Motives and Mental Contrasting With Implementation Intentions Predict Progress and Management of Goals in Parents

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Abstract

Parents must rapidly adapt goals from various aspects of their lives to accommodate the demands of the early stages of parenthood. According to the Self-Concordance Model, having autonomous goal motives (based on enjoyment or personal goal value) should foster effective self-regulation (e.g., coping strategies), better goal management, and increase the likelihood of goal attainment, compared to controlled motives (goals driven by demands/pressures). Metacognitive techniques, such as Mental Contrasting with Implementation Intentions (MCII), can also facilitate goal regulation. We used experience sampling over one month to study goal striving in parents (N = 103). We investigated how motives and spontaneously occurring features of MCII (i.e., mental imagery, reflection on obstacles, implementation intention planning) predict three key self-regulatory coping strategies: exerting effort, disengaging, and modifying/adjusting goals to make them attainable. We examined whether these strategies influenced relations between motives and goal progress, intergoal facilitation, and interference between parenting/competing life goals. Autonomous motives and MCII-like features were positively associated with effort coping, which in turn was related to goal progress and facilitation. Additionally, in individuals with high controlled motives, MCII-like features positively predicted increased adjustment of competing life goals. Goal adjustment positively predicted differences in intergoal facilitation. Results indicate that exerting effort and adjusting goals are effective strategies for attaining and managing multiple goals. Both goal motives and MCII-like features are associated with the use of these strategies. The findings suggest that parents will benefit from selecting autonomously motivated goals and using MCII-like features to manage parenting and other competing life goals.

Keywords: goal progress, goal management, motives, mental contrasting with implementation intentions, parenthood

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Parents must rapidly learn to adapt various aspects of their life to accommodate goals associated with parenting (Shockley et al., 2017). The inability to manage multiple goals appropriately can lead to intergoal interference, reduced goal progress, and decreased wellbeing (Gray et al., 2017). In contrast, if goals can be balanced harmoniously, goal progress and intergoal facilitation can occur, leading to higher likelihoods of goal attainment and increased wellbeing (Riediger & Freund, 2004). Motivation plays a central role in a person's ability to regulate and benefit from goal striving (Ryan & Deci, 2017). Understanding how motivational factors predict the attainment and management of goals in parents, particularly during early stages of parenthood, has ramifications for both parental psychological health and child development (Jungert et al., 2015), yet remains an overlooked topic.

In this article, we draw on and expand an established model of goal regulation, the Self-Concordance Model (Sheldon & Elliot, 1999), as a framework to address outstanding questions related to the role of motives and key coping processes in parental goal striving. Furthermore, we investigate whether the spontaneous occurrence of cognitive features inherent in mental contrasting with implementation intentions (MCII; Oettingen & Gollwitzer, 2010) fosters effective regulation of multiple goals, thus establishing evidence for developing MCII interventions tailored for parents.

The Role of Motives in Self-Regulatory Coping

According to the Self-Concordance Model (Sheldon & Elliot, 1999), which is grounded in Self Determination Theory (Ryan & Deci, 2017), motives contribute to the likelihood of experiencing goal progress and attainment. Goals that align with an individual's values, beliefs, and self-concepts are autonomously motivated (e.g., striving for a goal because it brings joy or satisfaction). Controlled motivation, on the other hand, denotes goal striving driven by internal (e.g., to avoid shame or guilt) or external (e.g., to attain money or tangible benefits) pressures or demands (Ryan & Deci, 2017). A meta-analysis of the separate

contributions of autonomous and controlled motives to goal pursuit indicated that autonomous motivation predicts an improved likelihood of goal progress, whereas controlled motives are negatively related to goal progress (Gaudreau et al., 2012).

Differences in goal progress experienced under autonomous and controlled motives can be partially explained by the self-regulatory coping mechanisms that individuals use (Heckhausen et al., 2010; Ntoumanis et al., 2009). Broadly, self-regulatory coping mechanisms can be defined as cognitive and behavioral processes enacted in response to a stressor. Autonomous motives have been linked to task-based coping strategies intended to directly manage the stressor. The exertion of effort, in particular, is a coping mechanism that increases persistence in the face of adversity, typically conducing to goal progress (Riddell et al., 2022). Conversely, controlled motives are more likely to instigate coping strategies associated with behavioral or mental disengagement from the goal (Gaudreau et al., 2012; Ntoumanis et al., 2014a; Smith et al., 2011).

Although coping by exerting effort is adaptive when goals are attainable, accommodative coping, in which individual disengage from pursuit and adjusts their approach to circumvent or adapt to obstacles, is necessary when goals become unattainable (Brandstätter & Bernecker, 2021; Brandtstädter & Rothermund, 2002). Individuals faced with the decision of whether to continue pursuing a failing course of action are more likely to question the value of continued pursuit and downgrade goal relevant resources (Herrmann et al., 2019). Accepting a goal's unattainability, unburdening resources, and ultimately disengaging from a failing goal also serves to enable goal adjustment (i.e., modifying a goal to make it achievable; Brandstätter & Bernecker, 2021; Carver & Scheier, 2005; Scobbie et al., 2021; Wrosch & Scheier, 2020). Although controlled motivation is positively associated with disengagement, it is not predictive of adjustment (Ntoumanis et al., 2014b). On the other hand, autonomously motivated individuals find it more difficult to disengage from goals but easier to adjust, particularly if the goal's unattainability is realized early in the striving process (Ntoumanis et al., 2014b).

The scope of evidence regarding how motives influence parental coping and in turn goal striving is limited. For parents with limited economic and societal opportunities,

disengagement from unattainable work or family goals is linked to increased wellbeing, indicating that disengagement can act as a protective mechanism when goal striving resources are limited (Heckhausen et al., 2019; Tomasik et al., 2010). Similarly, for parents of children diagnosed with cancer, the ability to disengage from unattainable goals and adopt viable alternatives has been related to decreased depressive symptomology (Wrosch et al., 2003). Here, we use the Self-Concordance Model as a framework for understanding how motives predict key self-regulatory coping strategies during goal striving (i.e., effort/disengagement/adjustment) and in turn goal progress in parents. We formulated two hypotheses, which apply to both parenting and broader life goals:

H1a. Autonomous goal motives will be positively related to goal adjustment and effort coping, which will in turn will be positively related to goal progress.

H1b. Controlled motives will be positively related to disengagement coping, which will be negatively related to goal progress.

The Role of Motives in Goal Management

Goal striving rarely occurs in a vacuum, and it is important to consider a person's goals in the context of their other pursuits (Kung & Schoeler, 2020). Given the competing demands of early-stage parenthood, the capacity to balance various pursuits may have a substantial impact on goal striving success. Motives can also affect the ability to manage multiple competing goals. In parents, controlled motivation for either work or family goals is associated with family alienation, which in turn contributes to work-family conflict and emotional exhaustion (Kuvaas et al., 2017; Senécal et al., 2001). In contrast, individuals engaged in their work for autonomous reasons are more likely to experience enrichment between their work and family lives, as well as engagement with their goals (Ilies et al., 2017; Kuvaas et al., 2017). Research on how individuals manage parenting goals alongside goals outside of the career domain, however, is lacking. We address this gap by examining how motives and coping strategies predict facilitation and interference between multiple goals from a range of life domains in early-stage parents. Furthermore, we investigate how these intergoal dynamics relate to goal progress. For both parenting and life goals, we hypothesize that:

H2a. Autonomous goal motives, effort coping, and goal adjustment will be positively related to intergoal facilitation.

H2b. Controlled goal motives and disengagement coping will be positively related to intergoal interference.

H2c. Intergoal facilitation will be positively related, whereas intergoal interference will be negatively related, to goal progress.

Mental Contrasting with Implementation Intentions

Finally, although it is important to understand factors that contribute to effective goal striving, it is also crucial to determine how these factors can be strengthened. MCII (Oettingen & Gollwitzer, 2010) is a metacognitive strategy that has been used to promote goal progress for challenging goals in various contexts (Wang et al., 2021). In MCII, an individual first imagines the attainment of their goal, and then contrasts this imagined state with reality to identify obstacles to the goal's attainment (mental contrasting; Oettingen, 2012). The individual subsequently forms simple 'if-then' plans (implementation intentions; Gollwitzer & Schaal, 1998) to help them overcome these obstacles should they arise. Mental contrasting reinforces goal commitment when the expected likelihood of goal attainment is high, but reduces commitment when the likelihood of attainment is low (Kappes & Oettingen, 2014). Similarly, MCII and implementation intentions can facilitate the reduction in commitment to excessively costly goals (Legrand et al., 2017; Riddell et al., 2022).

