Evaluating Multiple Goals Simultaneously Makes Meaning Easier to Evaluate

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Abstract

Sometimes, people choose to pursue something more meaningful, while other times, they opt to do something happier or more pleasurable. But in the thousands of decisions people make over the course of a day, when do they prioritize meaning, and when do they prioritize pleasure? While existing literature shows that some individual differences predict whether people prioritize one or the other, we demonstrate that the context of the decision, more specifically, whether people consider one option at a time versus multiple options at once, causes people to prioritize pleasure and meaning, respectively. Given that attributes prioritized during joint evaluation (i.e., when one considers multiple options at once) tend to be more difficult to judge or evaluate based on past literature, the fact that people prioritize meaning when considering multiple options at once suggests that meaning may be more difficult to evaluate than pleasure is. Future studies will explore the mechanisms underlying this effect.

Separate Versus Joint Evaluation: Meaning Is a Matter of Choice

When they have limited time and resources, people cannot pursue every goal they have in order to maximize both their happiness and meaning in life. A single father engaging in the meaningful endeavor of working tirelessly to provide for his child may lack a healthy selfishness (Fordyce, 1983) and be unable to put his own happiness first when necessary. Alternatively, a highly educated, highly paid young professional living in New York City might have all the social and leisure activities to make himself happy but lack the sense of meaning derived from belonging to a tight-knit community.

Worryingly, one fourth of Americans cannot identify what is meaningful about their lives, and 40 percent do not feel that they know their purpose in life (Kobau, Sniezek, Zack, Lucas, & Burns, 2010). People living in the United States and other wealthy countries like Sweden, Germany, and Australia report significantly high levels of happiness but lower meaning in life compared to those living in poorer countries such as Laos, Ethiopia, and Kosovo (Oishi & Diener, 2014). Having a more meaningful life is not only positive in and of itself but is also important for one's overall wellbeing – happy people who lack meaning in their lives have worse physical health than those with lives high in both meaning and happiness and those only high in meaning (Fredrickson, Grewen, Coffey, Algoe, Firestine, Arevalo, Ma, & Cole, 2013), and people with a greater sense of meaning in life experience a host of positive outcomes (Ho, Cheung, & Cheung, 2010; Brassai, Piko, & Steger, 2011; Steger, Mann, Michels, & Cooper, 2009; Jim & Andersen, 2007; Krause, 2009; Kosine, Steger, & Duncan, 2008).

Despite the benefits of a meaningful life, in practice, it can be difficult for people to successfully choose and pursue experiences that foster a sense of meaning. For one, individuals

differ in terms of which one they generally tend to pursue (Huta & Ryan, 2010; Peterson, Park, & Seligman, 2005). However, to our knowledge, no researchers have shown what contexts cause people to prioritize one over the other and may cause people to inadvertently prioritize pleasure when they want a more meaningful life, or vice versa.

Given that our hypothesis involves pleasure and meaning, it behooves us to define these two constructs. Pleasure (or happiness) and meaning are generally agreed upon as being the two main subcategories of well-being (Ryan & Deci, 2001; Ryff & Singer, 1998). Pleasure, or hedonia as it is often called in the literature, typically entails positive affect and satisfaction (Diener, Oishi, & Tay, 2018; Huta, 2015; Huta & Waterman, 2013; Lyubomirsky & Lepper, 1999; Kahneman, 1999). It is associated with a general focus on the self and the present moment, and often involves obtaining one's wants and needs (Huta, 2015). On the other hand, meaning, or eudaimonia, typically involves coherence, a sense of purpose, and the belief that one's life is significant (Martela & Steger, 2016; Heintzelman & King, 2014; Steger, Frazier, Oishi, & Kaler, 2006). Definitions for meaning vary more than those for pleasure, but they most often include excellence and quality, autonomy and authenticity, personal growth, and meaning or relevance in a broader context (Huta & Waterman, 2014). Meaning is associated with focusing on the big picture, on both the self and others, and on the connections between past, present, and future (Huta, 2015). For the current paper, we adopt the more commonly accepted definitions of meaning and happiness - we define a meaningful experience as one characterized by purpose, significance, and comprehensibility (Heintzelman & King, 2014, Martela & Steger, 2016; Park & George, 2013), and a pleasant/happy experience as one characterized by contentment and positive feelings (Diener, Oishi, & Tay, 2018; Huta, 2015; Huta & Waterman, 2013; Lyubomirsky & Lepper, 1999; Kahneman, 1999).

