influence participants’ motivations to search for meaning.
(i.e., ages between 30 and 49) were randomly assigned to either the experimental or control conditions. Participants were asked to either describe their day tomorrow ($n = 252$, control condition) or imagine that tomorrow was their 40th or 50th birthday and describe about that day ($n = 247$, experimental condition). See Appendix E for full prompts.

Upon completing the task as instructed, participants responded to the SMQ used by Alter and Hershfield. This time, unlike Study 2, the original all 12 items were used; example items include “At this moment, it feels important to me to understand which aspects of my life have gone well and which ones have gone less well” and “It is more important for me to lead a meaningful life than to lead a happy life.” As mentioned previously, this scale assesses the construct of the motivation to search for meaning, represented by how people reflect significance of their life and value meaning and purpose (Alter & Hershfield, 2014; see Kim, Schlegel, Seto, & Hicks, 2018 for a replication and reinterpretation of Alter and Hershfield’s findings). All responses were made on a 7-point scale (1 = strongly disagree, 7 = strongly agree) and averaged to create a composite score ($M = 4.49$, $SD = .92$, $\alpha = .84$).

As a variable of interest, participants subsequently completed the EBTS (Howell et al., 2012) by rating their agreement with the four items on a 7-point scale as responded in Study 2. Responses were averaged to produce a composite score ($M = 4.47$, $SD = 1.42$, $\alpha = .83$). Participants completed the survey by responding to several other demographic items (e.g., income, race/ethnicity), were debriefed, and received their completion code.
Results

Primary analysis.

Age, gender, and income did not systematically influence the effect of the manipulation on the dependent variables (i.e., SMQ and EBTS). First, replicating the findings of Alter and Hershfield, an independent samples t-test revealed that participants in the experimental condition reported a higher level of the SMQ ($M = 4.59$, $SD = .91$) than those in the baseline control condition ($M = 4.39$, $SD = .92$), $t(497) = 2.50$, $p = .013$, 95% confidence interval (CI) = [.044, .366], $d = .22$, such that those thinking about approaching a new decade in life were more inclined toward motivational searching for meaning than their counterparts thinking about tomorrow. However, inconsistent with the hypothesis, the difference in the EBTS between the experimental ($M = 4.57$, $SD = 1.40$) and baseline control conditions ($M = 4.37$, $SD = 1.43$) was not statistically significant though in the predicted direction, $t(497) = 1.52$, $p = .128$, 95% CI = [-.056, .442], $d = .14$. Thus, while the manipulation successfully induced the motivation to search for meaning, it did not subsequently foster a greater interest in making experiential purchases.

Additional analysis: Mediation.

Although the total effect of the manipulation on the EBTS was not significant, it is still possible that the indirect (mediation) effect of the manipulation (X) on the EBTS (Y) through the SMQ (M) was significant. Traditionally, an indirect effect was not plausible if there was no

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3 There were marginally significant main effect of gender on SMQ, $t(497) = 1.70$, $p = .09$, 95% CI = [-.022, .301] and significant effect on EBTS, $t(497) = 4.36$, $p < .001$, 95% CI = [.300, .788], such that female participants reported higher levels of both SMQ ($M = 4.56$, $SD = .92$) and EBTS ($M = 4.75$, $SD = 1.33$) than their male counterparts ($M = 4.42$, $SD = .91$ for SMQ and $M = 4.21$, $SD = 1.44$ for EBTS). However, controlling for gender did not change the difference in SMQ between the experimental ($M = 4.58$, $SD = .93$) and baseline control conditions ($M = 4.39$, $SD = .92$), $F(1, 498) = 5.32$, $p = .021$. Income also significantly predicted both SMQ and EBTS, such that the greater the income, the higher the SMQ, $b = .054$, $t = 2.11$, $p = .035$, and EBTS, $b = .11$, $t = 2.78$, $p = .006$, were reported. Again, however, controlling for income did not change the effect of manipulation on SMQ, $F(1, 497) = 4.99$, $p = .026$. 

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significant total effect of X on Y (Baron & Kenny, 1986). This perspective, however, has recently been critiqued based on the findings that significant indirect effects in the absence of a total effect can be frequently observed (Hayes, 2009; Rucker, Preacher, Tormala, & Petty, 2011). Hence, following the recent recommendations on performing mediation analyses that a total effect is not a necessary condition for testing indirect effects (Hayes, 2009; MacKinnon, Lockwood, Hoffman, West, & Sheets, 2002; Rucker et al., 2011; Zhao, Lynch, & Chen, 2010), a mediation process (manipulation → motivation to search for meaning → preference for experiential purchases; see Figure 3) was tested by using the PROCESS (Model 4; Hayes, 2013) macro for SPSS. The test estimated the bias-corrected coefficients from 5,000 bootstrap samples (Preacher & Hayes, 2008) and, as illustrated in Figure 3, found a significant indirect effect of the manipulation on preference for experiential purchases (EBTS) through the motivation to search for meaning (SMQ), $b = .058$, 95% CI = [.010, .130], as the confidence interval did not contain zero. Consistent with the hypothesis, the mediation test showed that thinking about entering a new decade in age, compared to simply thinking about tomorrow, ignited the motivation to search for meaning ($b = .187$, 95% CI = [.025, .349]), which in turn facilitated preference for making experiential over material purchases ($b = .308$, 95% CI = [.176, .440]).

Since gender and income affected reports of SMQ and EBTS, the same mediation analysis was conducted with gender and income accounted for as covariates. While the effects of gender and income were still significant in the mediation, the indirect effect of SMQ on EBTS based on the manipulation remained intact, $b = .05$, 95% CI = [.010, .116].
Discussion

In attempting to establish the proposed causality, Study 3 adopted the previously tested experimental manipulation for effectively inducing the motivation to search for meaning, that is, thinking about approaching a new decade in chronological age. The manipulation successfully induced the motivation to search for meaning as in the original study (Alter & Hershfield, 2014), but it did not directly influence how much one prefers experiential purchases to material purchases. However, the mediation analysis revealed that the manipulation indirectly affected preference for experiential purchases through the induced motivation to search for meaning.

While this result clearly supports the causal link between the main constructs, it is worthwhile to speculate why the manipulation had the indirect effect in the absence of the total effect. It is suspected that significant indirect effects can occur even in the absence of a total effect presumably due to the presence of multiple indirect effects of opposing signs (Hayes, 2009; Rucker et al., 2011). When an independent variable produces both positive and negative indirect pathways to a dependent variable, these opposing indirect effects can cancel each other.
out, resulting in the absence of the total effect with some of the indirect effects appeared as significant (Hayes, 2009). From this perspective, the manipulation of thinking about entering a new decade in age might have created one or more opposing indirect effects through unassessed variables to the indirect effect on preference for experiential purchases through the motivation to search for meaning. This possibility makes sense given that Alter and Hershfield showed that approaching a new decade in life predicted engaging in both adaptive and self-improving behaviors that likely increase meaningfulness in life (e.g., running the first marathon) and maladaptive and self-destructive behaviors that would further detract meaning from life (e.g., cheating on a spouse, committing a suicide). Thus, while the manipulation activated the functional path from the motivation to search for meaning to intentions to engage in more life experiences, it may have simultaneously activated suboptimal pathways that negatively affected preference for experiential purchases.

Although the causal path from the motivation to search for meaning to preference for experiential purchases was again supported, findings of Study 3 also suggest that thinking about entering a new decade in chronological age is not an optimal way to only increase the motivation to search for meaning. Study 4 was designed to offer a more reliable method in this matter.
STUDY 4: INTERVENTION STUDY

Study 4 pursued three goals. First, it aimed at developing an intervention method designed to more reliably and validly induce the motivation to search for meaning and consequently increase preference for experiential purchases over material purchases. Second, Study 4 employed a longitudinal design to evaluate whether the induced motivation to search for meaning through the intervention not only promotes the intentions to make experiential purchases but also prompts people to actually engage in more experiential consumptions later in time. Third, as an exploratory purpose, it further investigated a possibility that actual experiential purchases, if indeed driven by the induced motivation to search for meaning, engenders a greater experience of meaning in life through several mediating variables relevant to both experiential purchases and meaning in life (e.g., basic psychological needs). To this end, a sequence of variables from the intervention to self-reports of global meaning in life (e.g., intervention → motivation to search for meaning → experiential purchases → autonomy → meaning in life) was modeled and tested using the serial mediation analyses.

