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A Synthesised Model of Decisional Stress and Satisfaction: Empirical assessment across work and relationship decision contexts

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Abstract

Decision-making research has evolved significantly over the past century with a focus on how decisions are made. A recent synthesised Decisional Stress and Satisfaction Model (DSSM) included people's decision appraisals, stress, coping, and metacognitions as predictors of decision satisfaction. The aim in this study was to empirically test the DSSM and its stability in a two-wave design: work/study decisions (Wave 1) and family/relationship decisions (Wave 2). A convenience sample of 182 adults completed the Wave 1 survey where they were asked to reflect on their decision appraisals, stress, coping, metacognitions, while making an important work/study decision and their satisfaction with that decision. Eighty-four of these participants also completed the same questions at Wave 2 in terms of a recent family/relationship decision. The Wave 1 data provided a good fit to the DSS Model. Results indicated that an appraisal that sufficient resources were available to make a decision, and increased metacognitions (awareness and acceptance), predicted lower decisional stress, and indirectly, increased decision satisfaction. Metacognitive awareness and acceptance negatively predicted coping, dominated by avoidance, with stress also increasing avoidance coping. The model was stable across a decision made related to participants family/relationship. The results highlight the importance of people's decision appraisals, stress, coping, and metacognitions in work/study and family/relationships decision-making.

Keywords: Decision-making, metacognitions, appraisals, stress and coping, satisfaction

Introduction

We all face decisions at work and in our personal lives – the ultimate goal of which is to make a decision that evokes a sense of "satisfaction". In trying to understand the factors involved in making satisfying decisions, the past century has seen the development of several mainstream approaches. The early normative researchers (e.g., Edwards, 1953; Ramsay, 1926; Tinter, 1941) conceptualised satisfying decisions in terms of "rational" decisions, that is, decisions which are best predicted by mathematically determining the maximum expected or actual utilities, that is the gains or benefits, of that decision. Later researchers (e.g., Gigerenzer & Todd, 1999; Kahneman & Tversky, 1982; Simon, 1959) focused more on understanding the mental "short-cuts" or heuristics people employ when making decisions. They argued that people more readily rely on the quicker and less effort-demanding heuristics when making their decisions rather than calculating the expected or actual utilities of each possible option. These normative and heuristic approaches have since been integrated into what has become known as the dual-process process approach (Diederich & Trueblood, 2018; Evans, 2011). While researchers have continued to explore the processes which might inform decision-making, the ultimate end game (whether explicit or implicit) remains unanswered: how do we make decisions with which we are *satisfied*?

Although past theories have contributed much to our understanding of people's decision-making, none of these approaches focus on the appraisals and stress involved in making a satisfying decision or on the coping strategies employed to reduce this decisional stress. Past research including stress has focused on decisions made under *a priori* stressful conditions (i.e., create a stressful situation and then require participants to make a decision; see Starcke & Brand, 2012), rather than the stress associated with the decision context. In an attempt to address this theoretical gap, Lucas and Moore (2018) synthesised key concepts from Janis and Mann's (1977) Conflict Theory with those from Lazarus and Folkman's (1984) Transactional Model of Stress and Coping to describe the appraisal-stress-coping related factors influencing decision satisfaction. An outline of the key elements and hypothesised relationships in their synthesised Decisional Stress and Satisfaction Model (DSSM) is discussed below (see Figure 1, and Lucas & Moore, 2018 for a full account).

The Synthesised Decisional Stress and Satisfaction Model

Primary and Secondary Appraisals

In their synthesised Decisional Stress and Satisfaction model (DSSM), Lucas and Moore argued that, in Lazarus and Folkman's (1984) terms, a person's cognitive recognition of the need to make a decision is their primary appraisal and reflects the importance of the decision to them. Once there is an imperative to make a decision the person then makes specific (e.g., *time, energy*) and general (e.g., *I have sufficient*