Though there is little to no research on the contexts that promote the pursuit of meaningful goals versus happiness goals, we believe that the mere number of options considered at one time can have important implications for whether people prioritize pleasure or meaning. In particular, we hypothesize that when evaluating a single goal at once (rather than evaluating multiple goals at the same time), the higher *evaluability* of pleasure would lead people to prioritize pleasure over meaning due to the previously established evaluability hypothesis (for a review, see Hsee, Loewenstein, Blount, & Bazerman, 1999). According to the evaluability hypothesis, each choice people make is made either using joint evaluation (in which multiple options are considered at the same time), separate evaluation (in which a single option's merits are considered), or some combination of the two. Attributes of options that are easy to evaluate, or attributes high in evaluability, are more heavily prioritized during separate evaluation, compared to joint evaluation (Hsee et al., 1999).

For example, imagine that as the owner of a consulting firm, you were tasked with hiring a computer programmer to work with a computer language called KY. One job candidate had a 3.0 GPA and has written 70 KY programs during their previous jobs, and the other candidate had a 4.9 GPA and had written only 10 KY programs.

In this example, GPA is *easy to evaluate* because most people know the general distribution of undergraduate GPAs. It is easy to know whether one person has a great GPA or a bad GPA even without a second person for comparison. On the other hand, previous experience with the KY program is *hard to evaluate* – most participants have no knowledge of the overall distribution of KY programs completed by candidates. The competitiveness of a candidate who has written 10 KY programs is difficult to assess, especially when evaluated in the absence of a second candidate.

As a result of the difference in how easy to evaluate the two attributes are, during separate evaluation, participants prioritized GPA more heavily than previous experience - those who only evaluated Candidate S offered that candidate a high salary (due to their focusing on his 4.9 GPA) compared to those who only evaluated Candidate J (Hsee, 1996). When participants evaluated both candidates at the same time (i.e., joint evaluation), they tended to offer Candidate J a higher salary because previous experience became easier to evaluate, which led them to prioritize previous experience more heavily (Hsee, 1996).

Another way to understand evaluability is to imagine how easy it would be to estimate how much you would like a glass of soda pop with 2 grams of sugar per fluid ounce. Now, imagine how easy it would be to estimate how much you would like a cup of coffee with one tablespoon of cream. Most people do not know exactly how many grams of sugar they like in their soda pop, so it is difficult for them to evaluate the soda pop with 2 grams of sugar per fluid ounce. However, many people know how many tablespoons of cream they would like in a cup of coffee, thereby making it easy to evaluate the cup with one tablespoon of cream.

In the same way that previous programming experience was more difficult to evaluate than GPA when evaluating two candidates separately, we felt that when considering the merits of an experience, the anticipated meaning of the experience would be more difficult for people to evaluate than anticipated affect for a few reasons. First, evaluating how meaningful an experience is involves thinking about the past present, and future (Baumeister, Vohs, Aaker, & Garbinsky, 2013), whereas evaluating how pleasing an experience is only requires thinking about the present moment. Evaluating meaning also requires one to consider both cognitive and affective aspects of the experience (Heintzelman & King, 2014; Steger, 2012; Park & George, 2013, p. 484), including how coherent the experience is in the context of one’s life, whether the

experience contributes to one's sense of purpose and direction, and the significance/importance (value of one's life). Evaluating pleasure requires evaluating only the affective aspect of the experience (Ryff & Singer, 2008).

If pleasure is indeed easier to evaluate than meaning, then the two modes of evaluation could play a role in whether people pursue meaningful goals or pleasing goals. More specifically, we predict that when people consider whether they would like to pursue a potential goal, when they evaluate a goal in isolation (separate evaluation), they will weight the pleasure that would be experienced upon attaining the goal more heavily than the sense of meaning they would derive from it. When people evaluate potential goals at the same time (i.e., joint evaluation), meaning will become easier to evaluate and compare, and people will weight meaning more heavily when evaluating multiple goals simultaneously, relative to the separate evaluation condition. Though we did not specifically expect a "perfect" crossover such that pleasure would be more preferred during separate evaluation and meaning during joint evaluation, we expected that when comparing separate evaluation and joint evaluation, the *relative* weightings of pleasure and meaning would change between the two evaluation modes such that meaning would be weighted more heavily under joint evaluation.

