Navigating Later-Life Transitions: Passion, Control Strategies, and Psychological Functioning Under Perceived Decline

Arielle Bonneville-Roussy[1]*

Laurence Perrier[1],

Nathalie Houlfort[2],

Robert J. Vallerand[3]

Author Note

[1]Group of Research in Adulthood, the Life Course, And Expertise (GRACE), Department of Psychology, Université du Québec à Montréal.

[2] Department of Psychology, Université du Québec à Montréal.

[3] Laboratoire de recherche sur le comportement social, Department of Psychology, Université du Québec à Montréal.

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*Correspondence concerning this article should be addressed to:

Arielle Bonneville-Roussy, Ph.D.
Department of Psychology,
Université du Québec à Montréal,
C.P.8888, Succ Centre-Ville
Montreal, QC, Canada.
H2C3P8
Email: Bonneville-Roussy.arielle@uqam.ca.

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Summary

Later-life transitions, such as retirement, present significant developmental milestones that challenge individuals to regulate shifting goals, identities, and resources. This longitudinal study examined the relationship between two forms of passion, harmonious (HP) and obsessive (OP), and psychological functioning during the transition to retirement among 347 tenured university faculty members (M_age = 61.6). Guided by the Dualistic Model of Passion and the Motivational Theory of Lifespan Development, the study tested whether adaptive primary and secondary control strategies mediate the relationship between passion and psychological functioning (well-being and ill-being) and whether these processes are moderated by perceived decline in professional expertise. Results from structural moderation and mediation analyses showed that HP facilitated greater use of secondary control strategies, particularly positive reappraisal, which was linked to enhanced well-being and reduced ill-being. These effects were magnified among individuals who perceived a decline in their expertise, suggesting that HP may foster adaptive flexibility in the face of normative losses. OP was negatively related to self-regulation and unrelated to psychological outcomes. By integrating passion with lifespan models of control, this study highlights how motivational orientation influences self-regulatory processes and psychological functioning across key developmental transitions in adulthood.

Public Significance Statement

When older adults perceive that their skills are declining, those who are harmoniously passionate cope more effectively by adjusting goals and reframing setbacks. This flexible self-regulation protects psychological functioning during major transitions. Obsessive passion showed no such benefit. We demonstrated this process with university professors during their transition to retirement. Our findings identify motivational quality as a key factor in how people adapt to loss and constraint in later-life transitions.

Keywords: passion, perceived decline, primary and secondary control strategies, psychological functioning, retirement

Navigating Later-Life Transitions: Passion, Control Strategies, and Psychological Functioning Under Perceived Decline

This study integrates two complementary theoretical frameworks, namely the Dualistic Model of Passion (DMP, Vallerand et al., 2003) and the Motivational Theory of Lifespan Development (MTD, Heckhausen et al., 2010), to examine how control strategies mediate the relationship between passion and psychological functioning during an important developmental deadline: the transition to retirement that marks a critical point at which professional roles and future work opportunities become constrained. This deadline may be particularly visible among professionals in knowledge-intensive fields such as academia and healthcare. Experts, those with high levels of domain-specific competence, decades of training, and peer recognition (Ericsson et al., 2018; Krampe & Charness, 2018), often experience their work as central to their identity. As life expectancy and health continue to improve, many individuals in these roles delay retirement well beyond traditional norms (Hennekam & Dumazert, 2021), a trend echoed in countries such as the United States (Clark & Ma, 2005; McChesney & Bichsel, 2020), Canada (Goulet & Ladouceur, 2011; Statistics Canada, 2023), and Japan, among others (Chen & Chen, 2023).

Despite the importance of retirement as a developmental deadline, little research has examined the psychological mechanisms that support or impede successful adaptation during this transition. Using a longitudinal study design spanning 9 months, the present study addresses this gap by examining how different types of passion (harmonious vs. obsessive) and primary and secondary control strategies shape psychological functioning during this life course transition. To do this, we focus specifically on academic faculty, an occupational group that epitomizes high expertise and intense professional identification.

Control Strategies During Developmental Deadlines

The MTD (Heckhausen et al., 2010; 2019) provides a theoretical foundation for understanding how individuals regulate their goals and maintain a sense of agency across the life course. Central to this theory is the distinction between primary control, defined as efforts to influence the environment in line with personal goals, and secondary control, which involves internal processes that help individuals maintain motivation and well-being when external conditions are no longer conducive to goal attainment (Heckhausen & Schulz, 1995, 1999; Schulz & Heckhausen, 1996). The MTD posits that across the lifespan, individuals strive to optimize primary control by selecting and pursuing goals that align with opportunities while employing secondary control strategies to adapt to limitations.

One key concept in MTD is developmental deadlines: predictable points in the life course at which specific goals become less feasible or normatively appropriate (Heckhausen et al., 2010). Retirement is a salient example of such a deadline (Haase et al., 2013; Heckhausen & Wrosch, 2016). It often signals the closure of a significant life domain and the reduction of opportunities for continued occupational control and recognition, as well as potential reengagement and redistribution of time and resources in other domains. In these contexts, individuals are challenged to disengage from long-standing professional goals and redirect their motivational resources toward alternative pursuits better aligned with retirement opportunities (Wrosch et al., 2003; Rothermund et al., 2021). Unlike other developmental deadlines, such as maternity (Heckhausen et al., 2001), which involve a single, time-limited opportunity, retirement unfolds gradually and is usually followed by further opportunities outside of work, and can elicit adaptive reappraisal even before the deadline has passed, as individuals anticipate and prepare for shifting opportunities across life domains. Many professionals begin adjusting their goals well before formal retirement, gradually redistributing their motivational effort across multiple

domains, such as mentoring, leisure activities, and volunteering. In this sense, retirement can involve both pre-deadline striving and post-deadline adaptation, depending on how individuals prioritize their professional and retirement goals (Haase et al., 2013; Freund & Baltes, 2002; Wang & Shultz, 2010). Thus, work-related and retirement-related goals may co-occur rather than sequentially alternate.

The MTD highlights three regulatory processes that are particularly important during such transitions. First, goal striving reflects the continued pursuit of meaningful goals when they remain viable (primary control). Second, positive reappraisal helps individuals reinterpret constraints in a motivationally constructive way, sustaining engagement even in the face of difficulty (selective secondary control). Third, goal adjustment involves scaling back or redirecting goals when circumstances no longer allow for effective pursuit, thereby protecting well-being (compensatory secondary control; Heckhausen et al., 2010; Freund & Baltes, 2002; Brandtstädter & Rothermund, 2002). Empirical research has demonstrated that failing to apply these strategies flexibly can lead to diminished control beliefs, increased stress, and poorer psychological functioning (Wrosch et al., 2003; Wrosch & Schulz, 2008; Haase et al., 2013). Retirement, as a normative life transition, can thus serve as a test case for understanding how aging individuals regulate motivational priorities in the face of changing opportunities (Baltes & Baltes, 1990; Carstensen et al., 1999; Lang & Carstensen, 2002).

Empirical studies have consistently shown that older adults who flexibly apply these control strategies during late-career transitions report higher well-being and lower psychological distress (Heckhausen et al., 2010). For example, Tsai et al. (2022) found that educators who engaged in job crafting and proactive goal adjustment maintained better health and greater satisfaction as they approached retirement. As Wrosch et al. (2000) showed, while persistence in

goal striving (primary control) is more strongly linked to well-being in younger adults, secondary control strategies such as positive reappraisal become increasingly beneficial later in life. Although lowering aspirations was associated with lower subjective well-being in Worsch et al.'s (2000) study, subsequent interpretations (e.g., Toyama, 2022) suggest that in older adulthood, and particularly during transitions marked by reduced external opportunities such as retirement, adjusting goals and positively reframing experiences can serve an adaptive function by preserving eudaimonic well-being and facilitating psychological adjustment.

In the context of expert retirement, these motivational demands may become especially complex. Because time and energy are finite, individuals with expert skills must make selective decisions about where to invest their efforts. The pursuit of high-level achievement, particularly in domains that require prolonged skill acquisition and sustained practice, often limits participation in other areas of life (Ericsson et al., 1993; Simonton, 2014). Experts frequently internalize long-standing professional goals and identities shaped by decades of investment in skill development and excellence. For them, the developmental deadline of retirement may be experienced not merely as the loss of a professional role but as a fundamental challenge to the self. Managing this transition requires a delicate balance of persistence, adjustment, and reappraisal to preserve both identity and psychological functioning (Freund & Baltes, 2002).

Empirical research has shown that individuals who flexibly alternate between regulation strategies experience greater well-being and identity continuity during retirement transitions (Ibarra, 1999). Qualitative research has highlighted that academics and other highly skilled professionals often face complex negotiations of identity and purpose when approaching retirement, balancing attachment to long-held professional roles with the need to let go of aspects that no longer align with post-retirement life (Cahill et al., 2023; Kronsbein et al., 2023). Experts

must determine which elements of their occupational goals remain attainable, such as graduate supervision for academics, and which require redefinition or disengagement to maintain psychological well-being after retirement (Cahill et al., 2023; Kronsbein et al., 2023).

