

Feeling Distressed From Making Decisions: Assessors' Need to Be Right

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Our research posits that decision-making is particularly distressing for individuals with high assessment tendencies. Assessment involves truth concerns about making the “right” decision. We hypothesize that people with high assessment experience greater distress during decision-making because of their concerns about making a wrong decision. In four studies of chronic assessment conducted across four different decision contexts, we found assessment to be positively associated with distress, with this relation being mediated by concerns with being wrong. A meta-analysis of these results provided support for the robustness of this positive association. Finally, a fifth experimental study that induced assessment found the same association with distress. Moreover, an implicit measure of truth concerns mediated this positive association. Given the prevalence of decision-making activities in everyday life, our findings about how truth concerns can cause distress have important implications for the psychological well-being of assessment-oriented individuals.

Keywords: assessment, decision-making, distress, regulatory mode

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Every day, we encounter numerous decisions. Consider the food domain alone: it is estimated that the average person makes about 227 food-related decisions a day (Wansink & Sobal, 2007). Our daily decisions range from minor ones, such as what to wear or how to craft an e-mail, to major ones, such as when to get pregnant or whether to make a career switch. Although a significant amount of research has been conducted on how distress from external events impacts the way people make decisions (e.g., Kassam, Koslov, & Mendes, 2009; Starcke & Brand, 2012), much less work has examined how decision-making itself impacts distress (e.g., Luce, 1998). It is common for people to experience distress when they make decisions (Iyengar, Wells, & Schwartz, 2006; van Harreveld et al., 2009), yet the processes underlying such negative affect during decision-making are poorly understood. More critically, it is uncertain why, given the same choice set, some individuals make their decisions with ease, whereas others go through an agonizing process that involves vacillating between different alternatives and revisiting forgone options after a choice has been made.

The latter group experiences immense distress because they are afraid of making the wrong choice and missing out on the right one. With choice proliferation in modern societies increasing the number of decisions to be made, such individuals are more likely to experience detrimental effects such as decision fatigue (Vohs et al., 2008) or unnecessary fixation on trivial decisions (Sela &

Berger, 2012). Decision-making amplifies their daily anxiety and stress, and may lead to negative downstream consequences such as giving up their rights to choose (Dhar, 1997) and postponing decisions (Pierro, Giacomantonio, Pica, Kruglanski, & Higgins, 2011) that may actually bring about positive change.

The present article identifies a potential determinant of decision-making distress that is related to people's self-regulation tendencies. According to regulatory mode theory, *assessment* is a general orientation of self-regulation “concerned with critically evaluating entities or states, such as goals or means, in relation to alternatives in order to judge relative quality” (Kruglanski et al., 2000, p. 794). When confronted with multiple options, individuals with strong (vs. weak) assessment critically evaluate all the options before making a decision because of their concern with doing things in the “right” way (Avnet & Higgins, 2003; Kruglanski, Pierro, Mannetti, & Higgins, 2013), which is likely to increase decision-making distress.

Imagine a prospective bride planning her wedding, an event that holds great importance to her. The planning involves substantial decision-making—from choosing which type of flowers for the wedding decorations, to determining the guest seating arrangement at the wedding dinner. An assessment-oriented prospective bride would carefully go through each option and critically evaluate (and even reevaluate) them based on certain standards to make sure she ends up with the right choice. Concern with making mistakes that lead to the wrong choice would add to the already mounting anxiety and stress associated with the wedding planning.

The current research addresses an important gap in the literature by examining how high assessors experience more distress than others during decision-making. It provides the first empirical evidence that decision-makers' with strong assessment tendencies are more vulnerable to decisional distress. Although prior work on regulatory mode has established a link between chronic assessment

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and poorer well-being (Giacomantonio, Mannetti, & Pierro, 2013; Hong, Tan, & Chang, 2004), research has not yet examined whether decision-making, a critical part of daily life, could be a significant source of distress for assessment-oriented individuals. It is also notable that the current research highlights how concerns about doing the “right” thing, though generally beneficial in life, could actually have deleterious consequences for psychological well-being. In the next few sections, we provide an overview of regulatory mode theory, review previous literature on decision-making and distress, and discuss how assessment may impact people’s experiences of decision-making.

Regulatory Mode Theory

When people self-regulate, they first determine what they want or need but currently do not have and identify what action is required to achieve this goal. Then they take this action to move toward their goal. There are two key functions captured in this definition of goal pursuit: (a) people *assess* which end-states to pursue and which means to use to pursue the desired end-states, and (b) people *locomote* from their current state toward the desired end-state (Kruglanski et al., 2000). The first function establishes the “truth” or reality regarding how one’s current state relates to various end-states and how using the right means would allow one to attain the desired end-state, whereas the second function involves “control” to effect movement, that is, change, toward the desired end-state (Higgins, 2012). Traditionally, these two functions are conceived as inseparable entities that function in an interdependent manner to accomplish self-regulation (Carver & Scheier, 1990). However, regulatory mode theory postulates that these two functions can function independently and receive differential emphasis, chronically, by different individuals and, momentarily, in different situations (Higgins, Kruglanski, & Pierro, 2003; Kruglanski et al., 2000).

The core purpose of assessment is to establish the “truth” (i.e., what is real, what is correct) or form an accurate understanding or interpretation of things (Higgins, 2012). To do so, people in assessment mode make comparisons between a particular target and a particular standard. To assessment-oriented individuals, “what matters is engaging in this truth-finding comparison process rather than the desired results that might follow from doing so—‘I would rather be right than happy’” (Higgins, 2012, p. 372). As a result, they tend to critically evaluate not only their personal self-regulation but also other people’s self-regulation against certain norms or standards (Kruglanski et al., 2000; Mannetti, Pierro, Higgins, & Kruglanski, 2009). Stronger assessment has been found to be positively associated with a preoccupation with doing the “right” thing, worrying about making possible errors or mistakes during goal pursuit, fear about making the wrong choice, and, more generally, fear of invalidity (Higgins et al., 2003; Kruglanski et al., 2013; Kruglanski et al., 2000; Pierro et al., 2011).

By contrast, the core purpose of locomotion is to control or manage what is needed to make something happen, thus it emphasizes moving from state to state without undue delays or obstacles (Higgins, 2012). Locomotion-oriented individuals are motivated simply by movement (whether physical or psychological) and change from their current state (Higgins et al., 2003; Kruglanski, Pierro, Higgins, & Capozza, 2007; Scholer & Higgins, 2012). Hence they tend to be decisive and quick in taking action (Krug-

lanski et al., 2000). For them, the movement in itself is worthwhile and more important than the destination or desired results from doing so. Heightened locomotion can be epitomized by the *Nike* slogan, “just do it,” and maxims such as “better to do *anything* than nothing at all” (Kruglanski et al., 2000).

Assessment and locomotion differentially affect people’s preferred strategies of pursuing goals because of their respective concerns with truth and control. For instance, on tasks that involve a tradeoff between emphasizing speed (control) and emphasizing accuracy (truth), assessment-oriented individuals tend to be more accurate but slower, whereas locomotion-oriented individuals tend to be faster but less accurate (Mauro, Pierro, Mannetti, Higgins, & Kruglanski, 2009). In this research, we investigate how regulatory mode influences the psychological experience of decision-making, and specifically propose that assessment-truth concerns are linked to greater distress.

Decision-Making and Distress

There is an imbalance in the research examining the link between decision-making and distress. Most of this research has been devoted to understanding how distress influences the way people make decisions (Janis & Mann, 1977; see Starcke & Brand, 2012, for a review). For example, distress causes people to consider fewer choices (Keinan, 1987) and reduces their ability to override automatic responses in decision-making (Kassam et al., 2009). In contrast, less research has focused on conditions that make decisions more distressing for some individuals compared to others. Given the increasing pervasiveness of decision-making in everyday life, it is critical to identify when individuals are most susceptible to experiencing distress while making decisions.

Although certain types of decisions are typically more distressing, such as those related to an impending threat or an outcome that has high stakes for the decision maker (Yates & Angott, 2012), decisional features aside from content may also be sources of distress. Research has shown that trading-off between the highly valued attributes of different alternatives tends to evoke greater negative emotions among decision-makers (Carpenter, Yates, Preston, & Chen, 2016; Luce, 1998). There is also evidence that having too many options to choose from causes decision makers to feel more overwhelmed and frustrated, and this effect is often attributed to the cognitive overload from having to process information related to a vast array of options (Iyengar & Lepper, 2000). Extensive choice sets are also more likely to augment preference uncertainty and dampen confidence in the selected option (Dhar, 1997; Chernev, 2003), thus exacerbating psychological distress.

Above and beyond these situational factors, there is a relative paucity of research about the individual differences that predispose people to experience greater distress when they make decisions. Just as having too many options to choose from would give rise to negative feelings, one line of work has shown that people who are chronically inclined to seek out as many alternatives as possible are more likely to experience decisional distress. Such individuals, known as maximizers, conduct an exhaustive search of alternatives and thus incur huge decision process costs because it increases their odds of attaining the option with the maximum utility (i.e., the “best” choice; Cheek & Schwartz, 2016; Schwartz et al., 2002).

Maximizers are typically distinguished from satisficers, people who discontinue searching for more alternatives once they find an

option that crosses a certain threshold (Schwartz et al., 2002; Simon, 1955). In a study by Iyengar, Wells, and Schwartz (2006), maximizers experienced more negative affect than satisficers during their job search because of their fixation on having more job options and greater consideration of external inputs (e.g., rankings of best companies to work for), which inevitably escalated information processing demands and choice difficulty. An enlarged set of alternatives causes maximizers to feel more pressured for time during decision-making (Chowdhury, Ratneshwar, & Mohanty, 2009), raises their expectations of choosing the best option (Diehl & Poyner, 2010; Schwartz, 2000), and evokes regret about missing out on opportunities for a better alternative (Schwartz et al., 2002; Spunt, Rassin, & Epstein, 2009).

Although assessment and maximization overlap in some respects, such as both involving making extensive comparisons against relatively high standards, there is an important distinction between the two. Unlike maximizers, whose goal is to acquire the option with the highest subjective utility, people with high assessment tendencies endeavor to be accurate in their judgments of decision-significant aspects of the world—to “get it right” so that they can make the correct choice. To them, the more inaccurate the judgments are, the greater the likelihood of ending up with the wrong option, a highly disturbing outcome for them. A decision-making study by McNeill, Higgins, De Dreu, and Nijstad (2012) illustrates the importance high assessors place on attaining judgment accuracy over maximum utility.