We ran three studies to test the hypothesis that people will weight meaning more heavily when engaging in joint evaluation (compared to separate evaluation) and will therefore value a meaning (and less pleasant) experience more than a pleasant (and less meaningful) experience, relative to participants who evaluate the options separately. In Study 1, we demonstrate the basic effect by having participants evaluate two dining experiences. In Study 2, we extend this finding to the more common, everyday experience of evaluating two potential undergraduate courses. In

Study 3, we demonstrate the same effect using more negative, unpleasant experiences than the first two studies and using a nationally representative sample.

Study 1

Do people value a meaningful experience more than a pleasant experience when they think about both experiences at the same time? In Study 1, we sought to demonstrate that evaluation mode does in fact cause people to value meaningful experiences more when people engage in joint evaluation (compared to separate evaluation).

Method

Participants. 112 freshman undergraduate students from the University of Virginia completed the study in exchange for course credit for an introductory psychology course. No participants were excluded from analyses.

Procedure. Study 1 employed a 2 (joint versus separate) by 2 (meaningful versus pleasant) design. Though we refer to the two experiences as being either meaningful or pleasant, these are our shorthand names for the two experiences to make them easier to reference. In reality, the "meaningful" experience is an experience that is relatively more meaningful and less pleasant while the "pleasant" experience is less meaningful and more pleasant.

In the laboratory, participants completed a paper survey in which they imagined that they were going to have dinner with a close friend from their university. We manipulated the meaningfulness of the options by setting the date of the dinner to be either in the middle of students' undergraduate careers or at the very end. Pleasantness was manipulated by the quality of the food – presumably, most people would be happier dining at a restaurant with "excellent" food than one with "good" food. The text participants saw is shown below.

	When?	Restaurant Quality (out of 5 stars)
Experience A:	During the last month of your 4th (i.e., last) year, before your friend moves to another city	☆ ☆ (good)
Experience B:	During a month in the middle of your 3rd (second to last) year	☆ ☆ ☆ ☆ ☆ (excellent)

We randomly assigned participants to one of three conditions – they either solely evaluated the meaningful experience (i.e., Experience A above), solely evaluated the pleasant experience (i.e., Experience B above), or evaluated both experiences at the same time. For those who evaluated just one experience, experience type (meaningful versus pleasant) was a between-subjects factor, and for those who evaluated two experiences, it was a within-subjects factor.

Participants indicated the extent to which the experiences were valuable to them using 9-point Likert-type scales, with the end points *not at all* and *very much* in response to the following statements: (a) "The experience would be extremely valuable to me" and (b) "The experience would be worth a great deal to me." We averaged the responses to these questions to create 2-item measures of perceived value for the meaningful experience ($\alpha = .94$) and the pleasant experience ($\alpha = .95$). While participants in the two separate evaluation conditions completed the value measure for just one experience, participants in the joint evaluation condition answered the value measure for both experiences.

Results

Given that we had a 2 (joint versus separate) by 2 (meaningful versus pleasant) design but the experience factor was within-subjects for the joint evaluation condition and between-subjects for the separate evaluation condition, we used a mixed effects model using the *nlme* package (Pinheiro et al., 2019) in the R programming environment (R Core Team, 2008) with

evaluation mode (joint or separate) and experience type (meaningful or pleasant) as the independent variables and our value measure as the dependent variable. Our model included our independent variables as fixed effects as well as an intercept for each participant and a slope for experience type nested within the intercept for each participant as random effects. We used the same R package to derive *p* values and degrees of freedom for all studies reported in this paper.

Critical to our main hypothesis, we found a significant Evaluation Mode (joint versus separate) × Experience Type (meaningful versus pleasant) interaction, $b = -1.25$, $SE = 0.55$, 95% confidence interval (CI) = [-2.34, -0.16], $t(109) = -2.26$, $p = .026$. Relative to people who evaluated just one experience, people who evaluated the two experiences at the same time valued the meaningful experience (dinner with a friend right before they graduate at a 2-star restaurant) more than pleasant experience (dinner with a friend during junior year at a five-star restaurant). See Figure 1 below.

