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Self-Standards in Late Adulthood. Perceived Health as a Moderator of the Relationship Between Self-Discrepancy and Affect

Abstract: *Four types of self-standards (ideal, ought, undesired, and forbidden selves) were analyzed in the context of self-assessed health of older adults. We focused on the relationships between self-discrepancies (perceived actualization of self-standards) and affect, as well as the content of self-descriptions of standards. Participants (116 Polish older adults) completed: Self Standards' Measure (SSM), PANAS-X and 7 items from the WHOQOL-BREF. First, we found that self-assessed health moderates the effects of self-discrepancies on affect. The ideal and ought self-discrepancies predicted affect when health was assessed as good. Conversely, the undesired and forbidden self-discrepancies predicted affect when health was assessed as poor. Second, health-related content was more typical for the ideal than for the ought standards. Third, older adults who assessed their health better had fewer health-related standards. The results are discussed with reference to control theory of approach and avoidance.*

Keywords: *older adults, self-standards, self-discrepancy, perceived health, affect*

Although the problem of self-standards and how their actualization (i.e. self-discrepancy, Higgins, 1987) relates to psychological well-being has received considerable empirical attention (e.g. Bruch et al., 2000; Busseri & Merrick, 2016; Phillips & Silvia, 2010), relatively little research has focused specifically on older adults (Francis et al., 2002; Pemberton, 2009). It seems surprising, given that the older adults' perception of how far their important life tasks are from being accomplished is a significant predictor of the outcome of life review and life balance processes (Staudinger, 2001). The present study tries to elaborate on this understudied issue of the regulatory functions of self-standards in older adults. We assume, that along with self-discrepancies, health-related issues should be additionally taken into account given their psychological significance in this specific period of life.

Ogilvie and Clark (1992) showed that self-perceived health status is the most important predictor of well-being in older adults, explaining 40% of the variance of life satisfaction and 24% of the variance of depression. They also suggested that the role of self-discrepancy in determining psychological well-being decreases in late adulthood compared to earlier stages of life. This seems to be consistent with the literature on the developmental trajectories of self-discrepancy. Heidrich (1999) found that discrepancy between ideal and actual selves diminishes with age (see also Heidrich & Ryff, 1993; Ryff, 1991) and functions as a mediator of the relationship between physical health and well-being. Further longitudinal studies by Heidrich and Powwattana (2004) showed that a lessening in self-discrepancy found in older adults serves as a mechanism protecting one against the negative consequences of the deterioration of physical health. Accordingly, perceiving oneself as more congruent with one's ideals helps one to maintain mental health and well-being when the physical health declines with age. This shift in self-perception may help a person to adapt to the negative consequences of chronic illness.

Similar adaptive functions of self-knowledge have been identified by Lapp and Spaniol (2016), who compared older (aged between 65–84) and younger (17–30) healthy adults. In contrast to previously mentioned studies, Lapp and Spaniol did not find age to have any influence on the magnitude of the discrepancy between the actual self and self-standards (the ideal and ought selves combined). However, older adults, as compared to younger

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adults, hold lower ratings of the actual self as well as lower expectations regarding their self-standards. The lowering of self-standards as a way of preventing against increase in self-discrepancy may be interpreted as a compensation for the physical and mental limitations that accompany ageing. Lapp and Spaniol (2016) also found interesting differences between older and younger adults with regard to the content (thematic domains) of self-standards. Although in both groups the greatest proportion of attributes concerned the interpersonal domain, younger adults generated more achievement-related self-standards. In contrast, older adults were more prone to describe their standards in terms of health-related issues.

Late adulthood is thus a period of life when health status, both objective and subjective, plays a very important role in determining psychological well-being. Health is also a crucial issue against which older adults judge their actual self (Frazier et al., 2002, 2003). This was directly studied by Mora et al. (2012), who focused on two types of self-discrepancies: i.e. the ideal self-discrepancy and the undesired self-discrepancy. The former refers to the discrepancy between the actual self and the ideal self (the self at its best), while the latter concerns the discrepancy between the actual self and the undesired self (the self at its worst; see Ogilvie, 1987; Ogilvie & Clark, 1992). Mora et al. (2012) found that self-assessed health (SAH) moderates the relationship between self-discrepancies and mood. They expected that self-discrepancy would predict affect only when SAH is high and this effect was observed for the undesired self-discrepancy. There was no relationship between undesired self-discrepancy and three aspects of affect (depressed mood, positive mood, and anxious mood) for those who rated their health as poor, while the effect was significant when self-assessed health was high. In the case of the ideal self-discrepancy the conditional effect was statistically significant only for anxious mood. Moreover, the direction of this moderation was opposite of Mora et al.'s (2012) expectations – the ideal self-discrepancy predicted anxious mood only when self-assessed health was low.

The present study draws on the research by Mora et al. (2012) and aims to replicate their basic findings regarding the moderating role of SAH on the relationship between self-discrepancy and affect. Given the mixed results obtained by Mora et al. (the unexpectedly opposite directions of interaction for the undesired and ideal self-discrepancies), we decided to take into account a broader array of self-discrepancies and check if the direction of hypothesized conditional effects would differ depending on the type of self-discrepancy. We additionally expanded the scope of this study to include not only the structure of self-discrepancies but also the content of self-standards.

