LARS TORNSTAM
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THE SOCIAL GERONTOLOGY GROUP

DEPARTMENT OF SOCIOLOGY

UPPSALA UNIVERSITY

Gerotranscendence from young old age to old old age

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Content

Abstract

Empirical studies on gerotranscendence have shown a pattern of developmental changes in Cosmic transcendence, Coherence, and the need for Solitude. A new study of 1,771 Swedish respondents, 65-104 years of age, confirms earlier studies while furthering the theory, in general, and our knowledge of gerotranscendental development at the upper end of the age scale, in particular. The present study adds to the empirical validity of the theory.

This new study defines how the pure *age development* of gerotranscendence is affected by *social matrix factors* and *incident impact factors*. Gender and marital status are examples of social matrix factors. Illness and perceived crises in life are examples of incident impact factors.

Taking the present and earlier studies into consideration, we can conclude that, during the major part of adult life, there seems to be a developmental pattern of increased *cosmic transcendence*. This increase levels out on a high level at the end of the age scale. In the younger age categories, the degree of gerotranscendence is also modified by social matrix factors and incident impact factors, but these factors seem to be of minimal importance when old age is reached.

The *coherence dimension* of gerotranscendence is different from the cosmic dimension in that both social matrix factors and incident impact factors are still of importance in old age. The *solitude dimension* shows a similar pattern. Regarding both coherence and solitude, there is a clear, pure developmental age factor, still prevalent in old age, which is supplemented with some social matrix factors and incident impact factors.

Earlier studies have revealed contradictory results regarding the correlation between cosmic transcendence and *life satisfaction*, but in the present study we found support for the assumption that cosmic transcendence and satisfaction with one's present life seem to be fruits especially reserved for old age. It is only in studies of the upper end of the age scale – studies such as the present one – that we find this correlation.

Background

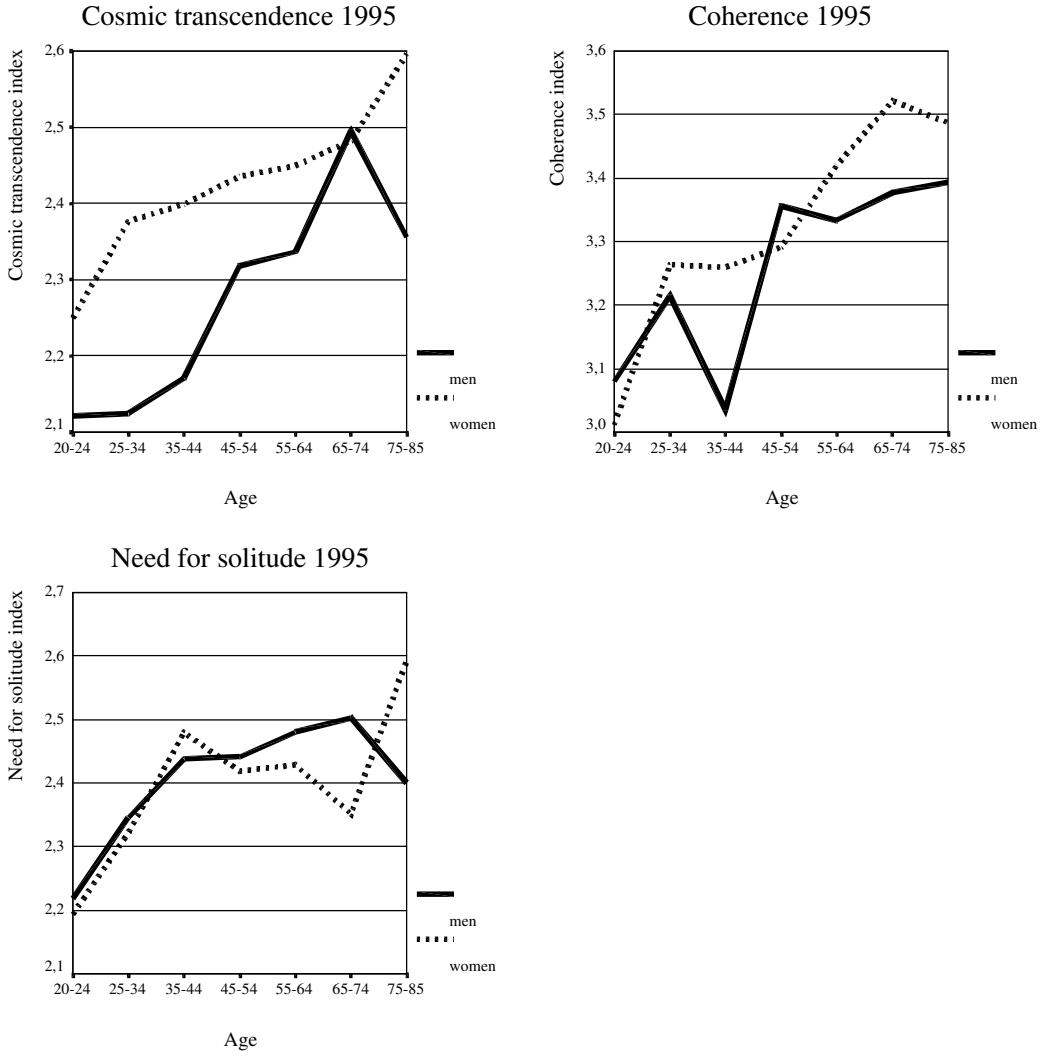
Drawing on our own studies as well as on the theories and observations of others (esp. Jung, 1930; Erikson, 1950, 1982; Peck, 1968; Gutmann, 1976; Chinen, 1985, 1986, 1989a, 1989b), we have suggested that human aging, the very process of living into old age, is characterized by a general potential toward *gerotranscendence*. Simply put, gerotranscendence is a shift in meta-perspective, from a materialistic and pragmatic view of the world to a more cosmic and transcendent one (Tornstam, 1989). As in Jung' s theory of the individuation process, the theory of gerotranscendence assumes a predisposition to a progression toward maturation and wisdom, a stage of gerotranscendence. It defines a reality somewhat different from the "normal", mid-life reality that we often tend to project onto old age.