Method

Participants.

A total of three hundred and three undergraduate students (201 females, 102 males) recruited from Texas A&M University participated in a two-week-long longitudinal study to receive partial course credit (see Table 3 for the number of participants across the surveys). Their ages ranged from 18 to 27 years ($M = 19.22$, $SD = 1.14$), and they were predominantly White (79%) and non-Hispanic (89%).
Materials and Procedure.

Recruitment.

Participants were initially recruited by signing up the study advertised on the psychology online subject pool system. They were told that the purpose of the current study was to develop “a practical way to improve people’s subjective quality of life and psychological well-being” and particularly examine “how writing about certain aspects of life can improve quality of life.” Participants were further informed that they will be asked to complete a series of writing tasks each of three days during a week, and, a week after, report about various activities and experiences related to life quality and well-being. Upon agreeing to participate in the study, participants provided their email addresses and phone numbers and reported demographic information (e.g., age, gender, and race).

Intervention.

A week after the completion of the recruitment, participants received an email containing instructions about what writing task they should perform for three consecutive days (i.e., from Tuesday to Thursday). A text message was sent to the phone number each participant provided to encourage them to check their email for instructions. Upon reading the instructions, participants were randomly assigned to either the intervention or control conditions. Specifically, those assigned to the intervention condition \( n = 158 \) were told that they will be completing a series of writing exercises by which they deeply think about meaning in their lives, and instructed to write coherent essays about why we need meaning (1st writing topic), what life is a meaningful life (2nd writing topic), and how we can find meaning in life (3rd writing topic). These writing tasks were created based on the meaning-centered interventions and therapies used in clinical and counseling psychology (e.g., Wong, 1998b), as a means to make participants value meaning,
ponder about meaning and purpose of their existence, and thereby motivated to search for meaning. In contrast, participants assigned to the control condition \((n = 145)\) were told that they will be completing a series of writing exercises by which they think about their mundane daily activities and appreciate their everyday life, and instructed to write coherent essays about their *typical walking routes* (1st writing topic), *the latest chores* they did (2nd writing topic), and *the latest TV show* they watched (3rd writing topic). See Appendix G for the verbatim prompts of the writing instructions.

Upon completing each of the writing tasks, participants indicated the extents to which they were motivated to search for meaning at the moment and preferred making experiential purchases over material purchases (i.e., EBTS). The motivation to search for meaning was assessed by a newly created face-valid 3-item scale. Items were: “At this moment, how much do you want to understand more about meaning in your life?” , “At this moment, how much do you care about knowing meaning in your life?”, and “At this moment, how important is it that you find meaning in your life?”. Participants responded to these items using a 7-point scale \((1 = \text{not at all}, 7 = \text{very much})\), and the responses were averaged to produce a composite score.

**Follow-up surveys.**

The next day (i.e., Friday) following the completion of all three writing tasks, participants received an email containing a link for the first follow-up survey in which they reported the motivation to search for meaning and preference for experiential purchases again using the same measures (without any writing task) as well as meaning in life and various psychological constructs that may mediate the link between actual experiential purchases and meaning in life (e.g., basic psychological needs; described below in detail). A week later, participants received another email containing a link for the final follow-up survey and were reminded via text
messages to complete it. This final survey included the identical measures from the first follow-up survey in addition to self-report measures of purchasing behaviors (i.e., experiential vs. material purchases).

Making experiential over material purchases.

To assess actual purchasing behaviors, participants were asked to report five important purchases that they have made since last Friday (i.e., the day they completed the short follow-up survey). In determining whether each purchase was an experiential or material purchase, rather than being evaluated by independent coders, participants rated the extent to which each purchase was characterized as experiential (i.e., “To what extent would you characterize this purchase as something that would provide you with a life experience?”) and material purchases (i.e., “To what extent would you characterize this purchase as a materialistic possession?”) on a 7-point scale (1 = not at all, 7 = a great deal), as used in Study 1. Responses to each purchase type across five provided purchases were averaged separately to serve as composite scores of self-rated experiential and material purchases.

Meaning in life.

Participants completed the presence of meaning subscale from the MLQ (Steger et al., 2006) to indicate the extent to which their life is meaningful. They rated their agreement with the 5 items (e.g., “I understand my life’s meaning”) on a 7-point scale (1 = strongly disagree, 7 = strongly agree).

Mediators.

Based on theoretical perspectives (e.g., SDT) and previous research (e.g., Caprariello & Reis, 2013), a variety of psychological constructs were measured to explore their mediating roles in the link between experiential purchases and meaning in life. First, as suggested by SDT (Ryan
& Deci, 2000), satisfaction of three basic psychological needs, autonomy, relatedness, and competence, were assessed through the Basic Need Satisfaction in Life Scale (BNS, Deci et al., 2001). Participants completed the 21-item BNS, with autonomy consisting of 7 items (e.g., “I feel like I am free to decide for myself how to live my life”), relatedness consisting of 6 items (e.g., “I really like the people I interact with”), and competence consisting of 8 items (e.g., “I have been able to learn interesting new skills recently”), by rating the extent to which each statement is true to them using a 7-point scale (1 = not at all true, 7 = very true).

Second, as experiential purchases may allow for being in more in touch with one’s true self and core identity (Guevarra & Howell, 2015; Kim et al., 2016), which serves as a source of meaning in life (e.g., Schlegel et al., 2011), a sense of knowing one’s true self was measured through the 4-item self-alienation subscale of the Authenticity Scale (Wood et al., 2008). A construct of self-alienation refers to a psychological state in which a person feels out of touch or decoupled with one’s true self and thus represents true self-knowledge in a reversed fashion (Costas & Fleming, 2009; Rokach, 1988; Wood et al., 2008). Indeed, a number of previous studies assessed the self-alienation scale as an indication of perceived true self-knowledge (e.g., Christy, Seto, Schlegel, Vess, & Hicks, 2016). Participants rated the extent to which each statement applies to them (e.g., “I feel as if I don’t know myself very well”) using a 7-point scale (1 = does not describe me at all, 7 = describes me very well).

Third, as guided by self-concordance model (Sheldon & Elliot, 1999) and previous research linking experiential purchases with goal pursuits (Howell & Hill, 2009; Zhang et al., 2013), intrinsic and extrinsic goal pursuits were assessed by using the Aspiration Index (AI; Kasser, & Ryan, 1996). The 42-item AI measures individuals’ intrinsic and extrinsic aspirations conceptualized by seven dimensions with intrinsic goal consisting of self-acceptance (personal
growth and choice; 4 items, e.g., “You will be the one in charge of your life”), affiliation (intimacy and close relationships; 5 items, e.g., “You will have good friends that you can count on”), community feeling (helping make the world a better place; 5 items, e.g., “You will donate time or money to charity”), and physical fitness (being healthy; 4 items, e.g., “You will be physically healthy”) and extrinsic goal consisting of financial success (having many material possessions and wealth; 4 items, e.g., “You will have a lot of expensive possessions”), attractive appearance (being looking-good; 5 items, e.g., “You will have people comment often about how attractive you look”), and social recognition (being popular and admired; 5 items, e.g., “Your name will be known by many people”). Participants rated personal importance of each statement on a 5-point scale (1 = not at all, 5 = very important), and their responses were averaged in a way to create separate composite scores of intrinsic and extrinsic goal pursuits.