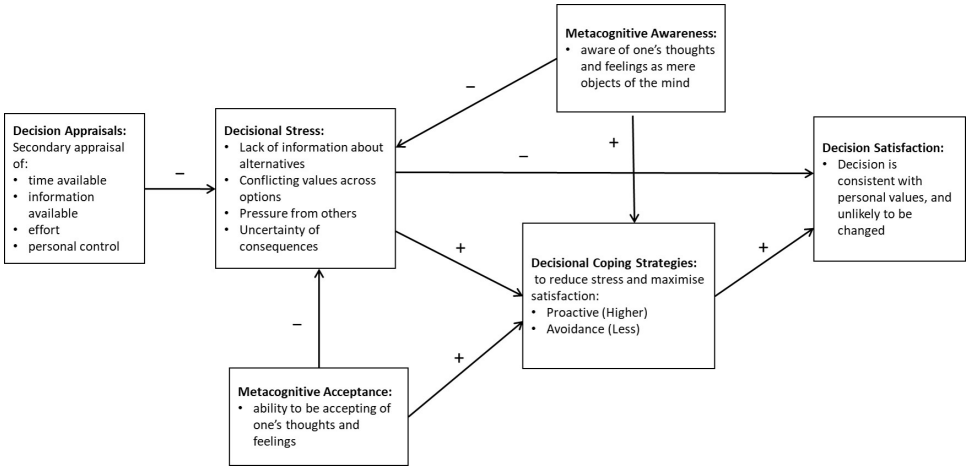


Figure 1

The synthesised Decisional Stress and Satisfaction Model (DSSM) showing the hypothesised positive (+) and negative (-) relationships to be assessed. Adapted from Lucas and Moore (2018).

resources to make my decision) appraisals of the resources available to support them in their decision-making. According to Lucas and Moore these are secondary appraisals that determine the level of decisional stress people experience, the coping strategies they use, and ultimately whether they experience satisfaction with their decision. When these secondary appraisals are positively affirmed, that is the person perceives there are sufficient resources with which to make a decision (e.g., enough time), they are likely to experience less decisional stress. If fewer resources are available, then greater stress may be experienced.

Decisional Stress and Coping

In Janis and Mann's (1977) terms, decisional conflict or stress can be a function of (a) a perceived lack of information about the available choices; (b) conflicting values for the known options; (c) pressure from others to make a decision; and (d) uncertainty about which option is the best choice. The potential validity of these indicators of decisional stress were acknowledged by Lucas and Moore (2018) and later by Phillips-Wren and Adya (2020) although no empirical support is yet available. Neither has there been any investigation to date of factors which might mitigate the impact of these conflicts/stressors on making a satisfying decision. One such mitigating strategy could be the coping strategies people use to deal with the stress of the situation or, in some cases, to avoid making a decision altogether (Guppy et al., 2004). These strategies echo Lazarus and Folkman's (1984) concept of problem-focused and emotion-focused coping. Lucas and Moore's model moves beyond the direct effect of decisional stress and coping on decision satisfaction to include proactive coping as a mediator between people's decisional stress and subsequent decision satisfaction. When coping variables act to attenuate the effects of stressors on well-being or in this case a satisfying decision, Cohen and Edwards (1989) termed it a buffering effect. Although, as Dardas and Ahmad (2015) pointed out, such an effect may be only partial given people's attempts at coping may not always be effective.

Decision Satisfaction

The ultimate goal in coping with or managing decisional stress is to enable the person to avoid feelings of regret or disappointment (Schwarz, 2000; Zeelenberg et al., 2000) by arriving at a decision with which they are satisfied. O'Connor (1995) termed this process making an "effective decision". That is, as well as feeling "satisfied", decision-makers also feel they have made an informed choice that is important to them and with which they are likely to "stick". However, the use of avoidance as a coping strategy would probably nullify the likelihood of achieving a satisfying outcome (Janis & Mann, 1977).

The Novel Addition of Metacognitions

Metacognitions were a novel inclusion in the DSSM. These cognitions relate specifically to people's ability to accept (i.e., metacognitive acceptance) and "defuse" from (i.e., metacognitive awareness) the content of their thoughts and feelings related to the decision process. Metacognitions are elements of what Hayes (2004), in his Acceptance and Commitment Therapy (ACT), termed "psychological flexibility" and which Ciarrochi et al. (2010) argued position people to choose or decide upon a course of action aligned with their values and life goals. Decisions so aligned can result in a sense of (decision) satisfaction (Garvelink et al. 2019a, 2019b).

In the context of decision-making, people's metacognitive awareness and acceptance may not only reduce any decisional stress, but also enhance their use of decisional coping strategies, and indirectly contribute to satisfaction with the decision made. Some support for this proposition comes from Lucas and Moore (2019) who found that metacognitive acceptance was strongly negatively related to anxiety/depression as assessed by the General Health Questionaire-8. It can be argued that the reverse applies if metacognitions are negative. Matthews et al. (1999), for instance, reported that a "… general metacognition factor defined most strongly by beliefs that thoughts are uncontrollable, metaworry and use of emotion-focused coping" (*p*. 124) was positively related to test anxiety in undergraduate students. Also, Spada et al. (2008) reported that metacognition was positively related to perceived stress and negative emotion in a convenience sample of 420 adults. It seems that the inclusion of metacognitions

may further our understanding of the interplay between appraisals, stress, coping, and decision satisfaction.