Passion as a Drive to Lifespan Development

Passion has emerged as a key construct in understanding how individuals sustain long-term engagement with valued life pursuits. According to the DMP (Vallerand, 2015, 2024), it promotes self-growth by orienting people toward mastering the activity they are passionate about, thereby fostering expertise. Passion is defined as a strong inclination toward an activity that individuals love, find important, and invest time and energy in regularly, and is part of one's identity (Vallerand, 2015; Vallerand et al., 2003). In high-skill professions, such as academia, passion is often a defining feature of individuals' career trajectories (Vallerand & Houlfort, 2019). Research has shown that up to 99% of individuals in expert performance domains such as music and the arts, science, and sports report high levels of work passion (Bonneville-Roussy et al., 2011; Bonneville-Roussy & Vallerand, 2018, 2020; Vallerand & Verner-Filion, 2020).

However, the long-term implications of this passion depend on its type. According to the DMP, two forms of passion are distinguished based on how activities are internalized into the self: harmonious passion (HP) and obsessive passion (OP). HP reflects an autonomous form of internalization, in which the activity is integrated into the individual's identity without conflict with other life domains. This form of passion supports psychological balance, flexible persistence, and well-being (Vallerand, 2015). In contrast, OP results from a more rigid form of internalization of the activity one loves, often driven by external contingencies such as social approval or self-esteem. OP tends to be associated with rumination, emotional dependence on the activity, and interference with other areas of life (Vallerand, 2015). HP is associated with greater

job satisfaction, autonomy, and psychological functioning, whereas OP has been linked to overcommitment, difficulty detaching from work, and resistance to transitions such as retirement (Houlfort et al., 2015; Vallerand & Houlfort, 2019).

Recent findings reinforce this distinction in later adulthood. Harmonious passion has been linked to flexible persistence, the ability to maintain engagement with meaningful activities while adapting to contextual changes, whereas OP is associated with rigid persistence, or the tendency to continue pursuing goals despite costs or shifting priorities (Paquette et al., 2023; Vallerand et al., 2023). These patterns are particularly relevant in the context of later-life transitions, such as retirement, which often involve restructuring long-held goals and identities. For individuals in expert domains, passion frequently develops alongside growing competence, repeated success, and identity consolidation over years of deliberate practice and domain-specific achievement (Bonneville-Roussy & Vallerand, 2018).

When individuals approach a developmental deadline, their dominant form of passion may shape how they psychologically adapt. According to the DMP, those with HP are more likely to acknowledge this deadline, reappraise increasingly unattainable goals, gradually disengage from them, and re-engage in alternative, more adaptive goals (Wrosch & Freund, 2001). In contrast, individuals with OP may struggle to disengage from their passionate activities. These individuals may resist disengagement even when contextual indicators (e.g., nearing retirement age) suggest that doing so would be adaptive. Recent research indicates that these differences in passion influence not only behavioural persistence but also how individuals adjust their goals and manage emotional responses during major life transitions (Paquette et al., 2023; Vallerand et al., 2023; Vallerand & Paquette, 2024).

Psychological Functioning in the Context of Life Transitions

According to the dual continua model of mental health (Keyes, 2002), psychological functioning can be conceptualized as two orthogonal dimensions: psychological well-being (e.g., life satisfaction) and psychological ill-being (e.g., depression). This framework defines complete mental health as the presence of well-being and the absence of ill-being, enabling a more nuanced understanding of psychological outcomes during life transitions. In this context, developmental transitions in adulthood can either support or threaten psychological functioning depending on the individual's motivational and cognitive appraisal and the goals pursued during this transition (Keyes, 2002; Pinquart & Schindler, 2007). Recent studies have demonstrated that expert professionals are particularly vulnerable to mental health issues during the transition to retirement (Ahmann, 2023; Keloharju et al., 2023). For example, CEOs have been shown to experience significant declines in health and well-being after retirement, primarily due to a loss of role clarity and social feedback (Keloharju et al., 2023). Similar outcomes were found among elite athletes facing a forced retirement, who reported elevated depressive symptoms compared to those retiring voluntarily (Esopenko et al., 2020).

Empirical evidence supports these findings, which align with the DMP. A longitudinal study by Houlfort et al. (2015) found that OP individuals experienced more psychological distress and poorer adjustment to retirement, while those with HP reported greater psychological need satisfaction and emotional well-being. In a large-scale examination of work-family integration, Houlfort et al. (2018) also found that HP was positively related to flourishing mental health. In contrast, OP was associated with increased work-family conflict and distress. In high-pressure professions such as school leadership and healthcare, Horwood et al. (2021) and Shamir-Balderman & Shamir (2025), respectively, demonstrated that HP was associated with

reduced burnout and anxiety. In contrast, OP was associated with greater emotional exhaustion and a greater risk of depressive symptoms.

The Moderating Role of Perceived Decline in Developmental Deadlines

Perceived decline reflects a core dynamic of lifespan development, wherein aging is associated with a shifting balance between gains and losses (Baltes, 1987); as losses become more salient, adaptive functioning increasingly depends on regulatory processes that optimize remaining resources. Perceived skills decline, defined as an individual's subjective belief that their professional or cognitive abilities are diminishing (Fisher et al., 2017), may play a critical moderating role in how passion and control strategies influence psychological functioning during the transition to retirement. As such, perceived decline may serve as a trigger to the retirement process. Research has shown that perceived declines in cognitive or work-related functioning can make it more difficult for individuals to disengage from goals that have long defined their identity (Bye & Pushkar, 2009). When OP drives these goals, individuals may persist with unrealistic performance standards, especially in the face of an impending developmental deadline such as retirement. This rigid persistence, in the absence of adaptation, can lead to heightened psychological distress (Vallerand et al., 2023) and a diminished sense of control (Houlfort et al., 2015). From the perspective of the MTD (Heckhausen et al., 2010), such rigidity reflects a failure to engage in effective compensatory strategies. Individuals with OP may struggle with positive reappraisal (viewing loss as an opportunity) and may expend substantial effort to optimize skills that are no longer relevant. Conversely, individuals with HP may be more likely to interpret perceived skill decline as a natural cue for transition. These individuals may tend to adopt control strategies more fluidly as they disengage from irrelevant goals, select new,

appropriate goals, and optimize their engagement with these goals (Hamm et al., 2020; Heckhausen et al., 2024).

The Need for an Integrated Model

Despite growing recognition of the complexities surrounding the developmental deadline that is retirement, research on the psychological mechanisms underlying this successful role transition in expert individuals remains scarce. The present study aims to address this gap. Specifically, we aim to integrate passion (DMP; Vallerand et al., 2003) as a motivational force that drives control strategies during the transition to retirement (MTD; Heckhausen et al., 2010, 2019), which, in turn, leads to adaptive psychological functioning.

The DMP suggests that HP leads to psychological flexibility and adaptive psychological outcomes, whereas OP leads to more rigidity, maladaptive persistence, and less adaptive outcomes (Chichekian & Vallerand, 2022; Vallerand et al., 2023). In addition, the MTD (Heckhausen et al., 2010) suggests that successful transitions require gradually letting go of primary control strategies (persistence and optimization of skills that are no longer needed) and increasing the use of secondary control strategies. Therefore, HP may lead to more flexible uses of primary and secondary control strategies, as well as adaptive psychological functioning in the face of a developmental deadline. Because the passionate activity of individuals with OP is more ego-involved, it may lead to an overreliance on primary control strategies during developmental transitions and less optimal psychological functioning. Finally, the salience of a developmental deadline (through the recognition of skills decline, for instance) may enhance OP's rigid response to it. At the same time, HP individuals may acknowledge and respond to the developmental deadline in a more malleable manner.

Objectives and Hypotheses

The overarching goal of this study was to integrate a model in which OP and HP serve as the motivational drivers of adaptive control strategies and psychological functioning, facilitating the successful navigation of the developmental deadline that is retirement. The retirement transition was examined with active university professors who had started their transition from academia to retirement. We further examined perceived decline in expertise as a marker of the salience of the developmental deadline that would trigger the retirement process (Fisher et al., 2017). Given that the developmental deadline of retirement is approaching for this population, we propose that an adaptive set of control strategies would involve progressively disengaging from primary control and increasing reliance on secondary control strategies. Aligned with the dual continua model of mental health (Keyes, 2002), which posits that well-being and ill-being are distinct constructs, psychological functioning was examined through both positive (i.e., life satisfaction) and negative (i.e., depression and loneliness) indicators.

This study had three main objectives, informed by the DMP (Vallerand, 2015) and the MTD (Heckhausen et al., 2010). The first objective was to examine how goal regulation mediates the link between passion (harmonious and obsessive) and psychological functioning during the transition to retirement. We first posited that HP would be positively associated with adaptive goal regulation strategies, reflecting autonomous engagement and flexibility (H1; Carpentier et al., 2012; Vallerand et al., 2023). In contrast, OP was expected to relate to less adaptive regulation due to its rigid and controlled nature (H2; Bélanger et al., 2013; Bridekirk et al., 2016). Adaptive goal regulation, particularly the use of secondary control strategies, was hypothesized to be linked with greater psychological functioning, as supported by research linking flexible self-regulation to emotional resilience (H3; Paquette et al., 2023; Yeh & Chu, 2018). In terms of the direct effect of passion on psychological functionning, we expected that

HP would be associated with well-being (H4; Curran et al., 2015; Vallerand, 2015), whereas no firm prediction was made for OP due to its mixed direct associations with well-being and ill-being (Schellenberg et al., 2016; Moè, 2016). Taken together, goal regulation was expected to mediate the relationships between HP and OP and psychological functioning, such that HP would show a positive indirect association (H5), whereas OP would display a negative indirect association (complete mediation) (H6) with psychological functioning through their respective effects on goal regulation.

