The Role of Perceived Controllability on the Use of Acceptance and Problem-Solving as Coping Strategies and Their Impact on Positive Affect: Navigating Daily-Life Stress

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Abstract

Background. Stress in daily-life situations can affect the emotional well-being, this depends on how individuals appraise and cope with the stressful situations. Acceptance and problem solving are commonly studied coping strategies because they impact two different approaches of coping, namely emotion-focused and problem-focused coping. Perceived controllability of stressful situations may influence whether individuals choose one coping strategy over another, which also impacts well-being. This study aims to investigate how perceived controllability influences the use of acceptance and problem solving as coping strategies, and their association with positive affect following daily-life stress.

Methods. The Experience Sampling Method (ESM) was used in this study, with 39 participants filling in multiple questionnaires during the day assessing perceived controllability, coping strategy use and positive affect of stressful situations. Two mixed-effect logistic models tested the association between controllability and coping strategy selection. Additionally, two time-lagged linear mixed-effects models tested whether controllability moderated for acceptance and problem solving on next-moment positive affect.

Results. There was no significant relation between perceived controllability and use of acceptance or problem solving. Also, there was no significant relationship between perceived controllability of a stressful situation, the coping strategy used and positive affect. However, there was an association between higher perceived controllability of a stressful situation and greater positive affect.

Discussion. The findings suggest that perceived controllability may not determine coping strategy selection, nor does it moderate positive affect. The null findings stem from measurement limitations, uncontrolled stressor variability and sample size constraints. Future research should explore polyregulation and multidimensional controllability measures.

Keywords: ESM, daily-life stress, perceived controllability, acceptance, problem solving, positive affect

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Introduction

Stress is a fundamental part of a human's life; it impacts individuals across different environments and demographics. Research has defined stress as the process of managing demands, which tax or exceed the resources of a person. When a discrepancy arises between the demands and the ability to cope, stress will occur (Kelso et al., 2005). If stress becomes prolonged or poorly managed, it can lead to negative physical and psychological effects (Kelso et al., 2005). According to the World Health Organization (2023) too much stress can cause a lot of conditions, for example anxiety, depression, sleeping difficulties, concentration problems, cardiovascular disease, weak immune functioning and irritability.

These consequences show the importance of understanding how individuals cope with stress on a daily basis. While stress stems from a variety of sources, daily-life stress is one of the most common. Daily-life stress refers to the stressors related to everyday routines, for example interpersonal conflict, traffic or social challenges, which research has shown to be impacting mental health on both psychological and physiological level (Haight et al., 2023). Due to the impact on well-being, it is important to understand how individuals respond and manage daily-life stress, which brings the concept of coping (Seguin & Roberts, 2015). One method that is suitable for studying coping following daily-life stress is the Experience Sampling Method (ESM), a structured diary technique that is used to report thoughts, feelings, and behaviours (Daniëls et al., 2022), providing an opportunity to investigate real-time mechanisms like stress and coping (Verhagen et al., 2016).

Coping Strategies

Coping refers to the behavioural and cognitive efforts to master, tolerate or reduce external and internal demands that are perceived stressful. To understand the responses of

individuals to daily-life stress, we must examine coping strategies, which are methods that people use to manage stress (Seguin & Roberts, 2015). These strategies can be classified as either adaptive or maladaptive. Adaptive strategies facilitate emotional recovery and reduce the likelihood of long-term mental health issues, while maladaptive strategies intensify emotional distress and hinder well-being (Socastro et al., 2022).

Coping strategies are often evaluated on their ability to reduce stress and the enhancement of well-being (Kim et al., 2024). The potential to enhance well-being is due to the promotion of positive affect, as this reduces depressive symptoms and betters psychological health (Pacheco-Romero et al., 2024). Positive affect is defined as the experience of pleasant emotional states (Boemo et al., 2022). In addition, it reflects on emotional recovery, which provides an opportunity to understand how individuals regain emotional balance after stressful situations (Colombo et al., 2024). Most coping research has focused on reducing negative affect, however, there is growing evidence that positive affect has shown to play an important role in psychological functioning (Boemo et al., 2022).

