The cognitive and emotional contributions of older workers to workplaces

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Overview

- Cognitive contributions
- Emotional contributions
- Bridging cognitive and emotional contributions: theoretical explanations
- Meta-analysis of occupational future time perspective
- Future directions

Cognitive contributions

- If we consider "experience" as a temporal metric, than older workers possess more work experience — on average — than their younger counterparts
  - Rauvola et al. (2019): $K = 567$, $N = 353,077$ workers
 - The meta-analytic correlation between chronological age and work experience is $r_c = .49$ [95% CI: .475 $_{to}$ .505]

Cognitive contributions

○ We can at least partially equate "experience" with "knowledge" (e.g., demonstrable, job relevant knowledge)

  ○ *Explicit knowledge* (i.e., knowledge that is readily articulated, codified, stored, accessible; can be easily transmitted to others)

  ○ *Tacit knowledge* (i.e., skills, ideas, experiences, not codified; may not necessarily be easily expressed to others)
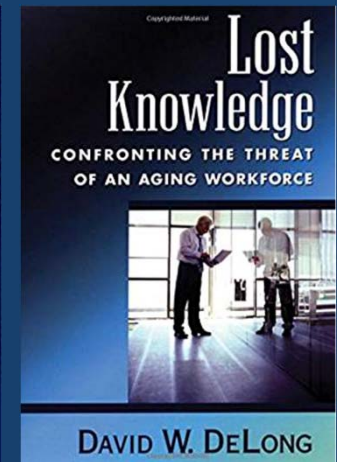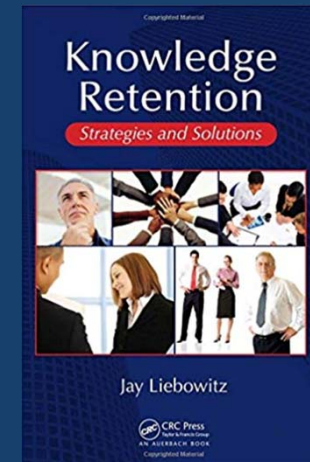
Cognitive contributions

○ There are going to be some dynamics (i.e., declines) in cognitive abilities over time, particularly those tied to more "fluid" mechanics

○ The good news is that experiential knowledge is more aligned with "crystalized" pragmatics

From: Baltes, et al. (1999)
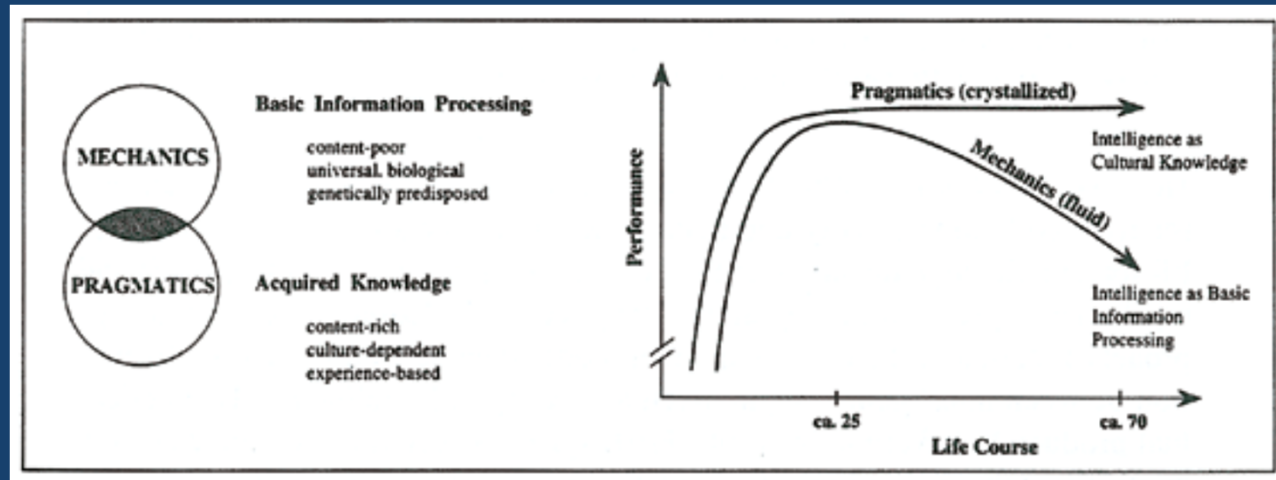
Cognitive contributions

- When we think of the cognitive contributions of older workers, we typically think about those which are supported by application of the their explicit knowledge

- *"Knowledge management"* as a general management strategy; emerging specific focus on older workers

Cognitive contributions

- Despite this, the age-work outcome relationships are typically weak
- Why?
  - Such relationships may be non-linear (e.g., Sturman, 2003; Katz, Rudolph, & Zacher, 2019)
  - There are age-related mediators (causal mechanisms) and moderators (conditional mechanisms) of this relationship

Emotional contributions

- As with cognitive capacities, we can we likewise anticipate dynamics in emotional capacities