The second objective was to investigate whether perceived decline in expert skills moderates the relationships between passion and goal regulation. Based on prior research linking perceived losses to diminished regulatory flexibility (Rothermund & Brandtstädter, 2003), we expected that a perceived decline in expert skills would moderate the relationship between passion and goal regulation, such that individuals who perceived a greater decline in their expertise would report less adaptive goal regulation, particularly in the context of higher OP (H7). Similarly, perceived decline was expected to attenuate the beneficial link between adaptive goal regulation and psychological functioning (H8). Finally, the third aim of the study was exploratory: to examine a potential moderated mediation model. Specifically, we investigated whether the relationship between passion, control strategies, and psychological functioning was moderated by perceived skill decline. Because of its exploratory nature, this aim was not associated with formal hypotheses.

Method

Transparency and openness

The Mplus and R codes are available on the Open Science Framework (Bonneville-Roussy et al., 2026) and in Supplementary Material. We report how we determined our sample size, accounted

for attrition, documented any data exclusions, and described all manipulations. Data were collected using Qualtrics software, preprocessed in SPSS (Version 29), and the main analyses were conducted in Mplus version 8.11 (Muthén & Muthén, 2025). Simple slopes and figures for the moderation effects were analyzed using R scripts in RStudio (Version 2024.12.1). The study was not preregistered.

Participants

A total of 406 university professors in Canada participated in the study, of whom 393 had sufficient data for the primary study objectives. Participants ranged in age from 43 to 84 years (M = 61.61, SD = 6.40), with approximately 47% identifying as men, 52% as women, and less than 1% as other. The majority of participants held tenured positions and reported an average of 29.77 years (SD = 8.70) of professional experience in academia. They were planning to retire, on average, 3.91 years (SD = 0.79) from the first measurement.

Procedure

Participants were recruited through professional associations of university professors and university faculty associations in Canada. Eligible participants were professors who met at least one criterion indicating engagement in the retirement transition (e.g., having initiated retirement procedures, participating in phased retirement, having announced their retirement date, or having identified a planned retirement date within two years). The research team contacted over 2,000 university professors, resulting in a participation rate of approximately 20%.

After providing informed consent, participants completed a comprehensive questionnaire in either online or paper format, according to their preference, in English or French. At Time 1 (T1), participants responded to demographic questions (age, gender, years of experience,

anticipated retirement age), a measure of perceived decline, and standardized measures of passion (harmonious and obsessive) in their area of expertise (academia). Six months later, at Time 2, participants completed additional questionnaires that assessed control strategies using validated and adapted scales from (Wrosch et al., 2000). Three months after Time 2 (nine months after the study began), well-being and ill-being were assessed.

All measures were administered using scales with demonstrated psychometric properties, and data collection procedures were designed to ensure participant confidentiality and data security. The entire protocol received approval from the University of Quebec in Montreal's research ethics committee (certificate number 2023-5169). Participation was voluntary, and participants did not receive any monetary compensation. They were advised that they could withdraw at any time without penalty.

Measures

Descriptive statistics and zero-order correlation coefficients are presented in Table 1. All scales were examined for their psychometric properties using either Confirmatory Factor Analysis (CFA; Brown, 2015) or Exploratory Structural Equation Modelling ESEM (Asparouhov & Muthén, 2009; Marsh et al., 2014), depending on the theoretical assumptions and prior validation of each measure. The scales were adapted to reflect the expert-skilled field that is academia. Therefore, university professors were asked to report their area of expertise, which was used throughout the three time points.

Time 1

Passion. At the beginning of the study, passion was measured using the 12-item Passion Scale (Houlfort et al., 2015; Marsh et al., 2013; Vallerand et al., 2003). This scale included two

subscales assessing HP (e.g., “My area of expertise reflects the qualities I like about myself”) and OP (e.g., “I have almost an obsessive feeling for my area of expertise”). The scale has been validated and has demonstrated strong psychometric properties in predicting psychological adjustment outcomes (Marsh et al., 2013; Vallerand & Rahimi, 2022). In the present study, ESEM results showed that the data were consistent with the two-factor structure: $\chi^2(41) = 85.87$, $p < .001$; CFI = .976, TLI = .962; RMSEA = .056 [90% CI: .039–.072]; SRMR = .028.

Perceived Decline in Expertise. Perceived developmental deadline salience was assessed using a dummy variable created for the present study. Participants were asked to choose one of the four following options regarding their perceived expertise now: ‘I am still in training to become an expert’, ‘I am an expert but still need mentoring’, ‘I have reached the peak of my expertise’, ‘ My level of expertise is declining’, and ‘I have stopped doing my expertise’. The first three items were then merged and coded as zero (0, ‘No perceived decline’). The third choice was then coded one (1, ‘Perceived decline’). Because the last choice (end of activity) was qualitatively different from the rest of the choices, responses to this forced choice were not entered into the analysis.

Time 2

Control Strategies. The Primary and Secondary Control Strategies Scale from the MIDUS survey questionnaire (Wrosch et al., 2000), adapted to expertise (“*In my area of expertise…”),* was used to assess control-related mechanisms. This 12-item scale includes three theoretically derived subscales: *Persistence in goal striving* (primary control), which evaluates active goal pursuit and effortful problem-solving to improve the situation (e.g., “I do everything I can to solve problems when they come up”), *Goal Adjustment* (secondary control), which reflects flexible goal restructuring (e.g., “When things don’t go my way, I adjust my goals”), and

Positive Reappraisal (secondary control), which reflects the reinterpretation of challenges in a more positive light (e.g., "Even if I can't reach a goal, I can learn something valuable from trying"). Participants rated each item on a 5-point Likert scale from 1 (not at all true for me) to 5 (very true for me). Higher scores indicated greater use of adaptive control strategies. The scale has demonstrated strong psychometric properties in a large lifespan sample (MIDUS) (Wrosch et al., 2000). In the current study, ESEM results showed adequate model fit: $\chi^2(31) = 45.79$, $p = .042$; CFI = .977, TLI = .952; RMSEA = .053 [90% CI: .010–.083]; SRMR = .036.

Time 3

Psychological functioning was measured at the third measurement period (nine months after the first measurement time).

Psychological Well-Being. *Life Satisfaction* was used as a proxy for well-being. It was assessed using the Satisfaction with Life Scale (Diener et al., 1985), a five-item measure evaluating global life satisfaction. Participants rated items such as "In most ways my life is close to my ideal" on a 7-point Likert scale (1 = strongly disagree to 7 = strongly agree). The scale has been widely validated and shown to be reliable across populations. CFA results yielded a good fit of the model to the data $\chi^2(4) = 31.68$, $p = 0.09$; CFI = .998, TLI = .978; RMSEA = .077 [90% CI: .000–.15]; SRMR = .019.

Psychological Ill-Being was measured using depression and loneliness as its proxies. *Depressive symptoms* were examined using the Center for Epidemiologic Studies Depression Scale (CES-D) (Radloff, 1977), a widely validated 20-item measure of depressive symptoms experienced during the past week. Participants rated items such as "I felt depressed" or "I could not get going" on a 4-point Likert scale ranging from 0 (rarely or none of the time) to 3 (most or all of the time), with higher total scores reflecting greater symptom severity. The CES-D has

shown robust psychometric performance in older adult populations and across diverse cultural contexts, with recent evidence supporting its stability and predictive validity in longitudinal studies of aging (Ajnakina et al., 2021; van Zutphen et al., 2021). *Loneliness* was measured using five loneliness-oriented items from the De Jong Gierveld Loneliness Scale (De Jong Gierveld & Van Tilburg, 2006), which captures both the emotional and social aspects of loneliness. Items such as "I experience a general sense of emptiness" were rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree), with higher scores indicating greater loneliness. This scale has demonstrated strong reliability and validity in aging research and is frequently used in studies involving retirement and late-life psychological health. In the present study, CFA results of the loneliness items demonstrated a good fit of the data to the latent factor: $\chi^2(3) = 5.80$, $p = .122$; CFI = .991, TLI = .970; RMSEA = .074 [90% CI: .000–.163]; SRMR = .030.

Analytic Plan

All of the hypotheses and the factorial validity of the instruments used were tested using a structural equation modelling (SEM) framework in Mplus Version 8.11 (Muthén & Muthén, 1998–2025). Model evaluation followed established guidelines, using multiple fit indices, both global and local (Kline, 2024). In terms of global fit information, acceptable model fit was defined by a non-significant chi-square, values of CFI and TLI above .90 (adequate) or .95 (excellent), RMSEA values below .08 with upper 90% CI limits under .10, and SRMR values below .08 (Hu & Bentler, 1999; Marsh et al., 2004; West et al., 2012). In terms of local fit, normalized correlation and covariance residuals were examined to examine local misfit between pairs of variables. Full Information Maximum Likelihood (FIML) estimation was used to handle missing data, offering unbiased estimates under the assumption of missing at random (Enders & Bandalos, 2001). To limit the parameter-to-participant ratio of the models (Kline, 2023), the

factor scores obtained by the measurement models presented above (CFA or ESEM) were saved and used to test the main objectives and hypotheses.