Participants were asked to select a cheese from a menu of 10 cheeses. Half of them were told that the menu would allow them to learn about different cheeses (i.e., develop an accurate understanding of the decision problem), whereas the other half were told that it would allow them to find the cheese that they would like best (i.e., attain the best outcome). Higher (vs. lower) assessors reported greater liking and willingness to pay for their chosen cheese in the learning frame; however, the same contrast was not significant in the outcome frame. Essentially, making the decision in the right way, based on information about what each cheese is *truly* like (i.e., truth-concerns) was more relevant to assessment-oriented individuals than simply choosing the best cheese (i.e., value-concerns; Higgins, 2012; McNeill et al., 2012).

The present research extends the literature on individual difference factors that predispose people to decision-making distress by examining how decision-makers' self-regulation tendencies, in particular assessment, influence their affective experiences during decision-making. Specifically, we propose that, apart from perceived threat from missing out on better options and choice difficulty from cognitive overload, motivational concerns to be “right” could also contribute to decision-making distress, even when individuals encounter smaller, more limited choice sets.

Regulatory Mode and Decision-Making Distress

The present paper focuses primarily on the motivational implications of an assessment orientation for decision-makers. Assessment-oriented individuals are naturally motivated to engage in critical evaluations because of their high need to be right and accurate (Higgins et al., 2003; Kruglanski et al., 2000). There is evidence that assessment-oriented individuals tend to be influenced by social norms (Pierro, Mannetti, Higgins, & Kruglanski, 2002), suggesting that they often experience an internal pressure to

be right. This self-inflicted demand may even deter them from taking action until they are confident that it is the correct thing to do (Higgins, 2012). This stronger need to be right heightens their awareness of and sensitivity to errors that they need to avoid (Kruglanski et al., 2000), and triggers self-correction processes even to the extent of overcorrection (Appelt, Zou, & Higgins, 2010).

We propose that the goal of decision-making for people with high assessment is to be accurate in their judgment of various alternatives to arrive at the right decision (a truth concern). Hence, their decision-making centers around extensive comparisons in the service of establishing the truth; that is, doing what is perceived as necessary to end up with the right choice (Avnet & Higgins, 2003; Higgins, 2012). In a decision-making study by Avnet and Higgins (2003), assessment-oriented individuals displayed greater willingness to pay for an option that was chosen after careful consideration of all the alternatives for all their attributes (i.e., full evaluation) than one that was chosen through consideration of some but not all the alternatives for all their attributes (i.e., progressive elimination). To achieve full evaluation, all of the alternatives with all of their attributes must remain possibilities until the last comparison is made. The assessment-oriented individuals were willing to engage in such extensive evaluation because they felt that it was the right decision process to undertake to arrive at the truth and avoid making a wrong choice (Higgins, 2012).

In sum, assessment-oriented individuals have strong truth concerns and thus do what is essential to make the “right” or “correct” decisions. This may entail a truth-seeking process that is completely justifiable to others and beyond reproach (e.g., critical appraisal of alternatives against high standards). This internal pressure to be right would increase their concern with making wrong choices and thus generate distress. Therefore, we hypothesize that people with high assessment in general face greater distress while making decisions. In addition, their greater distress during decision-making would be mediated by their concern with being wrong. In some decisions, they may share with maximizers the same goal of choosing the option that maximizes utility to the extent that they perceive this option as being the right choice. However, unlike maximizers who experience decisional stress because they tend to “create a more onerous choice-making process for themselves” (Iyengar et al., 2006, p. 143), assessment-oriented individuals are apprehensive about failing to make the decision in the right way and experience angst from not knowing what the right option is and possibly ending up with the wrong choice.

Although locomotion is not the main focus of the current paper, we expect people with high locomotion to be less distressed by decision-making than people with low locomotion. Because of their greater control concerns to effect change, locomotion-oriented individuals would favor “getting on with it” and “making something happen” rather than attaining judgment accuracy. In the study by Avnet and Higgins (2003), these individuals indicated higher willingness to pay for an alternative that was chosen by progressive elimination than one that was chosen via full evaluation. In progressive elimination, the worst alternative for each attribute is eliminated until a final alternative remains. According to the authors, this process provides a good fit for locomotion-oriented individuals because every stage of elimination involves a *change* in the consideration set—a reduction in the number of

possible alternatives that converges rapidly to a final choice. Forming a decision quickly is likely beneficial for locomotion-oriented individuals because it is experienced as movement or change and thus exercising control. It also allows postdecisional action to proceed rather than having to wait to begin (Pierro et al., 2011).

Overview of Current Research

We conducted five empirical studies to investigate how people's self-regulation tendencies relate to their experiences of decision-making. In Study 1, we tested our main hypothesis that chronic assessment would be positively associated with distress in a consumer decision task. In Study 2, we conducted a field survey to replicate the main effect of chronic assessment on distress in a real-world decision context—planning for a wedding event—and test whether *concern with making wrong decisions* would mediate this effect. In Studies 3 and 4, we sought further replication of both the main effect and its mediation by concern with making wrong choices in different decision-making contexts—voting in an election (Study 3) and task prioritization (Study 4). In Studies 3 and 4, we also aimed to demonstrate that the effect of chronic assessment on distress would operate *independently of people's maximizing tendencies*. To evaluate the overall strength and reliability of the main effects of chronic regulatory mode on distress, we conducted a meta-analysis of the results obtained from these four studies and two replication studies. Finally, in Study 5, we tested whether situational induction of assessment mode would increase people's distress during task prioritization, and whether this relation would be mediated by truth concerns rather than concerns with attaining the best value.

Study 1: Choosing a Gift for Oneself and a Friend

To test whether chronic regulatory mode would predict levels of distress experienced during decision-making, we measured participants' regulatory mode tendencies and asked them to choose a gift for themselves and a gift for a friend. We sought to examine whether the impact of regulatory mode on distress would be stronger when participants were choosing a gift for a friend. Prior research has shown that people are more averse to making choices for others versus themselves when they anticipate greater postdecisional regret (Beattie, Baron, Hershey, & Spranca, 1994), suggesting that choosing a gift for the friend might be more distressing than choosing a gift for oneself. Nonetheless, given assessment concerns about establishing the truth, we predicted that assessment-oriented individuals would be motivated to make the right decision regardless of the recipient of the gift. Similarly, locomotion concerns about initiating movement to experience change and control should extend to all decisions. We hypothesized that chronic assessment would be associated with higher levels of distress, whereas chronic locomotion would be associated with lower levels of distress.

Method

This study as well as Study 2 ("Regulatory Mode and Consumer Behavior," IRB-AAAK7553) were approved by the Institutional Review Board (IRB) of Columbia University.

Participants. The sample size was determined by the number of participants who signed up for our study through the SONA system of the university's behavioral lab within a 2-week period. Our eventual sample comprised 107 students (33% male; mean age = 20.8, $SD = 2.63$) who participated in this study in exchange for \$5. Thirty-three percent of the sample reported their ethnic background as Caucasian, 38% reported being Asian, 15% reported being Hispanic, 8% reported being African American, and the remaining as Native American and "Others."

Procedure. Participants were told that there were two unrelated studies. They were told that in the first study the researchers were interested in the personality profile of students in the behavioral lab sample pool. As part of this study, participants answered several personality questionnaires¹ including the regulatory mode questionnaire (Kruglanski et al., 2000) which assesses participants' chronic levels of assessment and locomotion.

Regulatory mode questionnaire. The questionnaire consists of 12 items related to assessment mode (e.g., "I like evaluating other people's plans" and "I spend a great deal of time taking inventory of my positive and negative characteristics"), and another 12 items related to locomotion mode (e.g., "I enjoy actively doing things, more than just watching and observing" and "When I finish one project, I often wait a while before getting started on a new one [reverse-scored]"). Participants indicated the extent to which they agreed with each item on a 6-point scale where 1 = *strongly disagree* and 6 = *strongly agree*. Ratings for items pertaining to each mode were averaged to form individual indices of assessment and locomotion.

Gift decisions task. Participants were then asked to name their six closest friends as part of the second study. Specifically, they were told to list these six friends in the order of closeness to each friend (1 being the closest friend and 6 being the least closest among these six friends). They were told that the researchers were interested in people's gifting decisions for themselves and for their friends and as result the participants would be choosing a gift for the winter holidays for themselves and for a friend. To ensure that participants treated these decisions seriously, they were told that they would be entered into a lottery at the end of the study in which a few chosen participants would either receive the gift that they had chosen for themselves, or give their friend the gift that they had chosen for him or her (i.e., the gift would be sent to their friend on their behalf).

Next, participants were shown two separate assortments each comprising 20 winter accessory items. They were told that the prices of the items in each assortment ranged between US\$25–35. Participants were instructed to choose a holiday gift for themselves from one assortment and choose a holiday gift for their fourth

¹ Besides the regulatory mode questionnaire, participants also completed the self-construal scale (Singelis, 1994) in Study 1, and the regulatory focus questionnaire (Higgins et al., 2001) in all the studies except Study 5. Because these scales are not the focus of the current research and did not interact with either assessment or locomotion to influence our dependent measures, we do not discuss them henceforth.

closest friend² from the other assortment. Both the order of the two choices and the assortment sets were counterbalanced. After they made both decisions, they were asked to answer a set of questions concerning each decision.

Dependent measures. Participants were asked to indicate the extent to which they experienced different negative and positive feeling states when they were making each decision. Specifically, they rated how bored, stressed, disappointed, confused, worried, overwhelmed, happy, confident, calm, engaged, enthusiastic and excited they felt as they were deciding what to get for themselves as well as for their fourth closest friend on 7-point scales where 1 = *not at all* and 7 = *extremely*.

Other measures. Participants were also asked to indicate how difficult it was to choose a gift for themselves on a 100-point scale where 0 = very easy, 50 = neutral, and 100 = very difficult, how satisfied they were with their final decision of which gift to get for themselves on a 7-point scale where 1 = *not at all satisfied* and 7 = *very satisfied*, and how much regret they felt about their final decision of which gift to get for themselves on a 7-point scale where 1 = *no regret at all* and 7 = *a lot of regret*. The same set of questions on difficulty, satisfaction and regret were also asked in relation to the gift decision for their fourth closest friend. In addition, they reported the gender of their fourth closest friend, how close they were to this friend on a 7-point scale where 1 = *not at all close* and 7 = *very close*, and how well they knew the preferences of this friend on a 7-point scale where 1 = *not at all well* and 7 = *very well*. Finally, they answered demographic questions about themselves.