Mora et al. (2012) focused on the ideal self-discrepancy and its negative counterpart – the undesired self-discrepancy. Thus, they addressed an important distinction between positive and negative self-standards. However, they did not consider the distinction between the ideal and ought aspects of self-standards which has been crucial in self-discrepancy research since the pioneering work of Higgins (1987). Our study takes into account both the distinction between positive and negative self-standards and between their ideal and ought aspects.

We distinguished between two types of positive (approach-related) self-standards: (a) the ideal self and (b) the ought self, as well as between two types of negative (avoidance-related) self-standards: (c) the undesired self and (d) the forbidden self. Following Higgins (1987), the ideal self is defined as "reflecting one's hopes, aspirations and wishes", while the ought self is defined as "reflecting one's sense of duty, obligation, and responsibility" (Bak, 2014, p. 158). Similarly, the undesired self is defined as "the representation of the attributes that one would not like to possess – i.e. the negative counterpart of the ideal self", while the forbidden self is defined as "the representation of the attributes that one believes one should not possess – i.e. the negative counterpart of the ought self" (Bak, 2014, p. 158). Each of those four self-standards can be subjectively assessed in terms of their actualizations, i.e. the discrepancy between the actual self and a particular standard. As a result we distinguished four self-discrepancies: (a) the ideal self-discrepancy (IA), i.e. the actualization of the ideal self, (b) the ought self-discrepancy (OA), i.e. the actualization of the ought self, (c) the undesired self-discrepancy (UA), i.e. the actualization of the undesired self, and (d) the forbidden self-discrepancy (FA), i.e. the actualization of the forbidden self. This typology of self-standards and related self-discrepancies is based on the extensive review of relevant literature (Bak, 2017) and its validity has been recently confirmed in studies conducted on a number of independent samples (Bak, 2014, 2017; Bak & Alessandri, 2016).

Drawing on Mora et al. (2012) results we postulated that self-assessed health (SAH) moderates the relationship between self-discrepancy and affect (Hypothesis 1). However, we broadened the array of self-discrepancies by taking into account not only the ideal and undesired self-discrepancies but also the ought and forbidden self-discrepancies. This was done to check whether those additional types of self-discrepancy add to the knowledge on the relationships between health and well-being in older adults.

As for the outcome variables we focused on three aspects of affect: positive affect (PA), negative affect (NA), and hedonic balance (HB). Positive and negative affect refer to distinct affective experiences – two relatively independent dimensions of affect (Watson & Tellegen, 1985) so they may exhibit different patterns of relations with self-discrepancies and health. The third variable, hedonic balance (HB), reflects perceived experience of positive affect relative to negative affect, such as when HB is high there is predominance of PA over NA (Allen et al., 2016; Stillmaker & Kasser, 2013). As suggested by recent findings, hedonic balance is considered as strong indicator of emotional component of well-being (Caprara & Steca, 2006; Schimmack, 2003; Schimmack et al., 2002), while PA and NA refer directly to affective experiences. Thus we decided to test our first

hypothesis independently for three outcome variables: PA, NA and HB.

The second novel aspect of our study refers to the content of self-standards. Mora et al. (2012) used single-item, content-free measures to assess self-discrepancies in older adults. Those measures did not require participants to list any self-descriptive attributes neither to rate any domain-specific content. Participants were simply asked to rate how close/far they were from being at their best (for the ideal self-discrepancy) and how close/far they were from being at their worst (for the undesired self-discrepancy; Mora et al., 2012, p. 2047; see also Ogilvie & Clark, 1992). This approach greatly simplifies the procedure, but at the same time it precludes any analyses of the content of self-standards. However, the existing literature shows that it is the content of self-knowledge that health features as an important additional concern of older adults and therefore it should be a separate topic of study in its own right. That is why we wanted to explore this issue more deeply.

The significance of health-related issues for older adults' self-knowledge has been highlighted in studies focused on the content of possible selves (Markus & Nurius, 1986). Cross and Markus (1991) compared possible selves in four age groups (18–24, 25–39, 40–59, and 60–86) by classifying freely generated attributes into eleven thematic domains. "Physical" attributes (those related to fitness and health) were identified in all groups, but they were the most frequent in the oldest group. The authors observed that the number of health-related self-descriptions begins to grow in middle adulthood. Many feared selves in the oldest group reflected social and physical changes related to ageing. Similarly, Dark-Freudeman et al. (2006) reported a greater proportion of attributes related to memory-deficits in the descriptions of possible selves by older adults (ages 53–87) than in the case of their younger counterparts (ages 18–33). A five-year longitudinal study conducted by Frazier et al. (2000) in a sample of community-dwelling adults aged between 55–89 confirmed that the physical- and health-related possible selves become more important over time, while most of the other thematic domains remain stable. The importance of the physical domain for the self-concept of older adults has also been emphasized by Hsu et al. (2014), who showed that possible selves mediate the relationship between the physical self-concept and well-being.

Summing up, the research on possible selves shows clearly that health is an especially important topic of self-perceptions in late adulthood. However, the studies reported above are unspecific regarding different domains of self-knowledge. What we do not find in the existing literature is whether health-related content is equally important for different types of self-standards. Regarding the typology of self-standards we apply in our study (Bak, 2014) we postulated that attributes related to health are more prevalent in the descriptions of ideal aspects of self-standards (i.e. the ideal and the undesired selves) as compared to ought aspects of self-standards (i.e. the ought and the forbidden selves; Hypothesis 2). This seems reasonable that health is conceived rather in terms of own personal wishes and dreams than in terms of moral obligations and responsibilities.