Finally, as suggested by hedonic benefits of experiential purchases (e.g., Van Boven & Gilovich, 2003) and positive affect as a source of meaning in life (e.g., King et al., 2006), positive and negative affective experiences were measured through the Positive and Negative Affect Schedule (PANAS, Watson et al., 1988). Participants read 10 items for positive affect (PA; e.g., excited) and 10 items for negative affect (NA; e.g., distressed) and rated the extent to which they feel each emotion at the moment on a 5-point scale (1 = very slightly or not at all, 5 = extremely). Composite scores of PA and NA were separately made by averaging the responses.

Descriptive statistics and internal reliabilities for the scales measured in each of the five surveys are presented in Table 3. Since attrition occurred, attrition analyses were performed and found that there were no significant differences in the motivation to search for meaning ($M_{\text{no drop}} = 5.39$ vs. $M_{\text{drop}} = 5.22; p = .36$) and the EBTS ($M_{\text{no drop}} = 4.54$ vs. $M_{\text{drop}} = 4.69; p = .31$) reported.
at Time 1 (i.e., the first writing task) between participants who remained in every survey ($n = 158$) and those who dropped out from any survey ($n = 89$).\(^5\)

\(^5\) This was also the case for other four surveys (i.e., Times 2 through 5).
Table 3. Response rate and descriptive statistics and reliabilities of the measures across surveys in Study 4.

<table>
<thead>
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<th>Survey</th>
<th># of responses</th>
<th>MSM</th>
<th>EBTS</th>
<th>EXP</th>
<th>MTP</th>
<th>MLQ</th>
<th>AUT</th>
<th>REL</th>
<th>COM</th>
<th>SA</th>
<th>INT</th>
<th>EXT</th>
<th>PA</th>
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<td>Time 5</td>
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<td>4.77</td>
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<td>4.79</td>
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<td>(0.83)</td>
<td>(0.92)</td>
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<td>(0.80)</td>
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Results

The effect of the intervention.

First, a 2 (Condition: intervention vs. control) × 5 (Time: Times 1 through 5) mixed-design ANOVA with the condition being a between-subjects factor and with time being a within-subjects factor was conducted to examine whether the intervention induced participants’ motivations to search for meaning. As intended, the intervention successfully induced the motivation to search for meaning: The main effect of the condition was significant, $F(1, 156) = 6.71, p = .01$, partial $\eta^2 = .04$, such that participants in the intervention condition reported a higher motivation to search for meaning ($M = 5.46, SE = .14, 95\% CI = [4.68, 5.23]$) than those in the control condition ($M = 4.95, SE = .14, 95\% CI = [5.19, 5.73]$). There was also a significant main effect of time, $F(4, 624) = 5.09, p < .001$, partial $\eta^2 = .03$, showing that the reported motivation to search for meaning tended to decline as time passed by ($M_{T1} = 5.39, SD_{T1} = 1.27$ vs. $M_{T2} = 5.19, SD_{T2} = 1.35$ vs. $M_{T3} = 5.20, SD_{T3} = 1.45$ vs. $M_{T4} = 5.23, SD_{T4} = 1.39$ vs. $M_{T4} = 5.03, SD_{T4} = 1.52$). More interestingly, the interaction was statistically significant, $F(4, 624) = 2.56, p = .038$, partial $\eta^2 = .02$. As illustrated in Figure 4, the motivation to search for meaning between the intervention and control conditions did not differ at Time 1 ($M_{\text{intervention}} = 5.51, SD_{\text{intervention}} = 1.38$ vs. $M_{\text{control}} = 5.26, SD_{\text{control}} = 1.14$), $F(1, 156) = 1.61, p = .21$, but significantly differed at Time 2 ($M_{\text{intervention}} = 5.50, SD_{\text{intervention}} = 1.32$ vs. $M_{\text{control}} = 4.87, SD_{\text{control}} = 1.33$), $F(1, 156) = 9.05, p = .003$, at Time 3 ($M_{\text{intervention}} = 5.55, SD_{\text{intervention}} = 1.42$ vs. $M_{\text{control}} = 4.84, SD_{\text{control}} = 1.40$), $F(1, 156) = 9.98, p = .002$, at Time 4 ($M_{\text{intervention}} = 5.48, SD_{\text{intervention}} = 1.48$ vs. $M_{\text{control}} = 4.96, SD_{\text{control}} = 1.26$), $F(1, 156) = 5.71, p = .018$, and marginally at Time 5 ($M_{\text{intervention}} = 5.23, SD_{\text{intervention}} = 1.59$ vs. $M_{\text{control}} = 4.82, SD_{\text{control}} = 1.42$), $F(1, 156) = 2.84, p = .094$. 

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Figure 4. Temporal changes in the motivation to search for meaning between the intervention and control conditions in Study 4.

Note. Error bars indicate the standard errors.

To investigate whether the intervention fostered preference for experiential purchases over material purchases, the identical ANOVA was submitted to the EBTS. Supporting the hypothesis, the main effect of the condition was statistically significant, $F(1, 156) = 4.23, p = .041$, partial $\eta^2 = .03$, indicating that participants in the intervention condition displayed a greater preference for experiential purchases ($M = 4.86, SE = .12, 95\% \text{ CI} = [4.62, 5.10]$) than those in the control condition ($M = 4.51, SE = .12, 95\% \text{ CI} = [4.26, 4.75]$). There was a significant main effect of time, $F(4, 624) = 5.21, p < .001$, partial $\eta^2 = .03$, such that there was an increasing trend in the EBTS over time, particularly from Time 1 to Time 2 ($M_{T1} = 4.54, SD_{T1} = 1.13$ vs. $M_{T2} = 4.70, SD_{T2} = 1.15$ vs. $M_{T3} = 4.68, SD_{T3} = 1.21$ vs. $M_{T4} = 4.76, SD_{T4} = 1.21$ vs. $M_{T4} = 4.74, SD_{T4} = 1.19$). However, it was revealed that there was a marginally significant interaction effect, $F(4,
As shown in Figure 5, the reported EBTS between the intervention and control conditions did not differ at Time 1 ($M_{\text{intervention}} = 4.64, SD_{\text{intervention}} = 1.19$ vs. $M_{\text{control}} = 4.44, SD_{\text{control}} = 1.06$), $F(1, 156) = 1.23, p = .27$, and, but marginally significant, at Time 2 ($M_{\text{intervention}} = 4.86, SD_{\text{intervention}} = 1.15$ vs. $M_{\text{control}} = 4.55, SD_{\text{control}} = 1.14$), $F(1, 156) = 2.87, p = .092$, but significantly differed at Time 3 ($M_{\text{intervention}} = 4.93, SD_{\text{intervention}} = 1.17$ vs. $M_{\text{control}} = 4.43, SD_{\text{control}} = 1.20$), $F(1, 156) = 6.93, p = .009$, at Time 4 ($M_{\text{intervention}} = 4.97$, $SD_{\text{intervention}} = 1.18$ vs. $M_{\text{control}} = 4.54, SD_{\text{control}} = 1.22$), $F(1, 156) = 4.94, p = .028$, and marginally again at Time 5 ($M_{\text{intervention}} = 4.92, SD_{\text{intervention}} = 1.19$ vs. $M_{\text{control}} = 4.57, SD_{\text{control}} = 1.17$), $F(1, 156) = 3.49, p = .064$.

**Figure 5.** Temporal changes in preference for experiential purchases over material purchases between the intervention and control conditions in Study 4.

*Note.* Error bars indicate the standard errors.
Serial mediation.