Results

Items relevant to negative feelings were averaged to form indices of distress, while items relevant to positive feelings were averaged to form indices of positive affect. Descriptive statistics, Cronbach alphas of the scales and correlations between the measures in the study are found in Table 1 (variables related to choice for oneself) and Table 2 (variables related to choice for friend). To test how people's chronic regulatory mode tendencies influenced their decision-making experiences, we ran multiple linear regression analyses with both chronic assessment and chronic locomotion as predictors and both assortment set and order of choice as covariates³ on the dependent measures. In regulatory mode research, both regulatory modes are typically included as predictors in the regression even if the research focuses mainly on only one regulatory mode (e.g., Appelt et al., 2010). Although both constructs are theoretically independent, they are sometimes moderately correlated with each other (as shall be seen in the current study) and may exert opposite effects on the same dependent variable. Hence, chronic assessment and chronic locomotion were included as joint predictors in all our analyses.

Main analyses. We obtained support for our main hypothesis that chronic assessment would predict greater distress during decision-making. Assessment was positively associated with distress when participants chose a gift for themselves ($\beta = .29, p = .002$) and when they chose a gift for their friend ($\beta = .21, p = .038$). We also found evidence that chronic locomotion had the opposite effect on distress during decision-making. Locomotion was negatively associated with distress when participants chose a gift for themselves ($\beta = -.40, p < .001$) and for their friend ($\beta =$

$-.24, p = .019$). Assortment set and order of choice did not significantly predict distress in both decisions. Controlling for gender of the friend, closeness to the friend, and knowledge about the friend's preferences as covariates in the regressions predicting participants' feelings about their gift choice for the friend did not make any significant difference to the findings. This ruled out the possibility that the effects of regulatory mode on these measures were attributable to any associations between regulatory mode and these friendship variables.

To test whether the effects were significantly stronger for the choice of gift for oneself versus one's friend, we ran a linear mixed model analysis that specified within-subject differences in distress to several factors, while allowing each participant to his or her own level of distress for each gift recipient (i.e., self vs. friend). We included gift recipient, chronic assessment, chronic locomotion, the interaction term between gift recipient and chronic assessment, the interaction term between gift recipient and chronic locomotion, assortment set and order of choice as the fixed effect predictors of distress. Besides the significant main effects of chronic assessment ($\beta = .28, p = .024$) and chronic locomotion ($\beta = -.43, p < .001$) on distress, and a marginal effect of choice order ($\beta = -.25, p = .08$) there were no significant effects ($ps > .15$). In other words, the effects of both chronic regulatory mode tendencies on distress were not significantly stronger when participants were choosing a gift for themselves (vs. their friend).

Other analyses. We also tested how regulatory mode affected positive affect, decisional difficulty, satisfaction and regret experienced in each decision. Chronic assessment was not a significant predictor of positive affect, perceived difficulty and satisfaction with choice in either decision (all $ps > .51$). It was significantly associated with greater regret about the choice for oneself ($\beta = .19, p = .05$), but not regret about the choice for the friend ($\beta = .05, p = .59$). Chronic locomotion was a significant predictor of positive affect, decisional difficulty, satisfaction and regret. It was positively associated with positive affect when they chose a gift for themselves ($\beta = .22, p = .029$) and for their friend ($\beta = .19, p = .07$). Locomotion was also positively associated with satisfaction and negatively associated with regret with the final choice for themselves (satisfaction: $\beta = .22, p = .033$; regret: $\beta = -.29, p = .004$) and for their friend (satisfaction: $\beta = .26, p = .009$; regret: $\beta = -.29, p = .004$). Finally, locomotion was negatively associated with difficulty choosing a gift for oneself ($\beta = -.25, p = .015$), but not difficulty choosing a gift for their friend ($\beta = -.06, p = .57$).

Discussion

In sum, results from Study 1 supported our hypothesis that individuals with high chronic assessment tend to experience more distress when they make decisions—whether for themselves or for

² We reasoned that participants would be less likely to have chosen and gotten a gift for the fourth closest friend at that time and yet be sufficiently motivated to choose a good gift for this friend.

³ We also ran analyses to check whether these two covariates interacted with regulatory mode to predict distress in the choice for both the self and the friend. Apart from a marginally significant interaction between assessment and order of choice in predicting distress in the choice for oneself ($\beta = .29, p = .06$), all the other interaction effects were not significant ($ps > .41$).

Table 1
Study 1: Descriptive Statistics and Correlations Between Variables Related to Choice for Self

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6
1. Assessment	4.27	.71	(.83)					
2. Locomotion	4.47	.63	.23*	(.83)				
3. Distress	1.87	.80	.22*	-.31***	(.67)			
4. Positive affect	4.89	1.18	.10	.23*	-.22*	(.86)		
5. Perceived difficulty	37.03	25.55	-.02	-.21*	.49****	-.30***		
6. Satisfaction	6.04	1.07	-.01	.18	-.19	.41****	.27**	
7. Regret	1.69	1.11	.14	-.22*	.42	-.26**	.25**	-.43****

Note. Cronbach's alpha appears in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

others. Contrary to our initial expectations, the strength of the assessment-distress association was not stronger for the gift decision for the friend. It is also notable that assessment-oriented individuals did not experience greater decisional difficulty and dissatisfaction with their choice, which typically characterize the experiences of people with maximizing tendencies (Schwartz et al., 2002). By contrast, those with higher chronic locomotion experienced less distress and more positive affect when they were making both decisions. They also found it easier to choose a gift for themselves and reported greater satisfaction with both choices.

The opposite effects of both regulatory modes on regret are consistent with past research demonstrating positive correlations between chronic assessment and counterfactual thinking, and negative correlations between chronic locomotion and counterfactual thinking (Pierro et al., 2008). Assessors' truth concerns and wanting not to make a wrong decision prompts them to generate counterfactuals and thus increases their likelihood of experiencing regret. Locomotors, who are more forward-looking, are less likely to do so because counterfactuals and regret constitute obstacles that would prevent them from moving on. Having established evidence for our main hypothesis in a consumer decision-making context (i.e., choosing products for oneself and for others), in the next study we aimed to test the generalizability of these effects to another decision-making context and examine the underlying mechanism for these effects.

Study 2: Wedding Decisions

The present study had two main objectives. First, we aimed to test whether the proposed effects would emerge when the deci-

sions concerned a major life event (i.e., planning for one's wedding). We chose the wedding context because planning for a wedding involves substantial decision-making and is potentially a stressful process. Second, we aimed to examine the underlying process that determines how chronic assessment affects people's experiences of distress during decision-making. We proposed that individuals with a strong assessment orientation are more likely to experience distress because of their intense truth concerns. To this end, we measured participants' *concerns with making the wrong decisions* while planning their upcoming wedding and tested whether it mediated the relationship between chronic assessment and distress.

Method

Participants. The sample size was determined by the number of prospective brides who responded to our advertisements within a 2-month period. The advertisements were posted on two online wedding forums based in Singapore. Our eventual sample comprised 67 prospective brides (mean age = 27.6, $SD = 2.57$) who were in the midst of planning for their wedding. They filled out an online survey for a \$20 gift certificate. Ninety-nine percent of the sample reported their ethnic background as Chinese, and 1% reported being Eurasian. The participants had been in a relationship with their prospective husbands for 5 years on average ($SD = 2.82$). They had been planning their wedding for 8.5 months on average ($SD = 5.69$), and were going to hold their wedding in 7.5 months on average ($SD = 5.24$).

Procedure. Participants were told that they would be filling out a survey regarding their experiences of planning their wedding.

Table 2
Study 1: Descriptive Statistics and Correlations Between Variables Related to Choice for Friend

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8
1. Assessment	4.27	.71	(.83)							
2. Locomotion	4.47	.63	.23*	(.83)						
3. Distress	1.98	.93	.16	-.16	(.77)					
4. Positive affect	4.99	1.26	.05	.19	-.25*	(.88)				
5. Perceived difficulty	37.67	24.15	.05	-.05	.35****	-.31***				
6. Satisfaction	6.02	1.14	.07	.25**	-.16	.51****	-.19			
7. Regret	1.60	1.01	-.02	-.28***	.25*	-.47****	.12	-.45****		
8. Closeness to friend	5.74	.96	-.07	.15	-.13	.32***	-.01	.41****	-.25*	
9. Knowledge of friend's preferences	5.59	1.14	.03	.19	-.06	.29***	.20*	.37****	-.17	.56****

Note. Cronbach's alpha appears in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

In the first part of the survey, they answered the regulatory mode questionnaire (Kruglanski et al., 2000).

Dependent measures. Next, they were asked to recall their personal experience of planning and making decisions for their wedding (e.g., choosing the date and venue, deciding the guest list, attire, etc.) and answer some questions related to this experience. First, they were asked to indicate the extent to which they experienced different types of feelings (stressed, confused, worried, bored, uncertain, tense, overwhelmed, happy, confident, calm, engaged, enthusiastic and excited) as they were making decisions for their wedding on 7-point scales where 1 = *not at all* and 7 = *extremely*.

Mediator measure. As a measure of concerns with making the wrong decisions, the prospective brides were asked to fill out a version of the Personal Fear of Invalidity scale (PFI; Thompson, Naccarato, Parker, & Moskowitz, 2001) that we adapted to a wedding decisions context. They rated 14 statements in the adapted PFI (e.g., "I can be reluctant to commit myself to something because of the possibility that I might be wrong" and "I rarely question whether the wedding decisions I have made are correct [reverse-scored]") on a 7-point scale where 1 = *strongly disagree* and 7 = *strongly agree*.

Other measures. After that, they indicated their level of agreement with five statements concerning how decisively and quickly they made their decisions about their wedding: "I tend to decide on the first option that is acceptable to me," "I make up my mind quite rapidly on which options to choose," "I decide on which options to accept without having to think it over very much," "I decide in favor of one option quickly and without hesitation," and "I am eager to make decisions quickly" on 7-point scales where 1 = *strongly disagree* and 7 = *strongly agree*. We predicted that locomotion-oriented individuals would be more decisive in their decision-making because decisiveness allows actions to ensue and thus satisfies their need to initiate movement; being decisive would be less relevant to assessment-oriented individuals who are more interested in being right than initiating movement (Higgins et al., 2003; Kruglanski et al., 2000).

Then participants rated how difficult the process of planning for their wedding had been on a 7-point scale where 1 = *very easy* and 7 = *very difficult*, and how satisfied they were with the choices that they had made for their wedding on a 7-point scale where 1 =

not at all satisfied and 7 = *very satisfied*. Finally, they answered some questions concerning how long they had been in a relationship with their prospective husbands, how soon was their wedding, and how long they had been planning for their wedding, as well as some demographic questions.

Results

As in Study 1, items relevant to negative feelings were averaged to form an index of distress, while items relevant to positive feelings were averaged to form an index of positive affect. Ratings for the five items related to how decisively and quickly the prospective brides made their decisions were also averaged to form an index of decisiveness. Descriptive statistics, Cronbach alphas of the scales and correlations between the measures in this study are found in Table 3. We ran multiple linear regression analyses with both chronic assessment and chronic locomotion as predictors on the dependent measures.

