Modes of Self-Regulation and Affect in Older Adults with Age-Related Visual Impairment

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SENSO AGE*

⇨ **SENSO AGE** is a study on the dynamics of person and environment related **resources in advanced old age**

⇨ Focus on **older individuals with sensory loss** (vision or hearing loss)

⇨ **Fundamental research question:** Is sensory loss able to shape the relationships between resources and outcomes?

⇨ Focus of this presentation is on **self-regulation and affective well-being among visually impaired and sensory unimpaired**

⇨ **Visual impairment is prevalent in old age**

↬ Affects ca. 20% of those aged 65+ and ca. 25% of those aged 75+

⇨ **Visual impairment affects everyday functioning**

↬ Impacts in particular on instrumental activities of daily living (IADL) and out-of-home activities

⇨ **Visual impairment affects well-being**

↬ Reduced subjective well-being and increased risk of depression (clinically significant depressive symptomatology reported by ca. 30% of visually impaired older adults, Horowitz et al., 2005)

⇨ **Visual impairment challenges self-regulation**

⇨ Visual impairment has a **high potential to block goals**, thus it should foster goal disengagement

⇨ Buffering effect of **flexible goal adjustment (FGA) depends on functional disability** among middle-aged adults with vision loss (Boerner, 2004)

⇨ **Functional loss in IADL** triggers **compensatory secondary control strategies** in older adults with macular degeneration (Wahl et al., 2007)

⇨ **Tenacious goal pursuit (TGP)** contributes to positive affect (PA) **only among those with high FGA** when subjective vision is low (Heyl et al., 2007)

In terms of affective well-being,

1. **visually impaired** individuals **benefit less from TGP** as compared to sensory unimpaired individuals

2. **FGA gains in importance** among the visually impaired

3. efficiency of modes of self-regulation **depends on functional ability**, particularly among the visually impaired

⇨ **Inclusion criteria**

    ↳ Advanced old age (75 years and older)

    ↳ Community-dwelling

    ↳ No major cognitive impairment

    ↳ **VI group:** Visual acuity < 20/70 in the better eye

    ↳ **UI group:** No sensory impairment

⇨ n = **121 visually impaired** older adults

  ↪ 72% from university eye clinics, 28% from other sources (e.g., ophthalmologists in private practice)

⇨ n = **150 sensory unimpaired** older adults

  ↪ 70% from residents registration office, 30% from other sources (e.g., newspaper announcements)

⇨ **No differences** in age, living alone, education, cognition

⇨ **Modes of Self-Regulation** (Brandtstädter & Renner, 1990)

  ⇨ **Tenacious Goal Pursuit (TGP)**, e.g., "Even when things seem hopeless, I keep on fighting to reach my goals."

  ⇨ **Flexible Goal Adjustment (FGA)**, e.g., "I adapt quite easily to changes in plans or circumstances."

⇨ **Functional Ability**

  ⇨ Ability to perform 10 ADL-IADL out of home (e.g., shopping)

⇨ **Covariates** of affective well-being

  ⇨ **Personality:** Neuroticism and Extraversion from the NEO-FFI (Costa & McCrae, 1992)

  ⇨ **Social Resources:** Number of individuals in the first circle of the egocentric social network (Kahn & Antonucci, 1980)

⇨ **Affective Well-Being**

⇨ Positive and Negative Affect Schedule PANAS (Watson, Clark & Tellegen, 1988)

⇨ Participant has to indicate to what extent she/he has felt positive and negative affect during the past year

⇨ **Positive affect (PA)**, e.g., interested, active, inspired

⇨ **Negative affect (NA)**, e.g., hostile, distressed, afraid

Group Differences

Variable (Range), M (SD)	Visually Impaired (n = 121)	Sensory Unimpaired (n = 150)
Neuroticism (12-60)	29.29 (7.99)	29.23 (6.83)
Extraversion (12-60)	36.02_A (5.97)	38.08_B (6.08)
Social Resources (0-18)	4.69 (3.32)	5.16 (3.34)
Functional Ability (0-20)	12.59_A (4.70)	16.63_B (4.01)
TGP (15-75)	43.44_A (6.71)	45.85_B (7.16)
FGA (15-75)	57.56 (6.82)	57.82 (6.03)
PA (10-50)	32.67 (6.24)	34.24 (5.53)
NA (10-50)	19.25 (5.87)	19.49 (5.76)

Note. Different subscripts indicate statistically significant differences at the .05 level.