According to a qualitative study (Tornstam, 1996 a, b), the gerotranscendent individual typically experiences a new understanding of fundamental existential questions – often a feeling of cosmic communion with the spirit of the universe, a redefinition of time, space, life and death, and a redefinition of the self and relationships to others. The individual becomes, for example, less self-occupied and at the same time more selective in his/her choice of social and other activities. There is an increased feeling of affinity with past generations and a decreased interest in superfluous social interaction. Positive solitude becomes more important.

Based on the previous qualitative and quantitative studies, the dimensions of gerotranscendence were described (Tornstam, 1996 b) as ontological changes in: a) The Cosmic, b) The Self, c) Social and

individual relationships. In 1995, we carried out a cross-sectional study of 2002 Swedish men and woman between the ages of 20 and 85. In this study, the three dimensions of gerotranscendence were approximated and operationalized in three measures: *cosmic transcendence*, *coherence* and *need for solitude*. The cross-sectional age patterns of the three dimensions, as reported in Tornstam (1997 a), are shown in Figure 1 below.

Figure 1: Age -Transcendence patterns 1995



The basic finding, supporting the theory of gerotranscendence, showed that the dimensions of gerotranscendence increase with age. We found cross-sectional age differences, which we cautiously, yet venturesomely, interpreted in a developmental way.

We registered patterns of increasing cosmic transcendence, coherence and need for solitude. Our data suggested that cosmic transcendence and coherence are principally continuous developmental processes that start already during the first half of adult life and gradually develop to their maximum in later life. The need for solitude also has its maximum in late life, but develops most rapidly during the first half of adult life. Looking back on the earlier studies, we find that three types of factors seem to influence or explain the degree of gerotranscendence a respondent reports. These are: 1) Pure *age development*, 2) *Social matrix factors* (e.g., gender, marital status, occupation), and 3) *Incident impact factors* (e.g., illness, crises).

We found, for example, that women score higher than men on cosmic transcendence, but that this difference decreases with increasing age. Yet we also discovered a puzzling gender difference – a male drop in cosmic transcendence in the age category 75-85 – which was one of the things that prompted us to take a closer look, with a new sample, at the upper end of the age scale. As the 1995 study included the whole age range from 20 to 85, only 190 Ss (9.5% of the sample) fell into the age category 75-85. Also, no Ss above the age of 85 were included in the 1995 study. The study reported herein, referred to as the 2001 study, focuses entirely on the 65+ category, with no upper age limit on the sampling procedure.

Research questions

The general purpose of the 2001 study is to obtain a better understanding of the gerotranscendence patterns when the unlimited age span 65+ is studied in detail. More precisely, we wish to scrutinize each of the gerotranscendence dimensions in order to reveal the developmental patterns in this upper end of the age scale, to take a closer look at the aforementioned explanatory factors for gerotranscendence, and to discover who the transcenders and the non-transcenders in old age are.

Thus, we need to focus on the aforementioned drop in cosmic transcendence among men 75+. Furthermore, as we in earlier studies have found unclear results regarding the correlation between gerotranscendence and *life satisfaction*, this will be one of our research questions. The aforementioned qualitative study (Tornstam, 1996 a, b) as well as a quantitative retrospective study (Tornstam, 1994) showed a substantial positive correlation, while the 1995 cross-sectional study showed no correlation. Finally, because some authors still argue that the theory of gerotranscendence is empirically weak (Jönsson & Magnusson, 2001), the present study is designed to provide additional empirical validity.

