Looking as Young as You Feel: Financial Stress Can Make You Look Older

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BACKGROUND

▪ There is evidence that different facets of subjective age are related to physical and psychological health. Feeling younger (than one's chronological age) is associated with better physical health (e.g., Barrett, 2003; Bowling, See-Tai, Ebrahim, Gabriel, & Solanki, 2005; Westerhof et al., 2003). Those who look younger than their actual age are actually healthier (e.g., Zebrowitz, 1997).

▪ Stress has been identified as a key contributor to poor health (e.g., Rice, 1999).

▪ There is evidence at the cellular level (telomere, hair follicle) that chronically stressed people have older "biological ages" (e.g., Simon et al., 2006; Trüeb, 2009)

▪ "Stress is a graying force" (Schafer & Shippee, 2010).

▪ Based on photographs of U.S. presidents at the beginning and end of their terms, some have suggested that stress can lead to premature aging (Sellers, 2009). Is it normal aging or extra stress?

Before and after their presidential terms - Is it stress?

RESEARCH GOALS

1. Examine multiple components of subjective age (feel and look) in younger, middle-aged, and older men and women
2. Examine the longitudinal associations between perceived stress and subjective age

CURRENT STUDY

▪ Three facets of subjective age measured at two occasions, between 8 and 10 years apart:
 - *feel age* - how old people say they feel
 - *self-rated look age* - how old people think they look
 - *other-rated look age* - how old people are perceived by others
▪ Multiple sources of stress: health, cognition, social relations, and finance & work.

METHOD

▪ **PARTICIPANTS**

Boston Longitudinal Study (BOLOS) = subsample of Midlife in the United States (MIDUS) national longitudinal study conducted in 1995-1996 and 2004-2005 (Radler & Ryff, 2010)

Time 1 (T1) : N = 302, age range: 24 - 74 years (M = 47.89, SD = 13.74)
Time 2 (T2): N = 151, age range: 34 - 84 years (M = 59.99, SD = 12.81)

▪ MEASURES
Sociodemographic variables
sex (-1 = men, 1 = women)
level of education in years (range 6 - 20) at T1: M = 14.82, SD = 2.76
household total income level in dollars

Subjective age variables
- Feel Age
 I feel as though I am __ years old.
- Self-rated Look Age
 I look as though I am __ years old.
- Other-rated Look Age (Photograph Ratings)

Photograph Ratings Study

Raters: N = 19
Age range: 17-79 (M = 40.95, SD = 27.01)
Younger raters (N = 11) : M = 18.82 (SD = 1.25; range 17-22)
Older raters (N = 8) : M = 71.38 (SD = 6.80; range 58-79)

Stimuli: Front view pictures: photos randomly presented on the computer (T1 and T2 intermixed)
228 pictures (T1)
107 pictures (T2)
101 pictures (T1 + T2)

Questions:
Age: *What age do you think this person is?*
Attractiveness: *Please rate each photo on the following scale, compared to other people of about the same age: 1 (not at all attractive) to 7 (very attractive).*
Note: for attractiveness, the actual age of the person in the photograph was also presented on the screen.

Computed Scores: average across all raters

Self-rated Health (MIDUS, T1)
In general, would you say your physical health is 1 (poor), 2 (fair), 3 (good), 4 (very good), or 5 (excellent)?

Perceived Stress (BOLOS, T1 & T2)
DOMAINS:
1. Health
How much stress you experience in each of these areas: moving about as quickly as you need to, physical appearance, vision, hearing, weight, health, teeth, sexual relations, mental health, back, hair, sleep, energy level, stamina (1 = None, 2 = A little, 3 = Some, 4 = A lot)

2. Cognition
How much stress you experience in each of these areas: memory, learning new things, thinking as quickly as you need to

3. Social Relations
How much stress you experience in each of these areas: children, spouse/partner, parents, home/residence, neighborhood, friends, hobbies/leisure

4. Work/Finances
How much stress you experience in each of these areas: job, money
Computed Scores: average between T1 & T2 for each domain

Follow-up analysis: we added two additional items for each of the financial and work stress measures and decided to examine these domains separately.