To examine the mediation effects of Objective 1 (H1-H7), a path analysis model within a Structural Equation Model framework was estimated using four indicators of psychological functioning: well-being (life satisfaction) and ill-being (depression and loneliness) (Bonneville-Roussy et al., 2022). More specifically, we tested six parallel mediations in a single model for each passion type (HP and OP), with the three types of control strategies as mediators and life satisfaction, depressive symptoms and loneliness as outcomes, with perceived decline added as a control variable. We estimated the indirect effects using bias-corrected bootstrapping with 5,000 resamples and 95% confidence intervals. Mediation was considered significant if the confidence intervals for the indirect paths did not contain zero (Preacher & Hayes, 2008; Hayes, 2018).

Objectives 2 (H8) and 3 were tested together in two moderated mediation models, one for HP and the other for OP. To examine the moderating effects of perceived expertise decline on the relationships between passion, control strategies, and psychological functioning, HP and OP were first centred. Then, the interaction terms were computed between passion (HP/OP) and perceived decline (dummy-coded). The interaction terms were then used to test a) the direct moderating effects of perceived decline on the links between HP or OP and the control strategies and b) the moderating effects on the mediation between HP or OP, goal regulation and psychological functioning. Simple slopes were then probed to interpret significant interactions (Aiken & West, 1991), and post-hoc analyses were plotted using the CranR Packages LM and Interactions (Long, 2024).

Results

Descriptive statistics and zero-order correlations are found in Table 1. They indicate that participants reported relatively high levels of HP, life satisfaction, and loneliness, with lower levels of OP and depression. Around a third of the participants reported a perceived decline in their expertise (26%). Among the control strategies, goal striving was the most highly endorsed, followed by positive reappraisal, and goal adjustment was the least endorsed. The significant zero-order correlations revealed that HP was positively associated with OP, all three control strategies, and life satisfaction, and negatively associated with depression and loneliness, and perceived decline. OP was negatively associated with decline but positively associated with loneliness. Decline was negatively linked to almost all variables, except goal adjustment, which showed a positive association. Goal striving was significantly linked to psychological functioning, except for depression. Goal adjustment was only related to perceived decline. Finally, positive reappraisal was positively linked to life satisfaction, and lower levels of depression and loneliness. The links between the variables within the same constructs were adequate (|.22 - .62|), indicating no potential overlap.

Objective 1: Mediation Model

Objective 1 was addressed using a saturated parallel structural path analysis model within an SEM framework, in which the direct paths from the independent and mediating variables were linked to the dependent variables, resulting in zero degrees of freedom. The mediating paths were included for HP and OP only, keeping decline as a control variable. The results of this model are shown in Figure 1 and Table 2.

Direct effects. HP was associated with greater use of goal striving ($\beta = .17$, $p = .044$) and positive reappraisal strategies ($\beta = .26$, $p = .004$), but was not significantly related to goal adjustment ($\beta = -.06$, $p = .534$). HP also positively predicted life satisfaction ($\beta = .19$, $p = .029$)

and was not significantly related to depressive symptoms or loneliness. OP was not a reliable predictor of any of the three strategies, life satisfaction or depressive symptoms, but it was associated with greater loneliness ($\beta = .23$, $p = .008$). Perceived decline in ability was associated with lower goal striving ($\beta = -.27$, $p = .001$) and lower positive reappraisal ($\beta = -.23$, $p = .001$), but was not significantly related to goal adjustment, life satisfaction, depressive symptoms and loneliness.

Greater use of positive reappraisal strategies predicted higher life satisfaction ($\beta = .31$, $p = .004$), and less loneliness ($\beta = -.29$, $p = .004$). Goal adjustment also showed a positive association with life satisfaction ($\beta = .21$, $p = .018$) but was not significantly related to depression or loneliness. Goal striving was not associated with any outcome. No other direct effects were found.

Mediating effects of control strategies between passion and psychological functioning. The only significant indirect effect found was HP on life satisfaction through positive reappraisal ($\beta = .09$, 95% CI [.02, .17], $p = .031$). The full results are presented in Table 3

The model explained 23% of the variance in life satisfaction, 9% in depressive symptoms, and 14% in loneliness. The proportions of variance explained for the control strategies are: positive reappraisal, $R^2 = .13$; goal adjustment, $R^2 = .02$; goal striving, $R^2 = .12$.

Objectives 2 and 3 – Moderated mediation models of perceived decline on the mediating links between HP or OP and psychological functioning

Objective 2 proposed that perceived decline would moderate the effect of passion on control strategies. Objective 3 tested a moderated mediation model of perceived decline on the passion–

control strategies–psychological functioning mediation model presented above. The interaction terms predicted only the regulation strategies, leaving six free paths (the three psychological functioning variables in the interactions between HP, OP, and decline). Due to the addition of the interaction terms in the model, the present set of analyses was performed with a sample size of 347. The overall structural model demonstrated excellent fit to the data, $\chi^2(6) = 6.93$, $p = .33$, CFI = .996, TLI = .970, RMSEA = .0121 [90% CI 0.000, 0.075], SRMR = .026. The full results of the moderated mediation models are found in Supplementary Materials 2 and 3.

HP Moderated Mediation Models

As seen in Figure 2, a significant interaction emerged for positive reappraisal (B = 0.25, SE = 0.10, p = .014), indicating that HP was linked with greater use of reappraisal, particularly among individuals who perceived their expertise as declining. Simple slope analysis further clarified the interaction effect on positive reappraisal. When there was no perceived decline, the association between HP and reappraisal was not statistically significant (B = 0.08, SE = 0.05, p = .156). However, when participants reported perceived decline, the relationship between HP and positive reappraisal was significant (B = 0.27, SE = 0.08, p = .002). We found no other direct moderation effects.

We next tested whether the indirect effects of HP on psychological functioning, mediated by control strategies, were conditional on perceived decline (Objective 3). As shown in Figure 3, the conditional indirect effect of HP × decline on life satisfaction through positive reappraisal was significant (B = 0.19, SE = 0.10, p = .044). When decline is present (Figure 3, red line), higher HP is associated with higher predicted life satisfaction through increased use of positive reappraisal. In contrast, when decline is absent (blue dashed line), the indirect association

between HP and well-being is not significant. No other moderated mediation effects were found for HP.

OP Moderation and Moderated Mediation Models

Figure 4 shows a significant interaction that emerged between OP and perceived decline on positive reappraisal (B = −0.24, SE = 0.11, p = .028). The results of simple slopes analysis indicated that under no perceived decline, the association between OP and positive reappraisal failed to reach significance (B = 0.07, SE = .06, p = .22), but that under perceived decline, the relationship between OP and positive reappraisal was significant and negative (B = -0.11, SE = 0.10, p = .026). Another interaction effect was found between OP and decline predicting goal striving (B = −0.20, SE = 0.06, p < .001, see Figure 5). Simple slopes results highlighted that when there was no perceived decline, the association between OP and goal striving was not statistically significant (B = 0.04, SE = 0.03, p = .20). However, when participants reported perceived decline, the relationship between OP and goal striving became significantly negative (B = –0.14, SE = .05, p = .01). No other OP × decline interactions were statistically significant. Finally, none of the moderated mediation models reached significance

Discussion

The present study offers new insights into how different forms of passion interact with perceived decline and self-regulatory strategies to influence psychological functioning during a crucial developmental deadline: the transition to retirement. This transition represents a psychologically significant later-life transition, one that can prompt motivational restructuring and identity shifts, particularly among individuals in high-expertise roles (Silver & Williams, 2018). As individuals age, the developmental balance increasingly shifts from gains to losses

(Baltes, 1987), and perceptions of declining professional competence may heighten the salience of this deadline. In such contexts, the quality of one's passion, whether harmonious or obsessive, can critically shape how people manage change and maintain psychological well-being. Grounded in DMP (Vallerand et al., 2003) and MTD (Heckhausen et al., 2010), the study examined how passion and control strategies jointly shape adaptation during the retirement transition. Specifically, control strategies involve the distinction between primary control, which refers to efforts to modify the circumstances to be aligned with a person's goal, and secondary control, which involves internal regulatory processes that help individuals maintain motivation and well-being when goals are no longer attainable (Heckhausen et al., 2010).

Most hypotheses regarding the mediating and moderating relationships among passion, perceived decline in expertise, control strategies, and psychological functioning were supported. Consistent with predictions, HP was associated with greater use of control strategies. Specifically, it was linked to persistence in goal striving as a form of primary control and to positive reappraisal as a form of secondary control. This finding supports prior evidence that HP fosters flexibility, resilience, and constructive emotional engagement (Carpentier et al., 2012; Paquette et al., 2023; St-Louis et al., 2018; Vallerand et al., 2024). It also aligns with research showing that HP promotes mastery-oriented rather than performance-avoidance goals (Bonneville-Roussy et al., 2011; Vallerand et al., 2007). In contrast, OP, a more rigid, ego-involved form of engagement, was negatively associated with both primary (persistence in goal striving) and secondary control (positive reappraisal and goal adjustment) strategies. This pattern suggests that obsessively passionate older professors were less likely to adapt their goals to situational demands.