Research on the usefulness of MCII for parents is limited. However, there is some evidence that training parents to use implementation intentions can improve various health outcomes (e.g., oral health, sunscreen use) in their children, particularly if parents are motivated to attain these goals (Armitage et al., 2020; Van Osch et al., 2008). Of particular relevance to the current study, mental contrasting can increase individuals' willingness to exert effort toward balancing work and family goals (Oettingen, 2000). The benefits of the mental contrasting process can transfer from one task to another, which may be particularly advantageous for multiple goal pursuit (Sevincer et al., 2022).

The capacity of MCII to modulate goal commitment based on a goal's attainability makes it an interesting candidate for promoting efficacious self-regulation. Ntoumanis and

Sedikides (2018) proposed that interactions between MCII and goal motives could influence self-regulatory responses to goals. For individuals with controlled motivation, MCII should encourage effort towards attainable goals and accommodative coping in the face of adversity, both of which would otherwise be diminished under controlled motivation (Riddell et al., 2022). Given that autonomous motivation already encourages commitment and persistence, autonomously motivated goals that are attainable should benefit less from MCII (Ntoumanis et al., 2014a). If an autonomously motivated goal becomes unattainable, MCII should facilitate disengagement, which is more difficult for autonomously motivated individuals due to their personal investment in the pursued goal (Ntoumanis et al., 2014b). This has implications for the applied utility of MCII for parents, who often have accommodate multiple goals underpinned by differing motives (Kuvaas et al., 2017).

Both mental contrasting (Sevincer & Oettingen, 2013) and implementation intentions (Bieleke & Keller, 2021; Brickell et al., 2006) can arise spontaneously in the absence of prompts or training, conferring similar benefits to goal striving as trained interventions. More broadly, habitually engaging in thoughts about situational cues and intended future actions relevant to goal pursuit can also promote goal striving (Martiny-Huenger et al., 2022). Here, we seek to provide evidence that spontaneously arising cognitive features of MCII (e.g., fantasizing, identifying obstacles, forming specific plans) help parents to co-manage parenting and life goals. This is an important step for establishing the potential usefulness of MCII-based interventions for parents, as self-regulation interventions are most effective when they align with techniques that individuals use naturally (Peetz & Davydenko, 2021). In this article, we test whether MCII-like cognitive features arise spontaneously and can support goal striving in parents. For both parenting and life goals, we hypothesize:

H3a. MCII-like cognitive features will be positively related to goal adjustment and effort coping.

H3b. MCII-like features will predict greater effort coping and goal adjustment in individuals with strong controlled motives.

H3c. MCII-like features will predict greater disengagement coping in individuals with strong autonomous motives.

Overview

We address the question of how goal motives and spontaneously occurring MCII-like cognitive features relate to self-regulatory coping in early-stage parents, and how these in turn relate to multiple goal management and progress. The Self-Concordance Model details how a person's motives influence their thoughts and behaviors during goal striving, and is thus inherently specified at the intra-individual. Nonetheless, the Self-Concordance Model is frequently evaluated by looking at differences between people (e.g., cross-sectional surveys). In such cases, the failure to examine within-person effects can result in research that is misaligned with the tested theory (Gabriel et al., 2019). The dynamic nature of goal striving is frequently overlooked (Neal et al., 2017), we use experience sampling (i.e., diary study) to probe how motives and self-regulatory coping predict goal outcomes both between-persons (i.e., what differentiates one individual from another) and within-persons (i.e., what differentiates one instance of goal striving from another). We asked early-stage parents to identify one parenting goal (e.g., spend more time playing with my child). We also asked them to identify one goal from another aspect of their life (e.g., start running again) that they planned to pursue for at least the next six months[1] and would compete with their parenting goal. Over the following month, we measured goal progress, intergoal facilitation/interference, disengagement coping, effort coping, goal adjustment, and spontaneous use of MCII-like cognitive features every three days.

Method

Transparency and Openness

We preregistered the hypotheses, method, and analyses on Open Science Framework (OSF). All data and analysis scripts are available on the project's OSF page (https://osf.io/57dzk). We initially registered the study as a measurement burst design that involved assessing participants every three days in two separate and identical month-long bursts over a six-month period. Due to an unexpected number of participants dropping out of

[1] We were interested in long-term goals that were likely to cover the duration of the preregistered study; however, due to factors that limited the longitudinal data analysis, we present results from the first measurement month only (see *Method* for detail).

the second measurement burst, we departed from the preregistered design by reporting results for the first measurement period only[2]. Importantly, the hypotheses and variables that we measured are the ones named in the preregistration. We provide on the project's OSF page both data collected in both bursts and measures (overall goal progress/ease of disengagement/goal adjustment, parental efficacy, striving tenacity/flexibility, goal importance/attainability/ difficulty) taken either prior to or following each burst but not analyzed.

Sample Size

Due to the departure from the preregistered design, we used Monte Carlo simulations (N = 1,000) to estimate the size of model coefficients that could be reliably detected with at least 80% power given the sample of 103 participants collected in the first burst to provide a boundary of confidence for interpretation of the observed effects (Arend & Schäfer, 2019). We determined that the smallest reliably detectable path coefficient, given our sample, is β = .10 for all paths at the within-person level. At the between-person level, the smallest reliably detectable coefficients are: β = .10 for paths between motives/MCII-like features and self-regulation variables, β = .27 for paths between self-regulation variables and goal progress/facilitation/interference, and β = .30 for paths between facilitation/interference and goal progress. Significant path coefficients smaller than these values may be underpowered and should be interpreted with caution.

Participants

The study was approved by the Curtin University Human Research Ethics Committee. We recruited 107 early-stage parents[3], that is, individuals living with at least one child aged

[2] We recruited N = 107 for the first measurement burst, but n = 42 did not complete the second burst three months later. The remaining sample (n = 61) would entail inadequate statistical power for the analysis of the burst design (a priori power simulations determined that N = 80 would have provided 80% statistical power for the planned burst analysis). Additionally, in the preregistration we stated that we would conduct exploratory multilevel structural equation modelling (MLSEM; Preacher et al., 2010). We adopted the MLSEM approach as the main analysis in the current article to maximize the utility of the relatively large sample gathered in the first burst. This analysis mirrors the one planned in the preregistration (i.e., the same variables are regressed on one another), but precludes the need to execute multiple analyses, thus reducing a potential source of error.

[3] Based on IP addresses and home addresses we are confident that parents were from separate households, but cannot unambiguously exclude the possibility that some participants were co-parents

between 6-36 months. This range covers the period of rapid adjustment associated with early parenthood, while precluding the intense care period following childbirth and the alleviated care requirements associated with the onset of kindergarten care. Both mothers and fathers were eligible for participation. We excluded four participants who completed only one diary survey during the month, as we were interested in assessing effects at both within-person and between-person levels. The final sample was 103. We recruited some (14) participants through word-of-mouth at Australian organizations that cater to early parents (e.g., child-parent centers, daycare centers). We recruited the remaining participants (89) via Prolific Academic; they were from the United Kingdom, which has a similar cultural and demographic profile to Australia (Lansford, 2022). Most participants (85%) were female with a mean age of 33.40 years (*SD* = 5.13); 95% of them were in a relationship; 77% were employed at least part time and spent an average of 21.07 hours per week working (*SD* = 15.50). Participants had 1.75 children on average (*SD* = .79). We compensated them up to $38 USD for the percentage of the study they completed.

Baseline Measures

Goal Motives

We measured autonomous and controlled goal motives at baseline for both the parenting and competing life goal using an 8-item goal motives scale (Ntoumanis et al., 2014a). It consisted of four items relating to autonomous goal motives (e.g., "Because of the enjoyment or challenge the pursuit of the goal provides me") and four items relating to controlled motives for goal pursuit (e.g., "I will receive praise or other rewards for doing it"; 1 = *not at all*, 7 = *very much so*). Participants first rated motives for their parenting goal and then rated motives for their competing life goal. We calculated separate autonomous and controlled motives scores for each goal by averaging the items relevant to each construct.