We also expected that there is a negative correlation between self-assessed health (SAH) and the extent to which health-related content is present in the descriptions of self-standards (Hypothesis 3). The content of individual self-standards usually reflects the most important and personally relevant issues (e.g. Hooker et al., 1996; Strauss & Goldberg, 1999). We assumed that health is an especially important domain for those who regard their health as poor. Those who believe that they are in a good shape, do not care so much for health and thus they are less prone to conceive their standards in terms of health-related content.

Method

Participants and Procedure

A total of 124 Polish community-dwelling elderly (including 93 females; 75%) aged between 60 and 89 (M = 71.72; SD = 7.08) gave informed consent to participate in this study. They represented all four basic levels of education in Poland, i.e. elementary (7% of participants), vocational (15%), secondary (50%) and higher (28%) education. Eight participants were excluded from analyses due to substantial amount of missing data what resulted in the final sample of 116 older adults (85 females; 73%) aged between 60 and 89 (M = 71.85; SD = 6.98). Participants were informed that their involvement in the study was voluntary and that all their responses would be anonymous. Those who agreed, completed the measures in paper and pencil format. After completing the questionnaires participants responded to demographic questions regarding gender, age, and education.

Measures

Self-Standards and Self-Discrepancies

The content of four self-standards and related self-discrepancies were measured using the paper and pencil version of the Self-Standards' Measure (SSM; Bak, 2014), which employs a similar methodology as the Selves Questionnaire by Higgins et al. (1997). The SSM is a two-step procedure consisting of: (a) listing the attributes of self-standards, and (b) assessment of the actualization of self-standards, i.e. discrepancies between self-standards and the actual self. First, participants described their self-standards by listing 16 attributes referring to their ideal, ought, undesired, and forbidden selves (four attributes for each self-standard). Additionally, they marked those attributes that they believed are the most important. In the second part, each of the 16 freely generated attributes were assessed in terms of their actualization (self-discrepancy). To do so, participants rated the extent to which they actually possessed a given attribute using a 6-point scale ranging

from 0 (*I am definitely not like this*) to 5 (*I am definitely like this*)[1]. The overall index of the ideal self-discrepancy (IA – the actualization of the ideal self) was calculated as a weighted mean of the four actualization ratings for the ideal self-attributes, given that the attributes that were checked as "the most important" get the weight of "2", while those not checked, get the weight of "1". The overall indexes for the ought (OA), undesired (UA), and forbidden (FA) self-discrepancies were calculated analogically. The reliability of self-discrepancy scores was α = .72, 95% CI [.62, .79] for the ideal self-discrepancy; α = .79, 95% CI [.73, .85] for the ought self-discrepancy; α = .77, 95% CI [.69, .83] for the undesired self-discrepancy; and α = .79, 95% CI [.72, .85] for the forbidden self-discrepancy.

In addition to calculating the indexes of self-discrepancies we analyzed the content of attributes generated spontaneously by participants to describe their self-standards. As stated above, each participant listed four attributes to describe each of the four self-standards, resulting in a total number of 16 attributes. The main goal of this part of the analysis was to identify the attributes related to health and fitness. Additionally, for exploratory reasons, we checked the frequency of describing self-standards in terms of attributes related directly to age and ageing. Therefore, each attribute was categorized into one of the following three categories:

1. Health – attributes related to physical or mental health as well as physical or cognitive fitness. Sample attributes listed by our participants are: healthy, sick, cripple, disabled, infirm, decrepit, fit, able, blind.
2. Age – attributes related explicitly to age and ageing (e.g. young, younger, old).
3. Others – all the remaining attributes that were not coded as "health" or "age".

A total of 2176 attributes was coded independently by two raters (second and third authors). While coding each attribute, the raters were blind to the self-standard that a given attribute was used to describe. The overall inter-rater agreement was assessed in terms of Krippendorff's Alpha (Hayes & Krippendorff, 2007) and indicted high reliability of coding procedure: α = .83, 95% CI [.78, .88]. As recommended by Smith (2000), disagreements between raters (2% of attributes to be coded) were resolved by discussion between all three authors.

Positive / Negative Affect and Hedonic Balance

We measured three aspects of affect (outcome variables in this study) with the Positive and Negative Affect Schedule – Expanded Form (PANAS-X, Watson et al., 1988; PANAS-X, Watson & Clark, 1994). The PANAS-X is a 60-item scale designed to capture a set of specific affect scales as well as two general dimensions of emotional experience – Positive Affect (PA; 10 items: attentive, strong, inspired, alert, active, proud, enthusiastic, determined, interested) and Negative Affect (NA; 10 items: irritable, afraid, upset, guilty, nervous, hostile, jittery, ashamed, scared, distressed). Specific affect scales were included in this study for exploratory reasons and we do not report those results here. Instead, we focused on NA and PA as well as on the construct of hedonic balance operationalized as a difference between NA and PA (Schimmack, 2003). The reliability of NA and PA scales for the present sample was α = .77, 95% CI [.70, .83] and α = .65, 95% CI [.54, .74], respectively. Consistent with other studies (Allen et al., 2016; Caprara & Steca, 2006; Schimmack et al., 2002), to calculate a score for hedonic balance (HB) we subtracted NA from PA.