To explore whether the motivation to search for meaning induced by the intervention facilitated actual experiential purchases and sequentially enhanced a sense of meaning in life through various psychological functioning (e.g., autonomy), serial mediations were modeled and analyzed by using the PROCESS (Model 6; Hayes, 2013) macro for SPSS. In modeling a serial mediation, each of the serial mediation models included the intervention (vs. control) as the IV, meaning in life reported at Time 5 (i.e., the final survey) as the DV, and three serial mediators in a sequence of the aggregated score of the motivation to search for meaning from Times 1 to 4, self-reported actual experiential purchases, and a psychological construct, assessed at Time 5, that may link experiential purchases with meaning in life (see Figure 6 for an example). As various psychological constructs were available, rather than including all of them simultaneously, each serial mediation model tested the indirect effect of one psychological functioning (e.g., intrinsic goal pursuit). To estimate serial mediations as precisely as possible, two things were taken into account: First, each serial mediation model included meaning in life and a tested psychological functioning, both assessed at Time 4 (i.e., a week before the final survey) as covariates. For example, a serial mediation modeling a sequence from the intervention, to the aggregated motivation to search for meaning, to actual experiential purchases, to intrinsic goal pursuit at Time 5, and to meaning in life at Time 5 was tested while

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6 The aggregated score was used in the serial mediation analyses to better capture the effect of the intervention on the motivation to search for meaning in examining its role in the serial mediation. However, when serial mediation models replaced the aggregated score with the motivation to search for meaning at Time 4, the results did not substantially differ.

7 Self-reported actual material purchases (i.e., the extent to which purchases are characterized as material purchases) was not used in the serial mediation analyses because it did not have indirect effects as a mediator. It was also the case when the difference score between self-reported experiential and material purchases was used.
controlling for intrinsic goal pursuit at Time 4 and meaning in life at Time 4. Second, an alternative serial mediation path where a psychological link and meaning in life were alternated was tested to address a possibility that meaning in life is not an outcome as hypothesized in serial mediation models (e.g., intervention → motivation to search for meaning → experiential purchases → meaning in life → intrinsic goal pursuit). To determine the significance of indirect effects of serial mediations, confidence intervals were estimated by using 5,000 bootstrapped resampling and used to indicate statistical significance when they do not contain zero (Hayes, 2011).

**Model 1: Basic psychological needs as mediators.**

The serial mediation analyses tested the indirect effects of the intervention on meaning in life through the sequential mediators from the motivation to search for meaning, to actual experiential purchases, and to three basic psychological needs (i.e., autonomy, relatedness, and competence). First, when including autonomy as a mediator, the serial mediation analysis found that the proposed indirect effect was significant \( b = .001, SE = .001, 95\% CI = [.0001, .006]; \) see Table 4). While the total effect of the intervention on meaning in life was not significant \( (b = -.055, SE = .106, t = -.521, p = .603, 95\% CI = [-.265, .154]) \), the serial mediation analysis was justified as suggested by recent recommendations discussed in Study 3 (e.g., Rucker et al., 2011). However, this serial path (i.e., intervention → motivation to search for meaning → experiential purchases → autonomy → meaning in life) should be interpreted with caution due to the non-significant path from experiential purchases to autonomy \( (b = .049, SE = .032, t = 1.457, p = .147, 95\% CI = [-.017, .110]) \). In addition, a serial mediation analysis for the alternative model (i.e., intervention → motivation to search for meaning → experiential purchases → meaning in life → autonomy) did not find a significant indirect effect \( (b = .0002, SE = .0007, 95\% CI = [-.00002, .00007]). \)
Neither serial mediation model including relatedness nor competence found a significant indirect effect ($b = .001, SE = .001, 95\% CI = [-.0001, .007]; b = .001, SE = .002, 95\% CI = [-.0005, .008]$ respectively) as well as their alternative models ($b = .0002, SE = .001, 95\% CI = [-.0009, .003]; b = .001, SE = .002, 95\% CI = [-.0009, .006]$, respectively).

**Model 2: Self-alienation as a mediator.**

A serial mediation analysis including self-alienation as the third serial mediator did not yield a significant indirect effect ($b = -.0005, SE = .001, 95\% CI = [-.004, .0001]$), and neither did the alternative model ($b = -.0003, SE = .001, 95\% CI = [-.005, .0003]$).

**Model 3: Intrinsic and extrinsic goal pursuits as mediators.**

First, a serial mediation analysis included intrinsic goal pursuit as a mediator and revealed a significant indirect effect ($b = .002, SE = .002, 95\% CI = [.0003, .011]$). As shown in Figure 6, the intervention induced the motivation to search for meaning ($b = .357, SE = .169, t = 2.11, p = .036, 95\% CI = [.024, .691]$), which led to more experiential purchases ($b = .228, SE = .083, t = 2.76, p = .006, 95\% CI = [.065, .391]$), then more intrinsic aspiration ($b = .081, SE = .027, t = 2.99, p = .003, 95\% CI = [.027, .134]$), and then greater meaning in life ($b = .368, SE = .106, t = 3.46, p = .0007, 95\% CI = [.159, .578]$). The alternative model, where intrinsic goal pursuit and meaning in life were alternated, did not yield a significant indirect effect ($b = .0002, SE = .001, 95\% CI = [-.0004, .003]$), further supporting the proposed pathway.

When including extrinsic goal pursuit, a serial mediation analysis did not find a significant indirect effect ($b = -.001, SE = .001, 95\% CI = [-.006, .0002]$), and neither did the alternative model ($b = -.0002, SE = .001, 95\% CI = [-.002, .0002]$). Taking into account both intrinsic and extrinsic aspirations, another serial mediation analysis included difference scores between intrinsic and extrinsic goal pursuits as a mediator. Neither this serial mediation model
nor the alternative one yielded a significant indirect effect ($b = .001, SE = .002, 95\% CI = [-.0002, .007]; b = .0004, SE = .001, 95\% CI = [-.0006, .005]$, respectively).

**Figure 6.** Serial mediation analysis: Intrinsic goal pursuit as a mediator between actual experiential purchases and the experience of meaning in life as driven by the motivation to search for meaning induced by the intervention (controlling for intrinsic goal pursuit and meaning in life at Week 1) in Study 4.

*Model 4: PA and NA as mediators.*

Finally, serial mediation models including PA and NA as mediators were tested. Neither the analyses including PA and NA separately ($b = .0002, SE = .001, 95\% CI = [-.0006, .004]; b = .0001, SE = .0008, 95\% CI = [-.002, .002]$, respectively) nor their alternative ones did not reveal an indirect effect ($b = .0001, SE = .0003, 95\% CI = [-.0002, .001]; b = -.0003, SE = .001, 95\% CI = [-.003, .0003]$, respectively). However, when including affective balance (i.e., difference between PA and NA) as a mediator, a serial mediation analyses yielded a significant indirect
effect ($b = .001$, $SE = .001$, 95% CI = [.0001, .007]; see Table 4). That is, experiential purchases driven by the motivation to search for meaning via the intervention increased a sense of meaning in life through more balanced affective experiences (i.e., more PA than NA). The alternative serial mediation model for affective balance did not find a significant indirect effect ($b = .0003$, $SE = .001$, 95% CI = [−.001, .004]).
**Table 4.** Serial mediation models: Direct and indirect effects of the intervention on meaning in life through serial mediators in Study 4.

<table>
<thead>
<tr>
<th>Model</th>
<th>IV → M1</th>
<th>M1 → M2</th>
<th>M2 → M3</th>
<th>M3 → DV</th>
<th>Direct effect (total effect)</th>
<th>Indirect effect [95% CI]</th>
<th>Note</th>
</tr>
</thead>
</table>
| 1     | .37* (.17) | .24** (.08) | .05 (.04) | .25** (.09) | -.088, \( p = .41 \) (-.055, \( p = .60 \)) | Indirect 1: .014 [-.014, .070]  
Indirect 2: .0003 [-.007, .010]  
Indirect 3: .005 [-.001, .023]  
Indirect 4: .001 [.0001, .006]  
Indirect 5: .0002 [-.014, .020]  
Indirect 6: .0006 [-.003, .010]  
Indirect 7: .011 [-.026, .070] | |

(M3: autonomy) |

| 4     | .36* (.17) | .23** (.08) | .13* (.05) | .14* (.06) | -.057, \( p = .59 \) (-.037, \( p = .73 \)) | Indirect 1: .009 [-.021, .060]  
Indirect 2: .0006 [-.001, .023]  
Indirect 3: .007 [.001, .025]  
Indirect 4: .001 [.0001, .007]  
Indirect 5: .0003 [-.013, .024]  
Indirect 6: .0006 [-.003, .012]  
Indirect 7: .002 [-.036, .045] | |

(M3: PA - NA) |

**Note.** IV = Intervention. M1 = Motivation to search for meaning (aggregated from Times 1 to 4). M2 = Self-reported experiential purchases. DV = Meaning in life at Time 5. Covariates were both M3 and meaning in life at Time 4.