- Aging is accompanied by increased capacities for emotion regulation (e.g., Scheibe & Zacher, 2013)

- Social motives become more salient with increasing age (Carstensen, et al. 1999)

From: Carstensen, et al. (1999)
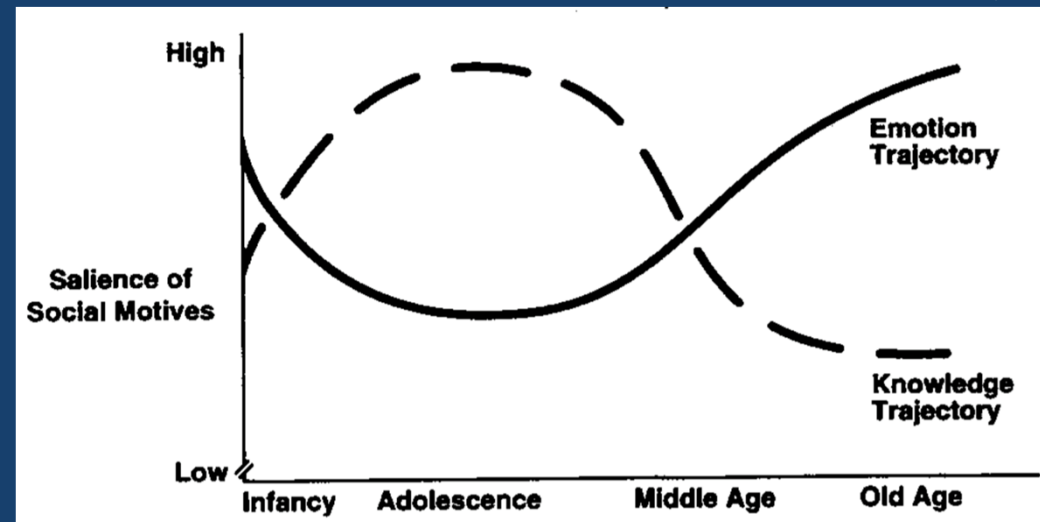
Cognitive & emotional contributions

○ To build a "bridge" between cognitive and emotional contributions, we could make an experiential argument for these processes

○ For example, some have conceptualized emotion regulation *capacity* as a tacit knowledge-like competency (e.g., Charles, 2010)

○ Supporting the experiential argument, a prevailing motivational explanation for this suggests that older people stand to gain more from effective emotion regulation

Socioemotional selectivity theory

- Socioemotional selectivity theory (SEST) is a motivational theory of lifespan development (See Carstensen, 1991; 2006 & Carstensen et al.,1999)
- Humans actively self-contextualize the passage of time
  - We adjust our "time horizons" with advancing age
  - This adjustment is reflected in our future time perspective (FTP)

Socioemotional selectivity theory

- FTP decreases with age and predicts changes in the priority of social goals:
  - Younger people have an *expansive* FTP prioritize instrumental and knowledge-related social goals that help them maximize gains in their *future*
    - e.g., Crafting new social relationships; pursuing knowledge and skill acquisition goals
  - Older people have a *constrained* FTP and prioritize meaningful and positive goals in the *present*
    - e.g., Maintaining existing social relationships; pursuing emotionally meaningful goals

Socioemotional selectivity @ work

- Zacher and Frese (2009) adapted the FTP concept to the employment context

- Occupational future time perspective (OFTP) focuses on people's perceptions of their *occupational* future time

- Distinguished two related dimensions of OFTP as assessed with an adapted version of Carstensen and Lang's (1996) FTP scale

  - *Perceived remaining time* entails individuals' perceptions of the amount of future time they expect to spend in employment

  - *Focus on opportunities* captures individuals' perceptions of new work-related goals, possibilities, and opportunities in their future time

Socioemotional selectivity @ work

- Individuals must work longer and are increasingly expected to take responsibility for managing their own careers/work arrangements
- These these developments require employees to:
    - Take a long-term focus
    - To anticipate and plan for their occupational future

Socioemotional selectivity @ work

- OFTP captures this focus toward one's occupational future
- Previous research has demonstrated positive associations between OFTP and various important work outcomes:
  - Job satisfaction
  - Work engagement
  - Work performance
- We lack integrated knowledge on the antecedents and outcomes of OFTP to guide research and practice

Occupational future time perspective: A meta-analysis of antecedents and outcomes

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OFTP meta-analysis

THE JOB ANNUAL REVIEW

WILEY Journal of Organizational Behavior

Occupational future time perspective: A meta-analysis of antecedents and outcomes