Specific questions:

- for each of the gerotranscendence dimensions: How can the possible development from young old age to old old age be characterized – continuous increase, leveling out, or decrease?
- what does this new empirical focus on the 65+ group add to our knowledge of gerotranscendence from earlier studies focused on ages 20-85?
- which are the explanatory factors and who are the transcenders and the non-transcenders in this 65+ sample?
- how can we understand the drop in cosmic transcendence among the old old men?
- Are there relationships between gerotranscendence, social activity and life satisfaction among Ss 65+?

Method

Sample

In this survey, carried out in 2001, we mailed a survey to a sample of 2,800 Swedish men and women 65+. The sample was age stratified, with 200 men and 200 women randomly sampled within each of the age categories 65-69, 70-74, 75-79, 80-84, 85-89, 90-94, 95+. The total number of respondents was 1,771, the oldest respondent being 104 years.

The response rate declined with age from 76 percent in the lowest age category to 53 percent in the highest. The overall response rate was 66 percent.

Measures

As in the previous 1995 study, a series of questions/statements were framed in accordance with the aforementioned dimensions of gerotranscendence. Statements were worded so as to tap the status of these dimensions. Table 1 shows all of the statements as well as the dimensions of gerotranscendence they are supposed to tap. Each respondent was asked to rate, on a fixed four-point scale, how poorly or well each statement agreed with his/her own experience and feelings.

The statement ratings were analyzed by a varimax rotated principal component factor analysis that produced the dimensions in Table 1. In Table 1, the results of the 1995 study are compared with the analysis on the present data. The present 2001 data reproduce the very same dimensions as in 1995, with similar but not identical factor loadings.

Table 1: Dimensions of Gerotranscendence

	Factor load			Factor load	
	1995	**2001**		**1995**	**2001**
Cosmic transcendence			**Coherence**		
I feel connected with the entire universe	.78	.69	My life feels chaotic and disrupted	-.74	-.77
I fell that I am a part of everything alive	.71	.61	The life I have lived has coherence and meaning	.70	.67
I can feel a strong presence of people who are elsewhere	.60	.75	**Solitude**		
Sometimes I feel like I live in the past and present simultaneously	.44	.68	I like to be by myself better than being with others	.78	.89
I feel a strong connection with earlier generations	.41	.64	I like meetings with new people	-.59	-.71
			Being at peace and philosophizing by myself is important for my well-being	.58	.51

For each of the factors, a standardized additive index was constructed according to the rules given by Galtung (1969). Scale values for statements with negative factor loads were reversed before addition. The alpha value, which is a scalability test, is .73 for the cosmic transcendence factor, .60 for the solitude factor, and .57 for the coherence factor. The latter two are below the rule-of-thumb threshold (.70), but expectedly and acceptably so, as the alpha value is highly dependent on the number of items in the scale.

Additive indices were also constructed for the measurement of diseases and life crises. Respondents were asked to read a list of common diseases and mark the diseases they suffered from. The number of diseases was calculated to create a simple additive index. In the same vein, the respondents were asked if they, during the past two years, had experienced something they regarded as a life crisis. The respondents could mark a number of predefined crises as well as add other types of crises. A simple additive index, showing the number of crises each respondent had reported, was constructed.

Crises were included because an earlier study (Tornstam, 1997 b) showed that subjectively experienced life crises are related to the dimensions of gerotranscendence. Particularly in women, subjectively experienced life crises were shown to contribute to the development of cosmic transcendence, but the impact decreased with age.

Furthermore, we used an additive activity index, where the respondents were asked how often they: a) participate in activities outside the home (organizational activities, church, cinema, theatre, etc.), b) receive visitors at home (friends, neighbors, children, other relatives), c) themselves visit friends,

neighbors, children or other relatives. Response alternatives were: daily, weekkly, monthly, every six months, less often. This index resulted in a five-point activity scale.

In addition to these indices, several single-item measures were used in the analysis. Overall life satisfaction is an example of such a single-item measure, where the respondents were asked to rate, on a fixed five-point scale, how satisfied they were with their present existence.