Secondary control strategies (positive reappraisal and goal adjustment), in turn, were associated with higher life satisfaction and lower loneliness. These results support the view that secondary control becomes more adaptive than primary control in the context of age- and retirement-related deadlines (Heckhausen et al., 2010, 2019; Brandtstädter & Rothermund, 2002). The absence of an association between goal striving (primary control) strategies and psychological functioning is consistent with prior work indicating that these strategies, such as goal striving, support well-being only when the primary life goal, in this case, occupational engagement, remains attainable and salient (Heckhausen et al., 2001). Interestingly, the only significant mediation effect involved positive reappraisal, which linked HP to greater life satisfaction. This finding suggests that HP enhances psychological functioning both directly and indirectly through positive reinterpretation (Verner-Filion et al., 2014; Vallerand et al., 2023). In the context of a major life transition, positive reappraisal may serve as a key adaptive regulatory mechanism by enabling individuals to reinterpret difficult situations, such as work-related goals during the transition to retirement, in a more constructive manner.

Moderation analyses showed that the benefits of HP were strongest among individuals who perceived a decline in expertise. These individuals also reported greater use of positive reappraisal (Rahimi et al., 2023). The results suggest that high skilled workers with higher HP towards work are more likely to actively reframe their declining skills in a positive way, which may have helped preserve their psychological functioning during the transition. No such benefit was found at lower levels of HP.

Conversely, OP seemed to trigger a maladaptive use of control strategies under perceived decline. OP appears to support the use of positive reappraisal only when professors did not feel their expertise was threatened. OP becomes maladaptive under conditions of perceived decline,

where increased OP is linked to an increased reduction of the use of positive reappraisal. Furthermore, OP interacted with perceived decline to reduce primary control (persistence in goal striving). In our study, when professors did not perceive decline in their expert skills, goal striving was stable across OP levels. However, when decline was perceived, professors with higher OP indicated a decreased use of goal striving strategies, indicating reduced effort toward goals under conditions of threatened expertise.This pattern suggests a reduction in engagement and regulatory effort when decline threatens a highly valued domain (Horwood et al., 2021).

A significant moderated mediation further revealed that life satisfaction increased with HP only among professors who perceived a decline in their expertise. At low levels of HP, perceived decline is associated with markedly lower life satisfaction due to a reduced reliance on positive reappraisal, whereas as HP increases, this negative indirect effect is progressively attenuated, indicating that HP buffers the adverse impact of decline on life satisfaction by sustaining the regulatory benefits of positive reappraisal. More broadly, this finding suggests that HP activates adaptive secondary control in response to developmental deadlines (Wrosch & Schulz, 2008). Its benefits appear most pronounced under challenging conditions that require flexibility and emotional adaptation (Freund & Baltes, 2002; Paquette et al., 2023; Rahimi et al., 2023). The links between HP and positive reappraisals under threatening conditions (in our case, perceived decline) represents one of the study's central contributions, highlighting that the benefits of HP are context-dependent and become most evident when individuals face developmental deadlines that challenge long-standing sources of identity and control. No such effects were observed for OP, underscoring its limited capacity for adaptive regulation in the face of perceived decline. Under these conditions, the maladaptive side of OP becomes more

salient, consistent with the view that its more rigid nature constrains flexible cognitive readjustment when the passionate activity is under threat (Chichekian & Vallerand, 2022).

More broadly, our findings extend MTD by identifying passion (Vallerand et al., 2003) as a higher-order motivational resource that facilitates the transition from primary to secondary control under developmental deadlines. This integration bridges previously distinct lines of research on motivational regulation and domain-specific engagement by showing that passion operates as a cross-domain resource that supports adaptive self-regulation when developmental opportunities narrow (Freund & Baltes, 2002; Heckhausen et al., 2010). By linking the quality of motivational investment to control optimization, our findings suggest that passion provides the motivational flexibility necessary to realign goals and maintain well-being in the face of age-related constraints (Heckhausen et al., 2019; Vallerand, 2015; Wrosch & Schulz, 2008).

By integrating the DMP (Vallerand et al., 2003) with the MTD (Heckhausen et al., 2010), our results indicate that adaptation near retirement depends not only on the availability of control strategies but on the passion-driven orientation that shapes their regulation. HP functioned as a meta-regulatory resource (Rudolph, 2016): under perceived decline, as it was associated with greater use of positive reappraisal, which in turn predicted higher life satisfaction. In the perceived decline condition, OP was associated with diminished use of positive reappraisal. These findings suggest that passion moderates how individuals engage in secondary control strategies (in this case, positive reappraisal) when primary control becomes less viable. Specifically, adaptive regulation in later life appears to depend on the quality of one's passion, with HP facilitating and OP constraining positive cognitive adaptation.

In this view, HP functions as a mechanism that promotes timely shifts from primary to secondary control in response to changing opportunities. Rather than universally enhancing well-

being, HP exerts some of its most beneficial effects when individuals are prompted to confront the limits of their prior capacities, a condition that activates flexibility as a core regulatory process (Freund & Baltes, 2002; Heckhausen et al., 2019; Vallerand et al., 2023). OP, in contrast, represents a motivational orientation in which ego-involved goal pursuit restricts this flexibility (Vallerand, 2015). A rigid commitment to expertise-linked standards can dampen positive reappraisal and delay goal adjustment, resulting in reduced regulatory flexibility near developmental deadlines (Freund & Baltes, 2002; Heckhausen et al., 2019; Vallerand, 2015). Consequently, OP marks a boundary condition for lifespan adaptation, as secondary control and flexible redistribution of effort remain available in principle but are undermined by rigid persistence (Heckhausen et al., 2010, 2019; Vallerand, 2015). Conceptually, these findings position HP and OP as motivational gatekeepers of control optimization within the MTD framework, linking goal regulation to continuity, flexibility, and psychological functioning during role exits such as retirement.

Limitations and Future Direction

Although this study employed a prospective design, which allows for stronger inferences about directionality than cross-sectional approaches, the 9-month interval may still be insufficient to capture the whole trajectory of psychological adjustment in late adulthood. However, it is a typical and appropriate timeframe for capturing the initial phase of the retirement transition (see Houlfort et al., 2015). This design also prevents us from ruling out reverse causality, whereby goal regulation could predict passion instead. Longer longitudinal or experimental designs would better capture dynamic regulatory changes over time, especially if the transition is captured in full. Second, reliance on self-report measures may have introduced biases, such as shared method variance and socially desirable responding, especially when assessing sensitive constructs like

perceived decline. Third, the sample consisted of highly educated, late-career professionals, which may limit the generalizability of the findings to broader occupational or socioeconomic groups. Future research should replicate these findings in more diverse populations and cultures and examine additional predictors and moderators, such as social support or personality traits like neuroticism, that may interact with motivational processes during life transitions. The study relied on variable-centred analyses, which may overlook naturally occurring combinations of control strategies that could provide a more nuanced understanding of adaptation patterns.

Future research should investigate how passion and control strategies evolve over extended periods to better capture the dynamics of adaptation during developmental transitions. In addition, future research should investigate the links between control strategies and psychological functioning in other areas of potential decline, such as physical or cognitive, and expand the frameworks to include both gains and losses. Broadening the scope to include diverse cultural groups would also clarify whether the observed patterns generalize beyond expert professionals. Part of the retirement transition involves finding meaningful alternatives to one's previous work, and both expertise-linked HP and OP may shape this process differently. HP may facilitate engagement in non–expertise-specific pursuits (e.g., travel, family, volunteering), whereas OP may drive continued involvement in expertise-related activities (e.g., research collaborations, consulting, or emeritus roles). Future research should address these hypotheses. Additionally, examining potential shifts in passion and control strategies during the transition should highlight how goal processes evolve across activities and interests. Investigating contextual moderators such as role identity salience may further illuminate the conditions under which passion fosters resilience or contributes to vulnerability in the later stages of lifespan development.

In sum, our findings contribute to theoretical advancement by integrating DMP with MTD and broader lifespan developmental theory. For DMP, our results highlight that HP, unlike OP, facilitates adaptive functioning specifically through the use of flexible control strategies (Vallerand, 2015). These effects are magnified under conditions of perceived decline, supporting the view that HP's benefits are most evident when individuals face developmental constraints (Freund et al., 2009). For MTD, this research supports the model's emphasis on aligning motivational processes with shifting opportunities and constraints (Heckhausen et al., 2010). HP was linked to both primary and secondary control strategies, particularly when perceived decline was salient, suggesting that HP may enhance control optimization in later adulthood (Klusmann, et al., 2021; Kanfer & Ackerman, 2004). More broadly, the study reinforces lifespan developmental theory by demonstrating that the quality of motivational engagement, primarily when it supports regulatory flexibility, can be critical for navigating developmental deadlines (Heckhausen et al., 2019; Zacher et al., 2016). By integrating passion theory with lifespan models of adaptation (Bonneville-Roussy & Vallerand, 2018), we provide a more nuanced understanding of how individuals manage age-related challenges. These insights lay the groundwork for future research to examine how the dynamic interplay between passion and control strategies unfolds across diverse developmental pathways in later life.

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Table 1.

Zero-Order Correlation Coefficients and Descriptive Statistics.