Participants re-rated goal motives whenever they changed their goal. During the study, 21 participants reported changing their competing life goal and 10 reported changing

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of a child. Co-parents would still have different goals, with day-to-day factors influencing their striving. Thus, any dependency in responses resulting from parents sharing a child is likely to be minimal.

their parenting goal. Most maintained their original goals or changed goals only once. Over the whole sample, the parenting goal was changed on 2%, whereas the competing life goal was changed on 4%, of measurements. Given the relative infrequency of goal changes, there was correspondingly low within-person variability in goal motives. We created weighted motives scores at the between-person level only by averaging motives scores for the previous and new goal, and weighting averages by the number of days they spent striving for each goal. For example, for a participant who completed all measurements but reported changing their goal once on the third measurement, we would assign the original motives scores a weight of three and the new motives scores a weight of seven.

Diary Measures

Goal Progress

We measured progress for each goal with three items adapted from Louro et al. (2007). A sample item is: "How much progress have you made towards your PARENTING goal?" (1 = *none/not at all*, 7 = *a lot/very*).

Coping Strategies

We measured two coping strategies with three items each: effort coping (e.g., "I concentrated my efforts on the goal") and disengagement coping (e.g., "I stopped believing in my ability to reach my goal"; 1 = *not at all*, 7 = *very much so*). We derived the items from the effort and disengagement coping subscales of the English version of the l'Inventaire des Stratégies de Coping en Compétition Sportive (Gaudreau & Blondin, 2002)

Goal Adjustment

We measured the ease with which participants were able to adjust their goal striving by looking for new ways to pursue their goal. Participants rated the extent to which they agreed (1 = *strongly disagree*, 5 = *strongly agree*) with three statements (e.g., "I tried pursuing my goal in different ways") adapted from Wrosch et al. (2003).

MCII-Like Cognitive Features

We measured the spontaneous occurrence of three cognitive features inherent to the MCII process, namely, use of mental imagery, reflection on obstacles, and use of implementation intention planning, with three items each (1 = *not at all*, 7 = *very much so*).

We adapted the mental imagery items (e.g., “I imagined that I was doing well at attaining my goal”) from the imagery scale of the English version of the l'Inventaire des Stratégies de Coping en Compétition Sportive (Gaudreau & Blondin, 2002). We adapted two of the reflection on obstacles items (e.g., “I thought about what setbacks to expect”) from the Overcoming Obstacles subscale of the If-Then Planning Scale (Bieleke & Keller, 2021), and created the third item (“I considered what barriers might hinder the attainment of my goal”). We adapted the planning items (e.g., “I planned where and how I was going to engage in my goal”) from Brickell et al. (2006). We present reliabilities for the three subscales for the parenting goal at the within- and between-person levels (Geldhof et al., 2014) in Supplementary Material. We calculated an overall MCII-like cognitive features score for each goal by averaging scores for all three subscales. This approach is similar to the one adopted for the study of spontaneous implementation intentions (Bieleke & Keller, 2021).

Our overall MCII-like cognitive features score does not disentangle the order in which individuals engage in cognitions. Our use of the term “MCII-like features” denotes the tendency to engage spontaneously in the cognitive processes that are an inherent part of MCII but should not be confounded with the use of MCII itself. Without future validation, we cannot assume that the term directly reflects MCII.

Intergoal Interference/Facilitation

We measured intergoal facilitation and interference with three items relating to intergoal interference (e.g., “Pursuing one goal limited my ability to pursue the other goal”) and three items relating to intergoal facilitation (e.g., “I did something in the pursuit of one goal that was simultaneously beneficial for the other goal”; 1 = *not at all*, 7 = *very much so*; Riediger & Freund, 2004). We asked participants to reflect specifically on interference and facilitation between their parenting goal and competing life goal. Given the interrelation of goals and, as per prior research, we did not have separate facilitation and interference scores for each goal, but rather one score that reflected facilitation between the parenting and competing life goal, and one score that reflected interference between the parenting and competing life goal.

Procedure

Participants filled out all measures online. First, they provided demographic information. Then, they were instructed to list a high-level parenting goal and a non-parenting goal that was likely to compete with their parenting goal for resources, at least some of the time. High-level goals were described as: "[goals that are] abstract enough that you can think of multiple ways of achieving them but defined enough that you should also be able to come up with clear signs of progress". The most frequently reported parenting goals were those associated with spending more quality time with their child (e.g., "Providing focused attention daily for activities such as reading and outdoor play"; 40% of goals). Given that we were interested in generalizable factors that influence how parents adapt other personally or functionally important goals in their lives, we did not restrict participants to selecting competing life goals from a particular domain. The most frequently reported competing life goals were health/fitness/wellness goals (e.g., "I want to maintain good fitness levels and exercise in some form every day"; 30% of goals). We provide a summary of the listed parenting and competing life goals in Supplementary Material.

After one week, participants began the experience sampling portion of the study in which they completed short surveys (diaries) every three days. Piloting established that this sampling frequency provided parents with enough opportunity to engage with their goals and minimized participant burden. We administered diaries for Australian participants using the SEMA3 app (Koval et al., 2019) and for the remaining participants through Prolific Academic and the Qualtrics survey platform. Diaries were sent out every three days for the following 30 days, with 10 diaries sent out in total. Participants received a notification via the SEMA3 app or Prolific Academic at 16:00 (local time) whenever a diary became available. Diaries remained available until 23:59 (local time). At the beginning of each diary participants were asked whether they were still pursuing their nominated parenting and competing life goal goals; if they responded negatively for either goal, they were instructed to set a new goal and re-rate their goal motives. Goals were automatically piped into the relevant sections of the diary to remind participants of their goal. Participants were then asked to reflect on their goal striving over the last three days. In the diaries, participants reported their goal progress, use of effort and disengagement coping strategies, goal

adjustment, and MCII-like cognitive features for the parenting goal and then for the competing life goal. Diaries also assessed the extent to which intergoal facilitation and interference occurred between the two goals. When responding to the questions, participants were instructed to reflect on their experiences over the last three days. Diaries took approximately 5 minutes to complete. On average, participants completed 7.13 out of 10 diaries (*SD* = 2.38, Range = 2-10).

Analysis Overview

We conducted all analyses in Mplus (version 8.4; Muthén & Muthén, 2019). Prior to our main analysis, we carried out a multilevel confirmatory factor analysis with restricted maximum likelihood estimation (MLCFA) to test the viability of combining MCII-like cognitive features into a single score (see *MCII-Like Cognitive Features*). Given that these results are tangential to the main hypothesis, we present them in Supplementary Material.

To test our hypotheses, we constructed separate but identical models for each goal using two-level multilevel structural equation modeling (MLSEM; Preacher et al., 2010) with Bayesian estimation, which offers more flexibility and accuracy in terms of modeling interactions (Asparouhov & Muthén, 2021a). Between-person portions of the model indicate how variables predicted goal striving from one individual to another (e.g., how do motives and coping differentiate a successful individual from an unsuccessful individual). Within-person portions of the model indicate how variables predicted the measurement-to-measurement fluctuations experienced by an individual (e.g., how does self-regulatory coping differentiate an individual's successful instances of goal striving from their unsuccessful instances).

We modelled hypothesized cross-level interactions (i.e., Autonomous Motives × MCII predicting Disengagement Coping; Controlled Motives × MCII predicting Goal Adjustment and Effort Coping) by having goal motives predict the random slopes that resulted from regressing MCII-like cognitive features at the between-person level on self-regulation variables at the within-person level (Zyphur et al., 2009). These interactions examine how goal motives (which are typically stable across long time periods; Healy et al., 2014) interact with MCII-like features to predict fluctuations within a person's day-to-day

goal striving. We controlled for the potential influence of number of children in a participant's family, hours of work, relationship status, and gender on goal outcomes (i.e., goal progress/facilitation/interference).

It is theoretically possible for goal motives to predict goal progress, facilitation, and interference both directly and indirectly via their effects on coping (Gaudreau et al., 2012). To ascertain the most parsimonious model for the current data, we tested variations of the model that differed in the way motives and MCII directly predicted the outcome variables at the between- and within-person levels. We present details of this analysis and the results in Supplementary Material. We used the best fitting model to evaluate our hypotheses.