Results

Cosmic transcendence

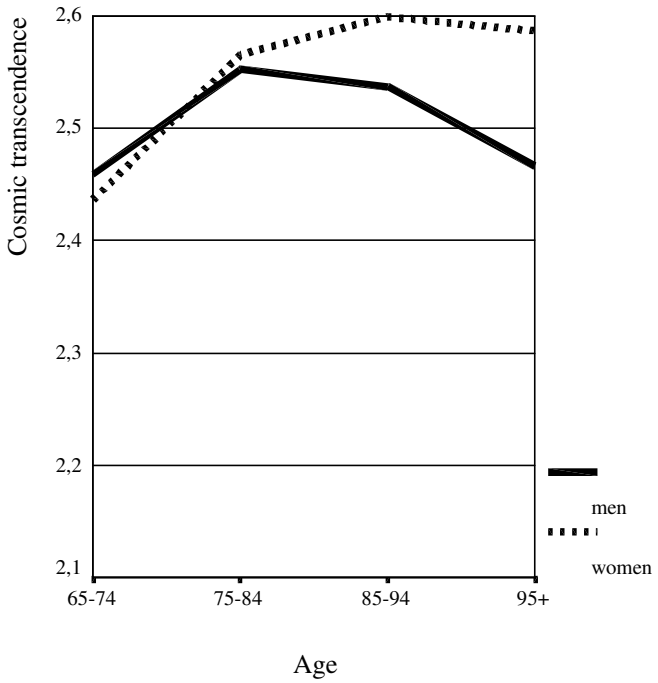
As seen in Figure 2, the 2001 data, focusing on ages 65+, replicate the 1995 study by showing a final increase in cosmic transcendence for women (eta = .11, $p < .05$), but not for men. The arch-shaped slope for men is, however, not statistically significant. Nor is the split between men and women from age 85+. Thus, the present study replicates this split, but not with statistical significance (eta = .09, $p = .268$ at age 95+). Since the split appears later in the age categorization in the 2001 study as compared to the 1995 study, it might be that we are dealing with a cohort difference.

The 1995 study (Tornstam, 1997), however, suggested that the aforementioned gender split could be related to social matrix factors such as marital or cohabiting status. The final drop among men was, in the 1995 study, found particularly among cohabiting men.

In the 2001 data, we tested whether social matrix factors such as marital and cohabiting status or having children play a role, but they do not. Controlling for these factors does not produce a statistically significant split between men and women.

However, in the present 2001 data, the split becomes lager and statistically significant in the age category 95+ if respondents who have experienced a crisis during the past two years are considered. Men who had experienced a crisis during the past two years show a considerable drop in the age category 95+, while women show a continuous age development in cosmic transcendence regardless of whether they had experienced crises. The difference in cosmic transcendence between men and women who had experienced a crisis within the past two years corresponds, in the age category 95+, to eta = .27 ($p < .05$).

Figure 2: Cosmic transcendence by age and gender



When looking at the data from the 1995 and the 2001 studies at the same time, we can draw the following statistically safe conclusions:

- For both men and women, there is an increase in cosmic transcendence with age, beginning already in early adulthood.
- In the age categories from 20 to 64, the men score lower on cosmic transcendence, but from 75+ they have caught up with the women.
- During young adulthood and middle age, life crises positively contribute to the development of cosmic transcendence for both men and women. In old age crises have, with the below exception, lost their impact.
- Men 95+, who have experienced a crisis within the past two years, show a moderately decreased level of cosmic transcendence.

In the 1995 study, it was demonstrated that the degree of cosmic transcendence correlated with a number of variables besides age and gender. Respondents who had at the time (or had previously had, if retired) self-governed professions or were students scored higher on cosmic transcendence. Further, respondents who, during the two years previous to the study, had experienced one or more life crises also scored higher on cosmic transcendence, as did those who had experienced diseases. None of these variables correlate with cosmic transcendence in the present study of 65+ respondents.

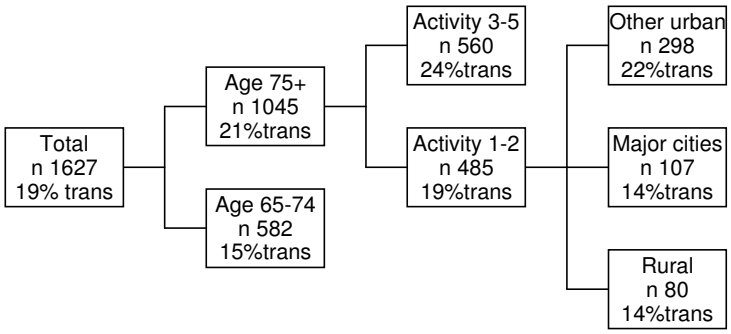
We did, however, find other variables[1] that correlate with cosmic transcendence: the activity index (eta = .08, $p < .05$) and satisfaction with present life (eta = .16, $p < .001$). The latter correlation is statistically significant and about equally strong in each of the age categories 65-74, 75-84, 85-94 and 95+. We will return to this observation later on.

[1] The variables checked for correlations are: age, gender, country of birth, having children, civil status, having a friend of opposite sex, residence, former profession, education, income, parent alive, sibling alive, child alive, crises, diseases, loneliness, satisfaction with present life, activity index.

Who are the cosmic transcenders?

In order to discover who the cosmic transcenders and the non-transcenders are, we have conducted a CHAID analysis[2], with cosmic transcendence as the dependent variable and a series of other variables as possible predictors (age, gender, country of birth, having children, civil status, having a friend of opposite sex, residence, former profession, education, income, parent alive, sibling alive, child alive, crises, diseases, activity index). The CHAID analysis identifies the transcenders and the non-transcenders in terms of age, activity, and place of residence. None of the other variables appear as

Figure 3. CHAID-analysis of cosmic transcendence



Transcenders = individuals belonging to the 20 percent highest on the cosmic transcendence scale

significant predictors of cosmic transcendence.