The aims in the study were to explore the empirical validity and cross-context stability of the DSSM. Two decision contexts were chosen as the basis for this assessment given their importance in people's lives: work/study and family/relationships. The paths in the model (Figure 1) represent the specific hypotheses to be assessed. As this study is exploratory in nature, it is not the primary objective of the authors to establish a general model of decision-making. The results of this study will provide insight into the interplay of people's appraisals, metacognitions, stress, and coping strategies when making important decisions and their satisfaction with their decision.

Method

Design

A two-wave design was used to assess the empirical validity and cross-context stability of the DSSM across the work/study and family/relationships decision contexts. Wave 1 (W1) data were used to assess the validity of the DSSM in relation to work/study decisions, while Wave 2 (W2) data were used to assess the stability of the model in terms of family/relationship decisions.

Participants

Power Analysis. An *a priori* online power analysis for Structural Equation Modelling (SEM) (Soper, 2020; Westland, 2010) was conducted with power set at .8 and probability of $p < .01$ for a model with 3 latent and 10 observed variables. This analysis indicated a minimum sample size of 78 was required to detect an effect size of .4, which Cohen (1988) considered excellent, with a sample size of 156 recommended given the model's structure. Given that the actual number of participants recruited for this study was 182 for W1 and 84 for W2, these samples sizes were considered sufficient for the use of SEM, including Confirmatory Factor Analysis.

Wave One Sample. A total of 182 adults, recruited via convenience sampling, participated in W1 (27 males, M_{age} = 36.04 years; SD = 9.92; 147 females, M_{age} = 41.33 years; SD = 12.25; and eight whose gender was not specified, M_{age} = 39.75 years; SD = 12.65). A Kruskal-Wallis Test indicated no significant age by gender (male, female, gender not specified) differences (Kruskal-Wallis $H_2 = 4.028$, $p = .13$). Based on the *a priori* power analysis earlier, the sample size for W1 was considered adequate for an exploratory testing of the model in the context of a work/study decision.

Wave Two Sample. Of the 146 participants from W1 who expressed interest in W2, 84 participants (11 males, M_{age} = 36.27 years, SD = 6.39; 73 females, M_{age} = 39.90 years, SD = 12.53) participated in W2. The sample size for W2 was also considered sufficient for an exploratory testing of the model as per the *a priori* power analysis. An independent samples *t*-test indicated no significant age by gender differences in W2 participants, $t_{82} = .94$, $p = .35$. The W2 sample also represents a response rate of 57.5% of W1 participants who expressed willingness to participate in W2, which Moser and Kalton (1989) considered good to excellent for multi-wave designs.

Procedure

The study received ethical approval from the University's Human Research Ethics Committee. Participants were recruited via a notice posted on the social networking site, Facebook. The notice invited readers to complete an anonymous online survey related to an important work/study-related decision they had made within the last six months. Interested parties were directed to the survey hosted on online survey platform, *Qualtrics*.com. Participants were advised that they could close their internet browser at any time before submitting their responses if they wished to withdraw from the study. They were also advised that submission of their responses to the survey would constitute their informed consent and their individual data would not be recoverable.

Participants were asked at the end of the survey to indicate their interest in completing a second survey one month later (W2) and were directed to an independent, online form to provide their email address for a subsequent reminder. There were 146 participants in W1 who provided this information. Participants who did not wish to participate in W2 submitted their responses from W1 and were thanked for their time.

One month following completion of their W1 survey, interested participants were emailed a reminder which included a link to the second survey. This second survey contained the same scales as at W1, but on this occasion participants were requested to focus on an important family/relationship decision they had made in the last six months. No incentives were provided for participation in either wave of the study.

Materials

In each study wave, demographic information on participants' age and gender were collected. Participants also completed the Decisional Conflict Scale, The Cybernetic Coping Scale-15, and the Acceptance and Action Questionnaire, as well as measures of Metacognitive Acceptance and Decision Appraisals specifically developed for this study.

The Decisional Conflict Scale (DCS; O'Connor, 1995) has16 items and five subscales: (1) uninformed (e.g., I know which options are available to me), (2) unclear values (e.g., I am clear about which benefits matter most to me), (3) unsupported (e.g., I choose without pressure from others), (4) uncertain (e.g., I am clear about the best choice for me), and (5) effective decision (e.g., I am satisfied with my decision). The items are rated on a five-point Likert scale ranging from 1 = *Strongly Agree* to 5 = *Strongly Disagree*.