Recognizing the role of positive affect in coping strategy selection is important for the improvements of an individual's well-being, as coping and stress influence each other in a bidirectional manner (Flores-Kanter et al., 2021). Meaning, the coping mechanisms selected influence the stress outcomes, and these outcomes, in turn, affect the selection of coping strategies (Pérez-Aradros et al., 2022). However, it remains very unclear in which situations individuals opt for certain strategies over others, as the use of coping strategies appear to vary across time and context (Blanke et al., 2021).

The variability between coping strategy selection has been the focus of recent ESM studies, where the adaptive coping strategies of acceptance and problem solving are frequently examined due to their relevance in daily-life stressful situations. These strategies are distinct but complementary approaches to stressors: where acceptance is emotion-focused,

focusing on regulating uncontrollable internal experience, while problem solving is action-oriented, targeting stressors aiming to change the external experience (Aldao & Nolen-Hoeksema, 2012). Due to this broad applicability of acceptance and problem solving as a coping strategy in different stress situations, it is highly relevant in daily-life situations. Understanding why individuals choose acceptance or problem solving can reveal important insights into the emotional responses of individuals, and the promotion of positive affect while preventing mental health problems (Solberg et al., 2023)

Acceptance as a Coping Strategy

Acceptance involves the acknowledgement and embracement of stressful experiences, without excessive attempts to control or avoid them (Nakamura & Orth, 2005). Most ESM studies have focused on the relationship with negative affect, where decreased negative affect after a stressful situation is associated with the use of acceptance as a coping strategy (Boemo et al., 2022). Studies using ESM show that acceptance buffers against negative mental health outcomes and increases in positive emotions, leading to decreases in distressing symptoms (Bortolon & Nardelli, 2025).

Problem Solving as a Coping Strategy

In contrast to acceptance, problem solving is an adaptive coping strategy where the main idea is to take direct action and change the stressful situation, rather than enduring it (Seguin & Roberts, 2015). Problem solving includes generating solutions, the evaluation of options and implementing steps to resolve the stressors present in the situation (Ahmadi, 2013). Like acceptance, problem solving has been primarily studied in relation to negative affect, where it is negatively associated with negative affect (Boemo et al., 2022). These findings promote the relation with psychological resilience by constructively dealing with stressors (Ahmadi, 2013). However, there is emerging evidence that shows that problem

solving helps to increase positive feelings, due to a sense of control and achievement (Ayres & Malouff, 2007).

Perceived Controllability of a Stressful Situation

One key factor in deciding which coping strategy is used in stressful situations is perceived controllability (Wittkamp et al., 2022), which is the extent to which the individual believes they can influence or change the stressful stimuli (Ly et al., 2019). Perceived controllability shapes the appraisal of a stressor, and leads to the selection of a strategy (Flores-Kanter et al., 2021). Research using ESM has shown that perceived controllability in stressful situations associates with real-time coping choices, meaning individuals adapt strategies depending on perceived control over a situation (Park et al., 2004). For instance, when individuals believe they exert control, they may opt for problem-focused strategies to feel more agency. Meaning, when individuals feel more in control of situations, they are empowered to change the outcome of a situation, leading to the use of problem solving to cope (Leslie-Miller et al., 2024). In contrast, individuals are more likely to rely on emotion-focused strategies, such as acceptance, when the situation seems uncontrollable (Moumne et al., 2024). Which helps the individual to adjust their emotional state, leading to stress being reduced (Leslie-Miller et al., 2024).

Research using ESM has confirmed that individuals who believe they can control a situation, are more likely to choose adaptive coping strategies, like acceptance and problem solving, in daily life. Furthermore, some findings suggest that acceptance is useful for perceiving a situation as more controllable, leading to the enhancement of an individual their emotional state (Socastro et al., 2022). Understanding the concept of perceived controllability and its role in stress responses is essential to determine how individuals navigate through stressful experiences (Socastro et al., 2022). However, despite the existence of extensive research on emotion regulation and coping, there remains a significant gap in the literature

regarding how perceived controllability influences the selection of acceptance and problem solving in daily-life situations (Socastro et al., 2022), but also on how these strategies impact positive affect (Boemo et al., 2022).