Variables	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
1. Harmonious Passion	—								
2. Obsessive Passion	*.28*	—							
3. Goal Striving	*.20*	.07	—						
4. Goal Adjustment	-.07	-.03	*-.41*	—					
5. Positive Reappraisal	*.28*	.06	*.56*	*-.22*	—				
6. Life satisfaction	*.27*	.01	*.19*	.10	*.38*	—			
7. Depression	*-.13*	.02	-.11	.02	*-.21*	*-.43*	—		
8. Loneliness	-.11	.19	*-.15*	-.01	*-.29*	*-.40*	*.47*	—	
9. Decline	*-.19*	-.15	*-.26*	*.14*	*-.27*	*-.21*	-.11	-.01	—
Descriptive statistics									
Mean	5.27	2.64	4.22	2.84	3.77	5.63	35.92	5.63	0.26
Variance	1.30	1.60	0.29	0.68	0.60	1.20	37.29	1.20	0.19
Min. -Max.	1.17-7.00	1.00-6.33	2.75-5.00	1.00-4.67	1.75-5.00	1.60-7.00	22-63	1.60-7.00	0-1
Skewness	-0.83	0.66	-0.42	0.05	-0.32	-1.23	1.76	-1.23	1.07
Kurtosis	0.53	-0.30	-0.37	-0.53	-0.21	1.49	4.65	1.49	-0.86

Note. Min = Minimum. Max. = Maximum. Coefficients in italic typesetting are significant at $p < .05$ at the minimum sample size.

Table 2.

Estimates of the Direct Effects of The Model Linking Passion, Control Strategies and Psychological Functioning

Variable		Estimate	*SE*	95% C.I.		Stand.	*p*
				Lower	Upper	Estimate	
Regression	ON						
Life Satisfaction	Positive Reappraisal	0.67	0.23	0.09	0.51	.31	.01
	Goal Adjustment	0.32	0.14	0.01	0.37	.21	.02
	Goal Striving	0.14	0.42	-0.18	0.28	.04	.74
	HP	0.20	0.09	0.02	0.35	.19	.04
	OP	-0.07	0.10	-0.24	0.12	-.07	.46
	Decline	-0.36	0.21	-0.32	0.03	-.15	.09
Depression	Positive Reappraisal	-0.46	0.28	-0.46	0.06	-.21	.10
	Goal Adjustment	-0.06	0.20	-0.30	0.23	-.04	.79
	Goal Striving	-0.21	0.46	-0.29	0.18	-.06	.65
	HP	-0.11	0.11	-0.30	0.12	-.10	.34
	OP	0.06	0.13	-0.18	0.29	.05	.67
	Decline	-0.43	0.26	-0.39	0.04	-.18	.10
Loneliness	Positive Reappraisal	-0.63	0.23	-0.48	-0.08	-.29	.01
	Goal Adjustment	-0.12	0.18	-0.30	0.17	-.08	.53
	Goal Striving	-0.04	0.49	-0.29	0.23	-.01	.94
	HP	-0.12	0.09	-0.27	0.04	-.11	.19
	OP	0.25	0.10	0.05	0.40	.23	.01
	Decline	-0.18	0.24	-0.27	0.12	-.08	.45
Positive Reappraisal	HP	0.13	0.05	0.08	0.43	.26	.01
	OP	-0.01	0.04	-0.20	0.14	-.03	.73
	Decline	-0.26	0.08	-0.36	-0.08	-.23	< .001
Goal Adjustment	HP	-0.04	0.07	-0.26	0.12	-.06	.54
	OP	0.00	0.06	-0.16	0.17	.00	.99
	Decline	0.17	0.13	-0.05	0.27	.11	.20
Goal Striving	HP	0.05	0.02	0.00	0.33	.17	.05
	OP	0.00	0.03	-0.15	0.18	.01	.88
	Decline	-0.18	0.05	-0.42	-0.11	-.27	< .001
Covariance	WITH						

Loneliness	Depression	0.38	0.11	0.24	0.59	.43	< .001
Loneliness	Life Satisfaction	-0.27	0.08	-0.52	-0.15	-.34	< .001
Depression	Life Satisfaction	-0.35	0.10	-0.57	-0.24	-.42	< .001
Goal Adjustment	Positive Reappraisal	-0.05	0.02	-0.34	-0.03	-.18	.01
Goal Striving	Goal Adjustment	-0.06	0.01	-0.52	-0.23	-.39	< .001
Goal Striving	Positive Reappraisal	0.05	0.01	0.37	0.60	.50	< .001
HP	OP	0.24	0.05	0.17	0.38	.28	< .001
HP	Decline	-0.05	0.04	-0.33	0.04	-.14	.14
OP	Decline	-0.03	0.03	-0.23	0.08	-.08	.29
Means	HP	0.00	0.05	-0.10	0.11	0.00	.99
	OP	0.00	0.05	-0.11	0.10	0.00	.96
	Decline	0.22	0.03	0.43	0.63	.53	< .001
Intercepts	Depression	0.10	0.11	-0.11	0.30	.10	.34
	Life Satisfaction	0.07	0.09	-0.09	0.26	.07	.39
	Loneliness	0.09	0.09	-0.11	0.25	.09	.34
	Positive Reappraisal	0.07	0.04	-0.02	0.32	.14	.10
	Goal Adjustment	-0.03	0.06	-0.22	0.13	-.04	.63
	Goal Striving	0.04	0.02	-0.02	0.32	.15	.07
Variances	HP	0.88	0.07	1.00	1.00	1.00	< .001
	OP	0.87	0.05	1.00	1.00	1.00	< .001
	Decline	0.17	0.02	1.00	1.00	1.00	< .001
Residual	Life Satisfaction	0.75	0.12	0.67	0.91	.77	< .001
Variances	Depression	0.90	0.17	0.86	0.98	.91	< .001
	Loneliness	0.85	0.10	0.80	0.97	.86	< .001
	Positive Reappraisal	0.19	0.02	0.76	0.96	.87	< .001
	Goal Adjustment	0.41	0.04	0.95	1.00	.98	< .001
	Goal Striving	0.06	0.01	0.80	0.97	.88	< .001

Note. N = 393 using Full Information Maximum Likelihood. SE = Stand Error of Estimate; C.I. = Confidence Interval. See Figure 1 for a depiction of the direct effects.

* p < .05, ** p < .01, *** p < .001.

Table 3. *Estimates of the Mediation Paths Between Passion, Control Strategies, and Psychological Functioning*

Outcome	**From**	**Mediator**	**Estimate**	***SE***	**95% C.I.**		***p***
					Lower	**Upper**	
Life							
Satisfaction	HP	Positive Reappraisal	0.09	0.04	0.02	0.18	.03*
		Goal Adjustment	-0.01	0.03	-0.09	0.02	.60
		Goal Striving	0.01	0.02	-0.03	0.07	.78
	OP	Positive Reappraisal	-0.01	0.03	-0.08	0.05	.75
		Goal Adjustment	0.001	0.02	-0.04	0.04	.99
		Goal Striving	0.001	0.01	-0.02	0.03	.96
Depression	HP	Positive Reappraisal	-0.06	0.04	-0.17	0.01	.17
		Goal Adjustment	0.001	0.02	-0.02	0.06	.89
		Goal Striving	-0.01	0.03	-0.08	0.03	.70
	OP	Positive Reappraisal	0.01	0.02	-0.03	0.06	.76
		Goal Adjustment	0.001	0.01	-0.03	0.03	.00
		Goal Striving	0.001	0.01	-0.03	0.02	.95
Loneliness	HP	Positive Reappraisal	-0.08	0.04	-0.19	-0.02	.06
		Goal Adjustment	0.01	0.02	-0.01	0.07	.78
		Goal Striving	0.001	0.03	-0.07	0.05	.95
	OP	Positive Reappraisal	0.01	0.03	-0.04	0.08	.76
		Goal Adjustment	0.001	0.01	-0.03	0.03	.00
		Goal Striving	0.001	0.01	-0.03	0.02	.99

Note. N = 393 using Full Information Maximum Likelihood. HP = Harmonious Passion; OP = Obsessive Passion; SE = Stand Error of Estimate; C.I. = Confidence Interval.

Figure Caption

Figure 1.

Path Analysis of The Links Between Passion, Primary and Secondary Control Strategies, and Psychological Functioning

Note. $N = 347$ using Full Information Maximum Likelihood. Standardized path coefficients are shown. The gray-shaded box highlights the secondary control strategies, while the non-shaded box represents the primary control strategy. Measurement errors, residual variances and covariances are omitted for clarity. The full results are presented in Table 2. Only paths at $p < .05$ are displayed.

Figure 2.

Moderation Effect of Perceived Decline and HP Predicting Positive Reappraisal.

Note. The figure illustrates the simple slopes of the relationship between HP and positive reappraisal in the reported presence (Coded 1; solid line) and absence (Coded 0; dashed line) of perceived decline. Each dot represents a participant. Shaded areas represent 95% confidence intervals. At the presence of perceived decline, HP is positively associated with positive reappraisal; the association is non-significant at the absence of decline. All variables were mean-centered prior to analysis.

Figure 3.
Moderation Effect of Perceived Decline and OP Predicting Positive Reappraisal.

Note. The figure displays simple slopes of the association between obsessive passion (OP) and positive reappraisal at presence (Coded 1; plain line) and absence (Coded 0; dashed line) of perceived decline. Each dot represents a participant. Shaded regions represent 95% confidence intervals. OP is negatively associated with positive reappraisal when perceived decline is high; this relationship is not significant when decline is low. All variables were mean-centered prior to analysis.