The first four subscales were used as indicators of decisional stress, with all the items reverse-coded so higher scores indicate higher decisional stress. The fifth subscale was utilised to assess participants levels of decision satisfaction. Internal reliability for the five subscales is strong, Cronbach's $\alpha = .85$ to $\alpha = .93$.

The Cybernetic Coping Scale-15 (CCS-15; Guppy et al., 2004) has 15-items and five subscales, two of which were used in the current study: (1) pro-active coping/change the situation (e.g., I worked on changing the situation to get what I wanted), and (2) avoidance (e.g., I tried to avoid thinking about the problem). The item prompt was changed to reflect the decision-making context. The subscales have three items each rated on a five-point Likert scale ranging from 1 =*Do not use at all* to 5 = *Use very much*. Internal reliabilities for the subscales are satisfactory to excellent, Cronbach's $\alpha = .69$ to $\alpha = .81$.

The Acceptance and Action Questionnaire, Version II (AAQ-II; Bond et al., 2011) is a seven-item, unidimensional measure of experiential or metacognitive avoidance (e.g., I worry about not being able to control my worries and feelings) answered on a seven-point Likert scale ranging from 1 = *Never True* to 7 = *Always True*. All items are reverse coded to reflect greater levels of metacognitive acceptance. Internal reliability of the AAQ-II is strong, Cronbach's $\alpha = .86$. Only the five items which had the highest factor loadings were included for parsimony in the current study. Item wording was also changed to reflect the past tense and the decision-making context (e.g., I [did not] worry about being able to control my worries and feelings).

Metacognitive awareness, that is people's awareness of their thoughts and thinking while making a decision, was assessed with five items written for this study (e.g., I was aware of my thoughts and how I was thinking at that time). The item prompt was in relation to a recent decision. A five-point Likert scale was used for each item ranging from 1 = *Not at All or Very Little* to 5 = *Extremely*. Subsequent analyses revealed strong internal reliability (Cronbach's $\alpha = .81$).

Decision appraisals were assessed with four items written for this study. These items were designed to assess participants' overall and specific appraisals of the resources they have available to assist their decision-making (e.g., There was enough time for me to make the decision). The item prompt for this scale was in relation to a recent decision. A five-point Likert scale was used for each item ranging from 1 = *Not at All or Very Little* to 5 = *Extremely*. Subsequent analyses revealed satisfactory internal reliability (Cronbach's $\alpha = .69$).

Participants answered all items in relation to an important decision they had made any time in the last six months: in W1, a work/study decision; in W2 a decision related to their family/relationships. The items for the new scales of decision appraisals and metacognitive awareness are provided in Appendix 1.

Results

The data were analysed using the Statistical Package for Social Sciences (SPSS; Version 25) and the structural equation modelling software, AMOS (Version 25).

New Scale Assessment

Principal Components Analyses (PCAs) using W1 data with oblique rotations were conducted to assess the structure of the decision appraisals and metacognitive awareness items written for this study. Confirmatory Factor Analyses (CFAs) were used with W2 data. The Kaiser-Meyer-Olkin Test for sampling adequacy and Bartlett's Test of Sphericity both indicated the factorability of the correlation matrices.

Decision Appraisals

PCA of the four decision appraisal items using W1 data revealed one factor with an eigenvalue greater than unity which accounted for 54.07% of the variance. Cattell's scree plot, Tabachnick and Fidell's (2013) criteria of choice, also indicated the presence of one factor. Standardised factor loadings ranged from .53 (I thought that there was enough time to make the decision) to .82 (I thought that I was able to cope with making the decision). Cronbach's α was .69.

When the W2 data were submitted to CFA, the independent Chi-square (χ^2_{indep}) confirmed that significant relationships were present amongst the model variables, $\chi^2_{indep\ 6} = 48.23$, $p < .001$. The χ^2 and other fit indices, as per the recommendations of Schermelleh-Engel et al.(2003), all supported the data's fit to the model, $\chi^2_2 = 3.80$, $p = .15$; $\chi^2/df = 1.90$; Goodness of Fit Index (GFI) = .98; Comparative Fit Index (CFI) = .96; Root Mean Square Error of Approximation (RMSEA) = .10; Standardised Root Mean Square Residual (SRMR) = .05 indicating that all four items contributed to the latent factor: decision appraisals.

Metacognitive Awareness

PCA of the five items of metacognitive awareness using W1 data revealed one factor with an eigenvalue greater than unity accounting for 57.32% of the variance. Cattell's scree plot also indicated the presence of one factor. Standardised factor loadings ranged from .69 (I paid close attention to my thoughts about each available option) to .82 (I was aware of my thoughts and how I was thinking at that time). Cronbach's α was .81.