Self-Assessed Health

Self-assessed health (SAH) was measured with seven items from the World Health Organization Quality of Life scale – WHOQOL-BREF (Skevington et al., 2004; The WHOQOL Group, 1998). The original 26-item WHOQOL-BREF measures quality of life in four domains: physical health, psychological, social relationship, and environment. In line with the objectives of the study, we focused on the domain of physical health and this was measured with the following items from the WHOQOL-BREF: (1) "To what extent do you feel that physical pain prevents you from doing what you need to do?"; (2) "How much do you need any medical treatment to function in your daily life?"; (3) "Do you have enough energy for everyday life?"; (4) "How well are you able to get around?"; (5) "How satisfied are you with your sleep?"; (6) "How satisfied are you with your ability to perform your daily living activities?"; (7) "How satisfied are you with your capacity for work?". Participants indicated their subjective health status using four types of 5-point Likert scales designed to reflect: (a) extent (items 1 & 2): from *not at all* to *an extreme amount*; (b) intensity (item 3): from *not at all* to *completely*; (c) capacity (item 4): from *very poor* to *very well*; and (d) evaluation (items 5, 6, & 7): from *very dissatisfied* to *very satisfied* (Skevington et al., 2004). The reliability of the overall SAH score for the current sample was α = .80, 95% CI [.74, .85].

Results

Self-Assessed Health as a Moderator of the Relationships Between Self-Discrepancies and Affect

We postulated that self-assessed health (SAH) moderates the relationships between self-discrepancies and affect. Table 1 presents descriptive statistics for variables involved in this hypothesis. There was a statistically significant, but weak, correlation between IA and OA, as well as between UA and FA. All other correlations between self-discrepancies were either very weak (IA x UA) or statistically non-significant. SAH was unrelated to all predictors except the undesired self-discrepancy, but even in this single case the correlation was weak. As for the outcome variables, there was no correlation between

[1] To simplify the calculations of self-discrepancy scores and remove "0" from the mathematical formula, before running the analyses all responses were recalculated by adding "1" to original values. As a result self-discrepancies were measured on a 6-point scale ranging from 1 (*I am definitely not like this*) to 6 (*I am definitely like this*). The results presented in the subsequent sections should be interpreted accordingly.

Table 1. Descriptive Statistics and Bivariate Correlations for Study Variables

Variables	Min	Max	*M*	*SD*	SK	KU	1	2	3	4	5	6	7	8
1. Ideal self-discrepancy	1.00	6.00	3.09	1.11	0.22	−0.02	–							
2. Ought self-discrepancy	1.00	5.25	2.46	0.98	0.52	−0.35	.46***	–						
3. Undesired self-discrepancy	1.00	6.00	4.10	1.27	−0.35	−0.68	−.19*	−.16	–					
4. Forbidden self-discrepancy	1.00	6.00	4.09	1.27	−0.55	−0.17	.04	.01	.41***	–				
5. Negative affect	1.20	4.00	2.57	0.58	0.00	−0.48	.05	.15	−.05	−.12	–			
6. Positive affect	1.50	4.60	3.26	0.51	−0.35	0.50	−.20*	−.04	.26**	.15	−.08	–		
7. Hedonic balance	−1.40	3.20	0.69	0.80	0.12	0.18	−.17	−.14	.20*	.18	−.77***	.70***	–	
8. Self-assessed health	1.29	4.71	3.28	0.67	−0.38	−0.01	−.10	.06	.23*	.10	−.31**	.44***	.50***	–

Note. Min = minimum; Max = maximum; SK = skewness; KU = kurtosis
* $p < .05$. ** $p < .01$. *** $p < .001$.

negative (NA) and positive affect (PA). Thus, we run separate analyses for IA, OA, UA, and FA as focal predictors and NA, PA, and HB as outcome variables.

To test the postulated moderations, we conducted a series of 12 hierarchical multiple regression analyses. Separate models were calculated for one of the four self-discrepancies (IA, OA, UA, FA) as a focal predictor and three outcome variables (NA, PA, and HB). For all models SAH served as moderator variable. The regression analyses were performed using the PROCESS macro for SPSS, version 3.3 (Hayes, 2017). The significance of interaction between self-discrepancy and SAH was determined by means of bootstrap-generated 95% confidence intervals (10000 bootstrapped samples). As recommended by Hayes (2017), in cases of significant interaction the Johnson-Neyman technique was employed to identify the regions of significance, i.e. the values of SAH (moderator) above or below which self-discrepancy was a statistically significant predictor of affect.

Significant interactions between self-discrepancy and self-assessed health as predictors of affect were found for five out of 12 models (see Table 2). SAH moderated: the effect of UA on negative affect (model 3), the effects of OA and FA on positive affect (models 6 and 8), as well as the effects of IA and OA on hedonic balance (models 9 and 10).

Models 6, 9, and 10 refer to discrepancies with positive standards as focal predictors. The ought self-discrepancy was a statistically significant negative predictor of positive affect when SAH was high (above the J-N cut-point of 3.95; see Figure 1, model 6). The ideal self-discrepancy and the ought self-discrepancy negatively predicted hedonic balance when SAH was moderate or high (above the J-N cut-points of 3.26 and 3.15, respectively; see Figure 1, models 9 and 10). For those who believed that their health was good the higher ideal/ought self-discrepancy the lower positive affect and the higher negative affect. In all cases, self-discrepancy did not predict affect when SAH was low.