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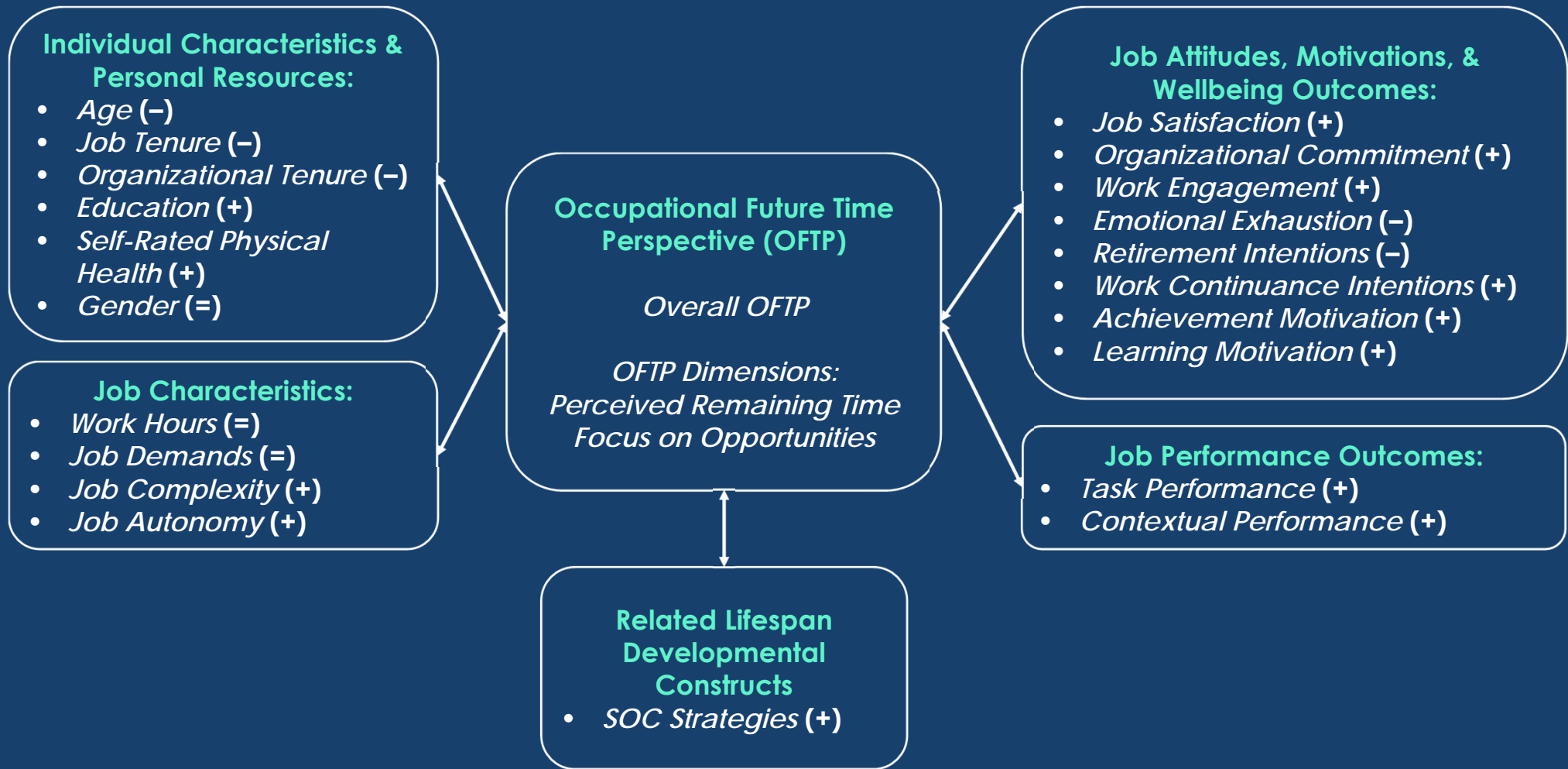Email: cort.rudolph@health.slu.edu

Summary

Occupational future time perspective (OFTP) refers to employees' perceptions of their future in the employment context. Based on lifespan and organizational psychology theories, we review research on OFTP and offer a meta-analysis of antecedents and outcomes of OFTP ($K = 40$ independent samples, $N = 19,112$ workers). Results show that OFTP is associated with individual characteristics and personal resources, including age ($\rho = -0.55$), job tenure ($\rho = -0.23$), organizational tenure ($\rho = -0.25$), educational level ($\rho = 0.16$), and self-rated physical health ($\rho = 0.16$), as well as job characteristics, such as job autonomy ($\rho = 0.22$). Moreover, OFTP is related to important work outcomes, including job satisfaction ($\rho = 0.28$), organizational commitment ($\rho = 0.41$), work engagement ($\rho = 0.22$), retirement intentions ($\rho = -0.37$), and work continuance intentions ($\rho = 0.16$). OFTP is also related to task ($\rho = 0.11$) and contextual performance ($\rho = 0.20$). Additional analyses show that OFTP predicts job attitudes and work performance above and beyond the effects of another developmental regulation construct, selection, optimization, and compensation strategies. Overall, the findings of our meta-analysis suggest that OFTP is an important construct in the context of an aging workforce.

KEYWORDS

aging, focus on opportunities, future time perspective, meta-analysis, remaining time

OFTP meta-analysis

○ Key contributions of this work:

  ○ Meta-analysis focusing on the nomological network of occupational future time perspective (OFTP)

  ○ This is the first study to meta-analytically address competing effects of OFTP vs. selection, optimization, and compensation (SOC) strategies, a related lifespan development construct.