Among the 560 respondents who are 75+ and at the upper half of the activity scale, 24 percent belong to the high-transcendence group. If a cosmic transcendence index is set to 100 in the starting node (the whole sample), the index value in the aforementioned group is 123.

When the analysis is set to focus on the lowest fifth of the transcendence values (not shown), the non-transcendence group is identified as 75+, low activity, rural respondents. Among the 80 respondents in this group (where 14% also belong to the high transcendence category), 28 percent belong to the low transcendence category.

Even if the CHAID algorithm only produces statistically significant splits ($p < .05$), the percentage differences presented in Figure 3 are not overwhelming. The difference between min and max values is just 10 percentage points.

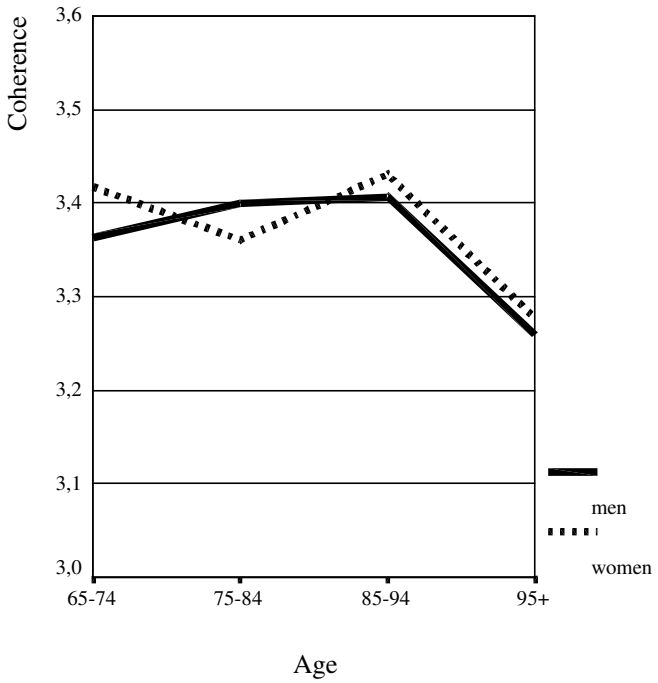
Coherence

In the 1995 study, as reproduced in Figure 1, we found significant correlations between age and coherence, for both men and women (eta's around .23 with p<. 001) The increase started already at age 20-24 and had its maximum in the age category 75-85, with women being slightly but not statistically significantly above the men. Statistically significant, however, was the gender difference

[2] CHAID (Chi-squared Automatic Interaction Detection) is an algorithm with which a dataset is broken down in sub-categories according to the explanatory power a set of predictors has with regard to a dependent variable (Kass, 1980; AnswerTree, 1998).

in the age category 35-44, where the men had a pronounced dip in the otherwise positive developmental pattern. Since the main focus in this article is on the upper end of the age scale, we shall leave this otherwise interesting finding behind.

Figure 4: Coherence by age and gender



In the 2001 study, as shown in Figure 4, which has the same scale as the coherence part of Figure 1, there is also a small but statistically non-significant difference between men and women in the age category 65-74. There is also, for both men and women, a drop from 85-94, which corresponds to a very modest but statistically significant correlation (eta = .07, $p < .01$) if the age categories 65-94 are collapsed into one and compared with 95+. If the whole age range is considered, there is, within the age span in focus, no statistically significant correlation between coherence and age.

Thus, when combining the 1995 and the 2001 studies, we can draw the following statistically safe conclusions:

- ¬ There is, for both men and women, an increase in coherence with age, beginning already in early adulthood.
- ¬ For men this increase seems to be interrupted by a temporary drop in the age category 35-44.
- ¬ The coherence reaches a maximum in the age category 65-74 and basically flattens out thereafter.
- ¬ From age 95, there is a very modest drop as compared to the age category 65-94.
- ¬ There is no difference in coherence between men and women from age 65+

In the 1995 study, it was demonstrated that coherence correlated with several other variables, besides the aforementioned age and gender. Unmarried and divorced respondents had lower values than did widows/widowers and married or cohabiting respondents. Individuals with higher incomes had higher

coherence values, while individuals who had experienced crises or diseases had lower coherence values. Also in the 2001 data, which focus on the upper end of the age scale, these types of variables still correlate with coherence in the same way – though this is not the case with respect to cosmic transcendence. Table 2 shows the correlations in the 2001 study. Eta values refer to simple bivariate correlations, while beta values are the ”pure” correlations when the other variables are controlled for in an ANOVA-MCA [3] analysis.

Table 2: ANOVA-MCA analysis of the correlates to the coherence dimension. Coherence as dependent variable.