Results

We present in Table 1 between-person level descriptive statistics for variables measured for each goal. Omega coefficients provide separate internal reliability estimates at the within- and between-person levels (Geldhof et al., 2014). Model results pertaining to control variables are tangential to our hypotheses, and we provide them in Supplementary Material. We depict structural equation models and path coefficients for the parenting goal and competing life goal in Figures 1 and 2, respectively. We report indirect effects in the text. Full results, which include 95% credibility intervals for all path coefficients as well as control variables for both models, are available in Supplementary Material.

Hypothesis Series 1 – Motives and Coping

Hypothesis series 1 predicted that autonomous motives would be associated with effort coping and goal adjustment, which in turn would be positively associated with progress (H1a), while controlled motives would be associated with disengagement coping, which would have negatives associations with progress (H1b).

The results for both goals partially support Hypothesis 1a. Although autonomous motives were not related to goal adjustment for either goal, effort coping mediated the relation between autonomous motives and goal progress at the between-person level (indirect effect for the parenting goal: $\beta = .211$, 95% CI = [.059,.378]; indirect effect for the competing life goal: $\beta = .114$, 95% CI = [.008,.249]). Controlled motives were related to disengagement coping, which was unrelated to goal progress at the between-person level and negatively

related to goal progress at the within-person level, partially supporting Hypothesis 1b for both goals.

Hypothesis Series 2 – Multiple Goal Management

Hypothesis series 2 predicted that autonomous motives, effort coping and goal adjustment would be associated with intergoal facilitation (H2a), while controlled motives and disengagement coping would be associated with intergoal interference (H2b). Additionally, we predicted facilitation would be positively associated with progress and interference would be negatively associated with progress (H2c).

Hypothesis 2a was partially supported for the parenting goal at the between-person level. Autonomous motives had indirect effects on intergoal facilitation via effort coping (β = .067, 95% CI = [.007,.148]) and disengagement coping (β = -.105, 95% CI = [-.194,-.010]), but were unrelated to goal adjustment. Turning to the competing life goal, autonomous motives had an indirect effect on intergoal facilitation via effort coping at the between-person level (β = .179, 95% CI = [.049,.308]); however, there was a lack of association between autonomous motives and goal adjustment. Thus, there was only partial support for Hypothesis 2a for the competing life goal.

Regarding Hypothesis 2b in the parenting goal model, controlled motives were associated with disengagement coping at the between-person level; however, there was no relation between disengagement coping and intergoal interference at this level. In contrast, we observed a positive association at the within-person level between goal disengagement and intergoal interference. Thus, we conclude that Hypothesis 2b is supported at the within-person level only for the parenting goal. For the competing life goal, disengagement coping was unassociated with intergoal interference at any level. Consequently, Hypothesis 2b was not supported at any level for the competing life goal.

Intergoal interference was related to goal progress at the between person-level for the parenting goal; however, the effect size of the path coefficient is smaller than that determined to be reliably detectable. Taking a conservative approach, we do not consider this effect further. There were no other associations between intergoal interference or intergoal

facilitation and goal progress at any level for either goal. Therefore, we conclude that Hypothesis 2c was unsupported.

Hypothesis Series 3 – Effects of MCII-Like Cognition

Hypothesis series 3 predicted that MCII-like cognitive features would be associated with effort coping, goal adjustment (H3a). We also predicted that interactions between MCII and goal motives would be related to self-regulatory coping strategies (H3b-c).

At the between-person level of the parenting goal model (top half of Figure 1), MCII-like cognitive features had a positive indirect effect on goal progress (β = .395, 95% CI = [.226,.545]) and intergoal facilitation (β = .134, 95% CI = [.026,.246]) via effort coping. We observed additional positive indirect effects of MCII-like cognitive features on intergoal facilitation via disengagement coping (β = .057, 95% CI = [<.001,.131]) and goal adjustment (β = .146, 95% CI = [.039,.268]). We also obtained a non-hypothesized positive indirect effect of MCII-like cognitive features on intergoal interference via goal adjustment (β = .278, 95% CI = [.103,.443]). At the within-person portion of this model (bottom half of Figure 1), there were positive indirect effects of MCII-like cognitive features on goal progress via effort coping (β = .473, 95% CI = [.398, .549]), disengagement coping (β = .025, 95% CI = [.002,.046]), and goal adjustment (β = .088, 95% CI = [.055,.127]). Together, these results support Hypothesis 3a for the parenting goal.

Turning to the between-person component of the model for the competing life goal (top half of Figure 2), MCII-like cognitive features had a positive indirect effect on goal progress via effort coping (β = .539, 95% CI = [.343,.714]). MCII-like cognitive features also had positive indirect effects on intergoal facilitation via effort coping (β = .199, 95% CI = [.071,.320]) and via goal adjustment (β = .202, 95% CI = [.082,.309]). Again, MCII-like cognitive features had an non-hypothesized positive indirect effect on intergoal interference via goal adjustment (β = .204, 95% CI=[.099,.353]). For the within-person portion of the model (bottom half of Figure 2), MCII-like cognitive features had positive indirect effects on goal progress via both effort coping (β = .631, 95% CI = [.528,.717]) and goal adjustment (β = .067, 95% CI = [.026,.113]) and on intergoal facilitation via effort coping (β = .046, 95%

CI = [.008,.085]) and goal adjustment (β = .047, 95% CI = [.006,.083]). These results support Hypothesis 3a for the competing life goal.

Cross-level interactions between MCII-like cognitive features and goal motives were not associated with any of the self-regulatory variables for the parenting goal. However, for the competing life goal, controlled motives at the between-person level were positively related to the within-person slope for the relation between MCII-like features and goal adjustment. Figure 3 depicts this interaction. Put another way, on occasions that people with strong controlled motives for their competing life goal reported using MCII-like features, they also reported making more adjustments to their goal. This interaction indirectly predicted goal progress within-persons (β = .008, 95% CI = [.001,.018]) but not intergoal facilitation (β = .006, 95% CI = [-.001,.013]), partially supporting Hypothesis 3b for the competing life goal. Hypothesis 3c was not supported for either goal.

Discussion

In the present study we use the framework of the Self-Concordance Model to draw a more holistic picture of parental goal striving. Our results provide an account of how MCII-like cognitive features and autonomous motivation predict effort-based coping strategies and adjustment, which in turn predict goal progress and intergoal facilitation.

At the between-person level, parents who strove for either parenting or competing life goals for autonomous reasons were overall more likely to use effective coping mechanisms, like exerting effort, which in turn helped them to experience greater overall goal progress. In contrast, controlled motivation predicted disengagement from the competing life goal and was unrelated to progress for either goal. These results extend key tenets of the Self-Concordance Model, which has previously been applied to a range of other life domains (Milyavskaya & Koestner, 2011), to parental goal striving.

According to the Self-Concordance Model, success with autonomously motivated goals should support basic psychological needs and contribute to wellbeing (Klug & Maier, 2014; Sheldon & Elliot, 1999). By detailing how autonomous motivation conduces to successful goal striving, current results may also help to explain associations between autonomous parenting motivation and outcomes such as parental satisfaction, competence,

and autonomy-supportive parenting (Dieleman et al., 2021; Jungert et al., 2015), as well as why children of autonomously motivated parents report greater wellbeing and fewer behavioral problems (Jungert et al., 2015).

A key contribution of this work lies in demonstrating how self-regulatory coping relates to goal striving at the level of the individual. On occasions when a parent engaged in effort coping and goal adjustment, they reported more goal progress, whereas disengagement-based coping strategies were negatively associated with progress. These results extend prior work emphasizing the importance of exerting effort (Ntoumanis et al., 2014a; Smith et al., 2011) and adjusting goal striving (Brandtstädter & Rothermund, 2002) by demonstrating that these coping strategies differentiate more successful episodes of goal striving from less successful episodes. Most variation in goal progress across both parenting and competing life goals was attributable to within-person fluctuations, highlighting the often overlooked importance of investigating goal striving at the within-person level (Neal et al., 2017).