Individual Characteristics & Personal Resources:
- *Age* **(−)**
- *Job Tenure* **(−)**
- *Organizational Tenure* **(−)**
- *Education* **(+)**
- *Self-Rated Physical Health* **(+)**
- *Gender* **(=)**

Job Characteristics:
- *Work Hours* **(=)**
- *Job Demands* **(=)**
- *Job Complexity* **(+)**
- *Job Autonomy* **(+)**

Occupational Future Time Perspective (OFTP)

Overall OFTP

OFTP Dimensions:
Perceived Remaining Time
Focus on Opportunities

Job Attitudes, Motivations, & Wellbeing Outcomes:
- *Job Satisfaction* **(+)**
- *Organizational Commitment* **(+)**
- *Work Engagement* **(+)**
- *Emotional Exhaustion* **(−)**
- *Retirement Intentions* **(−)**
- *Work Continuance Intentions* **(+)**
- *Achievement Motivation* **(+)**
- *Learning Motivation* **(+)**

Job Performance Outcomes:
- *Task Performance* **(+)**
- *Contextual Performance* **(+)**

Related Lifespan Developmental Constructs
- *SOC Strategies* **(+)**

OFTP nomological network

OFTP nomological network

OFTP meta-analysis: Method

- A comprehensive literature search was conducted across multiple databases/search engines; published and unpublished studies

- Set strict, *a priori* inclusion/exclusion criteria (e.g., quantitative; measured OFTP)

- Only independent effect sizes (i.e., r_{xy}) were coded so as not to "double count" studies

- Hunter and Schmidt methods
  - Correction of observed correlations for sampling and measurement errors; random-effects estimation; sample size-weighted correlations

- $K = 40$ independent samples, $N = 19,112$ workers
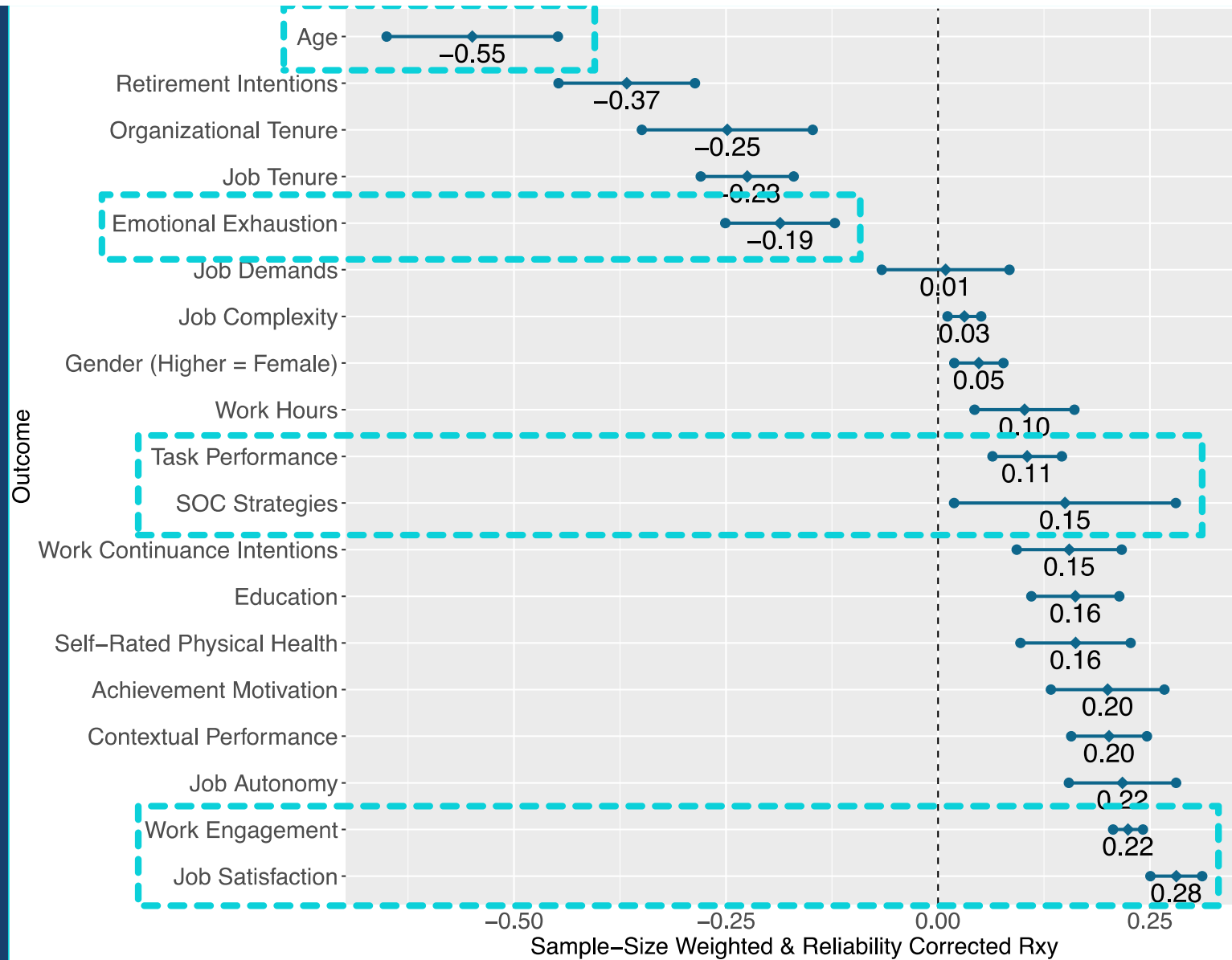
Meta-analytic correlation matrix