Main analyses. As hypothesized, chronic assessment significantly predicted greater distress ($\beta = .29, p = .024$) while chronic locomotion significantly predicted lower distress ($\beta = -.24, p = .054$) among prospective brides when they were making their wedding decisions. The PFI scores of the prospective brides were also regressed on chronic assessment and chronic locomotion. Results indicated that prospective brides with higher assessment were more concerned with making wrong decisions in their wedding planning than those with lower assessment ($\beta = .43, p = .001$). In contrast, there was no significant relationship between chronic locomotion and PFI ($\beta = -.16, p = .176$). Controlling for length of relationship, time to wedding and wedding planning duration did not make any significant difference to the findings in the main analyses.

Mediation analyses. To test whether concerns with making the wrong decisions mediated the relation between chronic assessment and distress, we ran a mediation analysis with 5,000 bootstrapped samples using Model 4 of the PROCESS macro for SPSS (Hayes, 2013). Standardized regression coefficients for the direct and indirect paths appear in Figure 1. Results from the analysis, controlling for chronic locomotion, revealed a significant indirect effect of chronic assessment on distress through concerns with making wrong decisions, as measured by PFI (standardized indi-

Table 3
Study 2: Descriptive Statistics and Correlations Between Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Assessment	3.96	.47	(.62)									
2. Locomotion	4.29	.53	.29*	(.75)								
3. Distress	4.07	1.04	.22	-.17	(.81)							
4. Positive affect	5.15	.81	.00	.22	-.31*	(.75)						
5. Personal fear of invalidity	4.18	.87	.39***	-.05	.65****	-.45****	(.82)					
6. Decisiveness	4.03	1.18	-.01	.31*	-.15	.35***	-.46****	(.81)				
7. Perceived difficulty	4.30	1.27	.03	-.01	.64****	-.42****	.47****	-.16				
8. Satisfaction	5.33	.89	-.07	.04	-.17	.24	-.41****	.25*	-.26*			
9. Relationship length	62.27	33.84	-.01	-.09	.15	-.11	.08	-.05	.09	.03		
10. Time to wedding	7.66	5.24	.09	.08	.05	.07	.21	-.10	-.07	-.04	-.11	
11. Planning duration	8.46	5.69	.19	.07	-.01	-.02	-.09	.07	.03	-.02	.02	-.46****

Note. Cronbach's alpha appears in parentheses.

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

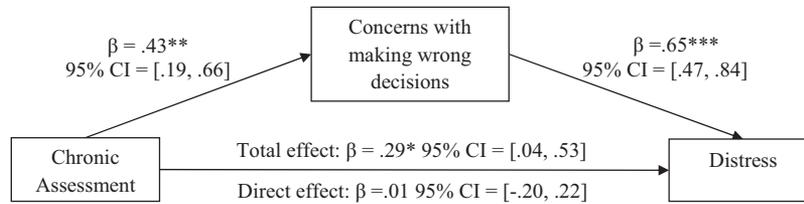


Figure 1. Mediating effect of concerns with making wrong decisions on the association between chronic assessment and distress from making wedding decisions after controlling for chronic locomotion (Study 2). * $p < .05$. ** $p < .005$. *** $p < .001$.

rect effect = .27, $SE = .08$, with a bias-corrected 95% confidence interval [CI] that does not include 0 [.12, .45]).

Other analyses. We also regressed the prospective brides' decisiveness scores on chronic assessment and chronic locomotion. Chronic assessment did not predict decisiveness ($\beta = -.10$, $p = .42$). In contrast, as expected, prospective brides with higher locomotion reported that they made their wedding decisions more decisively and quickly ($\beta = .34$, $p = .007$) than those with lower locomotion. We also regressed positive affect on the same two predictors. As in Study 1, chronic assessment did not predict positive affect ($\beta = -.06$, $p = .626$), however chronic locomotion predicted greater positive affect at marginal significance ($\beta = .24$, $p = .066$). The same regression model applied to difficulty planning for the wedding and satisfaction of choices made in their wedding planning did not reveal any significant findings (all $ps > .49$).

Discussion

We replicated our main findings from Study 1 in the present study using a different decision-making context—planning for a major life event. Notably, these findings were replicated with participants from a different culture than participants in Study 1. This is consistent with past evidence that both the effects of assessment and the effects of locomotion are basically the same across different cultures (Higgins, 2008). In particular, prospective brides with higher chronic assessment experienced greater distress, whereas those with higher chronic locomotion experienced less distress and more positive feelings while making decisions for their wedding. Importantly, we obtained some evidence that assessment-oriented individuals tend to experience more distress because of their greater concerns with making the wrong decisions. We also corroborated past research showing the positive association between chronic locomotion and decisiveness (Kruglanski et al., 2000). Locomotion-oriented prospective brides in the present study tended to be more decisive in making their wedding decisions. This is likely attributable to their desire for taking action and initiating change (Higgins et al., 2003).

Study 3: Voting in the 2016 U.S. Presidential Election

The main goal of this study was to replicate the different effects of assessment and locomotion on decision-making-related distress in a voting context. We hypothesized that voters with high (vs. low) assessment would experience more distress when deciding which candidate to vote for in the U.S. Presidential Election. By contrast, voters with high (vs. low) loco-

motion would experience less distress when forming the same decision. We also aimed to demonstrate that the effect of chronic assessment on distress operated independently of voters' maximizing tendencies and was mediated by general concerns with making the wrong decisions.

Method

Studies 3–5 ("The Effects of Negative Affective and Motivational States on Judgment and Decision-Making," IRB-2015–03–007) were approved by the Nanyang Technological University IRB.

Participants. We recruited participants through Amazon's Mechanical Turk approximately three weeks before Election Day. Mechanical Turk is a crowdsourcing platform which enables researchers to collect data from a diverse and representative sample of respondents that meets psychometric standards in established research (Buhrmester, Kwang, & Gosling, 2011). Given the unique context of the U.S. Presidential Election and the inclusion of only eligible voters in this study, we decided to overpower Study 3 by requesting for 500 workers from the U.S. who had an approval rating of 96% or higher on Mechanical Turk. Our eventual sample, after excluding duplicate cases and noneligible voters, comprised 477 participants (45% male; mean age = 36, $SD = 11.22$). They received \$0.90 for their participation in the study. Eighty-one percent of the sample reported their ethnic background as Caucasian, 8% reported being African American, 5% reported being Asian, 4% reported being Hispanic, and the remaining as Native American and "Others." Among our sample, 10.1% had already voted officially at the time of the study. Among those who had not voted, 81.8% had already decided who they would be voting for. (Including these two variables as covariates in our analyses did not make any significant difference to the main findings, hence we do not discuss them further.)

Procedure. Similar to the earlier studies, participants completed the 24-item regulatory mode questionnaire (Kruglanski et al., 2000) in the first part of the study. They also completed the maximizing tendency scale which contains seven items concerning people's goals to choose the best option (e.g., "No matter what it takes, I always try to choose the best thing" and "I never settle;" Dalal, Diab, Zhu, & Hwang, 2015), and the 12-item alternative search scale of the maximization inventory (e.g., "I take time to read the whole menu when dining out" and "When shopping, I plan on spending a lot of time looking for

Table 4
Study 3: Descriptive Statistics and Correlations Between Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10
1. Assessment	3.77	.79	(.82)									
2. Locomotion	4.39	.75	.05	(.87)								
3. Distress	3.34	1.54	.26****	-.11*	(.89)							
4. Positive affect	3.89	1.59	-.12**	.17****	-.56****	(.89)						
5. Personal fear of invalidity	3.90	1.00	.42****	-.31****	.37****	-.23****	(.89)					
6. Maximizing tendency	4.62	1.07	.17****	.49****	-.01	.15****	-.07	(.87)				
7. Alternative search strategy	4.98	.99	.21****	.42****	.03	.10*	.09	.70****	(.91)			
8. Difficulty deciding whether to vote	2.43	2.01	.10*	-.04	.36****	-.31****	.19****	.00	-.01			
9. Difficulty deciding who to vote for	2.66	2.13	.14***	.02	.42****	-.35****	.20****	.02	.01	.63****		
10. Satisfaction index	5.01	1.91	-.14***	.12**	-.50****	.60****	-.19****	.10*	.05	-.42****	-.47****	(.94)

Note. Cronbach's alpha appears in parentheses. For the satisfaction index, a correlation was computed instead of a Cronbach's alpha.

* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

something"; Turner, Rim, Betz, & Nygren, 2012).⁴ They indicated the extent to which they agreed with each item on a 7-point scale where 1 = *completely disagree* and 7 = *completely agree*. Ratings for items pertaining to each scale were averaged to form measures of one's maximization goal and maximization strategy.

In the second part, they were told that the researcher was interested in studying how people made voting decisions and thus they would be answering some questions related to the upcoming U.S. Presidential Election. To facilitate their recall of their decision-making experience, we asked participants to describe how they had made (or were making) their decision about whether they would or would not be voting and who they would be voting for.

Dependent and mediator measures. Then, participants were asked to rate their feelings as they were making these decisions. Specifically, they rated how bored, stressed, disappointed, confused, worried, overwhelmed, angry, frustrated, happy, confident, calm, engaged, enthusiastic and excited they felt on 7-point scales where 1 = *not at all* and 7 = *extremely*. Participants also filled out the original version of the 14-item PFI scale (Thompson et al., 2001) that we adapted in Study 2.

Other measures. Participants rated how difficult it was for them to decide whether to vote or not, and who to vote for on a 7-point scale where 1 = *extremely easy* and 7 = *extremely difficult*. They also rated how satisfied and pleased they felt about their final decisions about who to vote for on a 7-point scale where 1 = *dissatisfied/displeased* and 7 = *satisfied/pleased*. Finally, they answered some demographic questions including their political affiliation (1 = *democrat*, 2 = *republican*, 3 = *independent*, and 4 = *other*).

Results

As in Studies 1 and 2, items relevant to negative feelings were averaged to form an index of distress, while items relevant to positive feelings were averaged to form an index of positive affect. Ratings on the two items related to how satisfied and pleased participants were with their voting decisions were averaged to form a satisfaction index. Descriptive statistics, Cronbach alphas of the scales, and correlations between the measures in this study are found in Table 4. We ran multiple linear regression analyses

with both chronic assessment and chronic locomotion as predictors on the dependent measures.

Main analyses. Supporting our hypothesis, chronic assessment was associated with significantly greater distress ($\beta = .26$, $p < .001$) whereas chronic locomotion was associated with significantly lower distress ($\beta = -.12$, $p = .007$) among eligible voters when they were making their decisions. These associations remained significant even after controlling for the maximizing tendency and alternative search scales in the same regression analysis (assessment: $\beta = .26$, $p < .001$; locomotion: $\beta = -.12$, $p = .016$). Neither the maximizing tendency nor alternative search scale significantly predicted distress ($\beta = -.03$ and $.05$, respectively, both $ps > .42$).