Current Study and Hypotheses

This study aims to find out how perceived controllability influences the use of acceptance and problem solving as coping strategies, and their effect on positive affect after a stressful situation. Extensive research has focused on the relation between perceived controllability and coping selection in relation to negative affect, but its influence on positive affect remains limited.

Specifically, this study investigates the question: "How does the perceived controllability of a stressor influence the selection and effectiveness of acceptance and problem solving strategies in daily-life stress situations?". This question will be addressed with the following hypotheses:

H1: Perceived controllability of a stressful situation will be negatively associated with the use of acceptance as a coping strategy.

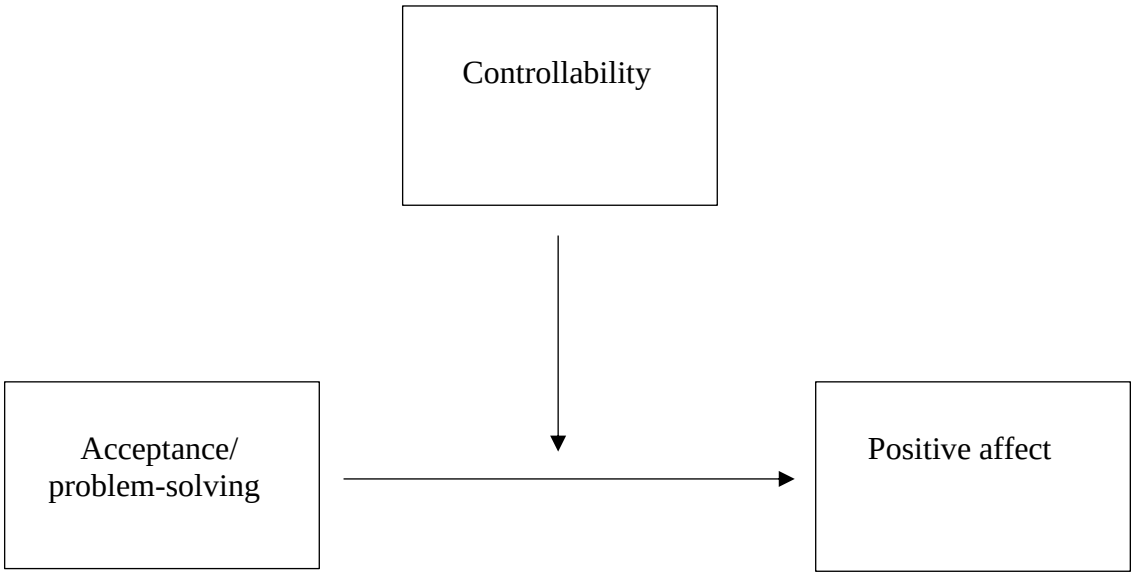
H2: Perceived controllability of a stressful situation will be positively associated with the use of problem solving as a coping strategy.

H3: Perceived controllability will moderate the association between the use of acceptance and positive affect in stressful situations, where acceptance is strongly associated with positive affect if perceived controllability is low.

H4: Perceived controllability will moderate the association between the use of problem solving and positive affect in stressful situations, where problem solving is strongly associated with positive affect if perceived controllability is high.

Figure 1

The moderation Model of perceived controllability on Acceptance/problem solving and positive/negative affect.



Methods

Study design

This study employed a 14-day ESM within-subject design, which allowed for moment-to-moment associations between perceived controllability, acceptance and problem solving as coping strategies, and positive affect in daily-life stressful situations. The participants received 8 prompts per day via the mPath Sense app, leading to multiple observations per participant.

Participants

The aim was to collect 80 participants for this ESM study, comprising an population of woman and men of at least 18 years old, who are capable of a sufficient command of the English or Dutch language, use an Android or iOS smartphone daily and are currently enrolled at an university. The participants were recruited through university platforms, the SONA participant pool, social media of the researchers and classroom announcements at the University of Twente. This study was approved by the BMS Ethics Committee of the University of Twente (250689).