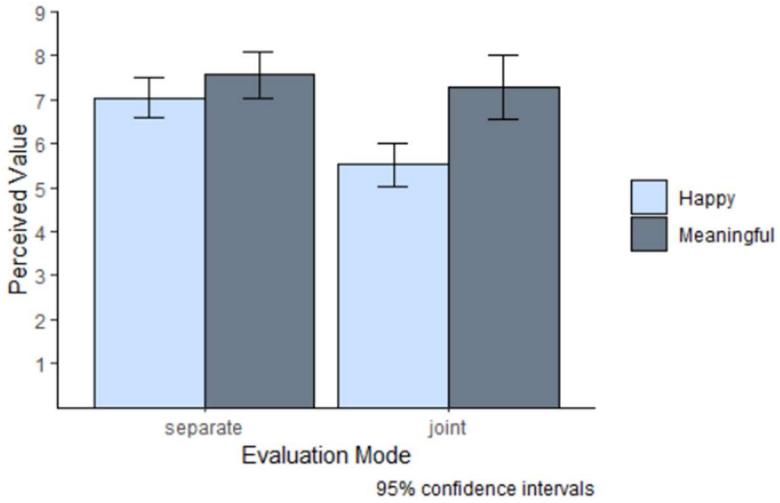

Figure 1. Average perceived value of the two experiences within the joint and separate evaluation conditions. Error bars show 95% confidence intervals.

The analysis also revealed a significant main effect of evaluation mode on perceived value of the experiences, $b = 1.52$, $SE = 0.34$, 95% confidence interval (CI) = [0.85, 2.18], $t(109) = 4.49$, $p < .001$, with participants evaluating the experiences separately valuing the experiences to a greater extent ($M = 7.29$, $SD = 1.47$) than those evaluating the experiences jointly ($M = 6.41$, $SD = 2.16$). Experience type (meaningful versus pleasant) also had a significant effect on perceived value, $b = 1.77$, $SE = 0.36$, 95% confidence interval (CI) = [1.06, 2.48], $t(40) = 4.90$, $p < .001$. The meaningful experience was valued more ($M = 7.41$, $SD = 1.99$) than the pleasant experience ($M = 6.24$, $SD = 1.67$).

In sum, the significant interaction effect supports our main hypothesis - people evaluating two experiences simultaneously value a meaningful experience more than a pleasant experience, relative to people who evaluate these experiences in isolation. In other words, it appears that it is only through comparison that people are able to put more weight on meaning when determining how valuable an experience is to them. Hence, those who evaluated two experiences simultaneously showed a greater preference for the meaningful experience, relative to those who evaluated just one experience. When pondering the value of one experience without a second experience for comparison, it seems that people do not weight how meaningful an experience is as heavily as how happy or pleasant it is.

Though these results supported our hypothesis, we note that we ran a similar study that trended in the expected direction but was not statistically significant (see Appendix A).

Study 2

Given Study 1's interesting findings, we wanted to know whether this effect would extend to more common, everyday scenarios. Thus, in Study 2, we used the same study design but changed

the experiences to more closely reflect real-life decisions undergraduates would make in a typical semester.

Method

Participants. We recruited 185 participants at the University of Virginia to complete a paper survey. We recruited 70 participants in public areas by offering snacks and drinks as compensation, and 115 participants completed our survey at the end of an unrelated laboratory study. We excluded data from 13 participants who were not current undergraduate students since our scenarios asked about undergraduate courses, and we excluded data from 4 participants for taking the survey a second time, resulting in a final sample of 168 participants (72.9% female, age: $M = 19.25$, $SD = 1.53$) for analyses.

Procedure. Identical to Study 1, Study 2 employed a 2 (joint versus separate) by 2 (meaningful versus pleasant) design. Participants completed a paper survey in which they imagined they were going to take an undergraduate course. We manipulated the meaningfulness of the two experiences by specifying that one course, the Psychology of Meaning in Life course, was "designed to increase [their] meaning in life" and was tagged by former students as being "inspirational" and having "amazing lectures." The second course, the Contemporary Comedy Film course, would "explore the various forms of comedy through recent cinematic history" and was tagged by former students as being "fun" and "relaxing." To make the psychology course less pleasant to students, it was scheduled at 8:00AM and tagged as having a "heavy work load" and being the type of course students cannot skip out on if they wanted to get more sleep. The comedy film course was scheduled at 11:00AM and tagged as being a "GPA booster" with a "light work load." Because undergraduate courses can sometimes be difficult for students because the grading is not reliable or valid (rather than being difficult because they require more

time and effort), we made it clear that both courses had clear grading criteria. The text participants viewed is shown below.