This study also produced novel insights into how motives and coping influence the management of competing goals. Goal adjustment combined with effort coping was related to greater overall intergoal facilitation for both goals; however, adjustment in the absence of effort coping (for the parenting goal) or in combination with defeat coping alone (for the competing life goal) was associated with intergoal interference. Although these results provide mixed support for our hypotheses, they are consistent with the wider literature. According to Brandtstädter and Rothermund's (2002) Dual Process Model, the degree to which assimilative (e.g., effortful persistence) and accommodative (e.g., disengagement and adjustment) modes of coping are adaptive depends on the goal and available resources. Our results suggest that adjusting striving is beneficial only when individuals have the capacity to dedicate effort to the adjusted goal (Haase et al., 2021; Herrmann et al., 2019).

We did not obtain compelling evidence that intergoal facilitation is associated with goal progress, nor that intergoal interference is negatively linked to progress at any level. Although successfully balancing goals through intergoal facilitation contributes to a more harmonious goal striving experience, the distribution of resources across goals may mean that facilitation is not always beneficial to progress (Kung & Scholer, 2021). Conversely,

intergoal interference may not necessarily undermine the ability to make progress on competing goals (Kung & Scholer, 2021; Segerstrom & Nes, 2006). For example, inadequate resources can be compensated for by engaging in sequential striving in which competing goals are momentarily paused in favor of the more demanding goal and resumed at a more convenient time point (Moshontz et al., 2019). Even when unrelated to goal progress, the importance of achieving intergoal facilitation should not be understated, as the ability for intergoal facilitation to promote wellbeing outcomes is relevant to the psychological health of parents and their dependent children (Jungert et al., 2015).

Effects of Spontaneously Emerging MCII-Like Cognition

Consistent with our third set of hypotheses, engaging in processes fundamental to MCII during goal striving was associated with greater goal progress and intergoal facilitation via effortful coping and goal adjustment. This builds on previous work indicating that spontaneously arising implementation intentions (Bieleke & Keller, 2021; Brickell et al., 2006) and mental contrasting (Sevincer & Oettingen, 2013) can independently promote goal progress. Few studies have considered MCII in the context of multiple goals, and those that did emphasized complementary rather than competing goals (Marquardt et al., 2017). The novel finding that spontaneously arising MCII-like features encourage intergoal facilitation for competing goals highlights the need for further research on the effectiveness of MCII for promoting multiple goal pursuit.

Research into whether MCII encourages accommodative goal striving through goal adjustment has been scarce. As an independent intervention, the mental contrasting component of MCII has an intuitive appeal for promoting accommodative goal striving (Oettingen & Gollwitzer, 2022), due the purported abilities of mental contrasting to modulate of goal commitment based on attainability (Kappes et al., 2013). Implementation intentions can also reduce goal commitment when the costs of goal striving are excessive (Legrand et al., 2017; Riddell et al., 2022). Regardless, previous research on the usefulness of combining mental contrasting and implementation intentions (i.e., MCII) has predominantly focused on advancing goal progress (Oettingen & Gollwitzer, 2010; Oettingen & Reininger, 2016). The present study suggests that MCII may also be effective for encouraging flexible goal striving.

Usage of cognitive components inherent in MCII had a stronger relation to goal adjustment in participants who reported high controlled motivation for their competing life goal. This is consistent with Ntoumanis and Sedikides's (2018) proposal that MCII may be most beneficial for the regulation of goals with controlled motives. Although we did not observe this interaction for the parenting goal, it is common for the pursuit of different goals to entail differing forms of self-regulation (Mann et al., 2013; Neal et al., 2017; Sansone & Thoman, 2006). Because parenting goals are inherently related to the care of a child, they may be seen as less adjustable than goals in other life domains, even when they are not self-concordant.

We emphasize that the composite MCII-like features measure in the present study should not be equated to the usage of MCII. We cannot unambiguously rule out the possibility that participants engaged in components in a different order (e.g., reverse contrasting by reflecting on obstacles before fantasizing; Oettingen, 2012) or only engaged in some components of MCII (e.g., fantasizing or dwelling). Nonetheless, the current study provides evidence that spontaneously arising components of MCII are linked to both effortful coping and goal adjustment. Despite disparities between the present methodology and true MCII, these results are a positive indicator that MCII interventions could be effective for helping parents to manage competing goals. Importantly, self-regulation interventions are most effective when they fit individuals' natural inclinations (Peetz & Davydenko, 2021). This study indicates that many parents are already using some aspects of MCII and are therefore more likely to benefit from tailored parenting interventions based around MCII.

Actively training individuals in MCII can benefit goal striving in several contexts (Wang et al., 2021). MCII as a trained technique is more than the sum of its parts. Engaging in only some components of mental contrasting or engaging in mental contrasting in the wrong order (e.g., by contrasting obstacles in reality before fantasizing about a desired outcome) can be ineffective or even detrimental to goal pursuit (Oettingen, 2012). We conducted ancillary analyses to gauge whether dwelling on obstacles or indulging in fantasies about the future influenced the results (Supplementary Material). The pattern of results did not change for the parenting goal, but the relation between autonomous motives and effort was no longer significant for the competing life goal after removing instances of either

dwelling or indulging. Indulging and dwelling can deplete resources for goal striving (Oettingen & Reiniger, 2016). When these cognitive patterns are present, other factors, such as autonomous motivation, may be particularly important for promoting effort. Follow-up research will do well to validate our measure of spontaneously occurring MCII and to address relations between motives and alternative cognitive patterns (e.g., indulging/dwelling).

Strengths, Limitations, and Future Directions

The bulk of the literature has considered goal striving at the between-person level. Our study used experience sampling to examine coping processes in goal striving at both the within- and between-person levels, which is necessary given the large within-person variability in goal progress, facilitation, and interference observed here. By investigating multiple goals, we were able to compare how these processes differentially influence goal striving in distinct but interrelated life contexts.

Nevertheless, our work has limitations. First, the data are correlational and relied on self-reported data. We based our models on theory (Ntoumanis & Sedikides, 2018; Sheldon & Elliot, 1999), but we cannot directly infer causality. Experimental evidence indicates that MCII and goal motives can influence goal progress (Sheeran et al., 2020; Wang et al., 2021). Regardless, further work is needed to establish causal relations between the model variables. Second, to minimize potential recall biases and reduce participant burden, we did not ask participants to recall the order in which they engaged in MCII-like cognitions. Consequently, the features we measured represent key cognitive components of MCII, but should not be conflated with MCII as a trained exercise. Additionally, our measures may have been limited by inaccuracies due to poor access to internal thought processes or unreliable recall (Nisbett & Wilson, 1977). Additional empirical validation is needed to assert whether high usage of the three cognitive features measured here (mental imagery, reflection on obstacles, use of implementation intention planning) is predictive of spontaneous usage of true MCII. Researchers have used text-based analysis to infer spontaneously occurring mental contrasting (Sevincer & Oettingen, 2013). This was not feasible given our experience sampling methodology, but represents an alternative method for assessing spontaneous MCII and could be useful for validating the approach used here. Finally, a large number of

participants dropped out of the second measurement burst. An additional measurement burst would have allowed us to establish our models longitudinally and test how participants shift their goal striving strategies as they face new challenges. Implementing the intended dual measurement burst would provide a richer picture of multiple goal striving in parents and should be re-attempted in the future.