Indirect 1: IV → M1 → DV. Indirect 2: IV → M1 → M2 → DV. Indirect 3: IV → M1 → M3 → DV. Indirect 4: IV → M1 → M2 → M3 → DV. Indirect 5: IV → M2 → DV. Indirect 6: IV → M2 → M3 → DV. Indirect 7: IV → M3 → DV.

* \( p < .05 \), ** \( p < .01 \), *** \( p < .001 \).
Discussion

Study 4 provides supporting evidence for the main notion of the current research that the motivation to search for meaning fosters preference for experiential purchases, particularly by developing the new intervention method to prompt people to be motivated to find meaning in life. Moreover, Study 4 further found that the motivation to search for meaning, driven by the intervention, actually made participants make more experiential purchases, or at least perceive their recent purchases to be more experiential. This finding is important because not only did the motivation to search for meaning facilitate intentional preference for experiential purchases, which may not necessarily guarantee behavioral preference, but also led to actual experiential purchases. As guided by previous research demonstrating a host of psychological benefits of experiential purchases (e.g., Caprariello & Reis, 2013), Study 4 also found that this actual experiential purchases prospectively increased a sense of meaning in life, the end state of the initial motivation to search for meaning, particularly through autonomy (e.g., I have freely made my own purchasing decision), intrinsic goal pursuit (e.g., I am feeling more growth as a person after having these experiences), and more positive but less negative feelings (e.g., These experiences made me feel more happiness and less sadness). While other psychological constructs (e.g., self-alienation) did not emerge as significant mediators linking experiential purchases with meaning in life, future research should more thoroughly examine how experiential purchases are associated with meaning in life.
CONCLUSIONS

The present research examined the relationship between existential meaning and experiential purchases by directly addressing three empirical questions. Study 1 tested the first hypothesis about perceived existential values of experiential purchases and demonstrated that participants at least implicitly held a belief that experiential purchases have more existential values than material purchases by suggesting more experiential than material purchases for somebody who needed to find meaning in life compared to those who needed to find happiness and were in neutral conditions. Studies 2 through 4 investigated the main hypothesis that experiential purchases are favored over material purchases to the extent that one is motivated to search for meaning. Using a cross-lagged panel design, Study 2 found that the extent to which participants were motivated to search for meaning temporally preceded how much they preferred making experiential purchases over material purchases three weeks later while controlling for the temporal stability of both constructs. Interestingly, the reversed pathway was also true and even stronger than the pathway of primary interest, suggesting a bi-directional relationship between the motivation to search for meaning and preference for experiential over material purchases. Study 3 used an experimental manipulation by having participants imagine entering a new decade in their chronological ages as a means to increase the motivation to search for meaning (Alter & Hershfield, 2014). The manipulation successfully affected the motivation to search for meaning, and this increased existential motive indirectly fostered participants’ preference for experiential over material purchases. Lastly, Study 4 adopted a newly created intervention method to effectively induce the motivation to search for meaning, in which participants deeply thought about values of meaning in life. Participation in this intervention, compared to the
control, successfully induced the motivation to search for meaning and further influenced preference for experiential over material purchases in a fashion that is consistent with the hypothesis. Suggesting the reliability of the intervention, these effects lasted for one week, at least. Notably, the serial mediation analyses found that participants induced to pursue an existential motive self-reported that they have made more experiential purchases during a week after completing the intervention, and this “actual” experiential purchases predicted an enhanced sense of meaning in life via fulfillment of autonomy, intrinsic goal pursuits, and balanced affective experiences (i.e., positive minus negative affects), but not through satisfaction of relatedness and competence, true self-knowledge (i.e., self-alienation), and reduced extrinsic goal pursuits. Overall, these findings suggest that people do seem to understand existential worth of experiential purchases and make existential meanings out of experiential purchases as they are sufficiently motivated to search for meaning.

This research makes two important contributions to the literature. To my knowledge, the current research is the first to directly test the ideas concerning the relationship between existential meaning and experiential purchases. A host of research has focused primarily on how experiential purchases beget hedonic well-being (e.g., positive affect), and although the findings consistently suggest a possibility that experiential purchases would be also linked with eudaimonic well-being (e.g., meaning in life), surprisingly, no research has examined this assertion. Moving beyond the hedonic advantages of experiential purchases, the present examination extends implications of experiential purchases to the realm of meaning. Second, the current research offers a fresh insight into understanding the search for meaning. Previous research examining meaning in life often reports negative correlations between the presence of and the search for meaning and concludes that people seek meaning when lacking meaning at the
moment (e.g., Steger et al., 2008a). This account basically takes a meaning-deficit perspective from which a primary motivator of the search for meaning is a perceived deficit in existential meaning. However, there can be at least two other motives for the existential search: Meaning-maintenance and meaning-enhancement motives. As opposed to the meaning-deficit account, both perspectives assume that people actively search for meaning even in the presence of meaning in life. The difference is that the search for meaning driven by a meaning-maintenance motive aims to maintain a current optimal level of meaning in life (Heine et al., 2006) while the search for meaning guided by a meaning-enhancement motive is to even further augment a concurrently satisfying level of meaning in life. While the current research did not theorize which motive functions as a primary driver for experiential purchases, the present findings are not fully explained by a meaning-deficit account. For example, evidence for a bi-directionality in Study 2 speaks against a meaning-deficit account because the deficit perspective predicts that preference for experiential purchases over material purchases should mitigate the subsequent motivation to search for meaning. Furthermore, the findings in Study 4 suggest that it is possible to induce people to have the motivation to search for meaning without necessarily having them believe that their life is not meaningful enough.

The Role of the Search for Meaning in the Experience of Meaning

It is worth further discussing about the role of the search for meaning in the experience of meaning in life given the literature documenting the relationship between the search for and the presence of meaning in an inconsistent manner. As discussed above, a body of research has provided evidence that the search for meaning is negatively associated with the presence of meaning (e.g., Steger et al., 2008a). However, research also demonstrates that their correlations are usually weak or even statistically non-significant and they interactively influence other
important outcomes (e.g., life satisfaction, Steger et al., 2011). A cross-cultural examination even revealed that the search for meaning was positively correlated with and the presence of meaning in East Asian cultures (e.g., Japan) as opposed to North American cultures (e.g., America), which was explained by dialectical-thinking styles prevalent in East Asian cultures (Steger et al., 2008b). Moreover, a recent study found that when within-person relationships between the search for and the presence of meaning (i.e., state-level) were taken into account rather than their between-person relationships (i.e., trait-level), daily search for meaning was positively associated with daily presence of meaning (Newman, Nezlek, & Thrash, 2018).

The current investigation garners additional evidence for the path that the search for meaning is positively conducive to the experience of meaning with two novel messages that are distinguished from the previous research. First, while the literature has heavily relied on the use of MLQ as assessments of the search for meaning (Steger et al., 2006), this may not serve as a valid measure especially when a focus is on motivational backgrounds of the search for meaning. As discussed briefly above, psychological reasons behind the existential search vary (i.e., deficit, maintenance, enhancement), and they would exert very different effects on the experience of meaning in life. The present research opens a door for future research to consider this dynamic and more cautiously and thoroughly conceptualize and operationalize the search for meaning. Second, it is also crucial to examine what meaning-seeking activities people are willing to engage in when studying the relationship between the search for and the presence of meaning. It is somewhat surprising that little research has attempted to delve into behavioral outcomes driven by the search for meaning given that the search for meaning is defined 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 et al., 2008a, p.
As revealed in the present research, the path from the search for meaning to the experience of meaning will be stably connected to the extent that an appropriate means for finding meaning (e.g., life experiences) is utilized.