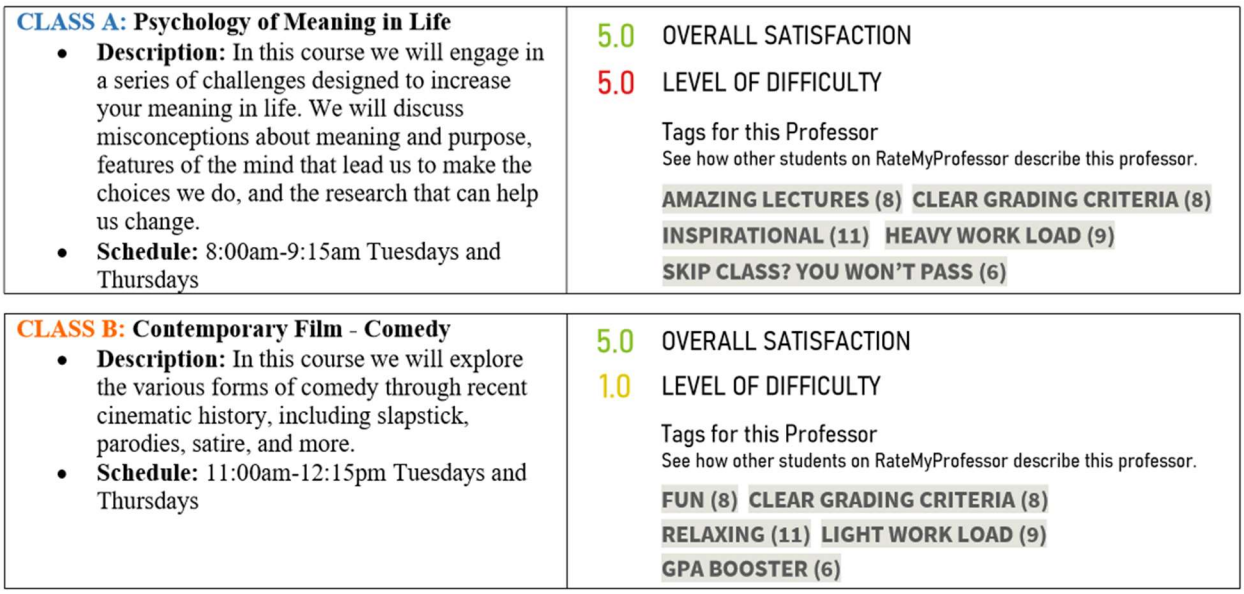

Figure 2.

A pilot test ($N = 44$) showed that the comedy film course ($M = 1.86$, $SD = 1.46$) was perceived by undergraduate students to be more pleasant than the psychology course ($M = -0.05$, $SD = 1.71$) using a -3 (extremely unhappy) to 3 (extremely happy) Likert scale, $p < .001$. The comedy film course ($M = 2.91$, $SD = 1.85$) was also perceived to be less meaningful than the psychology course ($M = 4.07$, $SD = 1.53$) using a 0 (not at all) to 6 (extremely) Likert scale, $p = .004$.

As in Study 1, we randomly assigned participants to one of three conditions – they either solely evaluated the meaningful experience (Class A above), solely evaluated the pleasant experience (Class B above), or evaluated both experiences at the same time. For participants who evaluated both experiences, the order of the two experiences was counterbalanced. The order of

the experiences did not significantly predict how much participants valued the experiences, so we do not include order in the results below.

Participants indicated the extent to which the experiences were valuable to them using the same items used in Study 1. We averaged the responses to these questions to create 2-item measures of perceived value for the meaningful experience (α = .81) and the pleasant experience (α = .81).

Results

Using the same mixed effects model used in Study 1, we again found a significant interaction in the predicted direction between Evaluation Mode and Experience Type, b = -1.16, SE = 0.54, 95% confidence interval (CI) = [-2.21, -0.11], $t(165)$ = -2.16, p = .032. Including the 13 participants who weren't undergraduate students does not change the results (p = .016). Participants evaluating the experiences jointly valued the meaningful experience (a difficult but rewarding course on the psychology of meaning in life) more than the pleasant experience (an easy but less inspiring course on comedy films), relative to participants who evaluated the two experiences separately (see Figure 3 below).

In contrast to Study 1's results, we did not observe a significant main effect of Evaluation Mode on perceived value of the experience, b = 0.46, SE = 0.39, 95% confidence interval (CI) = [-0.30, 1.22], t(165) = 1.18, p = .239. However, there was a significant effect of Experience Type on perceived value, b = 1.75, SE = 0.39, 95% confidence interval (CI) = [0.99, 2.51], t(53) = 4.49, p < .001, with participants evaluating the meaningful experience (M = 6.01, SD =1.91) as more valuable than the pleasant experience (M = 4.85, SD = 2.04).