When W2 data for these items were submitted to CFA, the χ^2_{indep} confirmed the presence of significant relationships amongst the model variables, $\chi^2_{indep\ 10} = 163.57$, $p < .001$. The χ^2 and other fit indices, as per the recommendations of Schermelleh-Engel et al. (2003), all supported the data's fit to the model, $\chi^2_5 = 5.74$, $p = .33$; $\chi^2/df = 1.15$; GFI = .97; CFI = .99; RMSEA = .04; SRMR = .04, indicating that all five items contributed to the latent factor: metacognitive awareness.

Model Assessment in Work/Study Decision Context

Common Method Variance

Prior to testing the model in the work/study decision context, the potential impact of any common method variance (CMV) on the data was assessed using Harman's single factor approach as per the recommendation of Podsakoff, P. et al. (2003). An Exploratory Factor Analysis (EFA) of all summated measures: the four factors of Decisional Stress; Decision Appraisals; the three Decisional Coping Strategies; Decision Satisfaction; Metacognitive Awareness, and Metacognitive Acceptance were used to extract one factor which explained 31.7% common variance, less than the 70% that Fuller et al. (2016) considered problematic.

Structural Equation Modelling

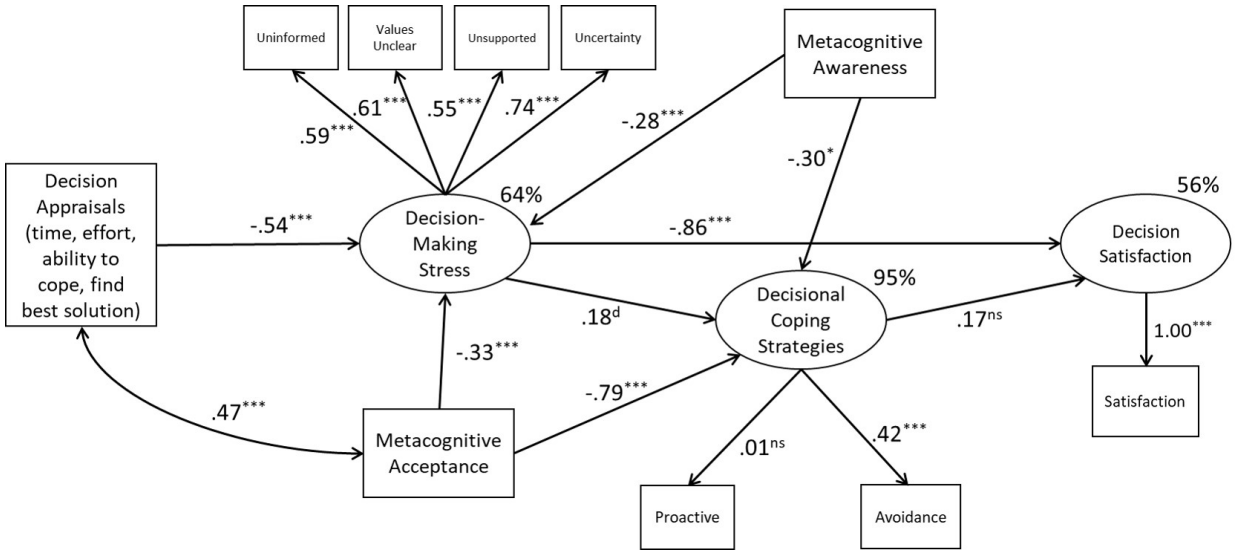
The W1 data were then submitted to SEM using AMOS to test the fit of the data to the proposed model. In order to identify the model, the error variance of the single manifest indicator for Decision Satisfaction was constrained according to Bollen's (1989) recommendations. In assessing the fit of the data to the hypothesised model, a number of fit indices were consulted (i.e., χ^2/df, GFI, CFI, RMSEA,

p/close, and SRMR) in addition to the χ^2 statistic given this statistic's high sensitivity to model complexity and sample size (Hair et al., 2014; Tabachnick & Fidell, 2013), using Tabachnick and Fidell's (2013) and Schermelleh-Engel et al.'s (2003) recommended cut-off thresholds.

The independent χ^2 confirmed the presence of significant relationships amongst model variables, $\chi^2_{indep}(45) = 558.47$, $p < .001$. The χ^2 and other fit indices provided a reasonable fit of the data to the model. The modification indices suggested a correlation between metacognitive acceptance and decision appraisals. As this path was considered theoretically relevant (Hayes et al., 2013) it was added to the model. The resultant fit of the data to the model was highly satisfactory (Table 1).