	Eta	Beta	R^2
Age	.06	.18	
Gender	.04	.07	
Civil status	.17	.14	
Housing	.15	.08	
Former profession	.16	.12	
Children	.09	.06	
Crises	.18	.12	
Diseases	.12	.06	
Activity	.24	.21	
			.14

It is noteworthy that the initially non-significant correlation with age turns into a positive correlation when other variables are controlled for. If negative impacts of other factors such as widowhood, crises and inactivity are removed, coherence seemingly tends to increase slightly with age, even at the very top of the age scale.

As in the 1995 study, it is the unmarried and divorced respondents who have lower values on the coherence scale as compared to widows/widowers and married or cohabiting respondents. Also the experience of crises indicator shows the same association. Those who have experienced crises exhibit lower degrees of coherence. Having had diseases, however, reveals a slightly different pattern. When other factors are controlled for, the diseases factor loses its explanatory power.

New in the 2001 study are the correlations with housing, former profession and activity. Before controlling for other variables, there is a significant difference in coherence between respondents in different types of housing. The highest degrees of coherence are found among respondents living in their own houses, followed by respondents living in flats and lastly those living in service flats. As seen in Table 2, this correlation is reduced when other variables are controlled for.

The coherence among respondents with different former professions follows a professional hierarchy wherein the more skilled professions exhibit higher degrees of coherence.

[3] Analysis of variance with a Multiple Classification Analysis design, which allows categorical variables as dependents.

The activity measure has a substantial and remaining correlation with coherence. This correlation is, with some small variations, found for all age groups from 65 to 95+. The higher the activity, the higher the degree of coherence.

Also, but not introduced in the ANOVA analysis, since it is a conceptually related variable rather than a predictor, we have again found a very strong correlation between coherence and life satisfaction (eta = .50, p< 001). This replicates the finding in the 1995 study where, for the whole sample 20-85, the corresponding correlation was of the same magnitude (eta .52, p < .001). This strong correlation, with some small variation, is found in each of the age categories from 65 to 95+.

Who experiences high coherence?

In order to discover who the respondents reporting high vs. low degrees of coherence are, we conducted a CHAID analysis (figure 5), with coherence as the dependent variable and a series of other variables as possible predictors. In this case, we introduced gender, age, civil status, housing, former profession, having living children, activity, crises and diseases as predictors. For simplification, we also forced the CHAID algorithm to produce dichotomous splits only.

The node with the largest proportion of coherence is defined in terms of non-crises, high activity and skilled former profession. Among the 193 respondents who had experienced no crises during the past two years, and had had some qualified profession, at the same time as their activity is high, 40 percent belong to the high-coherence group. If a coherence index is set to 100 in the starting node (the whole sample), the index value in the high-coherence group group is 152.

When the analysis is set to focus on the lowest coherence values (not shown), the non-coherence group is identified as having experienced crises, being single and low in activity. Among the 95 respondents in this group, no less than 66 percent belong to the low-coherence category.

From the ANOVA and CHAID analyses of the Coherence dimension we can conclude that:

- Unlike the cosmic dimension, the coherence dimension turned out, even at the upper end of the age scale, to have several rather strong social matrix and incident impact predictors, of which the experiences of no crises, high activity, being married, and former qualified profession are the most important.

Solitude

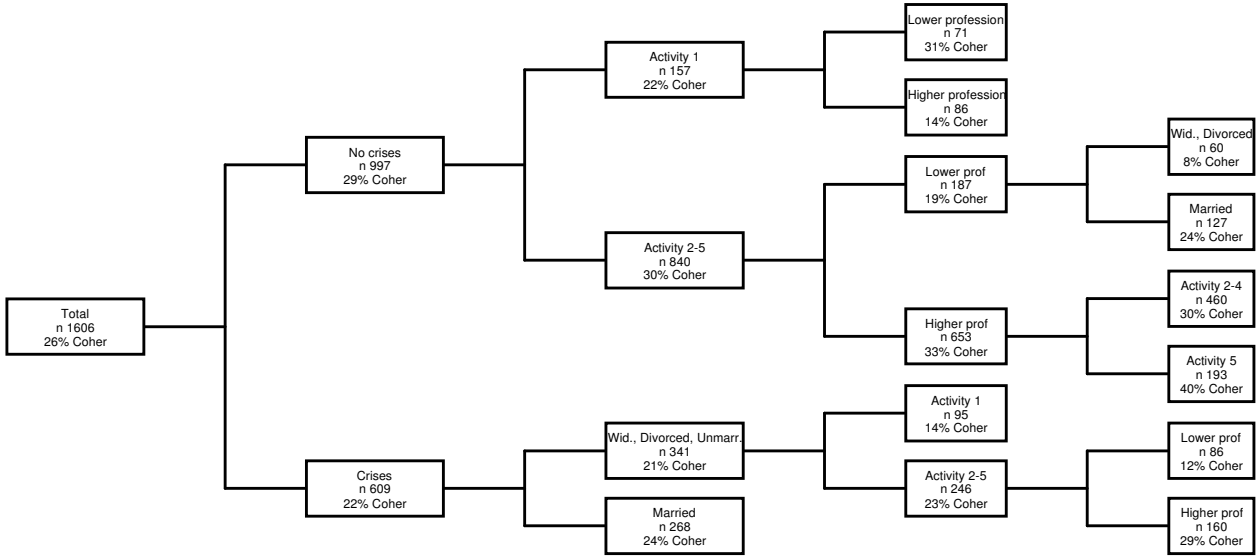
According to the 1995 study, with data for respondents between 20 and 85 years, the need for solitude was shown to start to increase early. The need for solitude increases up to the age category of 35-44 and remains quite stable afterward (Figure 1). We are, then, disregarding the statistically non-significant divergent tendencies among men and women in the age category 75-85.