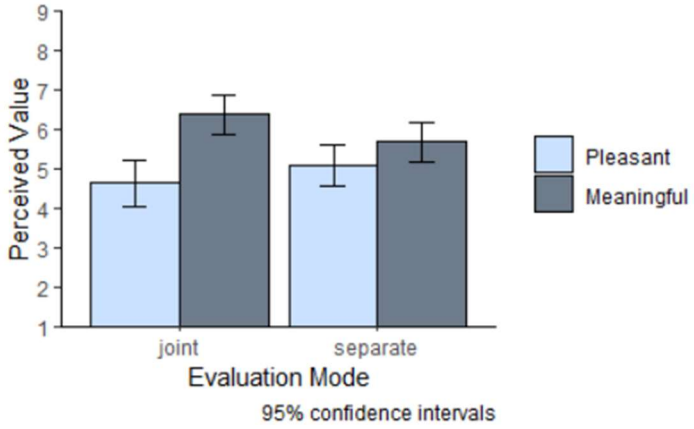

Figure 3. Average perceived value of the two experiences within the joint and separate evaluation conditions. Error bars show 95% confidence intervals.

Again, the significant interaction effect in this study suggests that people evaluating two experiences simultaneously value a meaningful experience more than a pleasant experience, relative to people who evaluate these experiences in isolation.

Study 3

While Studies 1 and 2 demonstrated our main hypothesis using academic and social experiences, it is unclear whether this effect would extend to situations that are decidedly unpleasant or unhappy. It could be that this preference reversal only occurs for positive, pleasant experiences. In order to improve the generalizability of this effect, we conducted a third preregistered study with a larger, nationally representative sample in which participants evaluate more negative experiences.

Method

Participants. 572 participants (67.3% female, age: $M = 51.59$, $SD = 12.52$) from a nationally representative U.S. online panel completed Study 3 in exchange for financial compensation. The target sample size was 500, but any deviations from this target were not under the control of the authors since this study was attached to an unrelated study conducted by

another researcher. The preregistered data analysis plan is available at https://aspredicted.org/blind.php?x=tz2962.

Procedure. Identical to the first two studies, Study 3 employed a 2 (joint versus separate) by 2 (meaningful versus pleasant) design. Participants completed an online survey in which they imagined that they were going to volunteer for an international charity organization for a three-hour shift in an outdoor booth during a hot, 90° Fahrenheit day. During that time, they would raise 250 USD, which would go directly to the charity's branch in Bolivia. We manipulated the meaningfulness of the two experiences by specifying that either children (higher meaning) or animals (lower meaning) would benefit from the fundraising. Pleasantness was manipulated by the quality of the outdoor booth accommodations – presumably, most people would be happier working a few hours in sweltering heat if they had an electric fan and appetizing refreshments rather than a handheld fan and an uninspired selection of snacks. The text participants viewed is shown below.

	How will the money be used?	**Outdoor booth accommodations**
Experience A	To prevent the development of a life-threatening disease in 50 children in Bolivia	• Handheld fan • Free bag of potato chips and dried fruit • 3 bottles of water
Experience B	To prevent the development of a life-threatening disease in 50 Andean mountain cats (an endangered species) in Bolivia	• Electric-powered fan • Free box lunch with a sandwich, fresh fruit salad, and cookie • Small cooler with assorted drinks (juice, soda, tea, and iced coffee)

As in the two previous studies, we randomly assigned participants to one of three conditions – they either solely evaluated the meaningful (i.e., Experience A above), solely evaluated the pleasant experience (i.e., Experience B above), or evaluated both experiences at the

same time. For participants who evaluated both experiences, the order of the two experiences was counterbalanced.

Participants indicated the extent to which the experiences were valuable to them using the same items used in the previous two studies. We averaged the responses to these questions to create 2-item measures of perceived value for the meaningful experience ($\alpha = .96$) and the pleasant experience ($\alpha = .97$).

Results

We used the same mixed effects model used in Studies 1 and 2 except that we preregistered our analysis to include the independent variable of the unrelated study conducted before our study as a covariate. Whether this covariate is or is not included in the model does not change the results significantly.

We again found a significant interaction in the predicted direction between Evaluation Mode and Experience Type, $b = -0.99$, $SE = 0.41$, 95% confidence interval (CI) = [-1.80, -0.18], $p = .016$. Participants evaluating the experiences jointly valued the meaningful experience (fundraising for children under poor accommodations) more than the pleasant experience (fundraising for mountain cats under excellent accommodations), relative to participants who evaluated the two experiences separately (see Figure 4 below).