Predictors of Positive Affect

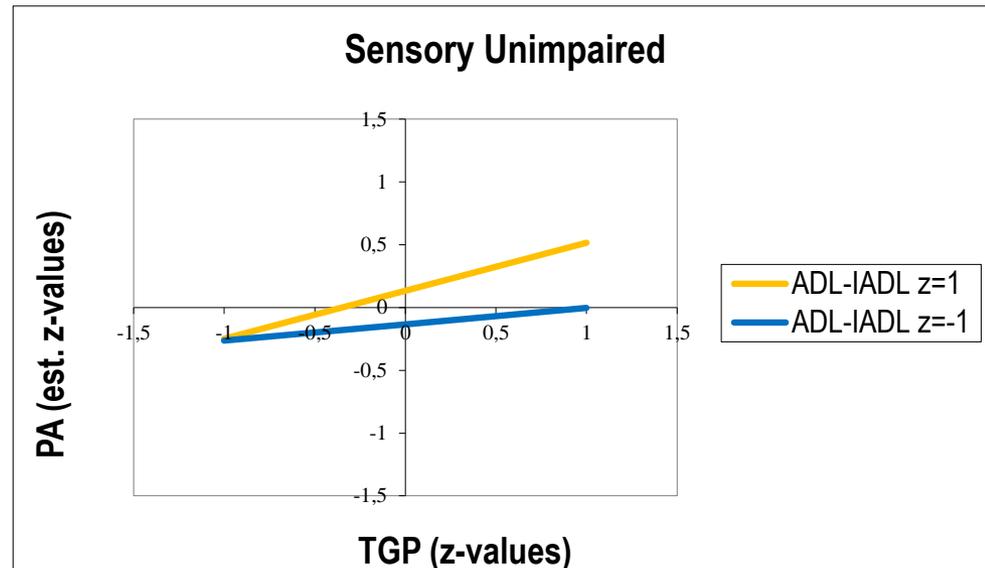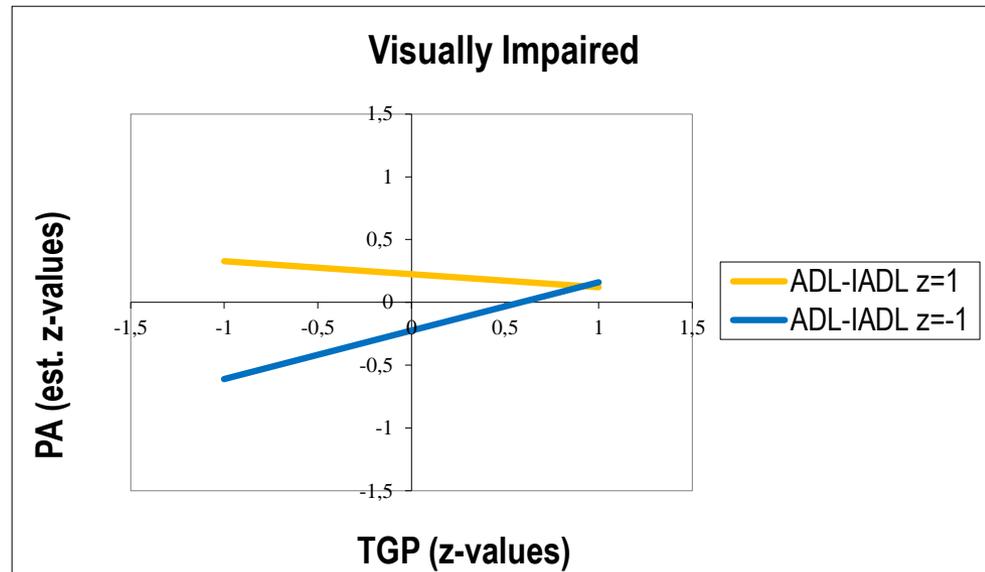| Predictor Variables	Visually Impaired (n = 121)		Sensory Unimpaired (n = 150)	
	β	R^2	β	R^2
Neuroticism	-.00	.00	-.12	.01
Extraversion	.18*	.03	.22**	.04
Social Resources	.19*	.03	.11	.01
Functional Ability (FA)	.22*	.04	.13	.01
TGP	.14	.01	.26***	.05
FGA	.27**	.04	.09	.01
FA x TGP	-.24*	.04	.13°	.01
FA x FGA	.15°	.02	.11	.01

Note. °p < .10; *p < .05; **p < .01; ***p < .001.

⇨ Among the **VI**, those with **low functional ability** benefit from TGP

↪ Pursuit of selected feasible goals prevents decline in PA

⇨ Among the **UI**, those with **high functional ability** benefit from TGP

↪ Goal pursuit enhances PA

↪ Yet, there is a **significant difference in functional ability** between VI and UI!