Also, in the 1995 study, the need for solitude correlated negatively with life satisfaction (eta -.16, p < .001). The less the satisfaction with life, the higher the need for solitude.

From Figure 6 we can see that the focus on the upper end of the age scale reveals a continued increase in the need for solitude from age 65+ and upward for women (eta .12, p < .01). Also for the men, the basic pattern is an increase in the need for solitude (eta .13, p < .01), with a possible, but statistically non-significant, flattening out at the end.

If we, for both men and women, define the pronounced ”solitude seekers” as occupying the approximately upper fifth of the solitude scale, the proportion of ”solitude seekers” increases from 12 percent in the age category 65-74 to 23 percent in the category 95+.

Figure 5. CHAID-analysis of Coherence



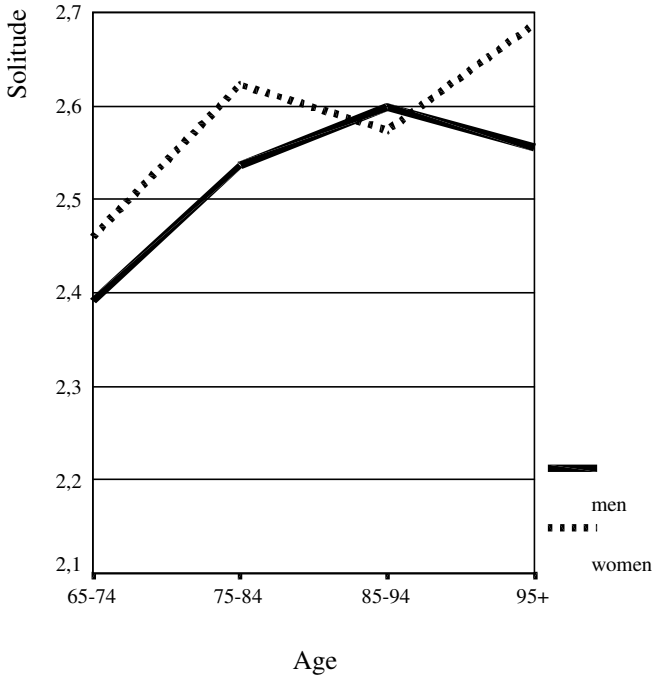
Coherent = individuals belonging to the 26% highest on the coherence scale

Thus, when combining the 1995 and the 2001 studies, we can draw the following statistically safe conclusion:

- There is a continuous increase in the need for solitude, from early adulthood up to very old age.

As in the 1995 study of the age range from 20 to 85, in the present data focused on the upper end of the age scale we also find a negative correlation between the need for solitude and life satisfaction (eta .12, $p < .001$). This correlation, however, fluctuates between age groups and is non-significant in the highest 95+ category.

Figure 6: Solitude by age and gender



Among the predictor variables, the 1995 study showed, besides age and gender, correlations between solitude and diseases/crises. In the present data set, focused on the population 65+, there are very few correlates to solitude. Among a set of 18 possible predictors[4] only three show statistically significant correlations of at least 0.10. These are age, civil status and diseases. As mentioned above, with advanced age comes an increased need for solitude (eta .13, $p < .001$). Also, the respondents who are widowed, unmarried or divorced are slightly more solitude seeking than are the married/cohabiting ones (eta [-].12, $p < .001$). Furthermore, respondents with diseases have a slightly higher need for solitude in comparison with the healthy ones (eta .10, $p < .001$).

Also, understandably, the respondents who have a higher need for solitude report less social activity. They are lower on the activity index (eta .23, $p < .001$).

When the predictor variables age, civil status and diseases are introduced in an ANOVA-MCA analysis, the beta values for all these three predictors drop to below .10. The interpretation here is that the predictors are intertwined, but that none of them has major explanatory power over the others.

[4] age, gender, country of birth, civil status, having a friend of opposite sex, residence, housing, former profession, education, income, parent alive, sibling alive, child alive, crises, diseases, loneliness, satisfaction with present life.