**Who Are Motivated Meaning Searchers?**

The present research primarily examined the motivation to search for meaning as a precursor to important outcomes including experiential purchases, psychological functioning (e.g., basic needs), and meaning in life. Given the advantages of being motivated to search for meaning, it may be important to ask who would be motivated meaning seekers and what makes them continue to search for meaning in life. What are personality and individual characteristics of motivated meaning searchers? The findings of a bi-directional relationship between the motivation to search for meaning and preference for experiential purchases give us a hint. That is, those who are motivated to search for meaning are experiential consumers. According to Howell and colleagues (2012), experiential consumers (i.e., scoring high in the EBTS) are characterized as being high in extraversion, openness, agreeableness, and low in neuroticism. Experiential consumers are also high in empathic concerns, suggesting their emotional intelligence and interpersonal skills. They are also reward and fun seekers, but the kinds of rewards they are seeking are not materialistic, as indicated by their low scores in materialistic value tendency. Along with the findings in Study 4, this suggests a possibility that experiential consumers approach intrinsic aspirations that are reflective of their core values and true personal interests and avoid extrinsic aspirations that are usually mandated by external sources and represent secular values (Kasser, & Ryan, 1996). These individual trait-like tendencies of experiential consumers might also be personal characteristics of motivated meaning seekers.
While there must be chronic individual tendencies and traits of motivated meaning searchers, the present research highlights the ways that people are in the motivational state of finding meaning in life. Directly addressing this issue, Study 4 developed an intervention method and suggests that people will become motivated to search for meaning relatively easily by deeply pondering about values of meaning, vividly imagining features of meaningful life, and thinking about practical ways to increase meaning in life. The effect of this intervention was beyond the expectation given the fact that participants were only required to spend a few minutes on thinking about issues of meaning and writing a short essay about them. Notably, the effect seemed to last about a week, perhaps no longer than a week since the reported motivation to search for meaning and preference for experiential over material purchases began declining around that time. This suggests that pondering about meaningful life and writing briefly about it on a regular basis keeps people in the motivational state of searching for meaning.

**Limitations and Future Directions**

While providing important contributions and implications, the present studies have several limitations and also offer many avenues for future research. First, although it was consistently shown that the motivation to search for meaning was substantially related to intentional and behavioral preferences for experiential purchases over material purchases, the scales used to assess the motivation to search for meaning need to be refined and tested for validity, though their internal reliabilities indicated by Cronbach’s alphas were good in general (see Tables 1 and 3). Future research should develop a measure for the motivation to search for meaning that takes into account different reasons behind the search (i.e., deficit, maintenance, and enhancement) and thoroughly undergo a validation process to estimate one’s motivation to search for meaning as precisely as possible.
Second, serial mediation analyses in Study 4 offer evidence that not only did the intervention effectively increase the existential motive and preference for experiential purchases but also led to self-reported actual experiential purchases and subsequently meaning in life through autonomy, intrinsic aspirations, and affective balance; however, while this unique finding suggests a causal path from experiential purchases to meaning in life, theses constructs along with mediating variables were assessed concurrently (i.e., at Time 5). In order for a longitudinal study to more appropriately test a mediation process, independent, mediating, and dependent variables (IV, MV, and DV) need to be measured at different times in a sequential manner (e.g., IV at Time 1, MV at Time 2, DV at Time 3) to demonstrate a causality among them. Although Study 4 explained away alternative possibilities that experiential purchases enhance meaning in life and in turn psychological functioning (e.g., autonomy), further supporting pathways from experiential purchases to meaning in life through psychological functioning, the causality will be better established by assessing variables separately in time. This limitation may also have contributed to non-significant indirect effects of other mediating variables such as relatedness, competence, and true self-knowledge despite their theoretical relevance to the relationship between experiential purchases and meaning in life. To address these issues, future research should conduct another longitudinal study with more waves. This longitudinal design can also examine mediating roles of various psychological functioning simultaneously, which will help better understand psychological mechanisms underlying the effect of experiential purchases on meaning in life.

Another intriguing future research is to explore how age influences the existential motive and experiential purchases. For example, older adults might not be as motivated to search for meaning as younger adults probably because they are not concerned about finding meaning in
life any longer (i.e., amotivation) or have already established a good sense of what their lives mean (i.e., no deficit) and thus shifted their focal interests to other values such as pleasure. If this is the case, older adults may not choose to spend their money on life experiences over material goods as a means to resolve existential crises but to simply have more fun and enjoyment in their lives. It might be also possible that older adults become motivated to find meaning in life especially when mortality, the fact that they will pass away in relatively short periods of time, is salient in their minds. The inevitable mortality questions one’s true meaning of existence, and people under this mortality salience become motivated to reinstate meaningfulness of their being by engaging in meaning-recovering behaviors (Solomon et al., 1991). It will be interesting to explore whether the motivation to search for meaning, particularly induced by a fear of death, fosters making more experiential purchases than material purchases as well as other forms of meaning-seeking behavior (e.g., religious acts) among older adults. The current studies have recruited primarily college students (Studies 1, 2, and 4) and middle-aged adults (Study 3) and therefore are not able to speak to these possibilities, which awaits future investigations.

Finally, while the present research suggests that the motivation to search for meaning has beneficial consequences, it is an open possibility that having an excessive level of the existential motive is also uniformly positive. In general, pondering about one’s meaning and purpose in life is a mentally and physically salubrious act; however, thinking too much about existential issues may have harmful influences presumably because it will end with the fact that we are inevitably mortal and our lives do not have pre-assigned purposes and reasons. Perhaps, any endeavors to maximize the motivation to search for meaning might result in amotivation, or even if one could be excessively motivated to search for meaning, it may eventually have negative consequences such as anxiety and depression due to the impossibility of sufficiently meeting such extreme
standards. Future research should examine whether pursuing existential meaning too much has negative impacts on psychological functioning and subjective well-being and if there are clinical populations characterized as extreme meaning searchers to better understand what precedes the excessive motivation to search for meaning and develop a therapeutic method to normalize the existential motive.
REFERENCES


APPENDIX A

The Perceived Existential Values of Experiential Purchases (used in Study 1)

Instruction in Meaning Search Condition: Research has found that most people report searching for meaning at some point in their lives. In this study, we are interested in how certain types of purchases are related to searching for meaning in life. We would like you to think about what types of purchases people would choose to spend money on if they were searching for meaning. That is, what types of things would a person searching for meaning in life buy? Please list 5 purchases below.

Instruction in Depression Control Condition: Research has found that most people report being depressed at some point in their lives. In this study, we are interested in how certain types of purchases are related to depression. We would like you to think about what types of purchases people would choose to spend money on if they were depressed. That is, what types of things would a depressed person buy? Please list 5 purchases below.

Instruction in Baseline Control Condition: In this study, we are interested in purchasing behaviors. We would like you to think about what types of purchases people would make. Basically, what types of things would people spend their money on if they had extra money? Please list 5 purchases below.

Instruction for Evaluating Experiential and Material Purchases:

You have indicated _____ as the 1st purchase in the list. Please answer following questions related to this purchase using the provided scale.