Procedure

After signing up for the study via e-mail or SONA systems, the participants could choose a preferred timeslot for a short 30-minute online or in-person information meeting. In this meeting they were informed about the goal of this study, procedures, storage of data and the procedure. A step-by-step information sheet was presented with the information about this study. It was also explained that the participants could withdraw at any time without reasoning. After the practical information, the participants were guided through setting up the m-Path Sense app on their smartphones.

This ESM study, where measurements of daily-life stress was collected, lasted for 14 days during which the participants received 8 prompts via the m-Path Sense app to complete a brief questionnaire. These questionnaires could be completed in either English or Dutch. Notifications on the smartphone reminded participants to fill in each one. For this study, a selection of relevant questions of the questionnaires was used, including the daytime questionnaires, which were 6 times during the day. These questionnaires asked about positive/negative feelings, stress, coping mechanisms and controllability.

At the end of the 14 days, the participants received a final evaluation questionnaire. Also, the participants were eligible to receive SONA credits based on their response rate (1 <50%, 2 >50-60%, 2.5 >60-70% 3 >70-80%, 3.5 >80-90% and 4 > 90%), which is how much questionnaires the participants answered over the course of the 2 weeks. After the participants had completed the evaluation questionnaire the participants received a personalized feedback report, which is an overview that gives insight into their personal stress levels and coping mechanisms used over the past 14 days.

Measures

Perceived Controllability

The participants were first asked about their stress intensity, the item “At this moment I feel stress” was used on a scale from 0 (not at all) to 100 (very much). If this level was above 10, the follow-up questions were presented. One of these was the item for perceived controllability, where participants were asked to answer the statement “I feel I can handle this event/thought/feeling” on a scale from 0 (Totally disagree) to 100 (Totally agree). In this context, the terms event/thought/feeling refers to the stressful event participants had just reported. Controllability of a stressful situation was measured as a continuous variable, which was used as a predictor of the coping strategy, where higher scores meant a higher perceived controllability.

Acceptance and problem solving

The coping strategies were measures with the item “What did you do with this event/thought/feeling?”, which was just as perceived controllability only shown when participants reported stress levels higher than 10. The answer options for acceptance was “I tried to look at it in a positive way or to accept it” and for problem solving the answer was “I tried to think of a solution”. These options were used for binary coping variables: the acceptance variable will be coded as 1 (strategy used), and 0 otherwise; problem solving was coded 1 if selected, and 0 otherwise.

Positive affect

Each momentary questionnaire asked the participant to rate their current positive feelings with the question “At this moment my positive feelings are: Not strong at all - Very strong (0-100: start at 0)”. The answers to these questions were used as continuous indicators of the emotional state of the participants and served as the variables for positive affect. For this item, higher scores meant stronger positive feelings.

Statistical Analysis

The data of this study were analysed using RStudio version 2024.12.0+467 (“Kousa Dogwood”) on Windows. Descriptives statistics were computed using gender, age, language

of study completion and study programme. Before conducting the main analyses, assumption checks were done for linearity, normality of residuals, homogeneity of variance and multicollinearity. The Q-Q plots indicated that the residuals were normally distributed, with a minor deviation in the tails. The homoscedasticity revealed no major violations. Multicollinearity using Variance of Inflation Factors (VIF) showed no collinearity problems, as all were close to 1.0. This means that no major assumptions were violated, leading to no transformations done. The significance level of 0.05 was set for all the analyses.

To test the first hypothesis, that lower perceived controllability is positively associated with the use of acceptance as a coping strategy, a logistic mixed-effect model was used. To test the second hypothesis, stating that high perceived controllability is positively associated with the use of problem solving as a coping strategy, the same analysis was done. For both analyses, acceptance (H1) or problem solving (H2) were used as outcome variables (DV), where the predictor (IV) was perceived controllability, and participant ID was the random effect accounting for within-person variability.