|	Age	OFTP	SOC	Emotional Exhaustion	Job Satisfaction	Task Performance	Work Engagement
Age	1.00	*Current - Main Analysis N = 9,613 K = 22*	*Moghimi et al. (2017) N = 9,613 K = 10*	*Brewer et al. (2004) N = 10,818 K = 35*	*Ng et al. (2010) N = 151,105 K = 388*	*Ng et al. (2008) N = 17,807 K = 52*	*Current - Ad Hoc Analysis N = 26,751 K = 31*
OFTP	$r_{xy} = -0.52$	1.00	*Current - Main Analysis N = 3,936 K = 4*	*Current - Main Analysis N = 3,684 K = 4*	*Current - Main Analysis N = 3,753 K = 6*	*Current - Main Analysis N = 2,867 K = 3*	*Current - Main Analysis N = 4,023 K = 5*
SOC	$r_{xy} = 0.04$	$r_{xy} = 0.12$	1.00	*Moghimi et al. (2017) N = 3,719 K = 9*	*Moghimi et al. (2017) N = 4,001 K = 11*	*Moghimi et al. (2017) N = 3,110 K = 10*	*Moghimi et al. (2017) N = 5,385 K = 11*
Emotional Exhaustion	$r_{xy} = -0.16$	$r_{xy} = -0.17$	$r_{xy} = 0.01$	1.00	*Lee et al. (1996) N = 4,000 K = 17*	*Swider et al. (2010) N = 4,602 K = 14*	*Crawford et al (2010) N = 25,998 K = 54*
Job Satisfaction	$r_{xy} = 0.18$	$r_{xy} = 0.25$	$r_{xy} = 0.21$	$r_{xy} = -0.26$	1.00	*Iaffaldano et al. (1985) N = 12,192 K = 217*	*Christian et al. (2011) N = 9,725 K = 20*
Task Performance	$r_{xy} = 0.06$	$r_{xy} = 0.09$	$r_{xy} = 0.19$	$r_{xy} = -0.13$	$r_{xy} = 0.15$	1.00	*Christian et al. (2011) N = 4,562 K = 14*
Work Engagement	$r_{xy} = 0.12$	$r_{xy} = 0.21$	$r_{xy} = 0.34$	$r_{xy} = -0.39$	$r_{xy} = 0.46$	$r_{xy} = 0.36$	1.00

Tests of incremental effects of OFTP above-and-beyond age and SOC

	Model 1 R^2	Model 2 R^2	ΔR^2	$\Delta R^2\%$	$F_{partial}$	p
Emotional Exhaustion	0.026	0.118	**0.092**	9.180%	569.133	<.001
Job Satisfaction	0.074	0.214	**0.140**	13.989%	1081.476	<.001
Task Performance	0.039	0.052	**0.013**	1.265%	67.255	<.001
Work Engagement	0.123	0.195	**0.071**	7.136%	568.311	<.001