At total 56% of the variance in Decision Satisfaction, 64% of the variance in Decisional Stress, and 95% of the variance in Decisional Coping Strategies were explained by the variables in the final model (Figure 2). The manifest variables: lack of clarity, information and support, and uncertainty all loaded significantly onto the latent factor decision-making stress. Avoidance but not pro-active strategies loaded onto decisional coping. Standardised total effects for the latent variables are presented in Table 2.

The appraisal that there were sufficient resources available to make a decision (β = -.54) as well as heightened levels of metacognitive awareness (β = -.28) and metacognitive acceptance (β = -.33) each exerted a significant negative effect on participants' decision-making stress which, in turn, negatively predicted decision satisfaction (β = -.86). Metacognitive awareness and metacognitive acceptance both predicted significantly lower levels of coping which was dominated by avoidance (β = -.30 and -.79, respectively). Decisional stress exerted a tendency towards greater use of decisional coping (β = .18, $p <$ .10) where avoidance was dominant. Avoidant coping was positively, but not significantly, related to decision satisfaction. In the current data, participants' scores on avoidance were positively skewed suggesting that while avoidance was present, it was not dominant (e.g., avoiding thinking about the decision; tried to keep my mind off the decision).



Note. ns = not significant; d = doubtful region; *$p < .05$; **$p < .01$; ***$p < .001$.

Figure 2

Final model within a work/study decision context (Phase 1 data) showing standardised, predictive pathways (β), correlations (r), and squared-multiple correlations (%).

Table 1

Goodness of Fit Statistics for the Model, showing Paths Added, in a Work/Study Decision Context (W1)

	χ^2	*df*	*p*	χ^2/df	GFI	CFI	RMSEA	*p*/close	SRMR
Hypothesised Model [a]	89.18	25	<.001	3.57	.92	.87	.12	<.001	.11
Paths Added									
Metacognitive Awareness ↔ Decision Appraisals	44.05	24	.008	1.83	.95	.96	.07	.16	.06

[a] χ^2_{indep} (45) = 558.47, p <.001.

Table 2

Standardised Total Effects (β) within the Final Model in a Work/Study Decision Context (Phase 1 Data)

Variable	Decision Appraisals	Decision-Making Stress	Decisional Coping Strategies	Metacognitive Acceptance	Metacognitive Awareness
Decision-Making Stress	-.54	–	–	-.33	-.28
Decisional Coping Strategies	.10	.18	–	-.79	-.30
Decision Satisfaction	.45	-.83	.17	.13	-.05

Cross-Context Stability

The data from W2, where participants responded in terms of a family/relationship decision, were used to determine the cross-context stability of the final model. As per Milfont and Fischer's (2010) recommendation, the W1 and W2 data were pooled and tested against a series of nested models that have increasing parameter constraints. Any significant difference in the goodness of fit of the data across the nested models would indicate a lack of stability in the DSSM across the two contexts.

In assessing the goodness of fit of the data to the first nested models, where all parameters were permitted to vary freely across the two contexts (Model 1), the χ^2 and other fit indices were satisfactory, χ^2 (48) = 80.29, p = .002; GFI = .95; CFI = .95; RMSEA = .05; *p*/close = .46; SRMR = .06. As the parameter constraints were systematically increased and compared against Model 1, no significant differences in the fit indices were indicated (Table 3) supporting the stability of the DSSM across these two decision contexts (Table 3).

Discussion

The aims of this study were to explore the empirical validity and cross-context stability of Lucas and Moore's (2018) Synthesised Decisional Stress and Satisfaction Model (DSSM). The fit of the model was assessed in terms of a decision participants made about their work/study (Wave 1/W1) and the stability of the model was then determined in relation to a family/relationship decision (Wave 2/W2). Initial testing of the model with W1 work/study data with one path added between cognitive awareness and appraisals provided support for the model. The stability of the model across decision contexts was supported by the W2 data where participants reflected on a family/relationship decision.

The hypotheses that positive decision appraisals (e.g., There was enough time to make the decision) (β = -.54), metacognitive awareness (e.g., I was aware of my thoughts and how I was thinking at that time) (β = -.33), and metacognitive acceptance (e.g., I [was not] worried about being able to control

my worries and feelings) (β = -.28) would predict reduced levels decisional stress were supported. Together these variables explained 64% of the variance in decisional stress. The relationship between people's secondary appraisals and stress supports both theory and past research (e.g., Greenglass & Fiksenbaum, 2009; Lazarus & Folkman, 1984), where the more resources perceived as available to manage a stressor, the less stress one experiences.