For the third hypothesis, stating that the use of acceptance in low-control situations leads to higher positive affect compared to its use in high-control situations, a time-lagged analysis was used. Acceptance and perceived controllability at one time point (T1) were used to predict positive affect at the next time point (T2). For the fourth hypothesis, stating the use of problem solving in high-control situations will lead to higher positive affect compared to its use in low-control situations, the same analysis was done. Problem solving and perceived controllability at T1 were used to predict positive affect at T2. The time-lagged variables were created by ordering the prompts chronologically within each participants. In addition, the use of acceptance or problem solving as coping strategies and perceived controllability in stressful situations were lagged by one timepoint to predict subsequent positive affect. Participant ID

was included as random affect, this was done to account for repeated measures and within-person variability.

Results

Descriptive statistics

The sample of this study consisted of 39 participants (M_{age} = 20.92, SD_{age} = 1.92) from the age 18 to 27. The other demographics of the participants can be found in Table 1. All the participants were university students from Dutch and German universities.

Table 1

(Socio-)demographic Data of the Participants

	n	*%*
Gender		
Male	5	12.82%
Female	34	87.18%
Other	0	0.00%
Language of study completion		
Dutch	14	35.90%
English	25	64.10%
University study		
Psychology	25	64.10%
Other	14	35.90%

Note. N = 39.

Compliance rate

The compliance rates show varying levels of adherence. The percentage of momentary questionnaires filled in ranged from 4% to 98%. On average, this was 56.85% of the questionnaires completed ($SD_{compliance}$ = 26.91).

ESM variables and observations

The full dataset contained *N* = 4088 measurement points, where *N* = 676 are included in the final analyses, as these measurement points contained complete data for the relevant time-lagged ESM variables in this study: perceived controllability, acceptance (T1), problem solving (T1) and positive affect (T2). The descriptive statistics of these ESM variables are visualised in Table 2.

Table 2

Mean and SD of the ESM variables

	M	*SD*
Controllability	65.65	20.49
Positive affect	69.43	21.10
Acceptance	38.46%	0.29
Problem solving	38.17%	0.27

Note. Acceptance and problem solving were binary variables (0 = not used, 1 = used).

Hypotheses testing

For the first hypothesis, the analysis revealed a positive but non-significant association between low perceived controllability and acceptance use (b = 0.11, SE = 0.08, p = .23). For the second hypothesis, the analysis showed no significant association (b = 0.11, SE = 0.10, p = .25). Suggesting that perceived controllability does not predict problem solving use. For the third hypothesis, the analysis showed no significant interaction (b = 0.16, SE = 0.62, p = .80), indicating that the effect of acceptance on positive affect does not significantly differ depending on the level of perceived controllability. This is also visible in Figure 2, showing similar slopes of the regression lines of using or not using acceptance across levels of perceived controllability. Lastly, for the fourth hypothesis that there was no significant

interaction found (b = 0.17, SE = 0.62, p = .78), indicating that the effect of problem solving on positive affect does not differ across the levels of perceived controllability. As shown in Figure 3, showing similar slopes of the regression lines of using or not using problem solving across levels of perceived controllability. However, looking at Table 5 and 6, it shows that higher controllability is associated with higher positive affect, regardless of using acceptance nor problem solving as a coping strategy.

Table 3

Mixed-Effects Logistic Regression model for Acceptance (H1)

	Estimate (b)	*SE*	*p*	*OR*	*95% CI (OR)*
Intercept	-0.69	0.17	<.01	0.50	[0.36, 0.71]
Controllability	0.11	0.08	.23	1.11	[0.94, 1.32]

Note. 5% significance level

Table 4

Mixed-Effects Logistic Regression model for Problem Solving (H2)

	Estimate (b)	*SE*	*p*	*OR*	*95% CI (OR)*
Intercept	-0.86	0.20	<.01	0.42	[0.29, 0.62]
Controllability	0.11	0.10	.25	1.12	[0.93, 1.35]

Note. 5% significance level

Table 5

Moderation Analysis: Acceptance x Perceived Controllability Predicting Positive Affect (H3)