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Table 1

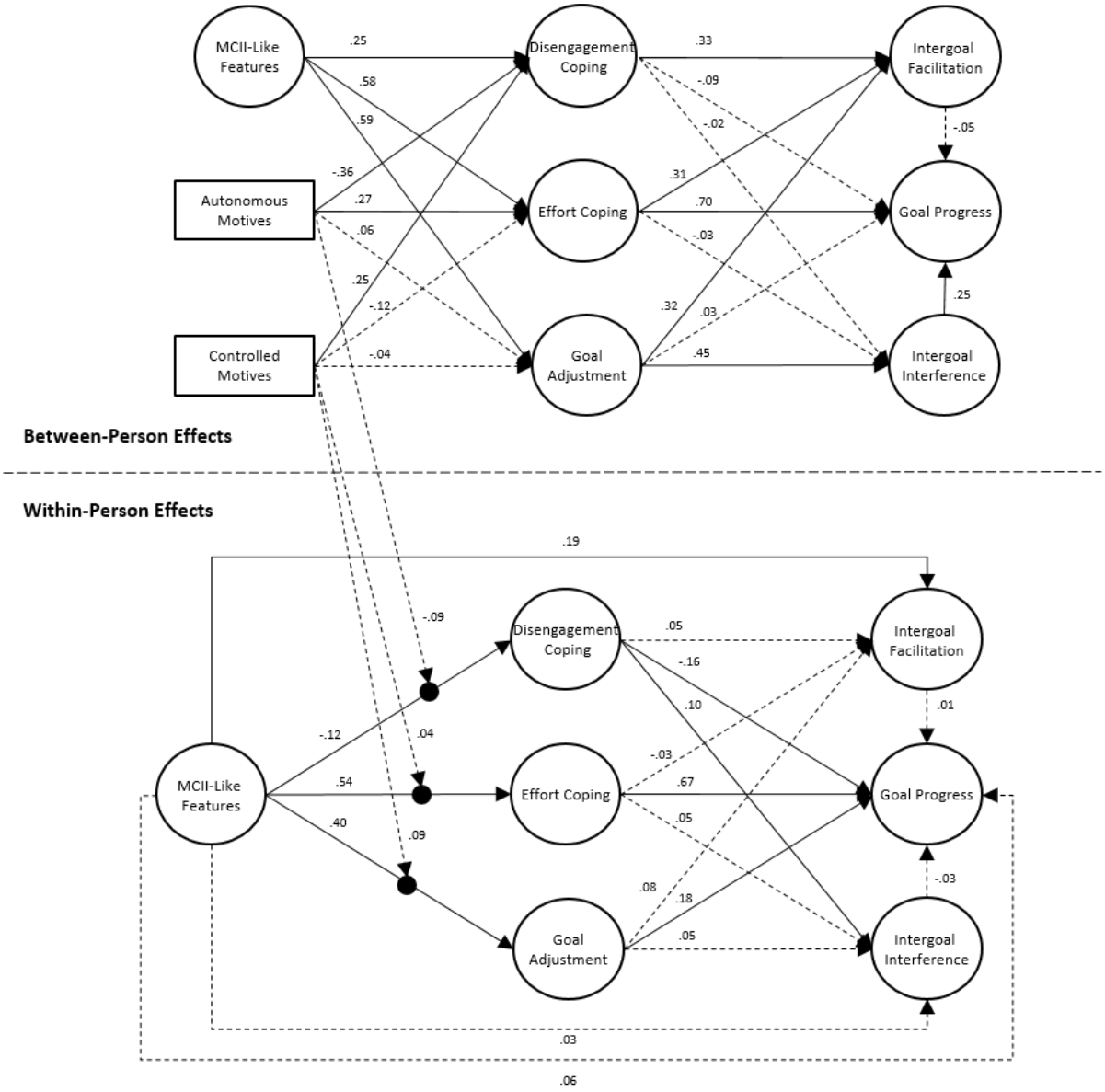
Group Level Descriptive Statistics and Within/Between-Person Internal reliability Estimates (ω) for Measures Relating to the Parenting and Competing Life Goal

	Parenting Goal				Competing Life Goal			
	M	*SD*	ω_{within}	$\omega_{between}$	*M*	*SD*	ω_{within}	$\omega_{between}$
Goal Progress	4.125	1.649	.926	.986	3.390	1.829	.926	.986
Intergoal Facilitation*	1.862	1.020	.762	.937	1.862	1.020	.762	.937
Intergoal Interference*	2.263	1.326	.836	.971	2.263	1.326	.836	.971
Effort Coping	4.300	1.776	.942	.989	3.409	1.935	.942	.989
Disengagement Coping	2.010	1.289	.851	.976	2.539	1.665	.908	.988
Goal Adjustment	2.612	1.152	.879	.986	2.352	1.139	.891	.980
MCII-Like Cognitive Features	3.212	1.413	.892	.928	3.327	1.457	.904	.955
Autonomous Motives	5.760	.873		.773	5.572	1.125		.796
Controlled Motives	4.215	1.084		.725	4.174	1.440		.760

Note: *Single measure for both goals.

Figure 1

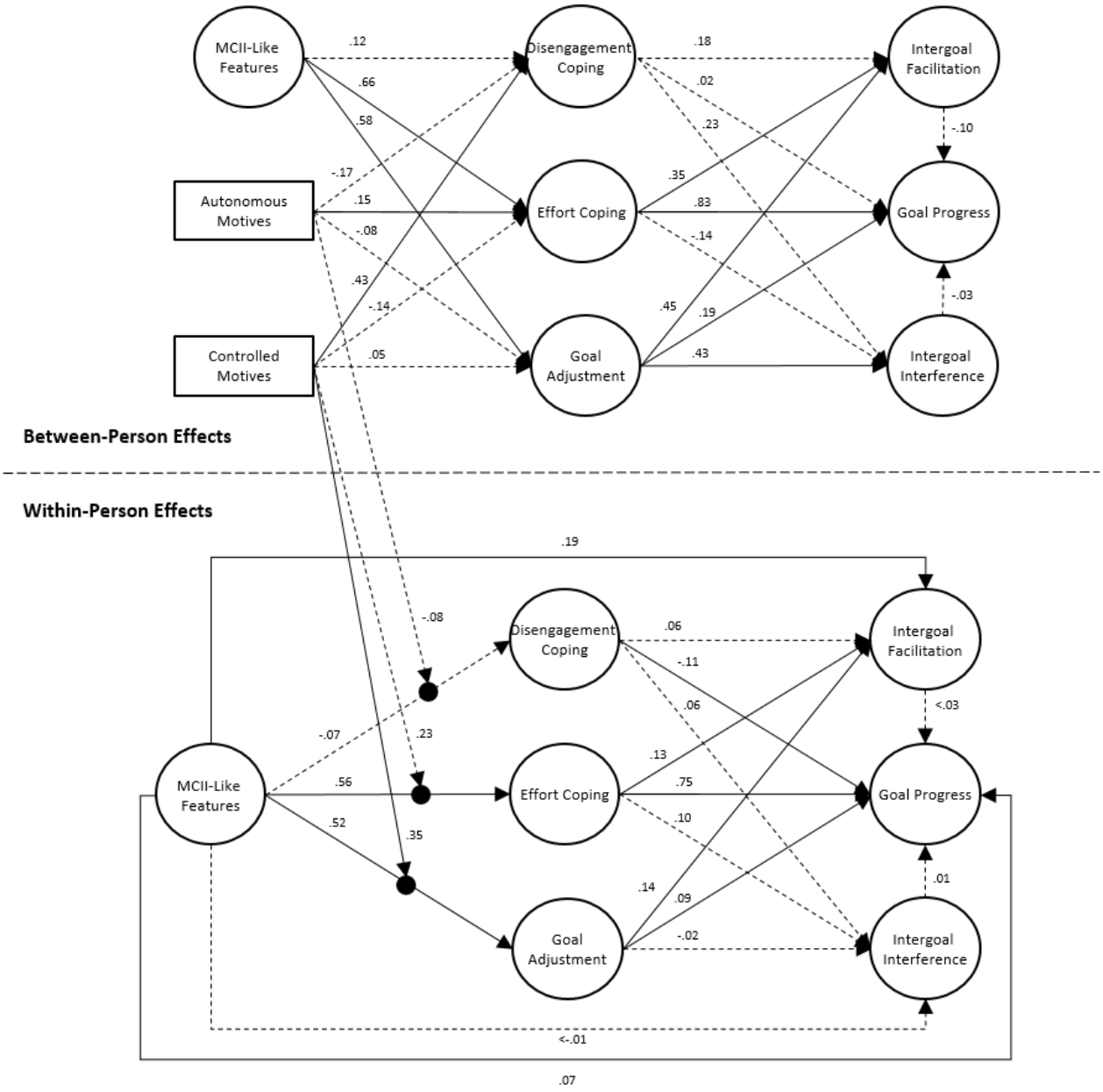
Multilevel Structural Equation Model for the Parenting Goal



Note: Rectangles represent measured variables, labelled circles represent latent variables. Filled circles on lines represent the presence of cross-level interactions between goal motives and MCII-like features. Solid lines represent significant paths (95% credibility intervals do not include zero); broken lines represent non-significant paths. Control variables have been omitted for clarity.