We did not observe a significant main effect of Evaluation Mode on perceived value of the experience, $b = 0.16$, $SE = 0.26$, 95% confidence interval (CI) = [-0.35, 0.67], $t(397) = 1.08$, $p = .279$. However, there was a significant effect of Experience Type on perceived value, $b = 0.62$, $SE = 0.28$, 95% confidence interval (CI) = [0.07, 1.17], $t(130) = 2.25$, $p = .026$, with participants evaluating the meaningful experience ($M = 6.16$, $SD = 2.48$) as more valuable than the pleasant experience ($M = 5.97$, $SD = 2.53$).

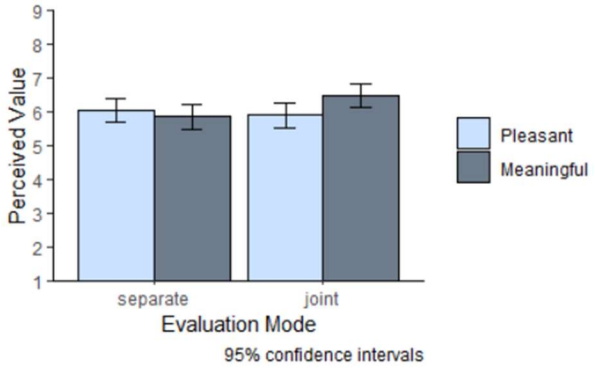

Figure 4. Average perceived value of the two experiences within the joint and separate evaluation conditions. Error bars show 95% confidence intervals.

Again, this pattern of results suggests that people evaluating two experiences at the same time weight *how meaningful the experience will be* more heavily than how pleasant it will be, relative to people evaluating just one of the experiences.

Discussion

People make decisions every day to prioritize certain goals over others, and each of these choices are made in the context of joint evaluation, separate evaluation, or some combination of the two. People in our studies consistently prioritized meaning over pleasure to a greater extent when they evaluated potential experiences at the same time, relative to when they evaluated these experiences in isolation. This effect persisted for both positive and negative experiences, and when using a nationally representative sample.

Given that both happiness and meaning are important for overall well-being (Keyes, 2002; Seligman, 2002; Huta, 2015) and that pursuing both is associated with higher well-being (Anic & Toncic, 2013; Huta & Ryan, 2010; Peterson et al., 2005), it is important that researchers expand on the current study and further explore other contexts that promote the pursuit of

pleasure-oriented goals and meaning-oriented goals in order to help people cultivate ideal relative amounts of happiness and meaning in their lives.

Limitations

Though one may argue that people engaging in separate evaluation do not have all the information required in the decision-making environment, we argue that in daily life, people *do* in fact have all the information they need to make evaluations. However, people do not always bring to mind all possible options when considering which goal to pursue next due to a lack of motivation or cognitive resources. Though there are instances in which people ask themselves "Should I spend this evening with my loved ones, or should I get in a few extra hours of work?" there, too, are moments where people simply wonder "Should I work for the next few hours?"

Future Directions

Although our studies suggest a causal role of evaluation mode in the prioritization of meaning and happiness, they do not address the question of whether people fail to properly evaluate meaning during separate evaluation because they *cannot evaluate meaning* in that context or because *it does not occur to them*. It is possible that while people do not compare day to day experiences based on how meaningful each one was, they might be able to more accurately pinpoint how meaningful an experience is to them when encouraged to compare it to other meaningful experiences. To address this issue, future studies from our lab could encourage participants to take meaning into account when evaluating experiences or to think about how the current experience's sense of meaning compares to several other meaningful experiences they have had.

Furthermore, our studies fail to capture the emergence of the two evaluation modes in everyday life (Brunswik, 1956). They also do not examine the contexts, feelings, and thoughts

that co-occur with joint versus separate evaluation of goals in an ecologically valid context. Future research using more naturalistic methods such as ESM (experience sampling method) or data mining social media will help us generalize the findings to goals that people most commonly pursue on an everyday basis. Furthermore, studies that demonstrate evaluability as a mechanism would also strengthen our argument that this effect is driven by the differential evaluability of meaning and happiness.

Closing

While people may wholeheartedly wish for a happier or more meaningful life, many likely undermine this goal of theirs with each decision they make. For those seeking a little more purpose and direction, they would likely find more meaning in their life if they paused to consider the multiple paths they could take. For those who need more joy, they would benefit from emptying their mind to think about whether they truly value the one path they're about to take.