Participants' PFI scores were also regressed on both chronic assessment and chronic locomotion. Results replicated findings from Study 2. Specifically, participants with higher assessment were more concerned with making the wrong decisions than those with lower assessment ($\beta = .43$, $p < .001$). Unlike Study 2, we also found a significant association between chronic locomotion and PFI scores. Specifically, participants with higher locomotion were less concerned about being wrong than those with lower locomotion ($\beta = -.33$, $p < .001$). These associations remained significant (assessment: $\beta = .40$, $p < .001$; locomotion: $\beta = -.37$, $p < .001$), even after controlling for both maximizing tendency ($\beta = -.14$, $p = .017$) and alternative search strategy ($\beta = .25$, $p < .001$).

Mediation analyses. To test whether concerns about making the wrong decisions accounted for distress among high assessors in the voting context, we ran mediation analyses with 5,000 bootstrapped samples using the same model from Study 2. Standardized regression coefficients for the direct and indirect paths appear in Figure 2. Results from the analysis, controlling for chronic locomotion, maximizing tendency, and alternative search strategy

⁴ In a recent review article on maximization, Cheek and Schwartz (2016) proposed a two-component model of maximization in their attempt to clarify the construct of maximization. The two components in their model constitute the goal of optimizing choice and the strategy of searching exhaustively for alternative options or more information regarding current options, both of which should be reflected in the measurement of maximization. The scales we used to measure maximization were recommended by these two authors.

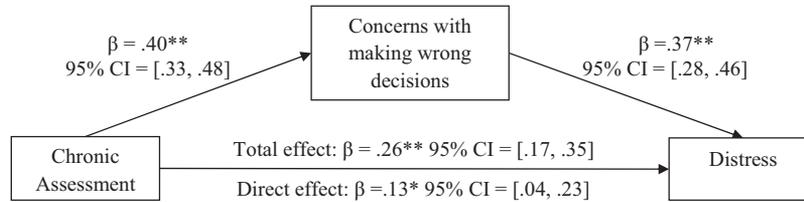


Figure 2. Mediating effect of concerns with making wrong decisions on the association between chronic assessment and distress from making voting decisions after controlling for chronic locomotion, maximizing tendency and alternative search strategy (Study 3). * $p < .01$. ** $p < .001$.

revealed that PFI scores significantly mediated the effect of chronic assessment on distress when participants were making their voting decisions (standardized indirect effect = .12, $SE = .02$, with a bias-corrected 95% CI that does not include 0 [.08, .18]).

Other analyses. We examined whether chronic assessment and chronic locomotion significantly predicted positive affect during decision-making. Greater assessment was associated with reporting lower positive affect ($\beta = -.13$, $p = .004$). Replicating Studies 1 and 2, greater locomotion was associated with reporting greater positive affect ($\beta = .17$, $p < .001$). We also examined whether chronic assessment and chronic locomotion were associated with difficulty deciding whether to vote or not, difficulty deciding which candidate to vote for, and satisfaction with the final voting choices. Unlike the previous studies, we found that chronic assessment significantly predicted difficulty in deciding whether to vote or not ($\beta = .10$, $p = .024$) and who to vote for ($\beta = .14$, $p = .003$), whereas chronic locomotion did not significantly predict either of these variables ($\beta = -.05$ and $.01$, respectively, both $ps > .3$). Chronic assessment was also negatively associated with being satisfied and pleased with one's voting choices ($\beta = -.14$, $p = .002$), whereas chronic locomotion was positively associated with being satisfied and pleased with one's voting choices ($\beta = .13$, $p = .005$).

Discussion

We replicated the differential effects of chronic assessment and chronic locomotion on decision-making distress in the context of voting for political candidates. Specifically, assessment-oriented individuals were more distressed when they were deciding whether to vote and which candidate to vote for, whereas locomotion-oriented individuals experienced less distress making the same decisions. Importantly, we demonstrated that assessment-oriented individuals' greater distress was indeed driven by their heightened concern for making the wrong decisions and could not be explained by tendencies to maximize and engage in alternative search. In sum, the first three studies showed that different decision-making contexts can generate distress for high assessors and that this effect is mediated by their concern about making a right decision (truth concerns). Nonetheless, these contexts are relatively more infrequent and involved more consequential decision outcomes. In the next study, we sought to generalize our effect to a decision that is more everyday and commonplace in people's daily lives.

Study 4: Prioritizing Between Tasks

In Study 4, we examined a common everyday activity that involves decision-making—prioritizing between tasks to be completed in the upcoming week. The primary aim of this study was to test whether the different effects of assessment and locomotion on decision-making-related distress would emerge in the context of task prioritization. Specifically, we hypothesized that when people are asked to prioritize between different tasks that they need to complete, those with higher assessment would experience more distress compared to those with lower assessment. By contrast, we expected individuals with higher locomotion to experience less distress compared to individuals with lower locomotion. We also aimed to demonstrate that the effect of chronic assessment on distress would persist even after controlling for people's maximizing tendencies, and be mediated by general concerns with making the wrong decisions.

Method

Participants. We recruited participants through Mechanical Turk on a Monday morning (i.e., the start of the work week). We estimated that we would need approximately 200 workers and requested for this number of workers from the U.S. who had an approval rating of 95% or higher. Our eventual sample, after excluding duplicate cases and repeat workers from previous studies, comprised 176 participants (49% male; mean age = 37, $SD = 11.42$) who received \$0.90 for their participation in the study. Eighty-one percent of the sample reported their ethnic background as Caucasian, 6% reported being Hispanic, 6% reported being African American, 5% reported being Asian, and the remaining as Native American and "Others."

Procedure. In the first part, participants completed the 24-item regulatory mode questionnaire (Kruglanski et al., 2000). Then, they completed the maximizing tendency scale (Dalal et al., 2015) and the 12-item alternative search scale of the maximization inventory (Turner et al., 2012) from Study 3.

In the second part, they were told that the researcher was interested in studying people's experiences of creating to-do lists, and therefore they would be asked to list down five tasks that they needed to complete over the following week (e.g., completing an essay for a class or planning for an event) and answer some questions regarding their daily experiences of creating to-do lists. Participants listed a variety of tasks such as cleaning their car, buying a new laptop, updating a resume, and so forth. After listing the tasks, they were asked to rank these tasks in terms of their

priority, 1 being the most important thing to be done or dealt with first, and 5 being the least important thing to be done or dealt with last.

Dependent and mediator measures. Next, participants were asked to answer questions related to their experience of prioritizing between tasks. They were asked to rate how stressful and anxious it made them feel to prioritize between the five different tasks on 7-point scales where 1 = *not at all stressful/anxious* and 7 = *very stressful/anxious*. We selected these two distress-related emotions because they are pertinent to the context of managing demands in everyday life. They also filled out the original version of the 14-item PFI scale (Thompson et al., 2001).

Other measures. Participants rated how difficult it was to prioritize between the five different tasks on a 7-point scale where 1 = *very easy* and 7 = *very difficult*, and how satisfied and pleased they felt about the final rank ordering of the five tasks on 7-point scales where 1 = *dissatisfied/displeased* and 7 = *satisfied/pleased*. Participants also answered questions related to their typical habits of prioritizing between tasks and following these priorities. Specifically, they indicated how often they created to-do lists and how often they prioritized between tasks on their to-do lists on 5-point scales where 1 = *never* and 5 = *all the time*, as well as how often they followed the priorities they set for themselves on a 5-point scale where 1 = *never* and 5 = *always*. Finally, they answered some demographic questions.

Results

Participants' ratings of how stressful and anxious it made them feel to prioritize between different tasks were averaged to form an index of distress. Ratings on the two items related to how satisfied and pleased participants were with their final rank ordering of the tasks were averaged to form a satisfaction index. Descriptive statistics, Cronbach alphas of the scales and correlations between the measures in this study are found in Table 5. We ran multiple linear regression analyses with both chronic assessment and chronic locomotion as predictors on the dependent measures.

Main analyses. Results indicated that chronic assessment predicted greater distress ($\beta = .15, p = .043$), whereas chronic locomotion predicted lower distress ($\beta = -.23, p = .002$), during

task prioritization. Importantly, after controlling for the maximizing tendency and alternative search scales in the same regression analysis, the positive association between chronic assessment and distress, if anything, became stronger ($\beta = .19, p = .023$), whereas the relation between chronic locomotion and distress became non-significant ($\beta = -.15, p = .112$). Neither the maximizing tendency nor alternative search scale significantly predicted distress during task prioritization ($\beta = -.18$ and $.08$, respectively, both $ps > .14$).

We also regressed participants' PFI scores on both chronic assessment and chronic locomotion. Results replicated findings from Study 3. Specifically, participants with higher assessment were more concerned with making the wrong decisions ($\beta = .58, p < .001$) than those with lower assessment. By contrast, higher locomotion was associated with less concern about being wrong ($\beta = -.31, p < .001$). Chronic assessment and chronic locomotion significantly predicted PFI scores ($\beta = .54$ and $-.26$, respectively, both $ps < .001$), even after controlling for both maximizing tendency ($\beta = -.28, p = .003$) and alternative search strategy ($\beta = .38, p < .001$).

Mediation analyses. To test whether concerns about making the wrong decisions accounted for distress among high assessors in Study 4, we ran mediation analyses with 5,000 bootstrapped samples using the same model from Studies 2 and 3. Standardized regression coefficients for the direct and indirect paths appear in Figure 3. Results from the analysis, controlling for chronic locomotion, maximizing tendency and alternative search strategy revealed that PFI scores significantly mediated the effect of chronic assessment on distress in the prioritization task (standardized indirect effect = $.17, SE = .05$, with a bias-corrected 95% CI that does not include 0 [.07, .28]).