Figure 2

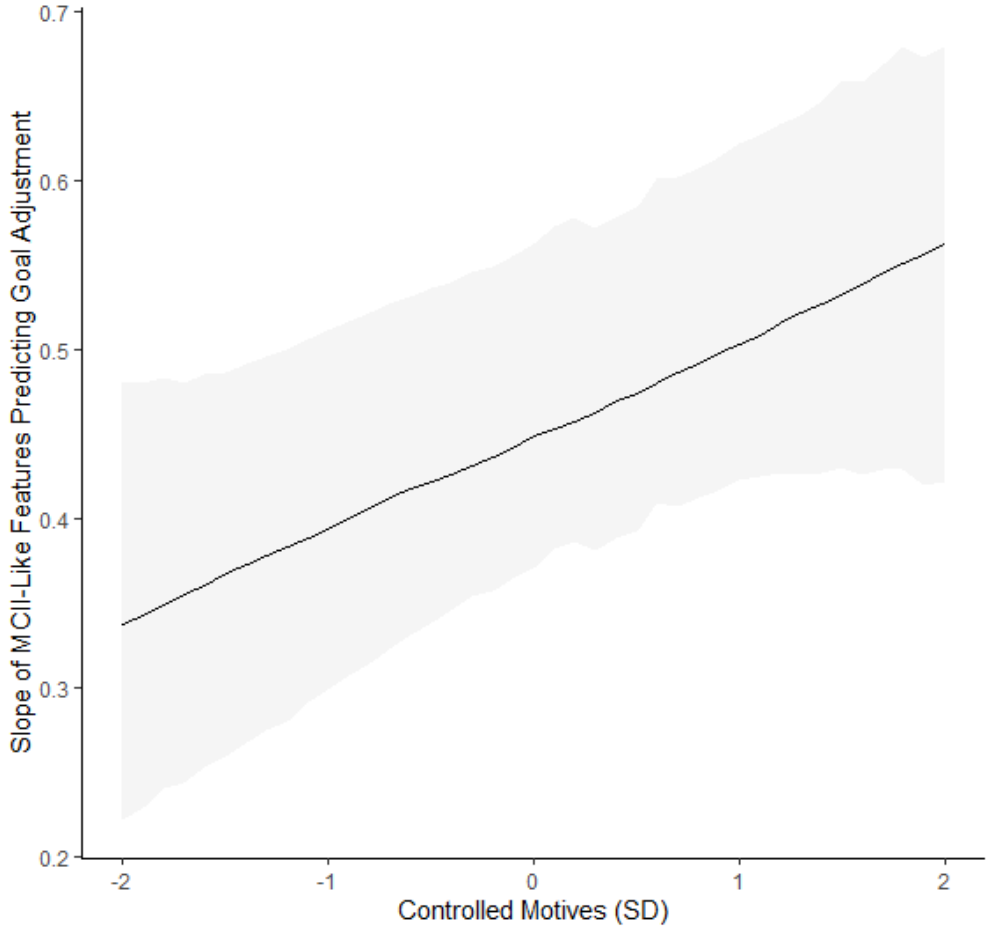
Multilevel Structural Equation Model for the Competing Life Goal



Note: Rectangles represent measured variables, labelled circles represent latent variables. Filled circles on lines represent the presence of cross-level interactions between goal motives and MCII-like features. Solid lines represent significant paths (95% credibility intervals do not include zero); broken lines represent non-significant paths. Control variables have been omitted for clarity.

Figure 3

Cross-Level Interaction Between MCII-Like Features and Controlled Motives Predicting Ease of Goal Adjustment for the Competing Life Goal



Note: Shaded Area Represents 95% Credibility Interval.

SUPPLEMENTARY MATERIAL

Motives and Mental Contrasting With Implementation Intentions Predict Progress and Management of Goals in Parents

MCII-Like Cognitive Features

The structure of the MLCFA is as follows: measured items were predicted by latent first-order variable constructs for the three subscales; in turn, these latent variables were predicted by a single second-order "MCII" factor.

The hierarchical MLCFA solution fit well for the parenting goal ($\chi^2[48] = 92.785$, $p < .001$; RMSEA = .037; CFI = .983; $SRMR_{within} = .038$, $SRMR_{between} = .037$) and the competing life goal ($\chi^2[48] = 95.137$, $p < .001$; RMSEA = .038; CFI = .985; $SRMR_{within} = .028$, $SRMR_{between} = .028$). Although we have listed a range of fit measures here, we noted that the SRMR for within- and between-models provides the most reliable metric of model fit for MLCFA models that do not contain cross-level interactions (Hsu et al., 2015). Accordingly, we constructed MCII-like cognitive features scores for each goal by averaging items from all three subscales.

Goal Striving Models

First we provide an overview of the models constructed for parenting and competing life goals. We decomposed diary measures into latent within-person and between-person components; we included goal motives as independent variables at the between-person level only. We included at both within- and between-person levels: (a) MCII-like cognitive features as an independent variable; (b) effort coping, defeat coping, and reengagement as mediators; and (c) goal progress, intergoal facilitation, and intergoal interference as dependent variables.

Goal motives and MCII can predict goal progress, facilitation, and interference either directly or indirectly via their effects on coping (Gaudreau et al., 2012). We compared nested models that differed in the way motives and MCII related to progress, facilitation, and interference at the within- and between-person levels to ascertain whether direct effects from goal motives to these distal outcomes were necessary at each level. The presence of cross-level interactions in the models makes the calculation of fit measures other than the deviance information criterion problematic and comparing nested models allows us to assess how the theoretically plausible inclusion/exclusion of paths affects the fit of the proposed model to the

data (Asparouhov & Muthén, 2021a). In the first nested model, direct relations were present only at the within-person level. In the second model, direct relations were present only at the between-person level. In the third model, no direct relations were present at any level. The comparator for all three cases was a *full model* that contained direct relations at both the within- and between-person levels. We conducted model comparisons using Wald tests (Asparouhov & Muthén, 2021b). We used the best fitting model to evaluate our hypotheses.

Table S1 contains model comparisons for each goal. As can be seen in the first row of Table S1, restricting direct effects to the within-person level only provides a comparable fit to having direct effects at both the within- and between-person levels but is more parsimonious. Consequently, we use this model to test our hypotheses. Intraclass correlation coefficients (ICC) indicate that within-person fluctuations accounted for 63% of the variance in parenting goal progress, 70% in competing life goal progress, 38% in intergoal interference, and 44% in intergoal facilitation. A multilevel approach is therefore justified, given the high levels of within-person variability.

Table S1

Nested Model Comparisons

	Parenting Goal				*Competing Life Goal*			
Model	*W*	*df*	*p*	DIC_{nested}	*W*	*df*	*p*	DIC_{nested}
Full vs Within-person direct effects only	6.053	9	0.735	12427.594	9.596	9	0.384	12873.806
Full vs Between-person direct effects only	22.212	3	<.001	12434.678	18.895	3	<.001	12895.771
Full vs No direct effects	27.109	12	0.008	12434.303	31.583	12	0.002	12859.953

Note: DIC = Deviance Information Criterion

Table S2

Reliabilities for MCII-Like Features Subscales

	Parenting Goal		Competing Life Goal	
	ω_{within}	$\omega_{between}$	ω_{within}	$\omega_{between}$
Mental imagery	.870	.947	.873	.978
Reflection on obstacles	.893	.998	.903	.994
Implementation planning	.850	.951	.875	.958

Goal Categories

We determined goal categories qualitatively by classifying the content of parenting and competing life goals into broad categories. Full details of the goals set by each participant are provided in the data file available on the project's OSF page (https://osf.io).