Some people generally spend their money on a lot of different life experiences. To what extent would you characterize this purchase _____ as something that would provide you with a life experience?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>A great deal</th>
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</table>

Some people generally spend their money on a lot of material goods and products. To what extent would you characterize this purchase _____ as a materialistic possession?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>A great deal</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
APPENDIX B

The Motivation to Search for Meaning Scale (used in Study 2)

Please indicate your agreement with each of the following statements using the scale provided.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Disagree</th>
<th>Somewhat disagree</th>
<th>Neither disagree or agree</th>
<th>Somewhat agree</th>
<th>Agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. It is important to me to make a meaningful difference in this world.
2. I measure the quality of my life by how positive an impact I have on other people.
3. I have a strong will to live a meaningful life now.
APPENDIX C

Experiential Buying Tendency Scale (EBTS; Howell, Pchelin, & Iyer, 2012, used in Studies 2–4)

1. In general, when I have extra money I am likely to buy…

<table>
<thead>
<tr>
<th>A material item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

2. If I want to be happy, I’d be more likely to spend my money on…

<table>
<thead>
<tr>
<th>Material goods</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

| Activities and events | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

3. Some people generally spend their money on a lot of different life experiences (e.g., eating out, going to a concert, traveling, etc). They go about enjoying their life by taking part in daily activities they personally encounter and live through. To what extent does this characterization describe you, right now?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>A great deal</th>
</tr>
</thead>
</table>

4. Some people generally spend their money on a lot of material goods and products (e.g., jewelry, clothing). They go about enjoying their life by buying physical objects that they can keep in their possession. To what extent does this characterization describe you, right now?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>A great deal</th>
</tr>
</thead>
</table>
APPENDIX D

The Meaning in Life Questionnaire (MLQ; Steger, Frazier, Oishi, & Kaler, 2006, used in Studies 2 and 4)

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.

<table>
<thead>
<tr>
<th>Absolutely untrue</th>
<th>Mostly untrue</th>
<th>Somewhat untrue</th>
<th>Can’t say true or false</th>
<th>Somewhat true</th>
<th>Mostly true</th>
<th>Absolutely true</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
</tr>
</tbody>
</table>

1. I understand my life’s meaning.
2. I am looking for something that makes my life feel meaningful.
3. I am always looking to find my life’s purpose.
4. My life has a clear sense of purpose.
5. I have a good sense of what makes my life meaningful.
6. I have discovered a satisfying life purpose.
7. I am always searching for something that makes my life feel significant.
8. I am seeking a purpose or mission for my life.
9. My life has no clear purpose.
10. I am searching for meaning in my life.
APPENDIX E

Entering New Decades in Chronological Ages (used in Study 3)

Instruction in Experimental Condition: Imagine that tomorrow is your 40th (50th) birthday. Please spend a few minutes writing about your thoughts and feelings about the day. Try to imagine, as vividly as possible, what your day will be like. There are no right or wrong answers—just write whatever comes into your head.

Baseline Control Condition: Imagine what you’ll do with your day tomorrow. Please spend a few minutes writing about your thoughts and feelings about the day. Try to imagine, as vividly as possible, what your day will be like. There are no right or wrong answers—just write whatever comes into your head.
APPENDIX F

The Search for Meaning Questionnaire (SMQ; Alter & Hershfield, 2014, used in Study 3)

Please indicate your agreement with each of the following statements using the scale provided.

<table>
<thead>
<tr>
<th>Strongly disagree</th>
<th>Neither disagree or agree</th>
<th>Strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. At this moment, I am thinking more deeply about my life than I usually do.
2. At this moment, it feels important to me to understand which aspects of my life have gone well and which ones have gone less well.
3. In thinking about my life at this moment, I am taking a very broad view rather than focusing on a few specific moments.
4. At this moment, it is important to me to think about how my life has gone so far.
5. I feel as though this is a turning point in my life when I can choose to fix things that have not gone well and continue to improve on things that have gone well.
6. If I were ever going to write a memoir about my life, this would be a good time to do it.
7. It is more important for me to lead a meaningful life than to lead a happy life.
8. If I could choose to live either a hard and meaningful life or a happy life without meaning, I would choose the hard and meaningful life.
9. Life is hard enough as it is without having to worry about making it meaningful.
10. One important measure of a life well lived is that people remember you when you're gone.
11. It is important to me to make a meaningful difference in this world.
12. I measure the quality of my life by how positive an impact I have on other people.
The Intervention (used in Study 4)

Intervention group instruction:

We, the Existential Psychology Lab in the psychology department, are working on developing a practical way to improve people’s subjective quality of life and psychological well-being.

Many great thinkers and researchers suggest valuing meaning in life as one potential direction to attain such a goal. Following their suggestion, we have developed a series of writing exercises by which people deeply think about meaning in their lives.

By taking part in this exercise, you will be writing about how you can pursue meaningful goals in your life from various angles. This writing exercise is a week-long task, consisting of three different writing topics in which you will do each writing exercise each day during a week.

The writing task will be simple: You will be given a simple writing instruction and asked to write accordingly.

For the next three days (from Tuesday to Thursday), you will receive a link for each writing exercise via email each day. On Friday, you will receive a link for a short follow-up survey via email. Finally, week after next week (11/18), you will receive a link for the final survey via email. By completing writing exercises and surveys, you will be granted a total of three credits.

If you agree to participate in today's writing exercise, please click next.

Day 1 Writing exercise: Please read a following instruction carefully. After reading it, please take a moment to think about how you can write your own answer. Please try to write about 1 page and be as clear as possible in your writing.

“We as humans must ask a question of why we are living this life. Indeed, many ancient thinkers and modern philosophers such as Aristotle and Viktor Frankl have long argued that people are innately motivated to understand their own meaning and purpose in life. Then, why do we need to find meaning in our lives? What good things possibly can happen to you if you have found meaning in your life? Please write a few sentences of your own idea to this question. Please write a coherent essay in your own words as if you will show it to other people later.”

Day 2 Writing exercise: Please read a following instruction carefully. After reading it, please take a moment to think about how you can write your own answer. Please try to write about 1 page and be as clear as possible in your writing.
“Some people live a very meaningful life than other people. They understand what their lives’ meaning and purpose are, and live their lives accordingly. Think about Mother Teresa’s life for a moment. She devoted her entire life to helping other people, and no one will disagree that her life was very meaningful. Now, imagine that you live a very meaningful life. Please write a few sentences to describe how such a life would be like in detail. Try to be specific in describing your life. Remember to write a coherent essay in your own words as if you will show it to other people later.”

Day 3 Writing exercise: Please read a following instruction carefully. After reading it, please take a moment to think about how you can write your own answer. Please try to write about 1 page and be as clear as possible in your writing.

“You have written about meaning in life from various angles for the past few days. For the last writing exercise, think about ways to find meaning in your life. How can we find meaning? Specifically, think about what can help you better understand about meaning and purpose in your life. For example, you can think of some of your past activities that made you feel meaningful and purposeful. Please write a few sentences to describe how you can find meaning. Please be specific in describing the ways you think useful to find meaning. Remember to write a coherent essay in your own words as if you will show it to other people later.”

Control group instruction:

We, the Existential Psychology Lab in the psychology department, are working on developing a practical way to improve people’s subjective quality of life and psychological well-being.

Many great thinkers and researchers suggest valuing everyday life as one potential direction to attain such a goal. Following their suggestion, we have developed a series of writing exercises by which people think about their mundane lives.

By taking part in this exercise, you will be writing about how you go through your daily life. This writing exercise is a week-long task, consisting of five different writing topics in which you will do each writing exercise each day during a week.

The writing task will be simple: You will be given a simple writing instruction and asked to write accordingly.

For the next three days (from Tuesday to Thursday), you will receive a link for each writing exercise via email each day. On Friday, you will receive a link for a short follow-up survey via email. Finally, week after next week (11/18), you will receive a link for the final survey via email. By completing writing exercises and surveys, you will be granted a total of three credits.

If you agree to participate in today’s writing exercise, please click next.
Day 1 Writing exercise: Please read a following instruction carefully. After reading it, please take a moment to think about how you can write your own answer. Please try to write about 1 page and be as clear as possible in your writing.

“For today’s writing exercise, please describe a typical walking route you take from your home to school. Please write a few sentences of your own answer to this question. Try to write a coherent essay in your own words as if you will show it to other people later.”