Other analyses. We examined whether chronic assessment and chronic locomotion influenced participants' ratings of difficulty in prioritizing between the five different tasks, how satisfied and pleased they were with their final rank ordering of the tasks, how often they create to-do lists and prioritize between tasks on their lists, and how often they followed the priorities they set for themselves. There was no significant association between chronic assessment and difficulty ($\beta = .04, p = .628$). In contrast, there

Table 5

Study 4: Descriptive Statistics and Correlations Between Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Assessment	3.78	.90	(.86)									
2. Locomotion	4.45	.76	-.02	(.87)								
3. Distress	2.01	1.35	.15*	-.23***	(.83)							
4. Personal fear of invalidity	3.99	1.13	.59****	-.32****	.34****	(.91)						
5. Maximizing tendency	4.78	1.07	.34****	.54****	-.15	.04	(.87)					
6. Alternative search strategy	4.99	1.05	.36****	.26****	-.03	.31****	.71****	(.92)				
7. Perceived difficulty	2.52	1.56	.04	-.16*	.53****	.16*	-.13	-.05				
8. Satisfaction index	6.30	1.00	-.03	.33****	-.49****	-.19*	.18*	.12	-.50****	(.87)		
9. Frequency of creating lists	3.37	1.09	.20**	.20**	.03	.08	.21**	.19*	.05	.10		
10. Frequency of prioritizing	3.47	1.08	.19*	.23***	.02	.13	.19*	.21**	.04	.13	.66****	
11. Following priorities	3.61	.76	-.05	.38****	-.16*	-.11	.32****	.24***	-.09	.28****	.36****	.41****

Note. Cronbach's alpha appears in parentheses. For the distress and satisfaction indices, correlations were computed instead of Cronbach's alphas.
* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

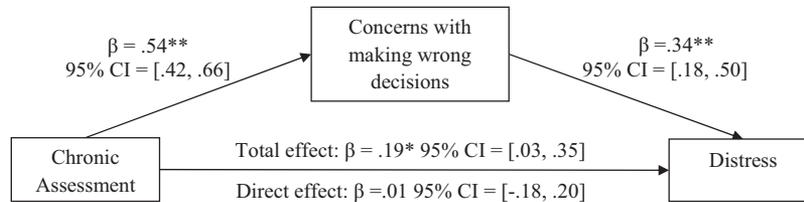


Figure 3. Mediating effect of concerns with making wrong decisions on the association between chronic assessment and distress from prioritizing between tasks after controlling for chronic locomotion, maximizing tendency and alternative search strategy (Study 4). * $p < .05$. ** $p < .001$.

was a significant association between chronic locomotion and difficulty such that participants with higher locomotion found the task easier than those with lower locomotion ($\beta = -.16$, $p = .041$). Assessment was not associated with being satisfied and pleased with the final rank ordering of the tasks ($\beta = -.02$, $p = .80$), whereas locomotion was positively associated with being satisfied and pleased with the final rank ordering ($\beta = .33$, $p < .001$).

Both assessment and locomotion were positively correlated with participants' frequency of creating to-do lists (assessment: $\beta = .21$, $p = .005$; locomotion: $\beta = .21$, $p = .005$) and prioritizing between tasks on their lists (assessment: $\beta = .19$, $p = .009$; locomotion: $\beta = .23$, $p = .001$). Interestingly, locomotion was also positively associated with likelihood of following the priorities participants set for themselves in their lives ($\beta = .38$, $p < .001$), but not assessment ($\beta = -.04$, $p = .57$). Perhaps some assessors later rethink their rank ordering and consider what might go wrong if they follow it. We should note that prioritizing and following priorities is consistent with locomotion-oriented individuals' strong control motivation, as is their higher conscientiousness, given that a sense control is facilitated by organizing and planning (see Higgins, 2008).

Discussion

Results showed that assessment-oriented individuals were more distressed when they were deciding how to prioritize between the different tasks. Conversely, locomotion-oriented individuals experienced less distress during the prioritization task. These results extended the generalizability of the main findings from Studies 1–3 to a different decision context that most individuals would experience in their daily lives. Once again, we obtained evidence that assessment-oriented individuals' greater distress was mediated by their heightened concern for making the wrong decisions and could not be accounted for by tendencies to maximize and engage in alternative search. In a separate study comprising 125 U.S. participants recruited through Mechanical Turk (46% male; mean age = 38, $SD = 11.89$), we replicated the basic effect of chronic assessment on distress in task prioritization ($\beta = .18$, $p = .047$)⁵ as well as its mediation by concern for making wrong decisions (standardized indirect effect = .13, $SE = .05$, with a bias-corrected 95% CI that does not include 0 [.05, .25]), thus providing further evidence for the robustness of these effects.

We also found that although both chronic locomotion and chronic assessment relates positively to people's frequency of creating to-do lists and prioritizing between tasks in their daily life, individuals with a locomotion orientation are more likely to follow

through with their priority plans. This is consistent with locomotion concerns with managing what is needed to make things happen and sustaining movement without undue hindrances, and with assessment concerns with making a wrong decision leading to a rethinking of priorities.

Meta-Analyses of the Effects of Chronic Regulatory Mode on Distress

To estimate more precisely the size of the effect of chronic regulatory mode on decision-making distress, we performed two meta-analyses—one on the effect of chronic assessment and one on the effect of chronic locomotion—including the four earlier studies and the two replications of Study 4. For Study 1, we included the effect sizes for both the decision of gift for oneself and the decision of gift for the friend. Hence, each meta-analysis had a sample size of 7 and 1268 data points in total. For the effect size of chronic assessment (locomotion), we used the standardized regression coefficient of chronic assessment (locomotion) predicting distress, controlling for the effect of chronic locomotion (assessment). All analyses were conducted using Fisher's Z_r transformed effect sizes and inverse variance weights, $\omega = n - 3$ (see Lipsey & Wilson, 2001). We used the SPSS macros written by Wilson (2005; see also Lipsey & Wilson, 2001).

The effect sizes for each study are found in Table 6. The random effects meta-analysis for the relation between chronic assessment and distress produced a mean effect size of .23 (95% CI [.17, .28]). There was a significant positive association between chronic assessment and decision-making distress across all studies ($z = 7.95$, $p < .001$). The random effects meta-analysis for the relation between chronic locomotion and distress produced a mean effect size of $-.21$ (95% CI $[-.28, -.13]$). There was a significant negative association between chronic locomotion and decision-making distress across all studies ($z = -5.51$, $p < .001$).

Overall, results from both meta-analyses provide support for the robustness of the opposite effects of regulatory mode on people's experience of distress during decision-making. Based on Cohen's (1992) guidelines on the interpretation of effect sizes, the effects of chronic regulatory mode on distress constitute small to medium effects. Nonetheless, these effects are consequential given that there are many individuals with a strong assessment or a strong locomotion orientation, and decision-making is commonplace in people's daily lives (Greenwald, Banaji, & Nosek, 2015).

⁵ We also replicated this basic effect with another sample ($N = 209$). The complete results of these two replication studies are reported in the supplementary section.

Table 6
Meta-Analyses: Effect Sizes of Chronic Regulatory Mode Across Studies

Study	<i>N</i>	Assessment	Locomotion
Study 1: Choice for self	107	.30	-.43
Study 1: Choice for friend	107	.21	-.24
Study 2: Wedding decisions	67	.29	-.25
Study 3: Presidential voting	477	.26	-.12
Study 4: Prioritizing between tasks	176	.15	-.23
Study 4: Replication 1	209	.18	-.15
Study 4: Replication 2	125	.18	-.21

Note. The effect sizes represent Fisher's Z_r transformations of the standardized regression coefficients of chronic assessment (locomotion) predicting distress, controlling for the effect of chronic locomotion (assessment; Lipsey & Wilson, 2001).

Study 5: Situational Induction of Regulatory Mode

The studies thus far have provided robust evidence that individuals with a strong assessment orientation are more likely to experience distress during decision-making and that this effect is due to their intense concern with making the wrong decisions. These studies focused on measurement of chronic assessment. According to regulatory mode theory and research, situational forces can also produce an assessment or locomotion orientation. The primary aim of Study 5 was to examine whether the harmful impact of assessment on distress would emerge with an experimental, situational induction of regulatory mode. We hypothesized that people induced into an assessment mode would experience more distress during decision-making compared to those induced into a locomotion mode. In addition, Study 5 used an implicit measure to examine whether truth concerns rather than value concerns mediate this positive association. We tested these hypotheses using the task prioritization decision context from Study 4.

Method

Participants. We recruited participants through Mechanical Turk on a Monday morning. We estimated that we would need approximately 300 workers and requested for this number of workers from the U.S. who had an approval rating of 95% or higher. Our eventual sample, after excluding duplicate cases and repeat workers from previous studies, comprised 267 participants (43% male; mean age = 38, $SD = 12.44$) who received \$0.90 for their participation in the study. Eighty-one percent of the sample reported their ethnic background as Caucasian, 8% reported being Asian, 4% reported being Hispanic, 5% reported being African American, and the remaining as Native American and "Others." Participants were randomly assigned to either the assessment ($n = 132$) or locomotion ($n = 135$) condition.

Procedure. In the first part of the study, we used a priming task to induce participants into their respective regulatory mode states. Those in the *assessment* condition read the following paragraph illustrating the importance of being scrupulous:

According to latest research in psychology, being scrupulous is an important quality to have in life. Scrupulous people often evaluate what they are doing (or what another person is doing), by thinking critically about the choices of what to do, including making compar-

isons to what other people are doing and might be doing. They want to be thorough and meticulous in all their evaluations.

Those in the *locomotion* condition read the following paragraph illustrating the importance of being a "doer":

According to latest research in psychology, being a "doer" is an important quality to have in life. "Doers" often get things going by being decisive in choosing what to do and then getting on with it. They want to "just do it" and make something happen.

To reinforce the manipulation, we asked participants to recall and provide a personal example of a situation in which being scrupulous/a doer was important to them. They were instructed to describe the specific circumstances under which they were scrupulous/a doer, why it was important for them to be scrupulous/a doer in this situation, and what they specifically did to be scrupulous/a doer. An example of being scrupulous was doing thorough research for a big-ticket purchase, and an example of being a doer was looking for jobs immediately after graduating from college.

After completing the regulatory mode induction, participants proceeded to perform the same prioritization task from Study 4. They also answered the same questions from Study 4 concerning their experience of prioritizing between the five different tasks, as well as their typical habits of prioritizing between tasks and following these priorities. Finally, they completed the 24-item regulatory mode questionnaire (Kruglanski et al., 2000) and demographic questions.

Content analysis of priming task responses. To test whether concerns with being accurate mediated the effect of the regulatory mode induction on distress, we conducted a content analysis of participants' responses in the priming task to determine their use of words or terms that correspond to such concerns. We used a standard and widely validated tool—Pennebaker, Booth, Boyd, and Francis's (2015) Linguistic Inquiry and Word Count (LIWC), a computerized text analysis program that calculates an index of words used in psychologically meaningful categories—to analyze each participants' responses. The underlying premise of this program is that the words people use tend to reflect their internal thoughts and mindsets (Tausczik & Pennebaker, 2010). From the categories available in the LIWC's dictionaries, we identified two categories that correspond closely to truth concerns and values concerns: "cognitive processes" and "reward," respectively. "Cognitive processes" includes words that pertain to seeking understanding about situations and their causes, and trying to ascertain or establish the certainty of things (Pennebaker et al., 2015), which we believe reflects a motivation to form an accurate understanding or interpretation of things (i.e., establish the truth). Examples of words from the "cognitive processes" dictionary that were used by participants in our sample included "answer," "consider," "decide," "determine," "evaluate," "examine," "know," "perfection," "question," "realized," "solve," and "understand." By contrast, "reward" includes words that pertain to a focus on seeking rewards, approaching positive goals, and attaining value (Pennebaker et al., 2015), which we believe reflects a motivation to achieve the best outcomes and maximize value. Examples of words from the "reward" dictionary that were used by participants in our sample included "earn," "gained," "got," "profit," "take," and "win."