	Estimate (b)	*SE*	*p*	*95% (b)*
Intercept	66.40	1.78	<.01	[62.92, 69.88]
Acceptance	0.34	0.62	.59	[-0.88, 1.55]
Controllability	5.27	0.71	<.01	[2.66, 6.65]
Acceptance x Controllability	0.16	0.62	.80	[-1.04, 1.37]

Note. 5% significance level

Table 6

Moderation Analysis: Problem Solving x Perceived Controllability Predicting Positive Affect (H4)

	Estimate (b)	*SE*	*p*	*95% (b)*
Intercept	66.40	1.76	<.01	[62.95, 69.87]
Problem Solving	0.54	0.63	.40	[-0.70, 1.79]
Controllability	5.27	0.70	<.01	[2.31, 6.65]
Problem Solving x Controllability	0.17	0.62	.78	[-1.03, 1.38]

Note. 5% significance level

Figure 2

Interaction Plot of the Effect of Acceptance and Controllability on Positive Affect

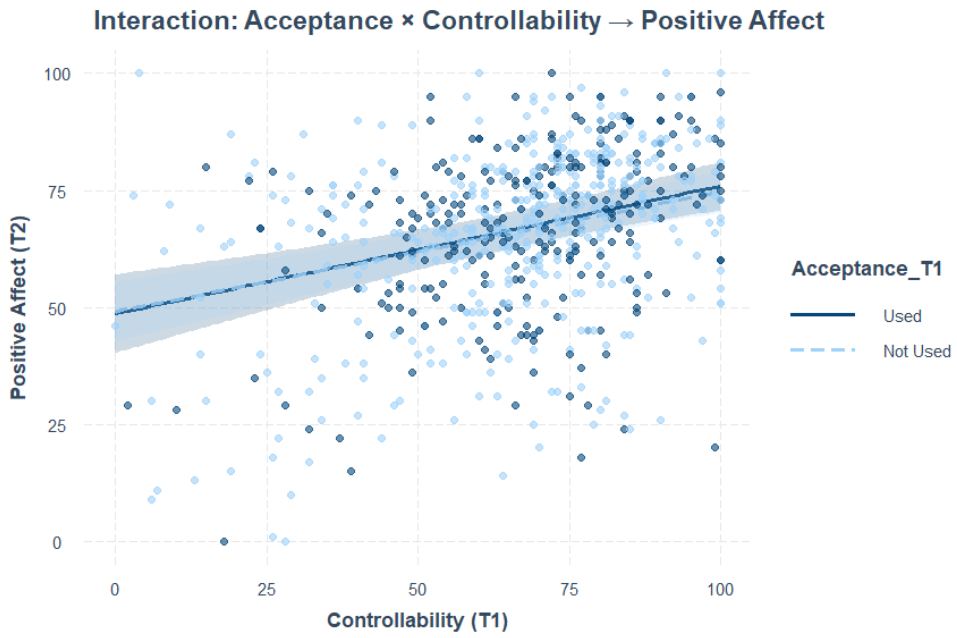
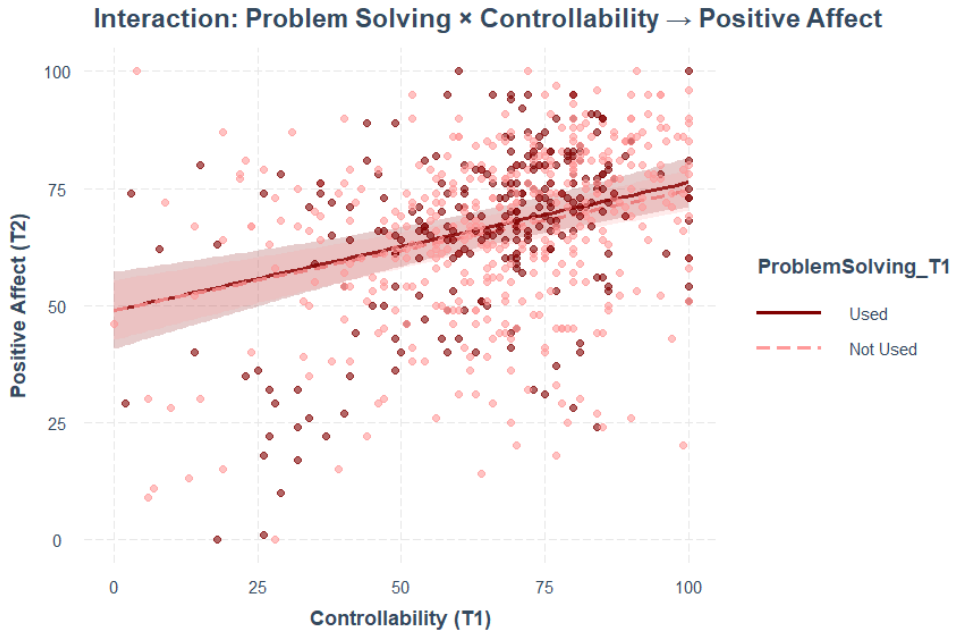