Relative weights analysis

Emotional Exhaustion	Predictor	B	SE$_B$	t-value	p	RW	%R^2
R^2 = .118	Age	-0.349	0.015	-23.336	<0.001	0.056	47.883
F = 243.040, p < .001	SOC	0.065	0.013	5.078	<0.001	0.001	1.117
	OFTP	-0.360	0.015	-23.854	<0.001	0.060	**51.000**
Job Satisfaction	Predictor	B	SE$_B$	t-value	p	RW	%R^2
R^2 = .214	Age	0.405	0.013	30.233	<0.001	0.077	36.086
F = 550.407, p < .001	SOC	0.141	0.012	12.249	<0.001	0.033	15.574
	OFTP	0.444	0.013	32.883	<0.001	0.103	**48.340**
Task Performance	Predictor	B	SE$_B$	t-value	p	RW	%R^2
R^2 = .052	Age	0.123	0.016	7.602	<0.001	0.008	15.098
F = 91.969, p < .001	SOC	0.170	0.014	12.239	<0.001	0.033	**63.635**
	OFTP	0.133	0.016	8.200	<0.001	0.011	21.267
Work Engagement	Predictor	B	SE$_B$	t-value	p	RW	%R^2
R^2 = .195	Age	0.272	0.013	20.583	<0.001	0.036	18.438
F = 516.726, p < .001	SOC	0.317	0.013	23.837	<0.001	0.060	30.925
	OFTP	0.287	0.011	25.213	<0.001	0.099	**50.637**
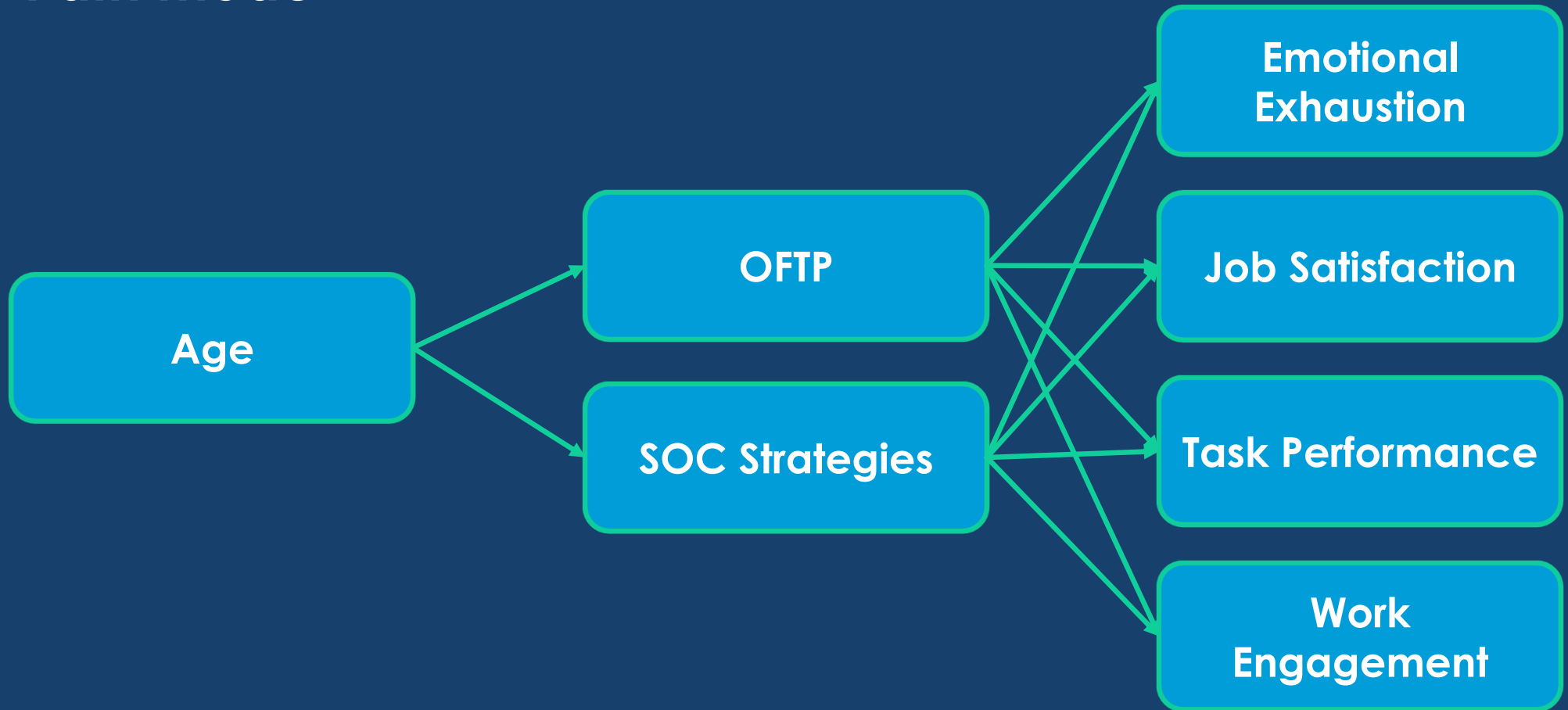
Results of path analysis

A-Paths	Predictor	Outcome	B	SE$_B$	z-value	p	95% CI Lower	95% CI Upper
	Age	OFTP (R^2 =.270)	-0.520	0.011	-45.695	<0.001	**-0.542**	**-0.498**
		SOC (R^2 =.001)	0.038	0.013	2.854	0.004	**0.012**	**0.064**
B-Paths	**Predictor**	**Outcome**	**B**	**SE$_B$**	**z-value**	**p**	**95% CI Lower**	**95% CI Upper**
	OFTP	Emotional Exhaustion (R^2 = .123)	-0.360	0.015	-24.542	<0.001	-0.388	-0.331
	SOC		0.065	0.013	5.224	<0.001	0.041	0.090
	Age		-0.349	0.015	-23.840	<0.001	-0.378	-0.321
	OFTP	Job Satisfaction (R^2 =.200)	0.444	0.014	32.092	<0.001	0.417	0.471
	SOC		0.141	0.012	11.954	<0.001	0.118	0.165
	Age		0.405	0.014	29.298	<0.001	0.378	0.433
	OFTP	Task Performance (R^2 =.046)	0.133	0.015	8.790	<0.001	0.104	0.163
	SOC		0.170	0.013	13.119	<0.001	0.145	0.196
	Age		0.123	0.015	8.091	<0.001	0.093	0.153
	OFTP	Work Engagement (R^2 =.174)	0.317	0.014	22.650	<0.001	0.290	0.344
	SOC		0.287	0.012	23.956	<0.001	0.263	0.310
	Age		0.272	0.014	19.420	<0.001	0.245	0.299