Table S3

Categories of Parenting Goals

Parenting Goal Category	Percentage
Behavioral milestones	27%
Speech/writing/academic	22%
Patience/self-discipline	10%
Quality time/play	40%

Table S4

Categories of Competing Life Goals

Competing Life Goal Category	Percentage
Home improvement	9%
Hobbies/sports	4%
Employment	28%
Fitness/health/wellness	30%
Self-discipline/saving	14%
Education	11%
Chores	2%
Social	2%

Table S5

Multilevel Structural Equation Model Fit For The Parenting Goal

Dependent Variable	*Predictor*	β	*Posterior S.D.*	*p-value*	*Lower C.I.*	*Upper C.I.*	R^2
Within-Person Effects							
Effort coping							.302
	MCII-like features	.536	.035	<.001	.477	.595	
	MCII x Controlled Motives	.026	.215	.460	-.386	.463	
Disengagement coping							.093
	MCII-like features	-.116	.044	.002	-.189	-.028	
	MCII x Autonomous Motives	-.092	.199	.315	-.490	.271	
Goal Reengagement							.222
	MCII-like features	.400	.048	<.001	.309	.495	
	MCII x Controlled Motives	.094	.185	.330	-.250	.429	
Intergoal Facilitation							.053
	Effort Coping	-.027	.053	.303	-.124	.081	
	Disengagement Coping	.052	.043	.109	-.029	.134	
	Goal Reengagement	.076	.045	.045	-.005	.163	
	MCII-like features	.185	.051	<.001	.090	.279	
Intergoal Interference							.022
	Effort Coping	.053	.054	.159	-.047	.164	
	Disengagement Coping	.095	.042	.014	.000	.165	
	Goal Reengagement	.048	.049	.169	-.045	.140	
	MCII-like features	.026	.050	.303	-.078	.118	
Goal Progress							.635
	Effort Coping	.672	.046	<.001	.620	.729	
	Disengagement Coping	-.159	.027	<.001	-.210	-.107	
	Goal Reengagement	.167	.030	<.001	.114	.223	
	Intergoal Facilitation	.006	.027	.416	-.050	.056	
	Intergoal Interference	-.028	.026	.161	-.078	.023	
	MCII-like features	.064	.030	.020	-.001	.123	
Between-Person Effects							
Effort coping							.433
	MCII-like features	.578	.078	<.001	.426	.726	
	Autonomous Motives	.256	.088	.005	.099	.426	
	Controlled Motives	-.121	.089	.085	-.279	.082	
Disengagement coping							.270
	MCII-like features	.249	.108	.013	.047	.450	
	Autonomous Motives	-.357	.090	<.001	-.513	-.193	
	Controlled Motives	.251	.093	.002	.045	.420	
Goal Reengagement							.378
	MCII-like features	.593	.084	<.001	.449	.766	
	Autonomous Motives	.102	.087	.105	-.056	.263	
	Controlled Motives	-.036	.100	.347	-.203	.189	
Intergoal Facilitation							.479
	Effort Coping	.313	.112	<.001	.098	.517	
	Disengagement Coping	.332	.098	<.001	.133	.518	

	Goal Reengagement	.326	.111	<.001	.114	.522	
	Number of children	-.015	.081	.428	-.179	.132	
	Work hours	-.056	.087	.265	-.193	.146	
	Relationship status	.062	.091	.260	-.109	.236	
	Gender	-.118	.089	.097	-.283	.041	
Intergoal Interference							.304
	Effort Coping	-.027	.127	.428	-.275	.223	
	Disengagement Coping	-.016	.109	.438	-.259	.156	
	Goal Reengagement	.449	.112	<.001	.224	.636	
	Number of children	.113	.092	.102	-.066	.272	
	Work hours	.082	.093	.213	-.104	.249	
	Relationship status	-.028	.093	.377	-.211	.138	
	Gender	.156	.106	.083	-.068	.348	
Goal Progress							.729
	Effort Coping	.697	.079	<.001	.556	.866	
	Disengagement Coping	-.091	.085	.147	-.265	.084	
	Goal Reengagement	.034	.110	.375	-.187	.245	
	Intergoal Interference	.248	.090	.005	.042	.399	
	Intergoal Facilitation	.053	.094	.270	-.123	.231	
	Number of children	.029	.069	.338	-.115	.146	
	Work hours	-.002	.063	.488	-.113	.129	
	Relationship status	-.064	.066	.155	-.188	.077	
	Gender	.050	.070	.268	-.078	.192	

Table S6

Multilevel Structural Equation Model Fit For The Competing Life Goal

Dependent Variable	*Predictor*	β	*Posterior S.D.*	*p-value*	*Lower C.I.*	*Upper C.I.*	R^2
Within-Person Effects							
Effort coping							.351
	MCII-like features	.562	.039	<.001	.499	.619	
	MCII x Controlled Motives	.230	.165	.090	-.102	.522	
Disengagement coping							.108
	MCII-like features	-.071	.048	.087	-.156	.027	
	MCII x Autonomous Motives	-.080	.153	.315	-.345	.227	
Goal Reengagement							.323
	MCII-like features	.518	.044	<.001	.439	.595	
	MCII x Controlled Motives	.350	.152	.020	.027	.594	
Intergoal Facilitation							.141
	Effort Coping	.125	.051	.007	.033	.232	
	Disengagement Coping	.055	.040	.070	-.014	.138	
	Goal Reengagement	.135	.050	.007	.028	.228	
	MCII-like features	.190	.052	<.001	.098	.283	
Intergoal Interference							.017
	Effort Coping	.098	.052	.027	-.001	.197	
	Disengagement Coping	.059	.041	.075	-.017	.135	
	Goal Reengagement	-.018	.052	.395	-.113	.081	
	MCII-like features	-.003	.055	.472	-.111	.098	
Goal Progress							.709
	Effort Coping	.745	.059	<.001	.705	.795	
	Disengagement Coping	-.110	.025	<.001	-.155	-.060	
	Goal Reengagement	.086	.029	<.001	.026	.134	
	Intergoal Facilitation	.027	.025	.135	-.017	.077	
	Intergoal Interference	.005	.022	.387	-.036	.046	
	MCII-like features	.071	.030	.007	.012	.131	
Between-Person Effects							
Effort coping							.501
	MCII-like features	.662	.066	<.001	.511	.775	
	Autonomous Motives	.152	.082	.030	.009	.333	
	Controlled Motives	-.139	.096	.095	-.309	.065	
Disengagement coping							.249
	MCII-like features	.123	.097	.110	-.082	.285	
	Autonomous Motives	-.169	.101	.040	-.387	<.001	
	Controlled Motives	.433	.087	<.001	.283	.597	
Goal Reengagement							.367
	MCII-like features	.580	.082	<.001	.426	.723	
	Autonomous Motives	-.080	.098	.235	-.277	.089	
	Controlled Motives	.048	.091	.305	-.102	.211	
Intergoal Facilitation							.571
	Effort Coping	.352	.119	.005	.108	.562	
	Disengagement Coping	.176	.098	.055	-.030	.345	
	Goal Reengagement	.451	.111	<.001	.257	.668	
	Number of children	-.038	.083	.305	-.219	.098	
	Work hours	-.014	.080	.445	-.168	.139	

	Relationship status	.077	.078	.120	-.069	.212	
	Gender	-.070	.085	.195	-.239	.086	
Intergoal Interference							.305
	Effort Coping	-.142	.120	.135	-.342	.088	
	Disengagement Coping	.230	.110	.005	.008	.406	
	Goal Reengagement	.430	.125	<.001	.150	.655	
	Number of children	.088	.094	.215	-.105	.252	
	Work hours	.016	.103	.470	-.173	.195	
	Relationship status	-.020	.097	.440	-.180	.196	
	Gender	.052	.101	.330	-.143	.226	
Goal Progress							.794
	Effort Coping	.832	.081	<.001	.684	.987	
	Disengagement Coping	.018	.087	.360	-.126	.209	
	Goal Reengagement	.194	.097	.025	.041	.393	
	Intergoal Interference	-.026	.079	.360	-.152	.136	
	Intergoal Facilitation	-.103	.117	.215	-.314	.119	
	Number of children	.073	.059	.100	-.023	.196	
	Work hours	-.007	.058	.445	-.128	.098	
	Relationship status	-.031	.056	.335	-.132	.072	
	Gender	.008	.065	.455	-.124	.130	

Influence of Dwelling and Indulging

To address the potential impact of indulging we excluded from the analysis all days in which participants rated all items related to obstacles and planning “not at all” (i.e., they only engaged in fantasizing about the future). On average participants engaged in indulging on 1.9 out of 10 days (SD = 2.86), 55 participants did not engage in indulging on any day. Similarly, to address the impact of dwelling we excluded days in which participants rated all items related to fantasizing and planning “not at all” (i.e., they only engaged in dwelling on obstacles). On average participants engaged in dwelling on 1.87 out of 10 days (SD = 2.6), 58 participants did not engage in dwelling on any day. These models are available on the project’s OSF page (https://osf.io/57dzk).