Figure 3

Interaction Plot of the Effect of Problem Solving and Controllability on Positive Affect



Discussion

This current study investigated how perceived controllability of a stressful situation is associated with the use of acceptance and problem solving as coping strategies, and how these variables influence positive affect in daily-life stressful situations. Contrary to expectations,

no statistically significant association was found between perceived controllability and the use of acceptance or problem solving as a coping strategy. Additionally, no support was found for the expected moderating effect of controllability on the relationship between either coping strategy and positive affect. However, perceived controllability of a stressful situation alone did predict higher positive affect, independent of the coping strategy used, suggesting a direct influence on emotional well-being.

The role of perceived controllability on coping strategy selection

The non-significant findings of the hypotheses about perceived controllability and the prediction of the use of acceptance and problem solving contrasts with earlier findings. For example, Leslie-Miller et al. (2024) and Moumne et al. (2024), who found that higher perceived controllability was associated with greater use of problem-focused coping, and lower controllability was associated with emotion-focused strategies like acceptance. However, these studies did not include the ESM approach, where Leslie-Miller et al. (2024) employed daily diary and Moumne et al. (2024) cross-sectional survey examination. These methods assessed more general coping patterns, and not the moment-to-moment variability that this ESM study reveals. This could explain discrepancy in results, as coping appears more stable in daily diary or cross-sectional data, rather than the highly dynamic real-world contexts captured in this study.

Another consideration is the way coping was measured in this study. Coping was measured with one single-item with binary indicators, which might have oversimplified the dynamic nature of coping mechanisms. Although the participants had the opportunity to report multiple strategies, the analysis of this study only focused on each strategy separately, which could have overlooked cases where individuals used combinations of coping strategies. For example, participants may have used both problem solving and acceptance as coping strategies simultaneously, but the analysis did not model such co-occurrences. This has been

shown in research, where people do not rely on a single coping strategy when a stressful situation is present. Instead, individuals use multiple coping strategies, such as using problem solving and emotion focused strategies together (Lee et al., 2016). This concept is also called polyregulation, defined as using multiple emotion regulation strategies to manage a stressful situation (Ladis et al., 2022). Polyregulation in ESM studies has been strongly linked to situational factors, such as perceived controllability. Where people might have combined acceptance and problem solving when facing controllable stressful situations, or shift due to appraisals evolving. Future ESM research should consider analyzing the use of multiple coping strategies simultaneously, to better reflect real-world coping complexity (Hartmann et al., 2023).

Important for consideration is the measure of perceived controllability in stressful situations of this study, which was done using a single-item rating from 0 to 100. While being straightforward and showed meaningful within-person variability, this might not have fully captured the multidimensional nature of perceived controllability. In this study participants rated a general score about their control in the moment, other studies, like Moumne et al (2024), have done this more comprehensively. In this study they used a multi-faceted approach, where they assess beliefs about controllability alongside difficulties in regulation. In the study of Leslie-Miller et al. (2024) there was a diary method allowing for daily perceptions of control, but also contextual and temporal nuance. Both these designs show that single-item scales in this study might have showed different aspects of control, as it combined emotional, cognitive and situational components into one general score. This simplification could have made it harder to analyse how perceived controllability of a stressful situation is linked to the use of acceptance or problem solving. For future research, a multi-item perceived controllability scale could capture different facets of control, like situational agency and regulatory ability.