In contrast, models 3 and 8 refer to discrepancies with negative standards as focal predictors, i.e. undesired self-discrepancy (UA) and forbidden self-discrepancy (FA), respectively. In both cases significant interactions between self-discrepancy and SAH were found but, in contrast to models with positive standards, self-discrepancy predicted affect only when SAH was low. When health was assessed as poor (SAH lower than 2.86) the forbidden self-discrepancy positively predicted positive affect, i.e. the more one perceived oneself as different from what one ought not to be the higher positive affect (see Figure 1, model 8). The effect of undesired self-discrepancy was similar in that sense that it was statistically significant only for those with low SAH (lower than 1.74). In this case, however, self-discrepancy positively predicted negative affect, i.e. the more one perceived oneself as different from what one does not want to be the higher negative affect (see Figure 1, model 3). In both cases (models 3 and 8) self-discrepancy did not predict affect when SAH was high.

Health-Related Content in the Descriptions of Self-Standards

To analyze the content of spontaneously generated descriptions of self-standards the attributes listed by each participant were coded as either “health”, “age” or “other” (see “Measures” section for the details of the coding

Table 2. Interactive Effects of Self-Discrepancies and Self-Assessed Health on Negative Affect, Positive Affect, and Hedonic Balance

Model	Focal predictor	R^2	Interaction between self-discrepancy and SAH				
			ΔR^2	*B*	95%CI	Johnson-Neumann	
						Cut-point	Region
Negative affect as outcome variable							
1.	Ideal self-discrepancy	.12	.03	0.14	[−0.03, 0.33]	–	–
2.	Ought self-discrepancy	.13	< .01	0.08	[−0.09, 0.26]	–	–
3.	Undesired self-discrepancy	.13	.03	−0.14	[−0.30, −0.02]	1.74 ↓	1.7%
4.	Forbidden self-discrepancy	.10	< .01	−0.02	[−0.15, 0.11]	–	–
Positive affect as outcome variable							
5.	Ideal self-discrepancy	.22	< .01	−0.04	[−0.16, 0.06]	–	–
6.	Ought self-discrepancy	.22	.03	−0.13	[−0.26, −0.02]	3.95 ↑	16.4%
7.	Undesired self-discrepancy	.22	< .01	−0.03	[−0.12, 0.08]	–	–
8.	Forbidden self-discrepancy	.23	.03	−0.12	[−0.22, −0.01]	2.86 ↓	25.0%
Hedonic balance as outcome variable							
9.	Ideal self-discrepancy	.29	.02	−0.18	[−0.39, −0.01]	3.26 ↑	53.4%
10.	Ought self-discrepancy	.30	.03	−0.21	[−0.41, −0.03]	3.15 ↑	53.4%
11.	Undesired self-discrepancy	.27	.01	0.10	[−0.04, 0.32]	–	–
12.	Forbidden self-discrepancy	.27	< .01	−0.10	[−0.25, 0.06]	–	–

Note. cut-point = the Johnson-Neuman technique results – the value of SAH below (↓) or above (↑) which the conditional effect of self-discrepancy on affect is statistically significant; region = the Johnson-Neuman technique results – the region of SAH (proportion of sample) where the condition effect is statistically significant.

procedure). The category "age" was included in this coding for exploratory purposes and since it occurred to be used only by 10 participants we excluded this category from further analyses. The category "health", which clusters the attributes related to health as well as physical and cognitive fitness, was found in the descriptions of self-standards of 48 participants (41%).

Our second hypothesis stated that health-related attributes are not equally distributed between the four self-standards. For positive standards we postulated that health-related attributes are more prevalent in the descriptions of the ideal self as compared to the ought self. Similarly, for negative standards we postulated that health-related attributes are more prevalent in the descriptions of the undesired self as compared to the forbidden self. We calculated, for each of the four standards, the number of participants who included at least one attribute from the category "health" in their description of a given standard. Then, we conducted the omnibus Cochran's Q test (Sheskin, 2000) to compare the distribution of health-related content across the four self-standards. A total of 47 participants included health-related attributes while describing their ideal selves, 11 participants included them in the descriptions of ought selves, 20 participants in case of undesired selves, and 8 participants in case of forbidden selves. The Cochran's Q test indicated that health-related descriptions were not equally distributed across self-standards: $Q(3, 112) = 70.92$, $p < .001$.

The computation of the omnibus Q statistic was followed with pairwise comparisons to test specific differences between self-standards. A series of McNemara χ^2 tests (Sheskin, 2000) were conducted to compare the following six pairs of self-standards: (a) ideal and ought, (b) ideal and undesired, (c) ideal and forbidden, (d) ought and undesired, (e) ought and forbidden, and (f) undesired and forbidden. The results of those pairwise comparisons are presented in Table 3 as a 2 x 2 contingency matrices along with the χ^2 statistics and respective probability values. Each contingency matrix summarizes the numbers of participants for 2 x 2 within-subject design: (2) inclusion of health-related attributes in the description of the first standard (not included, included) x (2) inclusion of