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Appendix A

Supplementary Study A took place at the same time as Study 3 – the nationally representative sample we recruited was randomly assigned to either participate in Study 3 or Supplementary Study A. Supplementary Study A is a close conceptual replication of Study 1, but it was the one study in this line of research in which the interaction trended in the expected direction but did not attain significance.

Method

Participants. 568 participants (69.0% female, age: $M = 52.42$, $SD = 14.33$) from a nationally representative U.S. online panel completed Supplementary Study A in exchange for financial compensation. The target sample size was 500, but any deviations from this target were not under the control of the authors since this study was attached to an unrelated study conducted by another researcher. The preregistered data analysis plan is available at https://aspredicted.org/blind.php?x=pr7vm8.

Procedure. Identical to the previous studies, Supplementary Study A employed a 2 (joint versus separate) by 2 (meaningful versus pleasant) design. Participants completed an online survey in which they imagined that they were going to have dinner with a close friend. We manipulated the meaningfulness of the options by setting the date of the dinner to be either one *week* or one *year* before their friend was to move 500 miles away. Pleasantness was manipulated with restaurant quality. The text participants viewed is shown below.

	Restaurant Quality	**When?**
Experience A	☆ ☆ ☆ ☆ ☆ (excellent)	One year before your friend plans to move 500 miles away for a job transfer
Experience B	☆ ☆ (good)	One week before your friend plans to move 500 miles away for a job transfer

Again, we randomly assigned participants to one of three conditions – they either solely evaluated the meaningful experience (i.e., Experience A above), solely evaluated the pleasant experience (i.e., Experience B above), or evaluated both experiences at the same time. For participants who evaluated both experiences, the order of the two experiences was counterbalanced.

Participants indicated the extent to which the experiences were valuable to them using the same items used in the previous two studies. We averaged the responses to these questions to create 2-item measures of perceived value for the meaningful experience ($\alpha = .95$) and the pleasant experience ($\alpha = .95$).

Results

Supplementary Study A's interaction effect trended in the expected direction, but this effect was not significant. We used the same mixed effects model used above and preregistered our analysis to include the independent variable of the unrelated study conducted before our study as a covariate. Whether this covariate is or is not included in the model does not change the results.

We also observed a significant main effect of Evaluation Mode on perceived value of the experience, $b = 0.90$, $SE = 0.23$, 95% confidence interval (CI) = [0.44, 1.35], $t(564) = 3.86$, $p < .001$. There was a marginally significant main effect of Experience Type on perceived value, $b = 0.33$, $SE = 0.18$, 95% confidence interval (CI) = [-0.02, 0.68], $t(193) = 1.83$, $p = .068$. We did not observe a significant interaction between Evaluation Mode and Experience Type, $b = -0.37$, $SE = 0.30$, 95% confidence interval (CI) = [-0.96, 0.21], $t(564) = -1.24$, $p = .214$. See Figure 5 below.

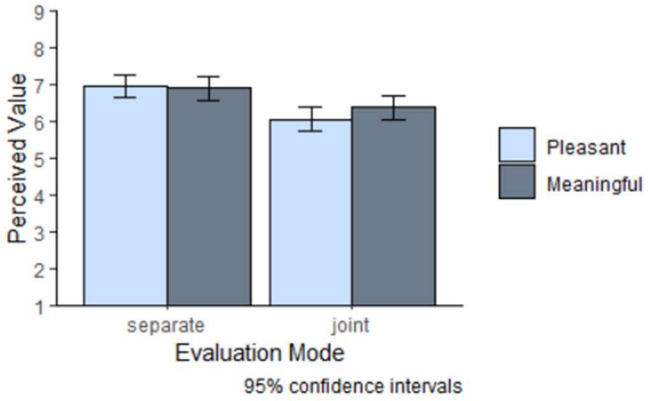

Figure 5. Average perceived value of the two experiences within the joint and separate evaluation conditions. Error bars show 95% confidence intervals.

Despite the non-significant interaction effect from this study, we remain confident in our basic effect, given that three out of the four studies conducted, three produced the expected interaction effect. We expect that increasing the difference in meaning and happiness between the two scenarios presented to participants (e.g., changing the two-star restaurant to a one-star restaurant or setting the dinner to be one day before the friend leaves) would likely result in a significant interaction effect in a future study.