Table 7
Study 5: Descriptive Statistics and Correlations Between Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Assessment	3.58	.94	(.87)						
2. Locomotion	4.31	.79	-.07	(.86)					
3. Distress	2.21	1.56	.23****	-.05	(.85)				
4. Perceived difficulty	2.67	1.53	.09	-.03	.56****				
5. Satisfaction index	6.13	1.11	-.03	.24****	-.46****	-.45****	(.85)		
6. Frequency of creating lists	3.52	1.16	.20***	.38****	.03	.04	.04		
7. Frequency of prioritizing	3.46	1.08	.08	.31****	-.05	-.03	.15*	.69****	
8. Following priorities	3.66	.74	-.04	.45****	-.18**	-.07	.27****	.36****	.39****

Note. Cronbach's alpha appears in parentheses. For the distress and satisfaction indices, correlations were computed instead of Cronbach's alphas.
* $p < .05$. ** $p < .01$. *** $p < .005$. **** $p < .001$.

Results

Fifteen (5.6%) participants (6 from the assessment condition, 9 from the locomotion condition) were excluded from the sample because they failed to follow the instructions in the regulatory mode induction task.⁶ Hence, the final sample comprised 252 participants. Similar to Study 4, we averaged participants' ratings of how stressful and anxious it made them feel to prioritize between different tasks to form an index of distress. We also averaged their ratings of how satisfied and pleased they were with their final rank ordering of the tasks to form a satisfaction index. Descriptive statistics, Cronbach alphas of the scales and correlations between the measures in this study are found in Table 7. We ran a univariate ANOVA to examine the effect of the regulatory mode induction on participants' distress levels.

Main analyses. As in our previous studies, the association between chronic assessment and distress was positive and significant ($\beta = .22, p < .001$). In contrast, as in our previous studies, the association between chronic locomotion and distress was negative ($\beta = -.04, p = .57$), although it was not significant. Because of this difference between chronic assessment and locomotion, we controlled for both chronic measures when testing for the effect of the regulatory mode induction on distress.⁷ As expected, the results revealed that participants in the assessment condition experienced significantly greater distress ($M = 2.40$) than those in the locomotion condition ($M = 2.01; F(1, 248) = 4.19, p = .042, f^2 = .02$).

Mediation analyses. An initial analysis showed that participants in the assessment condition used in their responses significantly *more* words from the "cognitive processes" category ($M = 13.10; SD = 6.24$) than participants in the locomotion condition ($M = 11.11; SD = 4.99; F(1, 250) = 7.80, p = .006$). Conversely, we found that participants in the assessment condition used *fewer* words from the "reward" category ($M = 1.53; SD = 1.70$) than participants in the locomotion condition ($M = 2.86; SD = 2.15; F(1, 250) = 29.40, p < .001$). This pattern of results suggests that participants in a state of assessment, compared with those in a state of locomotion, had greater truth concerns than value concerns.

We ran mediation analyses with 5,000 bootstrapped samples using the same model from Studies 2–4. Standardized regression coefficients for the direct and indirect paths appear in Figure 4. Results revealed that index of word-use in the "cognitive processes" category significantly mediated the effect of the regulatory mode induction on distress in the prioritization task (standardized

indirect effect = .05, $SE = .03$, with a bias-corrected 95% CI that does not include 0 [.01, .14]). In contrast, index of word-use in the "reward" category did not mediate our main effect (standardized indirect effect = .01, $SE = .04$, with a bias-corrected 95% CI that includes 0 [-.07, .10]). These mediation results held up even after controlling for chronic assessment and chronic locomotion.

Other analyses. We examined whether the regulatory mode induction (again controlling for chronic assessment and chronic locomotion) influenced participants' ratings of difficulty in prioritizing between the five different tasks, how satisfied and pleased they were with their final rank ordering of the tasks, as well as their typical habits of prioritizing between tasks and following these priorities. There was no significant difference between the experimental conditions in ratings of difficulty, $F(1, 248) = .85, p = .36$. Not surprisingly, there were also no significant differences between the experimental conditions in typical habits of prioritizing between tasks and following these priorities ($ps > .30$). However, there was a significant difference in how satisfied and pleased participants were with their final ranking, $F(1, 248) = 4.34, p = .038$, with assessors being less satisfied and pleased ($M = 5.99$) than locomotors ($M = 6.28$).

Discussion

Using a situational induction of regulatory mode, Study 5 provided experimental evidence that assessors (vs. locomotors) experienced more distress, and were less satisfied and pleased with their final ranking, when they were deciding how to prioritize between the different tasks. These results indicated that the greater distress of individuals who are high in assessment is not restricted

⁶ To determine whether participants performed the manipulation task correctly, two independent raters coded their responses as wrong, unclear, or correct. Interrater agreement was 89%. The Gwet's AC1 was .88, indicating excellent interrater agreement (Heyman, Lorber, Eddy, & West, 2014). All the disagreements and unclear cases were resolved through discussion. Responses that were coded as wrong either failed to report any personal examples of situations in which they were a doer or were scrupulous (e.g., "I have never been or can think of a situation in my life where I was scrupulous"), or were completely irrelevant or incoherent.

⁷ We also found an unexpected significant difference between both conditions on chronic assessment. Surprisingly, participants in the assessment condition ($M = 3.45, SD = .93$) reported having *lower* chronic assessment than those in the locomotion condition ($M = 3.71, SD = .94; F(1, 250) = 4.88, p = .028$). Hence, it was necessary to control for chronic regulatory mode in our main analyses.

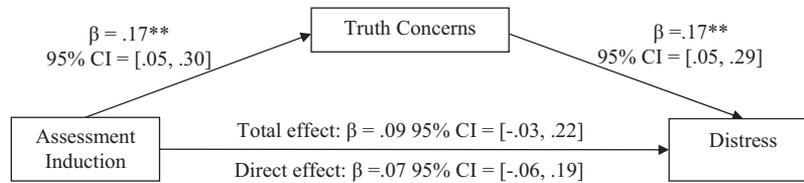


Figure 4. Mediating effect of truth concerns on the association between the regulatory mode induction and distress from prioritizing between tasks without controlling for chronic assessment and chronic locomotion (Study 5). * $p < .01$.

to the case of chronically high assessment concerns. Individuals who are currently high in assessment from a situational induction also experience greater distress from making a decision. More importantly, we obtained process evidence demonstrating that this effect of priming assessment on decisional stress is mediated by decision-makers' truth concerns rather than their value concerns.

General Discussion

The present research attempted to understand the influence of decision-making on the experience of individuals who vary in their assessment tendencies. Our research consistently demonstrated that assessment-oriented individuals (either chronically or situationally induced) tend to experience more distress when they make decisions because of their strong concerns with doing the right thing and seeking the "truth" (Studies 1–5). By contrast, we found that locomotion-oriented individuals tend to experience less distress during decision-making and are more eager to decide quickly and get on with the decision.

We replicated our findings across various types of decisions (product decisions, decisions related to a major life event, political voting decisions, and common daily decisions) and diverse samples (students, adults from the U.S., and prospective brides from Singapore), using both chronic measures and situational induction of regulatory modes. Importantly, these decisions were not merely hypothetical but had actual implications. The meta-analyses lent further support to the robustness of the associations between both chronic regulatory modes and decision-making distress.

The evidence from our studies that individuals who have an assessment orientation during decision-making are likely to experience greater distress from the decision-making process is not only important for understanding how motivational concerns can be a vulnerability, but is also surprising. This is most evident in regard to Studies 4 and 5. These studies examined a common everyday activity that involves decision-making—creating a prioritized "to do" list for five tasks each participant needed to complete over the following week. One would think this would not be a threatening task. After all, it involves just everyday tasks to be completed over the next week and, importantly, there is no external criterion that dictates the success or failure of the final priority list. The list represents each individual's *personal* priority. One could imagine that this would be like rank ordering your favorite five flavors of ice-cream. Nonetheless, individuals with high assessment concerns—even when those concerns are just situationally induced—do become more distressed while making the decision and are less satisfied with their final list. These are troubling features of having assessment concerns that the present research has substantiated.

Theoretical Contributions

Previous work on decision-making and distress has focused more on the effects of distress on the way people make decisions (e.g., Kassam et al., 2009) and less on distress as a product of the decision-making process. Unlike the work that has examined contextual factors such as choice overload (Iyengar & Lepper, 2000) and difficult tradeoffs (Carpenter et al., 2016; Luce, 1998), our research explores the role of intrapersonal, motivational factors in determining people's distress in making choices. In particular, we show that decision-making is a stressful psychological experience for assessment-oriented individuals because it is extremely important for them to make sure that they make accurate judgments and end up with the right decision (i.e., not make the wrong decision). They long to be right even if it entails distress from having to critically evaluate different options in order to arrive at the right choice (Higgins et al., 2003; Kruglanski et al., 2000). This is distinct from maximizers, who experience greater negative affect because their motivation to maximize utility tends to complicate decisions and thus increase their information-processing demands (Iyengar et al., 2006). Hence, we provided evidence of a novel mechanism beyond mental effort that causes significant distress to decision-makers.

The distinction between assessment and maximization as shown in the current research is critical in refining our understanding of how both individual differences operate separately. In contrast to the work on maximizing, which shows how consideration of more alternatives induces greater distress (Iyengar et al., 2006; Schwartz et al., 2002), we demonstrated that having to choose or prioritize between a fixed set of options (Studies 1 and 3–5) could also be stressful for people with high truth-seeking concerns. Furthermore, we showed in Studies 3 and 4 that both the basic effect of chronic assessment on decisional distress and the mediation by concern with being wrong held up even after controlling for maximization. In fact, neither two of the definitional components of maximization—the goal to maximize subjective utility and the strategy of alternative search—was significantly associated with decision-making distress in both studies (see Tables 4 and 5). As suggested by the nonsignificant correlations between the maximizing tendency scale and the personal fear of invalidity scale in Studies 3 and 4 ($r = -.07$ and $.04$, respectively, both $ps > .13$), going for the "best" option (value-driven) is not the same as making the "right" choice (truth-driven). Although alternative search strategy was positively correlated with fear of invalidity in both studies ($r = .09$ and $.31$, respectively, both $ps < .07$), these correlations were significantly weaker than the positive correlations between chronic assessment and fear of invalidity ($r = .42$ and $.59$, respectively, both $ps < .001$; test of difference between fear of invalidity's

correlation with chronic assessment and fear of invalidity's correlation with alternative search strategy: $z = 6.11$ and 3.85 , respectively, both $ps < .001$.