Figure 4.
Moderation Effect of Perceived Decline and OP Predicting Goal Striving.

Note. The figure displays simple slopes of the association between obsessive passion (OP) and goal striving at presence (Coded 1; plain line) and absence (Coded 0; dashed line) of perceived decline. Each dot represents a participant. Shaded regions represent 95% confidence intervals. OP is negatively associated with goal striving when perceived decline is high; this relationship is not significant when decline is low. All variables were mean-centered prior to analysis.

Figure 5.

Mediated Moderation Effect of Perceived Decline and HP Predicting Life Satisfaction Through Positive Reappraisal

Note. The figure depicts the estimated conditional indirect effect of harmonious passion (HP) on life satisfaction through positive reappraisal at reported presence (Coded 1; plain line) and absence (Coded 0; dashed line) of perceived decline. Shaded bands represent 95% confidence intervals. When perceived decline is present, the indirect effect of harmonious passion (HP) via positive reappraisal on the increase in life satisfaction is stronger. This effect is not significant when there is no perceived decline. All variables were mean-centered prior to analysis.

Figure 1

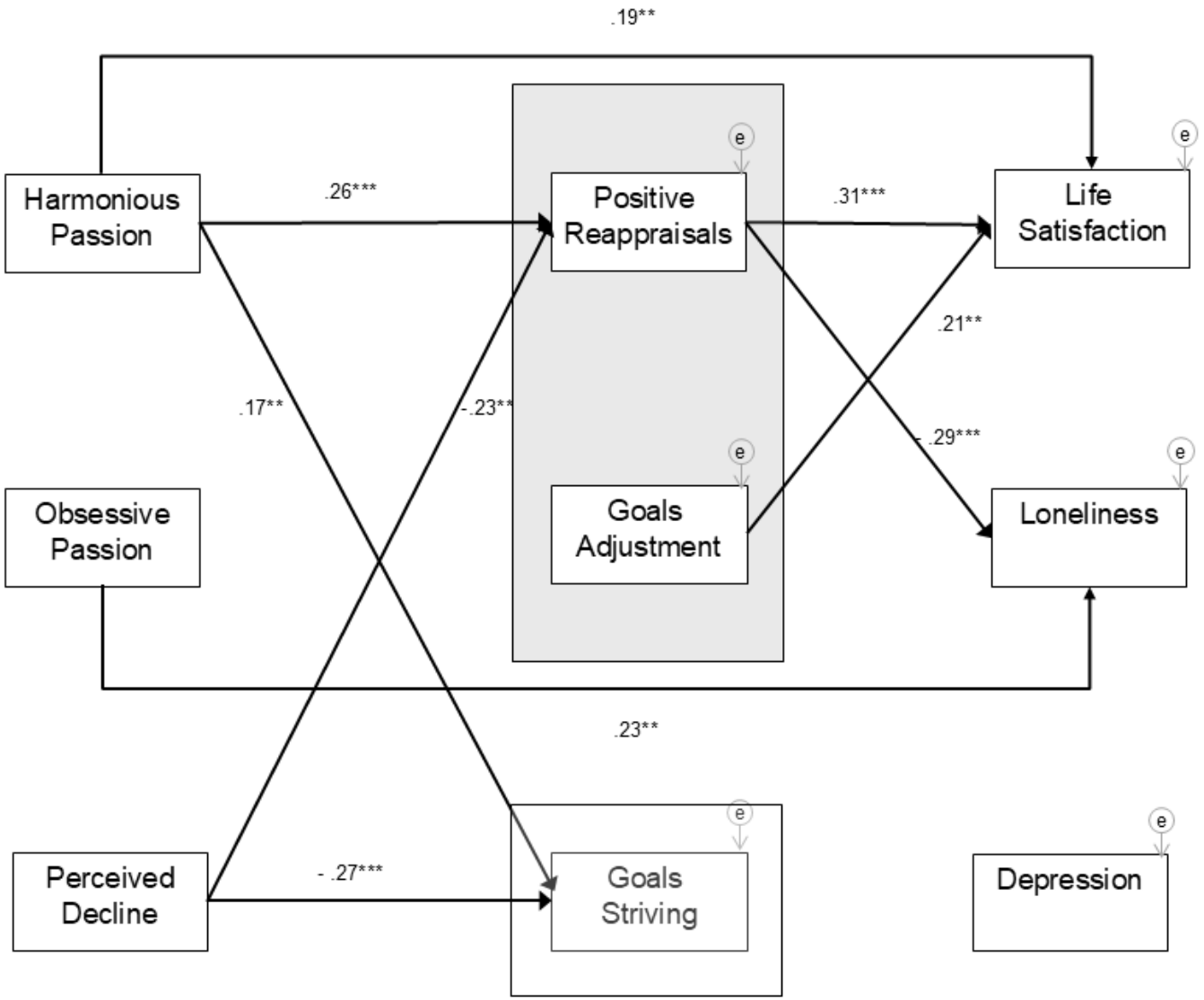

.19**
Harmonious Passion
.26***
Positive Reappraisals
.31***
Life Satisfaction
.21**
.17**
-.23**
-.29***
Obsessive Passion
Goals Adjustment
Loneliness
.23**
Perceived Decline
-.27***
Goals Striving
Depression
e

Figure 2

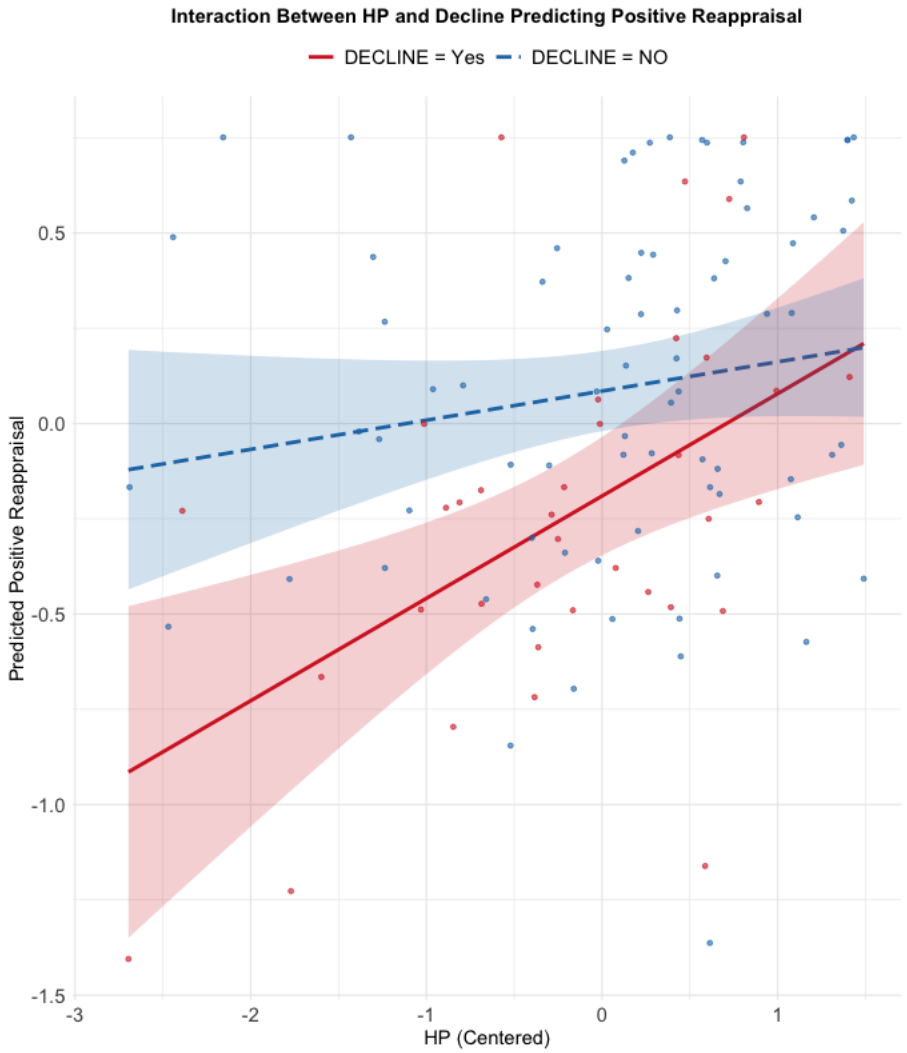

Interaction Between HP and Decline Predicting Positive Reappraisal
DECLINE = Yes
DECLINE = NO
Predicted Positive Reappraisal
0.5
0.0
-0.5
-1.0
-1.5
-3
-2
-1
0
1
HP (Centered)