Visually Impaired

PA (est. z-values) vs TGP (z-values)
ADL-IADL z=1 · ADL-IADL z=-1

Sensory Unimpaired

PA (est. z-values) vs TGP (z-values)
ADL-IADL z=1 · ADL-IADL z=-1

⇨ Among the **VI**, those with **high functional ability** benefit from FGA

↳ Disengagement from blocked goals and selection of feasible goals enhance PA

↳ When functional ability is low, further disengagement is not adaptive
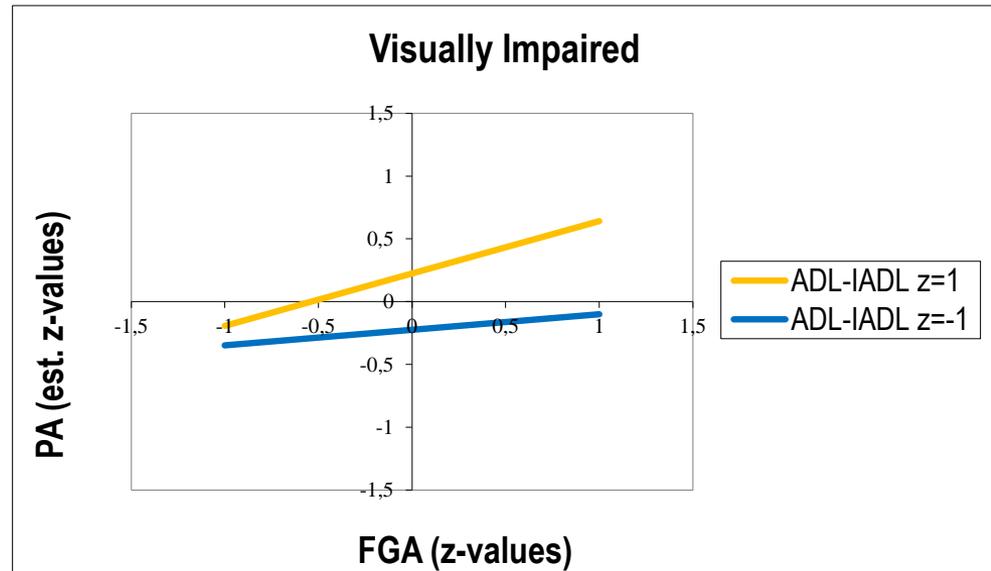
⇨ **Interim conclusion: Modes of self-regulation and PA**

↬ When **functional ability (FA) is high** (UI with high FA), **TGP is related to PA** by enabling goal pursuit

↬ When **FA gets lower** (UI with low FA, VI with high FA), **TGP is no longer effective**

↬ Instead, **FGA is related to PA**, at least among the VI, by enabling disengagement from blocked goals and reorientation and selection of feasible goals

↬ **When FA is low** (VI with low FA), **TGP is related to PA** by enabling pursuit of selected feasible goals
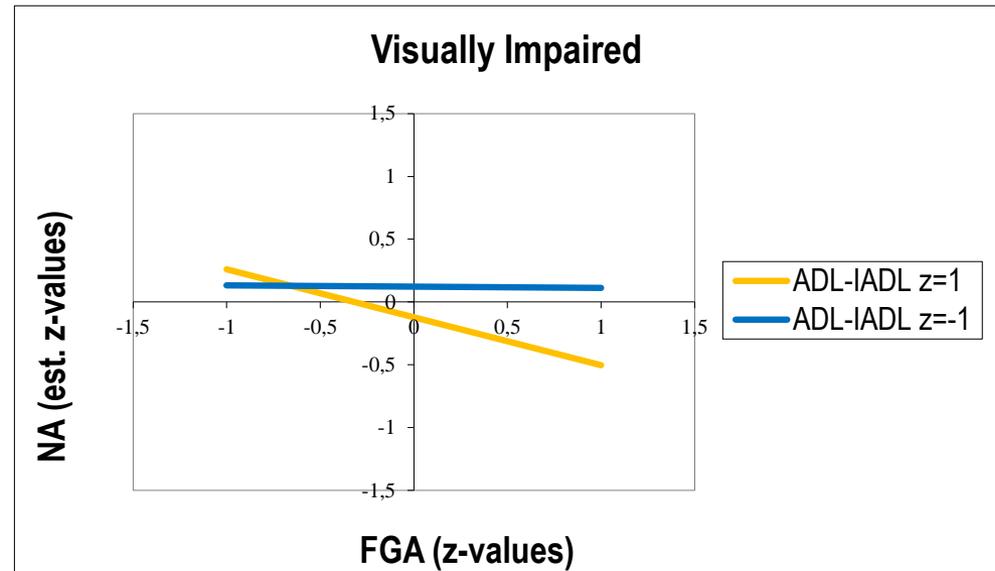
Predictors of Negative Affect