Table 3

Goodness of Fit Statistics for the Hierarchically Nested Models and their Comparisons

Hierarchically Nested Models	χ^2	*df*	*p*	χ^2/df	GFI	CFI	RMSEA	SRMR
Model 1	80.29	62	.002	1.67	.95	.95	.05	.06
Model 2	84.17	58	.003	1.62	.94	.95	.05	.07
Model 3	94.75	50	.003	1.58	.94	.95	.05	.07
Model 4	97.39	46	.005	1.52	.94	.95	.04	.07
Model 5	97.75	44	.007	1.48	.94	.95	.04	.07
Model 6	115.8	31	.004	1.47	.92	.95	.04	.07
Nested Model Comparisons	$\Delta\chi^2$	Δdf	*p*		ΔGFI	ΔCFI	ΔRMSEA	ΔSRMR
Model 2 vs. Model 1	3.88	4	.42		-.01	<.001	<.001	.01
Model 3 vs. Model 1	14.46	12	.27		-.01	<.001	<.001	.01
Model 4 vs. Model 1	17.10	16	.38		-.01	<.001	-.01	.01
Model 5 vs. Model 1	17.46	18	.49		-.01	<.001	-.01	.01
Model 6 vs. Model 1	35.51	31	.26		-.03	<.001	-.01	.01

Note. Model 1 = All parameters are allowed to vary freely; Model 2 = Measurement weights are constrained to equal across contexts (Measurement Invariance); Model 3 = Model 2 constraints with measurement intercepts and structural weights also constrained to equal across contexts (Structural Invariance); Model 4 = Model 3 constraints with structural intercepts, means, and covariances also constrained to equal across contexts (Structural Covariance Invariance); Model 5 = Model 4 with structural residuals also constrained to equal across contexts (Structural Residuals Invariance); Model 6 = Model 5 with measurement residuals also constrained to equal across contexts (Measurement Residuals Invariance.

The novel inclusion of metacognitions in the model reflects recent developments in cognitive-behavioural therapies, namely ACT, where instead of challenging irrational thoughts, people are encouraged to be more flexible, that is "defuse" from and accepting of, the content of their thinking (Hayes et al., 2013). Certainly, greater awareness and acceptance cultivated in the third-wave therapy of ACT has been linked to reduced stress and greater wellbeing (Hayes et al., 2006; Herbert & Forman, 2011). It seems from the current data that such an approach also contributes to reduced decisional making stress and indirectly, greater satisfaction with the decision made.

The metacognitions, awareness and acceptance, both negatively predicted coping which was dominated by avoidance (e.g., I tried to avoid thinking about the decision). It seems that people's awareness and acceptance of their thoughts and feelings, as well as reducing feelings of stress, contribute to reducing avoidant coping strategies. This relationship between metacognitive awareness and acceptance in reducing stress and avoidance parallels the basic premises of Hayes' (2004) ACT and the "third-wave" therapies more broadly (Hayes et al., 2013). Future research could focus on whether clinicians supporting people faced with stressful and important work/study or family/relationship decisions, might be able to draw-upon ACT techniques to strengthen their ability to "defuse" from and accept negative thoughts and experiences in order to reduce stress and contribute to making the most satisfying decision possible. While proactive coping (e.g., tried to change the situation) did not contribute

to the latent construct of coping, lower scores on avoidance were significant. This latter suggests that low levels of avoidance (e.g., tried to avoid thinking about the decision; kept my mind off the decision), because of its positive skew, exhibited a tendency to contribute to decision satisfaction. It may be that despite the stress associated with making a decision some level of avoidance might be adaptive although this was not statically significant in the current data.

The hypothesis that decisional stress would significantly reduce participants' satisfaction with their decision was supported although support for the hypothesis that decisional stress would contribute to greater use of coping strategies albeit, in this instance, avoidant strategies was only borderline. The former finding supports much past research (e.g., O'Connor, 1995; Van Randenborgh et al., 2010). While it is understandable that people high in stress might use avoidant strategies it is less clear why proactive strategies did not contribute at all. It may be, as Dardas and Ahmad (2015) suggested, that people's attempts at coping are not always effective and therefore under stress it is easier to avoid thinking about or making a significant decision. Future research needs to clarify this relationship and redefine and re-operationalize the coping strategies that could be used during the decision-making process.