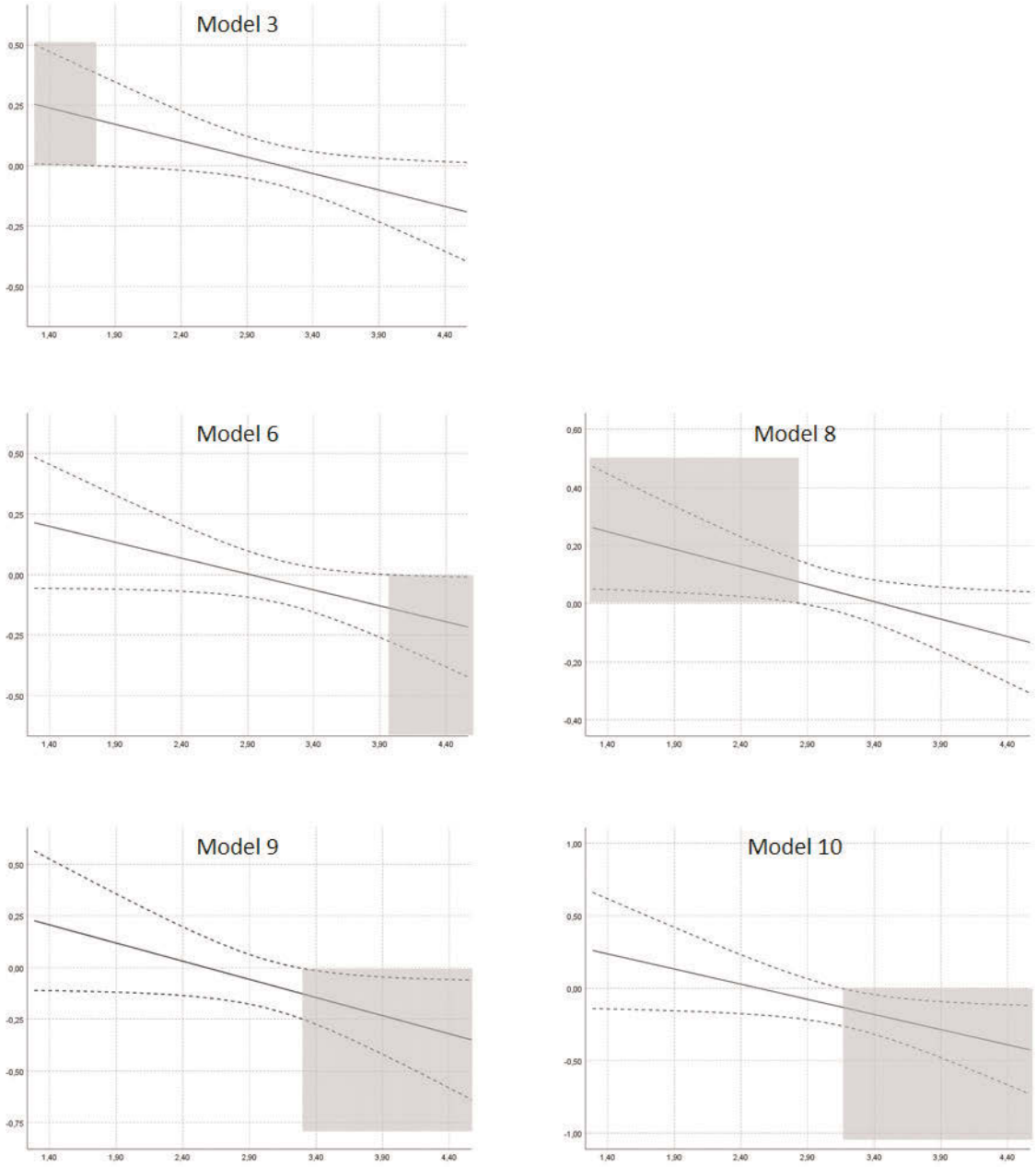

Figure 1. Plots of Johnson-Neyman Technique Results for the Moderation Effects of Self-Assessed Health (SAH) on Self-Discrepancies as Focal Predictors of Affect

Note. Y axes refer to the magnitude of conditional effects of focal predictors (self-discrepancies) on affect. X axes refer to the values of moderator (SAH). The solid lines represent conditional effects of self-discrepancies on affect. The dotted lines illustrate the 95% CI for those conditional effects. The gray areas refer to the regions of SAH (moderator) where the association between a given self-discrepancy and a given aspect of affect is statistically significant. Model 3 = conditional effect of undesired self-discrepancy on negative affect; Model 6 = conditional effect of ought self-discrepancy on positive affect; Model 8 = conditional effect of forbidden self-discrepancy on positive affect; Model 9 = conditional effect of ideal self-discrepancy on hedonic balance; Model 10 = conditional effect of ought self-discrepancy on hedonic balance.

health-related attributes in the description of the second standard (not included, included).

As postulated, health-related attributes were more prevalent in the descriptions of the ideal self as compared to the ought self. There were 38 participants who included this content when describing their ideal selves and at the same time did not include it in the description of the ought selves, while only one participant included "health" when describing the ought self and did not include it in the description of the ideal self. Twelve participants used health-related attributes to describe both the ideal and ought selves, and 65 participants did not include this content neither in the ideal nor ought selves. A similar pattern of results was found when the ideal self was compared to the undesired self and the forbidden self – in both cases attributes from the domain of "health" were more prevalent for the ideal self (Table 3, the upper row of contingency matrices). The postulated difference was also

found for the two negative standards. Health-related attributes were more prevalent for the descriptions of the undesired self as compared to the forbidden self (Table 3, the bottom contingency matrix). Moreover, the content related to health turned out to be more often included in the undesired self as compared to the ought self (Table 3, the left matrix in the middle row).