Perceived controllability and positive affect

Although no significant interaction was found, the results did show that high levels of perceived controllability show higher levels of positive affect. This suggests that perceived controllability might directly influence mood. This finding aligns with previous research, where perceived controllability contributes to adaptive emotional responses, thus psychological well-being (Alberts et al., 2012). One possible explanation is that when a stressful situation is perceived as controllable, these lead to less stress to begin with. This raises the question wheter this is truly due to perceived controllability of a stressful situation, or simply because the stress is lower to begin with, leading to more positive emotions. This is also explained in the research of Sarfan et al., (2017), where the emotional well-being of an individual explains that manageable situations lead to reduced stress. To disentangle this question, future ESM studies could examine the bidirectional or time-lagged relationship between stress and perceived controllability, could receal whether changes in stress can predict changes in controllability, or vice versa.

Strengths and limitations

This study applied the Experience Sampling Method (ESM), which is a major strength of this study. This allows for ecologically valid, real-time assessment of daily-life processes. This method captures stress, coping strategies and affect in a natural environment of the participants (Verhagen et al., 2016). When applying retrospective self-report, it would be harder for this study to provide insights in the participants' their daily-lives, as ESM reduces the recall bias (Godlonton et al., 2017). The time-lagged design approach for the moderation hypotheses strengthens the causal inference, as it examines the relationship between variables. Another strength is connected to this, as the number of data points (N = 676) enhances the reliability of this study.

Nevertheless, this study does have limitations. This study relied on single-item measures for acceptance and problem solving but also for perceived controllability, which may have compromised the validity and reliability of the study. The data might have been oversimplified in the coping experience, as in previous research it has been explained that coping strategies have a multidimensional nature (Gomà-I-Freixanet et al., 2020). When including a more sensitive and accurate assessment of coping behaviours, this could enhance the study outcomes, which can be done with multi-item scales. Also, the study relies on self-reported data, as the participants have to fit the questionnaires on top of their own (busy) daily routines. Leading to underreported and missing data, which could have been during crucial stressful situations in daily-life. Even though the number of observations was high, the models could benefit from larger participant samples. This is because this study might have limited statistical power due to a relatively small sample (N = 39). Lastly, this study only focuses on positive affect, including negative affect could have revealed other differential effects. Especially since prior research has shown that problem solving may reduce negative affect but does not necessarily boost positive affect (Elliott et al., 1995).

Conclusion and future research

This study examined how perceived controllability influences coping strategy selection, specifically acceptance and problem solving, and their influence on positive affect. For this study, none of the hypotheses were statistically supported. This study did show an effect where higher perceived controllability in stressful situations contributes to positive affect, independent of which coping strategy was used. These results highlight the importance of perceived controllability in stressful situations and in everyday emotional well-being of individuals. For future research, there are multiple recommendations. The first is to employ more detailed coping measures, as multi-item scales allow for better construct validity. Second, expanding the outcome scope, where negative affect is included, as this offers a more

comprehensive picture of coping effectiveness. Third, although the number of observations in this ESM study was high, an increasing the sample size would improve statistical power, leading to higher reliability of the study. In summary, the current findings do not confirm the moderation models presented, but they do provide valuable insights into the role of perceived controllability, and how perceived controllability contributes to positive affect. These findings highlight key considerations for future ESM coping research.

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Appendix A

AI Statement

During the preparation of this work, the author used ChatGPT, DeepL and Grammarly for brainstorming, better understanding of codes used in data analysis, spelling and grammar corrections. Also, the tool Scribbr was used for a general structure of the reference list (APA 7th edition). After using these tools, the content was reviewed and edited. The author takes full responsibility for the content of the work.