Path analysis indirect effects

| Summary of Indirect Effect (IE)	IE	SE$_{IE}$	z-value	p	95% CI Lower	95% CI Upper
Age => OFTP => Emotional Exhaustion	0.187	0.009	21.621	<0.001	0.170	0.204
Age => OFTP => Job Satisfaction	-0.231	0.009	-26.262	<0.001	-0.248	-0.214
Age => OFTP => Task Performance	-0.069	0.008	-8.632	<0.001	-0.085	-0.054
Age => OFTP => Work Engagement	-0.165	0.008	-20.294	<0.001	-0.181	-0.149
Age => SOC => Emotional Exhaustion	0.002	0.001	2.505	0.012	0.001	0.004
Age => SOC => Job Satisfaction	0.005	0.002	2.776	0.005	0.002	0.009
Age => SOC => Task Performance	0.006	0.002	2.789	0.005	0.002	0.011
Age => SOC => Work Engagement	0.011	0.004	2.834	0.005	0.003	0.018

Discussion

- Strongest zero-order effects observed for age (r_{xy} = -.55) and job satisfaction (r_{xy} = .28)

- OFTP predicts emotional exhaustion, job satisfaction, task performance, and work engagement incrementally to age and SOC strategies
  - Can explain up-to an additional 14% of the variance (i.e., job satisfaction)

Discussion

- OFTP explains relatively more variance in **emotional exhaustion, job satisfaction, and work engagement** than SOC strategies

- SOC strategies explain relatively more variance in **task performance** than OFTP

- OFTP and SOC represent independent pathways linking chronological age to these outcomes

Future directions

- More attention to the possibility of performance (i.e., **SOC**) versus motivation/wellbeing (i.e., **OFTP**) pathways
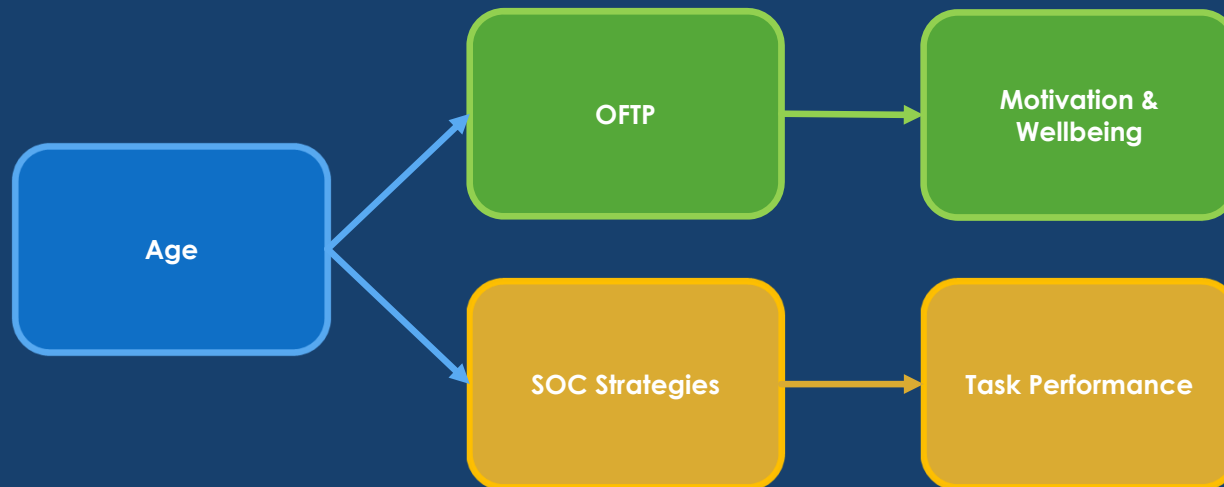
Future directions