The third hypothesis postulated an inverse relationship between self-assessed health (SAH) and the prevalence of health-related content in the descriptions of self-standards. Each participant listed 16 attributes in total when describing the content of their four self-standards. Thus, we calculated, for each participant separately, the number of attributes coded as "health" in all four standards and named this variable as HCS – health-related content in self-standards. Since the distribution of HCS violated the assumption of normality we calculated a nonparametric Spearman's rank-order correlation coefficient rho (r_s; one-tailed) to verify the postulated relationship. The correlation between SAH (as measured with 7 items from WHOQOL) and HCS was statistically significant, yet relatively weak: $r_s = -.18$; $p = .024$.

Table 3. Results of McNemara χ^2 Comparing the Frequency of Including Health-Related Content in the Description of Standards (Pairwise Comparisons)

		Ought self		Undesired self		Forbidden self	
		a	*b*	*a*	*b*	*a*	*b*
Ideal self	*a*	65	1	64	2	66	0
	b	38	12	28	19	39	8
	χ^2	33.23; $p < .001$		20.83; $p < .001$		37.03; $p < .001$	
Ought self	*a*			89	12	96	5
	b			3	9	9	3
	χ^2			4.27; $p = .035$		0.64; $p = .424$	
Undesired self	*a*					88	4
	b					17	4
	χ^2					6.86; $p = .007$	

Note. *a* = the number of participants who did not include health-related content in the description of a given self-standard; *b* = the number of participants who included at least one health-related attribute in the description of a given self-standard.

Discussion

Our study was focused on both structure and content of self-standards in older adults. First, we aimed at extending previous findings regarding the moderating role of self-assessed health on the relationship between self-discrepancies and affect. Second, we conducted a content analysis of attributes used by older adults to describe their self-standards. For both aspects of this study we distinguished between four types of self-standards, i.e. the ideal, ought, undesired and forbidden selves.

Self-Discrepancy as Predictor of Affect

Our first hypothesis based on the results obtained by Mora et al. (2012) postulated that self-assessed health (SAH) moderates the relationship between self-discrepancy and affect. Mora et al. (2012) focused on the ideal self-discrepancy and its negative counterpart, the undesired self-discrepancy. Our study additionally took into account the ought self-discrepancy (Higgins, 1987) as well as its negative counterpart, the forbidden self-discrepancy. We wanted to check whether all four types of self-standards are relevant for the domain of health and emotional well-being in older adults. The results of our study clearly shows that they are. All four types of self-discrepancies turned out to significantly predict different aspects of affect when self-assessed health was considered as a moderator. To have a broader picture of emotional well-being in late adulthood we need to consider perceived health status in interaction with the perceived actualization of different types of self-standards.

Interestingly, the moderation effects differ for positive and negative standards. The ideal and ought self-discrepancies were significant predictors of hedonic balance when SAH was high, while the effects of the two self-discrepancies on hedonic balance were statistically non-significant for those who regard their health as poor. The same pattern of results was found in case of the ought self-discrepancy predicting positive affect. This is consistent with Mora et al.'s (2012) original reasoning that the perceived actualization of self-standards predicts older adults' emotional well-being provided that the person is

not overconcerned with health problems; when, however, health becomes a major issue it takes over the regulatory functions of self-standards.

In case of negative self-standards (i.e. the undesired and forbidden selves) the opposite pattern of moderation effects was found. The undesired self-discrepancy turned out to be a statistically significant predictor of negative affect when SAH was very low, while there was no relationship between the two variables when SAH was higher. Similarly, the forbidden self-discrepancy predicted positive affect when SAH was low, while there was no relationship between the two variables for participants with higher SAH.

Certainly, the differences in directions of moderation needs to be verified in further studies. Nevertheless, it seems that, depending on SAH, different types of self-discrepancies predict affect and that the moderating role of SAH may differ among types of self-discrepancy. When older adults perceive themselves as being healthy and in a good shape, positive standards play a crucial role in emotional regulation. When, in contrast, older adults perceive themselves as having a large number of health problems, negative standards take regulatory functions over the positive ones. In other words, those high in SAH care more about actualization of positive standards (the ideal and ought selves), while those low in SAH are concerned with the potential risk of actualization of negative standards (the undesired and forbidden selves).

Such an interpretation would be consistent with control theory by Carver and Scheier (1998). They describe self-regulation in terms of approach and avoidance, as two intertwined processes. Positive standards serve as reference points for approach processes, while negative standards play similar role for avoidance processes. Avoidance is activated when a person perceives oneself as being close to negative standards. When, in contrast, those negative end-states are perceived as being at a "safe distance" from the self, self-regulation operates in terms of approach processes, with positive standards playing a crucial role as reference points (Carver et al., 1999). Given the subjective nature of self-assessed health we may speculate that perceiving oneself as having plenty of problems with health (low SAH) may be the reflection of a more general focusing on negative aspects of one's life, and a general pessimistic tendency to concentrate on potential threats, risks and dangers.

In terms of Higgins' (1997) regulatory focus theory, such a low SAH would be a reflection of prevention regulatory focus, which entails avoiding negative outcomes and protecting against potential failures. Thus, low SAH would be a "symptom" of a general condition for which negative standards (the undesired and forbidden selves) rather than positive ones (the ideal and ought selves) serve as chronically accessible (Higgins, 2000) reference points in self-regulation. This entails that negative rather than positive standards are predictors of affect. High SAH, in contrast, would be a reflection of a more optimistic approach – a condition that makes positive standards chronically accessible and thus predictive of emotional well-being. This is also consistent with the two-process framework by Brandtstädter and Rothermund (2002) where assimilative and accommodative modes of reducing discrepancies are conceived as mutually influencing goal-directed activities in the context of aging.