Predictor Variables	Visually Impaired (n = 121)		Sensory Unimpaired (n = 150)	
	β	R^2	β	R^2
Neuroticism	.47***	.14	.60***	.25
Extraversion	-.12	.01	-.01	.00
Social Resources	-.12	.01	.06	.00
Functional Ability (FA)	-.12	.01	.11	.01
TGP	-.15	.01	.03	.00
FGA	-.20*	.02	-.03	.00
FA x TGP	-.35***	.08	-.02	.00
FA x FGA	-.19*	.03	-.04	.00

Note. *p < .05; **p < .01; ***p < .001.

⇨ Among the **VI**, those with **high functional ability** benefit from FGA

↪ Disengagement from blocked goals and selection of feasible goals reduce NA

↪ When too many goals are blocked and/or alternative goals are hardly available (VI with low functional ability), FGA is not related to NA
  → limits of resiliency?

Visually Impaired

NA (est. z-values) vs FGA (z-values)

Legend:
- ADL-IADL z=1 (yellow)
- ADL-IADL z=-1 (blue)

⇨ Among the **VI**, those with **high functional ability** benefit from TGP

↪ Engagement in feasible goals reduces NA

↪ When goals are hardly feasible (VI with low functional ability), TGP enhances NA
→ limits of resiliency?

Visually Impaired
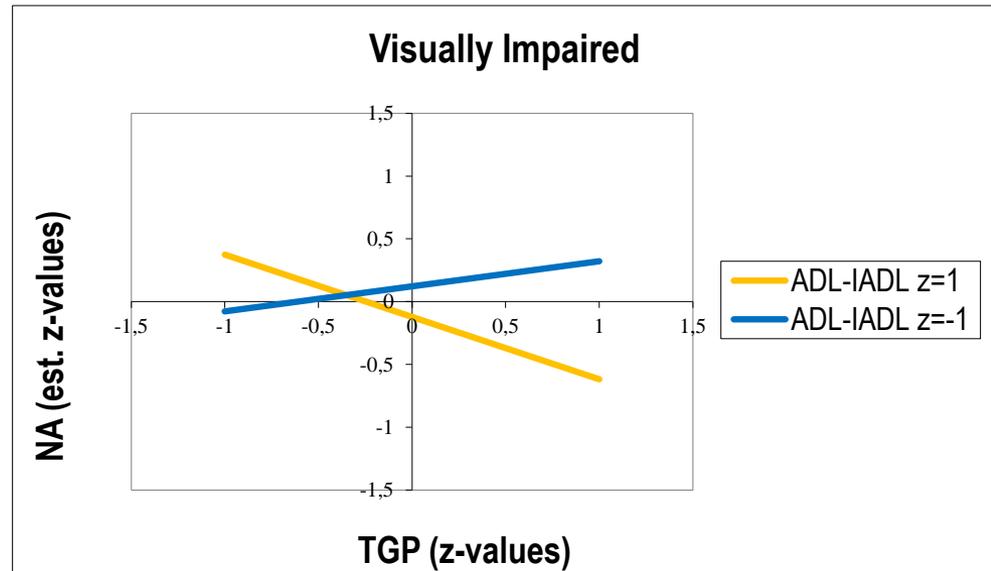
⇨ **As expected in hypotheses 1 and 2**,

   ↳ **in terms of PA**, VI individuals **benefit less from TGP (H 1) and more from FGA** (H 2), but only when their functional ability is still high enough

   ↳ **in terms of NA**, VI individuals **benefit more from FGA** (H 2), but only when their functional ability is still high enough

⇨ **In terms of hypothesis 3**, the picture seems to be **more complex than expected**

    ↳ **High functional ability** (UI) **and very low functional ability** (VI) both require **TGP** to enhance or maintain PA

    ↳ **Medium to low functional ability** (high among VI, low among UI) seems to require **FGA** to enhance PA

    ↳ **Both modes counteract NA** among the sensory impaired **as long as functional ability is high enough**

    ↳ Both modes are **not effective** in counteracting NA **when it comes to very low functional ability** among the VI

➡ It is crucial to maintain functional ability in visually impaired older people

⇨ **Limitations**

↳ Cross-sectional data

⇨ **Future perspectives**

↳ Forthcoming longitudinal data (4-year-interval) to test our interpretations

Thank you for your attention!

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