Taken together, our research indicates that (a) high assessors' concerns with truth should be differentiated from maximizers' concerns with value, and (b) apart from a cognitive overload mechanism, there is another mechanism—concern with not making the right choice—that contributes substantially to decision-making stress. People may frame their decisions as either being right/wrong or best/worse. In fact, being accurate and doing the “right” thing, as opposed to the traditional notion of maximizing utility, may be a more germane and realistic representation of certain decisions such as court decisions, medical diagnoses, and choosing names. In our current work, we found that voting in the U.S. Presidential Elections and prioritizing between weekly tasks were more relevant sources of distress to assessors than maximizers, suggesting that these types of decisions may be more readily framed as being right or wrong versus best or worse.

Further support for our mechanism of truth concerns is presented in a supplementary study in which we investigate the link between chronic assessment and a novel phenomenon—postdecisional social verification (see [supplementary section](#)). The decision-making literature has focused on postdecisional processes that take place mainly within the individual (e.g., counterfactual thinking and resolution of postdecision dissonance; [Cohen & Goldberg, 1970](#); [Pierro et al., 2008](#); [Roese & Olson, 1997](#)) and neglected interpersonal behaviors of seeking validation from others regarding one's decision. Decision-making is often challenging because in many instances it is unclear what the “correct” choice really is. Verifying one's choices with others constitutes a means for decision-makers to establish the correctness of their decisions ([Echterhoff, Higgins, & Levine, 2009](#); [Hardin & Higgins, 1996](#)). Given assessment-oriented individuals' strong concerns about seeking the truth, they may seek validation despite having already made their choice and despite the probability that they might not attain the consensus with others that they desire. The latter is problematic considering that there is rarely a universally accepted “correct” answer to decisions ([Yates & Angott, 2012](#)), and what is “right” or “wrong” is typically subjective and differs across individuals. Thus, postdecisional validation-seeking may be counterproductive and exacerbate stress in situations where decisions are irreversible. Results from the [supplementary study](#) provided preliminary evidence that chronic assessment motivates the performance of such behavior, providing further support for our mechanism (i.e., the need to be right).

The present research also contributes to the literature on regulatory mode theory. It is the first systematic investigation of how chronic regulatory mode tendencies affect people's affective experiences when they make everyday decisions. Previous research on regulatory mode and decision-making has focused mainly on decision outcomes (e.g., [Avnet & Higgins, 2003](#); [Pierro et al., 2008](#)) and has not examined the interplay between truth-seeking concerns and feelings during decision-making. Additionally, the current paper adds to the growing literature demonstrating how assessment-oriented individuals' need to be right, though seemingly adaptive and beneficial, can also have downsides (e.g., overcorrection for biases and procrastination; [Appelt et al., 2010](#); [Pierro et al., 2011](#)). In this paper, we provided direct evidence that assessors' truth-seeking motivation magnifies their decisional dis-

tress. It is also notable that higher chronic assessment was not consistently associated with greater outcome satisfaction, suggesting that their greater distress may not always be compensated by higher outcome satisfaction. Consequently, shedding light on how assessment affects people's experiences during decision-making may lead to the development of practical interventions that would reduce decisional distress. We elaborate on this in the next section.

Implications for Psychological Well-Being

People encounter a myriad of decisions in their daily lives. Our research suggests that intense concerns with making wrong decisions may have a detrimental impact on psychological health. Although being motivated to move on quickly and effect change for its own sake, as is the case for locomotion-oriented individuals, can be quite adaptive, it may not be feasible for decisions that require careful assessment (e.g., major decisions with serious consequences). People who are often required to make such decisions in their workplace (e.g., surgeons, investors, etc.), especially those with high chronic assessment, are likely to be more vulnerable to job stress. The present studies demonstrated that assessment not only augments distress in relatively minor decisions, but also that this relation is possibly exacerbated when “wrong” choices are perceived to be costly. Moreover, many real-life choices (like those in our studies) involve reliance on one's own subjective judgment of how decisions should be made (i.e., how the right option is determined). The lack of objectively right or wrong choices may cause further agony among high assessors.

The link between assessment and decision-making may offer insight into psychological disorders associated with higher chronic assessment (e.g., compulsive disorders, [Shalev & Sulkowski, 2009](#)). People with hoarding problems, for instance, often experience great distress in deciding the relative worth of their possessions and which ones to discard. When these individuals make decisions about what to discard, they tend to experience an increase in neural activity linked to the monitoring of errors under uncertainty ([Tolin et al., 2012](#)). Similarly, people with obsessive-compulsive disorders typically report uncomfortable sensations of things not being just ‘right’ ([Coles, Frost, Heimberg, & Rhéaume, 2003](#)). Our research suggests that high assessment-truth concerns among these individuals may hinder their recovery and hence should be the target of intervention treatments.

Although it is uncertain from the current research whether assessment-oriented individuals prefer to endure the distress until they satisfy their truth concerns by making the right choice, the current findings hint at several possible treatment approaches to alleviate distress among assessment-oriented individuals. First, the protective benefits of locomotion suggest that an intervention prompting assessment-oriented individuals to locomote more during decision-making may help relieve their distress. What is clear from Study 5 is that situationally induced locomotion is a different motivational state than situationally induced assessment, and individuals in a locomotion state experience less distress than those in an assessment state. This could be especially true for actual physical acts of locomoting (e.g., turning the page on forgone alternatives, see [Gu, Botti, & Faro, 2013](#)) that could inhibit further deliberation and terminate continuous pondering of rejected options. Second, interventions could target the mediating process of truth-seeking by challenging high assessors' inaccurate beliefs that

there is a “right” and “wrong” in every decision and that making a wrong decision is unacceptable. Third, results from the social verification study in the [supplementary section](#) suggest that obtaining validation for one’s choices may be a viable intervention that reduces high assessors’ distress. Social verification may be a vehicle that allows them to establish the truth and could therefore put them at ease. On the flip side, contradiction from others could engender even greater distress (high assessors tend to be bothered by disagreements with their decision), and thus an intervention to reduce the possibility of such social invalidation could also be beneficial. Future research should test the effectiveness of these potential interventions.

Limitations

Across Studies 1–5, distress was measured based on self-reports rather than physiological or behavioral measurements. Future research should determine whether assessment and locomotion would result in varying physical or behavioral manifestations of distress during decision-making. In addition, our studies did not examine what “right” or “wrong” choices exactly meant to participants in each decision context. The studies assumed that assessment-oriented decision-makers possessed their own conceptions of “right” and “wrong.” Although this is a fair premise given the wide variation in people’s personal standards, the present research did not investigate how nuances in these constructs (e.g., based on rules, norms or morals) would lead to similar or disparate effects. There is a need to do so in future research. Lastly, we did not examine decisions where there was a dominant choice (cf. [Avnet & Higgins, 2003](#)), thus it is uncertain whether the present findings would generalize to such decisions. Nonetheless, this does not diminish the importance of our findings given that many decisions in life lack an objective, clearly dominant option.

Future Directions

One fascinating question that emerges from the current research is what is it about an assessment orientation that makes individuals concerned with making mistakes? In future research, it would be worthwhile to examine moderators of the effect of assessment on decisional stress. For instance, would levels of distress vary in decision-making situations as the evidence of one’s accuracy, or lack of accuracy, becomes more apparent? Are there specific phases of the decision process, such as tradeoffs (see [Carpenter et al., 2016](#)) or making decisions during the deliberation phase versus the implementation phase (see [Gollwitzer, 1990](#)), that might be more or less stressful for high assessors?

Another fruitful area for further inquiry involves understanding the actual decision-making strategies that assessment-oriented individuals tend to employ. This would give us deeper insights into the mechanisms underlying their greater distress during decision-making. For example, concern about making a wrong decision might prompt assessment-oriented individuals to deliberate over their approach toward making the decision (see metadecisions; [Boureau, Sokol-Hessner, & Daw, 2015](#)). They might concentrate on what the “right” decision process should be like and worry about what decision rules or criteria to use in their decision-making (e.g., “I will discard clothing from my wardrobe that has not been worn in the past year”), or even how much effort and

resources to allocate to this process (e.g., investing too little or too much effort).

Future work should also examine whether and how assessors cope with decisional distress. Because of their quest for the truth, they are likely unable to engage in common coping mechanisms such as coherence shifting (i.e., changing one’s decision weights so that a preferred alternative becomes more dominant compared to others; [Carpenter et al., 2016](#)). Instead, they might opt to avoid decisional distress altogether by sticking to default options ([Luce, 1998](#)), postponing their decisions ([Greenleaf & Lehmann, 1995](#)), giving up their choices ([Dhar, 1997](#)), or having others decide on their behalf ([Creyer & Kozup, 2003](#)). In fact, high assessors’ tendency to procrastinate or delay completing tasks ([Pierro et al., 2011](#)) might actually be avoidant coping in response to anticipated decision-making distress.

Decision-making behavior is highly complex. The nature or severity of various aspects of decision-making such as tradeoffs, need for judgment accuracy, and importance of utility maximization, have substantial impact on decision-makers’ well-being. In this paper, we discussed and investigated only some of these aspects. Future research should further examine how other aspects (e.g., favorability of options in choice-set) might also influence people’s distress levels during decision-making. One possible approach would be to build on existing frameworks on decision processes (e.g., [Yates & Angott, 2012](#)) that delineate various decisional characteristics and issues that need to be resolved for decisions to be effectively made. Investigating how these aspects interact with decision-makers’ dispositions and motivational states could result in the development of useful interventions to mitigate stress during decision-making.

Concluding Remarks

Choices can make people feel confused and anxious. Decision-making can be especially stressful for individuals focused on “doing the right thing” (truth motivation) but less so for those focused on moving forward and effecting change quickly and smoothly (control motivation). Although it is preferable that decision-makers fully reap the unique benefits of both assessment and locomotion (“going in the right direction;” [Higgins, 2012](#)), this research suggests that to enjoy a less distressful decision-making experience, it is important to consider how each regulatory mode may interfere with or facilitate our decision-making processes. Because of the abundance of choices we face—from mundane menu selections to life-changing career alternatives—learning how to circumvent the stress that can result from overassessing our options and being overly concerned with making the wrong choice may be an essential tool to effectively navigate our everyday lives.

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