While it was expected that coping would contribute to decision satisfaction, this finding was not supported in the current data. In fact, it was anticipated that proactive coping would relate to higher satisfaction, but here it was low levels of avoidant coping that were dominant on the latent factor and tended to positively predict decision satisfaction. Clearly, this finding was a function of the lack of proactive coping and the dominance of avoidance. Neither did coping mediate the relationship between decision stress and decision satisfaction despite the suggestion based on related work from Cohen and Edwards (1989) that it would have a buffering effect. This unexpected result warrants further investigation.

It is important to note that the analyses were correlational and therefore only indicate covariance rather than causation amongst the variables studied. Also, the current data were not representative of the general population with a predominance of participants identifying as female that may have biased results towards the experiences of one gender over others. Future research involving model invariance testing across population groups is warranted. The data were also collected retrospectively and while all factors are subject to recall bias, the impact on decision satisfaction may be greater due to changed circumstances and the potential impact of the decision over time. Future studies should consider a more prospective approach or, at least, assessments closer to the decision. Perhaps an elaboration of why people are satisfied or not with their decision might also add to a better understanding of the potential dynamics of the decision-making process. Although the coping strategies assessed in this study, proactive and avoidance aligned with Lazarus and Folkman's (1984) nomenclature of problem- and emotion-focused coping and were couched in terms of decision-making, future research might use more domain specific measures.

Despite the limitations, the stability of the DSSM across two decision contexts was confirmed and highlights the role of appraisals and the novel role of metacognitions on stress and decision satisfaction. Future research might expand the assessment of decision appraisals (the Decision Appraisals Scale) to include, for example, appraisals of self-efficacy as a decision-maker or of the potential effects (positive and negative) on key stakeholders that may be involved in the decision. Similarly, the contribution of metacognitions to people's decisional stress, coping, and decision satisfaction could include a more comprehensive assessment of people's psychological flexibility beyond awareness and acceptance (Ciarrochi et al., 2010). Certainly, researchers such as Rolffs et al. (2018) and Landi et al. (2021) have sought to do so. If it is psychological flexibility and not just metacognitions that are important, other aspects of psychological flexibility namely values and connecting with the present moment (Hayes, 2004), may shed further light on the factors involved in the making of important life decisions.

Although in the current study a two-phase repeated-measures design was used, a prospective, longitudinal design using pre-defined decision-making scenarios across a range of contexts (e.g., health, work) could provide further evidence for the validity of the DSSM. This approach would allow for a more "in-the-moment" assessment of people's decision appraisals, feelings of stress, use of coping, and metacognitions and their relation to decision satisfaction. A longitudinal investigation could also facilitate

the exploration of people's decision-making over time in terms of whether they revisit their decision, change their decision, or bolster their decision in the face of new information.

Conclusions

The results of the current study largely support the stability of Lucas and Moore's (2018) synthesised Decisional Stress and Satisfaction Model across decisions in two important life domains: (1) work/study, and (2) family/relationship. Aside from the influence of people's secondary appraisals on their level of decisional stress and indirectly their decision satisfaction, the novel inclusion of metacognitions to predict decision-making stress and coping and, indirectly decision satisfaction was significant. The role of avoidant coping and lack of proactive coping strategies warrants further investigation. Future research is warranted regarding therapists' use of strategies to enhance people's metacognitive awareness and acceptance of their thoughts and feelings in assisting clients who are experiencing stress when faced with important decisions.

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Appendix 1:

Scales Developed for this Study

Metacognitive Awareness in Decision-Making Scale:

This scale is a five-item quantitative instrument measuring levels of metacognitive awareness in decision-making, answered on a five-point Likert scale (1 = Not at All or Very Little; 2 = A Little; 3 = Somewhat; 4 = Very Much; 5 = Extremely).

This questionnaire is concerned with beliefs people have about their thinking. Please read each item and indicate to what degree they describe you when making your decision at the time.

1. I was aware of how I was evaluating the options available to me.
2. I was aware of my thoughts and how I was thinking at that time.
3. I monitored my thinking constantly.
4. I paid close attention to my thoughts about each available option.
5. I was conscious of my thinking at that time.

Decision Appraisals Scale:

This scale is a four-item quantitative instrument measuring four types of decision appraisals, answered on a five-point Likert scale (1 = Not at All or Very Little; 2 = A Little; 3 = Moderately; 4 = Quite a Bit; 5 = Extremely)

To what extent does each statement describe how you felt about the decision at the time?
I thought that…

1. There was enough time to make the decision.
2. I was hopeful of finding the best outcome from the decision.
3. I was able to cope with making the decision.
4. I had the effort/energy needed to make the decision.