American Psychological Association

Journal of Applied Psychology

Future Time Perspective: A Systematic Review and Meta-Analysis

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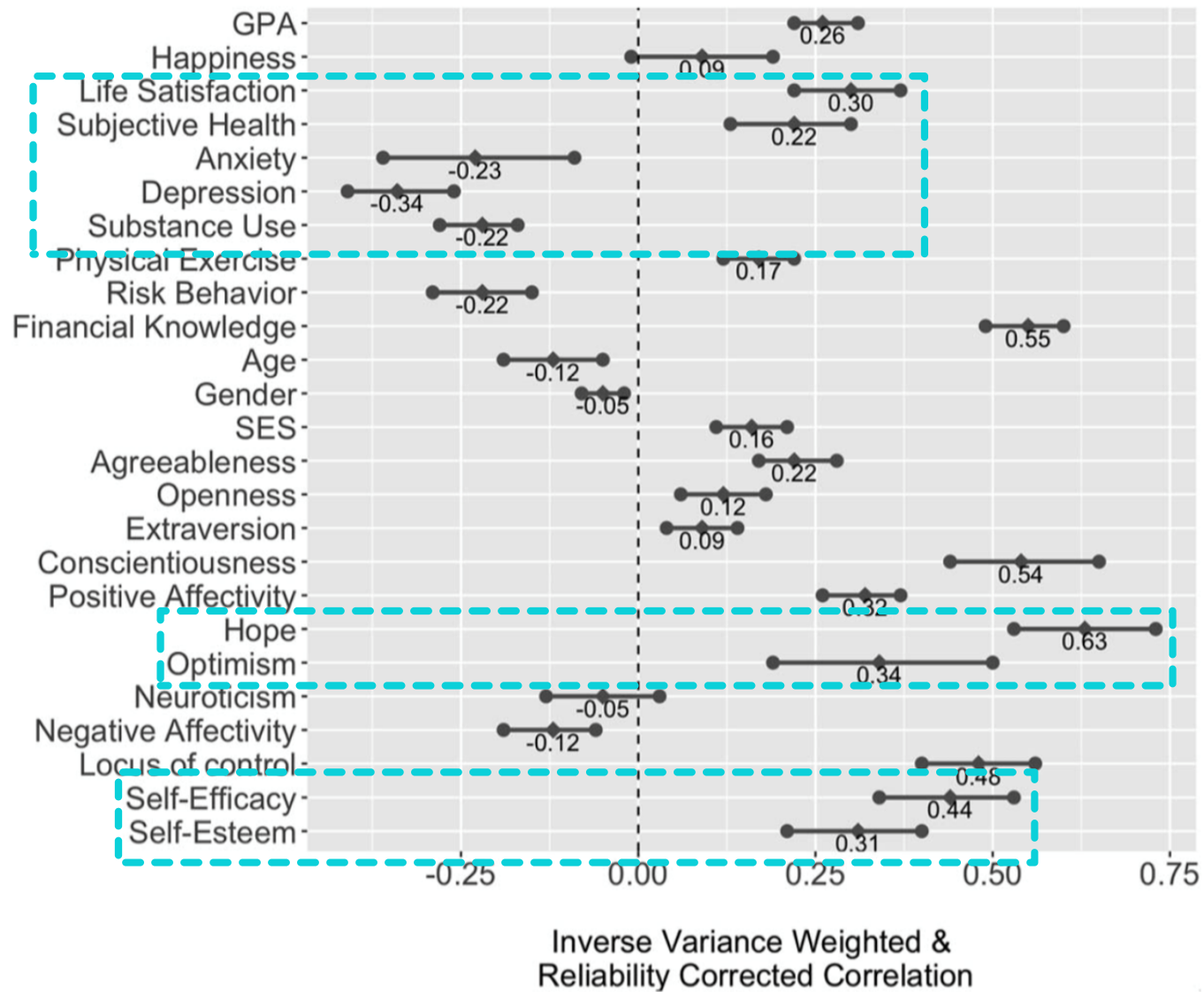Tilburg University

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The ability to foresee, anticipate, and plan for future desired outcomes is crucial for well-being, motivation, and behavior. However, theories in organizational psychology do not incorporate time-related constructs such as Future Time Perspective (FTP), and research on FTP remains disjointed and scattered, with different domains focusing on different aspects of the construct, using different measures, and assessing different antecedents and consequences. In this review and meta-analysis, we aim to clarify the FTP construct, advance its theoretical development, and demonstrate its importance by (a) integrating theory and empirical findings across different domains of research to identify major outcomes and antecedents of FTP, and (b) empirically examining whether and how these variables are moderated by FTP measures and dimensions. Results of a meta-analysis of $k = 212$ studies reveal significant relationships between FTP and major classes of consequences (i.e., those related to achievement, well-being, health behavior, risk behavior, and retirement planning), and between antecedents and FTP, as well as moderating effects of different FTP measures and dimensions. Highlighting the importance of FTP for organizational psychology theories, our findings demonstrate that FTP predicts these outcomes over and above the big five personality traits and mediates the associations between these personality traits and outcomes.

Keywords: future time perspective, integrative review, meta-analysis, nomological network

Supplemental materials: http://dx.doi.org/10.1037/apl0000306.supp

Inverse Variance Weighted &
Reliability Corrected Correlation

Future directions

- Successful aging (SA) has recently become an important paradigm for studying aging and work (Zacher, 2015; Kooij, 2015)
  - Zacher: SA is about maintaining healthy functioning
  - Kooij: SA is about maintaining person-environment fit

- Move this conversation towards **developing interventions that support successful aging**.
  - Malleability of future time perspective

Future directions

- Age is an "empty" (i.e., non-causal) variable

- Bohlman, Rudolph, & Zacher (2018) emphasizes the need to **investigate explanatory mechanisms between age and work outcomes**

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