Financial Stress (3 items):
1. How much stress do you have over your finances?
2. In general, would you say you (and your family living with you) have more money than you need, just enough for your needs, or not enough to meet your needs?
3. How difficult is it for you (and your family) to pay your monthly bills? (from not at all difficult to very difficult)
**Work Stress (3 items):**
1. How much stress do you have over your job?
2. In the past 12 months, did you have any serious ongoing problems getting along with someone at work? (Yes/ No)
3. Have you had any other serious ongoing stress at work - things like consistently extreme work demands, major changes, or uncertainties that most people would consider highly stressful? (Yes/ No)
Computed Scores: average between T1 & T2

RESULTS

Subjective Age in Younger, Middle-aged, and Older Men and Women

Model: 3 [age groups: younger (25-39), middle-aged (40-59), older (60-75)] x 2 (sex) ANOVA with repeated measures on subjective age measure
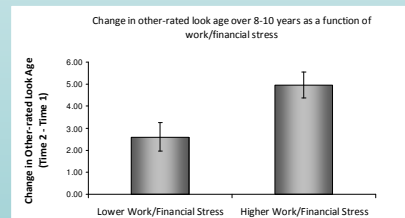Outcomes: feel age, self-rated look age, and other-rated look age
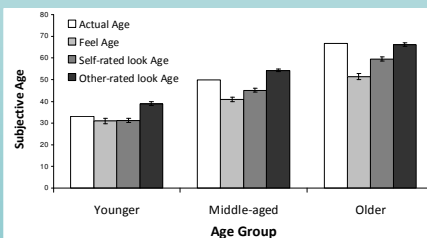
Key Findings:
▪ Overall, participants are perceived as looking older than they think they look; participants feel younger that they think they look

▪ Younger participants feel younger, think they look younger, and are perceived as looking younger than the middle-aged participants. The same pattern applies to the differences between middle-aged and older participants.

▪ Women had significantly lower values of subjective age than men.

▪ For younger participants, there is no significant difference between how old they feel and how old they think they look.

Perceived Stress and Change in Subjective Age

Multiple regressions with subjective age at T2 as outcome

Predictor	Feel Age β	Feel Age p value	Self-rated Look Age β	Self-rated Look Age p value	Other-rated Look Age β	Other-rated Look Age p value
Subjective age at T1 (feel, self-rated look, or other-rated look age)	.33	<.001	.60	<.001	.63	<.001
Time lapse between T1 and T2	.06	.344	.09	.026	.03	.335
Age	.48	<.001	.34	<.001	.37	<.001
Sex (-1 = men, 1 = women)	-.01	.872	.04	.407	-.02	.552
Education	-.004	.951	.03	.503	.01	.797
Income	.05	.446	.07	.140	.02	.515
Self-rated Health	-.17	.018	-.02	.687	-.02	.656
Attractiveness	.04	.561	-.06	.178	-.04	.213
Stress over Health (T1 + T2)	-.02	.803	.05	.348	.04	.439
Stress over Cognition (T1 + T2)	.08	.268	-.05	.338	-.01	.741
Stress over Social Relations (T1 + T2)	-.03	.762	-.05	.413	-.08	.067
Stress over Finances & Work (T1 + T2)	.07	.435	.10	.086	.14	.001

R^2 = .59, p <.001 R^2 = .83, p <.001 R^2 = .92 , p <.001

Change in other-rated look age over 8-10 years as a function of work/financial stress

▪ Higher stress over work/ finances was positively associated with change in other-rated look age.

▪ When we conducted a follow-up analysis to examine financial and work stress separately, higher financial stress, but not work stress, was positively associated with change in other-rated look age. Participants were perceived as looking older at T2 than at T1, but this difference was greater for those with higher levels of financial stress.

DISCUSSION

▪ The results revealed significant longitudinal associations between perceived stress and subjective age.
▪ How old one feels is related to one's health. Better health is associated with feeling younger.
▪ Among different sources of stress, the domain of finances and work appears to be the most relevant for subjective age, and especially for how old people are perceived by others. Those with higher levels of stress over work/finances age faster.
▪ When financial stress and work stress were examined separately, only financial stress was significantly associated with change in other-rated look age.
▪ In future work we will examine links between changes in perceived age in relation to changes in physical aspects of aging (e.g., functional health, cognitive functioning, diseases).

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