Day 2 Writing exercise: Please read a following instruction carefully. After reading it, please take a moment to think about how you can write your own answer. Please try to write about 1 page and be as clear as possible in your writing.

“For today’s writing exercise, please describe the latest chore you did. Please write a few sentences of your own answer to this question. Try to write a coherent essay in your own words as if you will show it to other people later”

Day 3 Writing exercise: Please read a following instruction carefully. After reading it, please take a moment to think about how you can write your own answer. Please try to write about 1 page and be as clear as possible in your writing.

“For the last writing exercise, please describe the latest TV show you watched. Please write a few sentences of your own answer to this question. Try to write a coherent essay in your own words as if you will show it to other people later.”
APPENDIX H

The Motivation to Search for Meaning Scale (used in Study 4)

1. At this moment, how much do you want to understand more about meaning in your life?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very much</th>
<th>7</th>
</tr>
</thead>
</table>

2. At this moment, how much do you care about knowing meaning in your life?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very much</th>
<th>7</th>
</tr>
</thead>
</table>

3. At this moment, how important is it that you find meaning in your life?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very much</th>
<th>7</th>
</tr>
</thead>
</table>
APPENDIX I

Self-Reported Actual Experiential and Material Purchases (used in Study 4)

In this question, we would like you to recall 5 important purchases you made over the last weekend and this week so far. That is, think about 5 memorable things you spent money on over the last weekend and this week so far. For example, your purchases might include things like buying a new smartphone or buying a football ticket. Please list your 5 purchases below.

You have indicated ___ as the 1st purchase you recently made.

Please answer following questions.

Some people generally spend their money on a lot of different life experiences. To what extent would you characterize this purchase ___ as something that would provide you with a life experience?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>

Some people generally spend their money on a lot of material goods and products. To what extent would you characterize this purchase ___ as a materialistic possession?

<table>
<thead>
<tr>
<th>Not at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
</table>
APPENDIX J

Basic Need Satisfaction Scale (BNS; Deci et al., 2001, used in Study 4)

Please read each of the following items carefully, thinking about how it relates to your life, and then indicate how true it is for you. Use the following scale to respond:

<table>
<thead>
<tr>
<th>Not at all true</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>Somewhat true</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>Very true</th>
<th>7</th>
</tr>
</thead>
</table>

1. I feel like I am free to decide for myself how to live my life.
2. I really like the people I interact with.
3. Often, I do not feel very competent.
4. I feel pressured in my life.
5. People I know tell me I am good at what I do.
6. I get along with people I come into contact with.
7. I pretty much keep to myself and don't have a lot of social contacts.
8. I generally feel free to express my ideas and opinions.
9. I consider the people I regularly interact with to be my friends.
10. I have been able to learn interesting new skills recently.
11. In my daily life, I frequently have to do what I am told.
12. People in my life care about me.
13. Most days I feel a sense of accomplishment from what I do.
14. People I interact with on a daily basis tend to take my feelings into consideration.
15. In my life I do not get much of a chance to show how capable I am.
16. There are not many people that I am close to.
17. I feel like I can pretty much be myself in my daily situations.
18. The people I interact with regularly do not seem to like me much.
19. I often do not feel very capable.
20. There is not much opportunity for me to decide for myself how to do things in my daily life.
21. People are generally pretty friendly towards me.
APPENDIX K

Self-Alienation Subscale (Authenticity Inventory; Wood, Linley, Maltby, Baliousis, & Joseph, 2008, used in Study 4)

Please indicate how well each of the following statements describes you on the following scale.

<table>
<thead>
<tr>
<th>Does not describe me at all</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>Describes me very well</th>
</tr>
</thead>
</table>

1. I don't know how I really feel inside.
2. I feel as if I don't know myself very well.
3. I feel out of touch with the "real me."
4. I feel alienated from myself.
APPENDIX L

The Aspiration Index Scale (AIS; Kasser & Ryan, 1996, used in Study 4)

This first set of questions asks you about the future. Rate each item by circling how important it is to you that it happens in the future.

IN THE FUTURE...

<table>
<thead>
<tr>
<th>Importance</th>
<th>Not at all</th>
<th>A little</th>
<th>So/so</th>
<th>Pretty important</th>
<th>Very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

1. You will be physically healthy.
2. Your name will be known by many people.
3. You will have people comment often about how attractive you look.
4. You will have a lot of expensive possessions.
5. You will be famous.
6. You will donate time or money to charity.
7. You will feel good about your level of physical fitness.
8. You will be the one in charge of your life.
9. You will have good friends that you can count on.
10. You will keep up with fashions in hair and clothing.
11. You will teach others the things that you know.
12. You will have a job that pays well.
13. You will exercise regularly.
14. You will share your life with someone you love.
15. You will be admired by many people.
16. At the end of your life, you will look back on your life as meaningful and complete.
17. You will avoid things bad for your health (such as smoking, excessive alcohol, etc.)
18. You will have people who care about you and are supportive.
19. You will work for the betterment of society.
20. You will be married to one person for life.
21. You will be your own boss.
22. You will achieve the "look" you've been after.
23. You will deal effectively with problems that come up in your life.
24. You will feel energetic and full of life.
25. You will have a job with high social status.
26. You will have good, open relationships with your children.
27. You will work to make the world a better place.
28. You will successfully hide the signs of aging.
29. Your name will appear frequently in the media.
30. You will know people that you can have fun with.
31. You will be relatively free from sickness.
32. You will help others improve their lives.
33. Your body shape and type will be fairly close to ideal.
34. You will buy things just because you want them.
35. You will know and accept who you really are.
36. You will eat healthfully and moderately.
37. You will be financially successful.
38. You will do something that brings you much recognition.
39. You will help people in need.
40. You will have a couple of good friends that you can talk to about personal things.
41. You will be talked about years after your death.
42. Your image will be one others find appealing.
The Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988, used in Study 4)

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer on the provided scale. Indicate to what extent you feel this way right now, that is, at the present moment. Use the following scale to record your answers.

<table>
<thead>
<tr>
<th>Very slightly or not at all</th>
<th>A little</th>
<th>Moderately</th>
<th>Quite a bit</th>
<th>Extremely</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
</tbody>
</table>

1. Interested
2. Distressed
3. Excited
4. Upset
5. Strong
6. Guilty
7. Scared
8. Hostile
9. Enthusiastic
10. Proud
11. Irritable
12. Alert
13. Ashamed
14. Inspired
15. Nervous
16. Determined
17. Attentive
18. Jittery
19. Active
20. Afraid
APPENDIX N

Probes and Demographics

1. In your own words, what was the purpose of the experiment?

2. Have you been in any other experiment that was similar to this experiment? If YES, please describe.

3. Please indicate your gender.
   - Female (1)
   - Female to Male Transgender (2)
   - Male (3)
   - Male to Female Transgender (4)
   - Not Sure (5)
   - Other (Please Specify): (6) ____________________

4. Please indicate your age. ______

5. What race best describes you?
   - American Indian/Alaska Native (1)
   - Asian (2)
   - Indian (3)
   - Native Hawaiian or Other Pacific Islander (4)
   - White (5)
   - Black or African-American (6)
   - More than one race (7)
   - Other (please specify) (8) ____________________

6. Are you Hispanic/Latino?
   - Yes (1)
   - No (2)

7. Is English your native language?
   - Yes (1)
   - No (2)

8. Approximately how much total combined money did all members of your HOUSEHOLD earn last year? This includes money from jobs; net income from business, farm, or rent; pensions; dividends; interest; social security payments; and any other money income received by members of your HOUSEHOLD that are EIGHTEEN 18 years of age or older. Please report the total amount of money earned - do not subtract the amount you paid in taxes or any deductions listed on your tax return.
Less than $20,000 (1)
$20,000 to $34,999 (2)
$35,000 to $49,999 (3)
$50,000 to $74,999 (4)
$75,000 to $99,999 (5)
$100,000 to $149,999 (6)
$150,000 or More (7)