To sum up, self-assessed health allows to specify the conditions for self-discrepancy to predict affect in older adults. This addresses the Higgins' (1999, p. 1314) postulate to explore the issue of "when is there an effect" and adds to the literature focused on the moderators of the relationships between self-discrepancy and emotions (Hong et al., 2013; Stevens et al., 2014; Wasylkiw et al., 2010). Importantly, the pattern of results referring in our study to the relationship between self-discrepancies and affect was generally consistent with the self-discrepancy literature. The further away one was from own positive standards the higher negative affect and / or lower hedonic balance (models 6, 9, & 10). In a similar vein, the further away one was from own negative standards the higher positive affect (model 8). There was however one intriguing exception to this pattern. In the case of the undesired self-discrepancy (model 3) the more one perceived oneself as different from what one does not want to be like (UA) the higher negative affect (NA), while based on Ogilvie (1987) we would expect a negative correlation between UA and NA. Given that the effect was observed only for individuals with very low SAH (lower that 1.74, i.e. more than 2 SD below the SAH mean) further research is needed in order to reasonably interpret this unexpected effect and to rule out the possibility that it was an accidental result.

Content of Self-Standards

The present study is focused not only on how self-discrepancies interact with SAH in predicting affect, but also emphasizes the role of the content of self-standards. We conducted a content analysis of freely generated attributes used to describe the four self-standards. Previous research showed that health-related issues are an important component of elderly self-descriptions (Cross & Markus, 1991; Dark-Freudeman et al., 2006; Frazier et al., 2000). What was not known however, is the relative significance of this thematic domain for different aspects of self-knowledge. We postulated that attributes related to health and fitness are more prevalent in the descriptions of ideal aspects of self-standards (i.e. the ideal and undesired selves) as compared to their ought aspects (i.e. the ought and forbidden selves). The results of our analyses were fully consistent with this hypothesis. This extended previous knowledge regarding the content of self-descriptions.

Most previous studies focused on the structure or regulatory functions of the self, while paying much less attention to the content of self-knowledge (see Campbell et al., 2003). A significant exception is the research on the possible selves (e.g. Bybee & Wells, 2006; Cotrell & Hooker, 2005; Hsu et al., 2014) and our study adds to this by analyzing the content of four distinct domains of self-

knowledge. We showed that health-related issues are not equally distributed between different types of self-standards. Older adults include health-related content when they describe what kind of a person they would like to be or what they would like to avoid (the ideal and undesired selves) rather than when they think of their duties and responsibilities (the ought and forbidden selves).

The within subject differences in the content of self-standards showed that older adults conceive their health-related goals (standards) in terms of personal wishes, dreams or fears rather than in terms of moral obligations. This is probably in line with a common-sense knowledge, though so far it has not been empirically documented. Moreover, such distribution of health-related self-descriptions is similar to what have been previously found in case of younger adults and adolescents (Bak, 2017). This points to similarities rather than differences between older adults and their younger counterparts, which in case of health-related issues is probably less obvious in terms of a common-sense knowledge.

In line with this let's turn to another counterintuitive, or even opposing age bias, aspect of our results. Health certainly is a key concern for older adults and this was reflected in our study as a significant moderating role of SAH in predicting elderly emotional well-being. However, we should not assume that all older adults are over-concerned with health. We did find health-related content in the descriptions of self-standards, but this referred only to 41% of our participants. Almost 60% did not include any attribute related to health and fitness in their descriptions of any self-standard. Still, in line with our third hypothesis, there was a significant negative correlation between a number of health-related attributes in descriptions of standards (HCS) and self-assessed health (SAH). Those who regarded their health as poor had more dreams and fears related to health. Those who perceived themselves as being in a good condition rarely included health as a standard for self-regulation.

Limitations and Conclusions

Because of the cross-sectional, correlational design of our study, we certainly should not speculate about any directional relationships between SAH and content of self-standards. Similarly, no causal conclusions regarding relationships between self-discrepancies and affect are warranted. Another limitation of the presented results is the uneven distribution of females and males in our sample, with the overrepresentation of females. We should note however that there was no gender differences as far as the means of all variables included in the presented analyses are concerned. This makes our interpretations plausible, even if the limitation of our sample is considered.

To conclude, we confirmed the previously found moderating role of self-assessed health on the relationships between self-discrepancy and affect (Mora et al., 2012). Still, we extended those findings by showing that, when a broader array of self-discrepancies is considered the original interpretation of this general effect should be reformulated. The relationship between self-discrepancies and affect does not diminish when health becomes a salient concern. It is rather that depending on self-assessed health different types of self-standards serve as reference points for self-regulations and consequently are responsible for affective experiences. Avoidance processes with negative standards as reference points predominate when SAH is low. Approach processes, with positive standards as reference point predominate when SAH is high (Carver et al., 1999; Carver & Scheier, 1998). The second aspect of this study, i.e. content analyses of self-descriptions, revealed significant differences between self-standards in terms of health-related thematic domains. This broadens the knowledge on the older adults' self-descriptions.

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