Figure 3

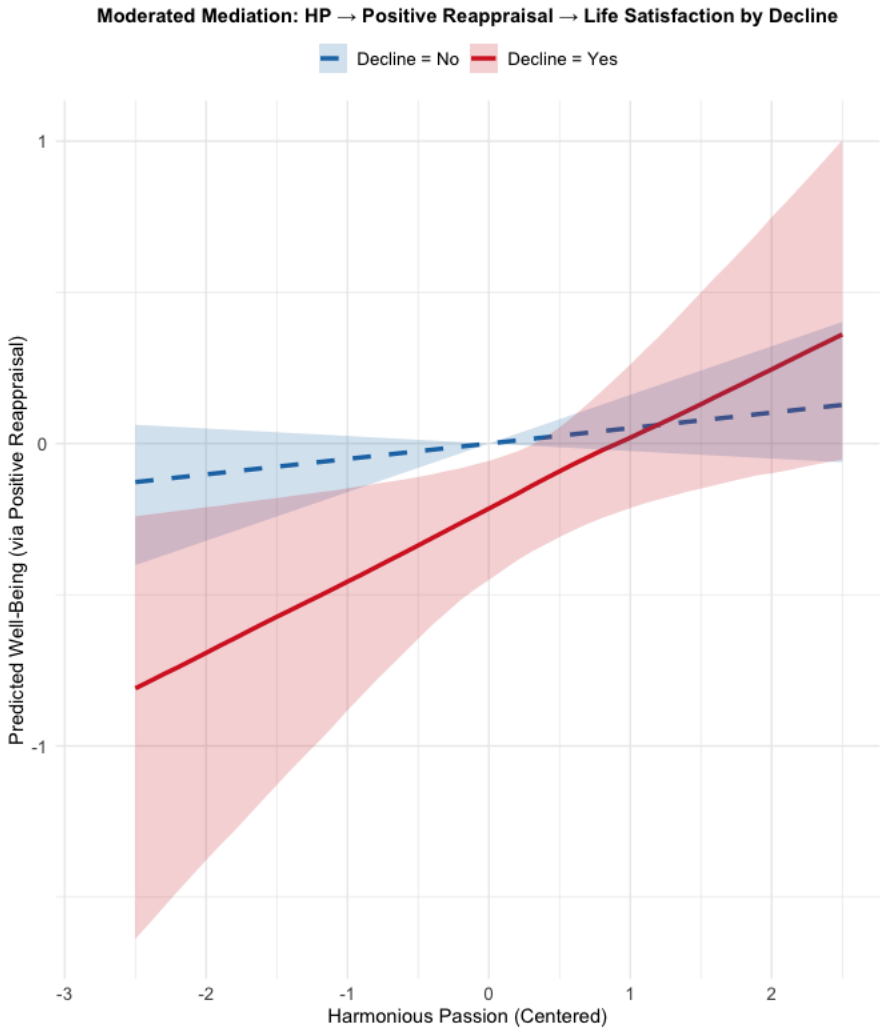

Moderated Mediation: HP → Positive Reappraisal → Life Satisfaction by Decline
Decline = No
Decline = Yes
Predicted Well-Being (via Positive Reappraisal)
1
0
-1
-3
-2
-1
0
1
2
Harmonious Passion (Centered)

Figure 4

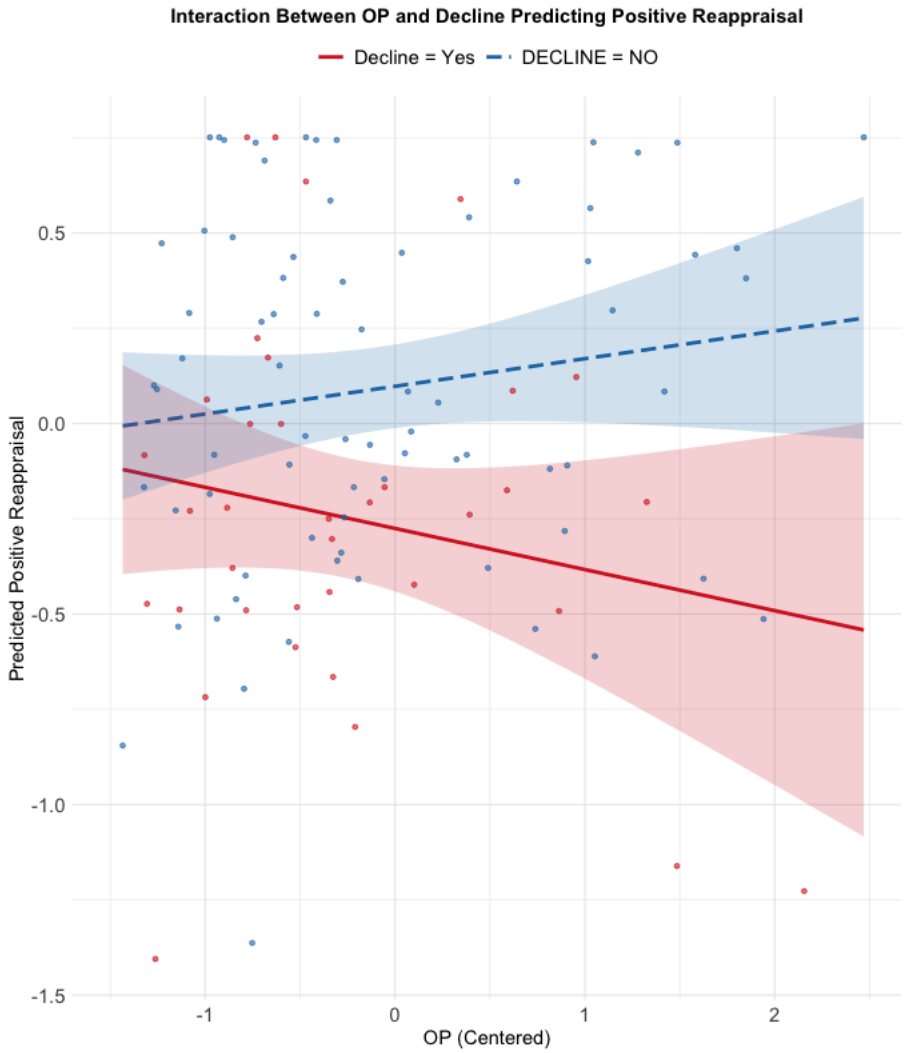
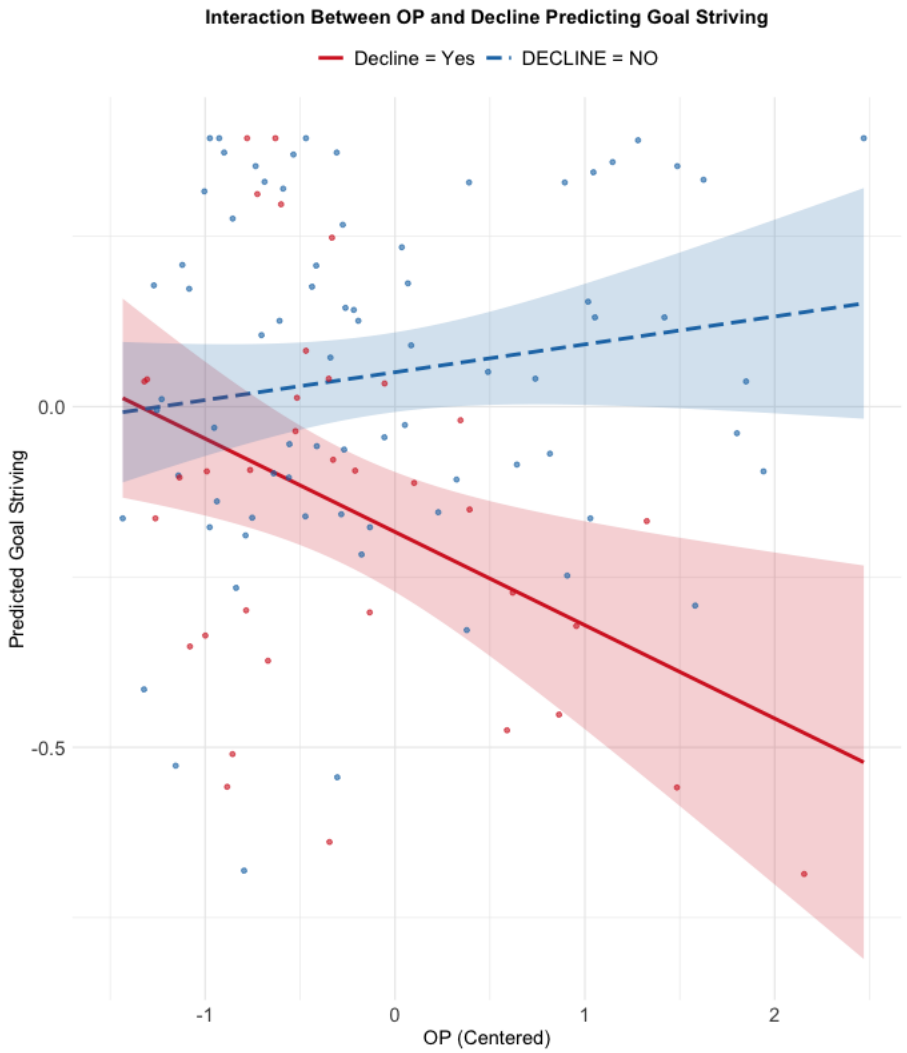

Interaction Between OP and Decline Predicting Positive Reappraisal
Decline = Yes
DECLINE = NO
Predicted Positive Reappraisal
0.5
0.0
-0.5
-1.0
-1.5
-1
0
1
2
OP (Centered)

Figure 5


Interaction Between OP and Decline Predicting Goal Striving
Decline = Yes
DECLINE = NO
Predicted Goal Striving
0.0
-0.5
-1
0
1
2
OP (Centered)