Age, civil status and diseases each have some limited explanatory power with respect to the need for solitude. It should be remembered, however, that we are now talking about explanations that apply within the limited age span 65+ (2001 study). When the larger age span 20+ is considered (1995 + 2001 studies), there is a distinct and consistent increase in the need for solitude with age. There seems to be a growing need for solitude that is dependent solely on age, a developmental factor, which can be altered by social matrix factors, such as civil status, and incident impact factors, such as burdens of diseases and crises.

When the seekers of solitude are sought for in an CHAID analysis[5] (Figure 7, at the end of the document), we find that the largest proportion are among the 130 respondents who are 75+, had experienced a crisis during the past two years, and report four or more diseases at present. Within this group, 26 percent are pronounced solitude seekers as compared to 16 percent in the whole sample. If this is set as index value 100, the index value in the above-described group is 167.

The lowest proportion of solitude seekers is found among the 496 respondents in the "young old" age category 65-74, who are married/cohabiting. In this category, 10 percent are solitude seekers, as compared to 16 percent in the whole sample.

Transcendence and life satisfaction

The theory presumes that an increase in gerotranscendence, particularly cosmic transcendence, is accompanied by an increase in life satisfaction. This assumption was based on the qualitative interviews underlying the theory (Tornstam, 1996 a,b). In one of our quantitative studies, the assumption was confirmed by an expected positive correlation, but another study showed no correlation. In the present study of the upper end of the age scale, we find statistically significant correlations between satisfaction with life and cosmic transcendence (eta .16 $p < .001$) and coherence (eta .44, $p < .001$), but a negative correlation with the need for solitude (eta (-).12, $p < .01$).

Figure 8 shows how the percentage of respondents who are *very satisfied with present life* varies with the aforementioned dimensions. The proportion of those very satisfied with present life increases from 8 percent to 50 percent as we move from the lowest value of coherence to the highest. The corresponding change regarding cosmic transcendence is from 23 percent to 39 percent. With respect to the need for solitude, there is a decrease in the very satisfied with life from 37 percent to 23 percent as we move from the lowest to the highest value of this dimension.

In order to identify and disentangle the correlations with life satisfaction, we preformed an ANOVA analysis with the transcendence variables and the most strongly correlated predictors of the satisfaction variable.

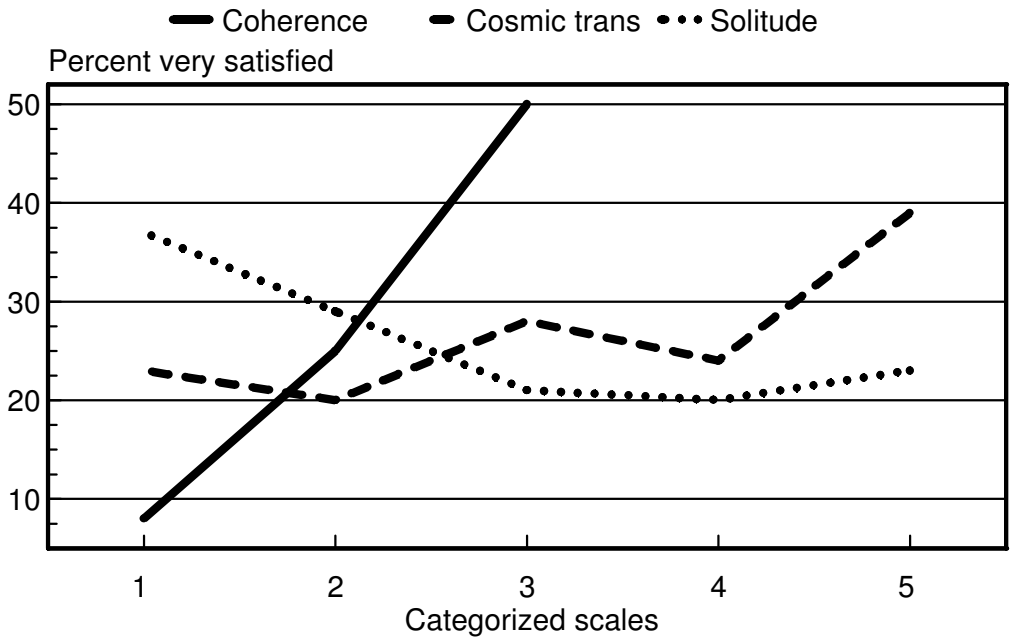
From Table 3 we can conclude that the coherence dimension of gerotranscendence is the top predictor of satisfaction with present life, even after the introduction of other predictors.

The next category, with about half or less of the explanatory power of coherence, includes activity, crises, health and Cosmic transcendence. All four of these variables drop considerably in explanatory power when the other predictors are introduced (Beta-values considerably lower than Eta-values), but they still have some (Eta > .10) individual residual explanatory power after the introduction of the other predictors.

The last group of predictors, including civil status, former profession, age and need for solitude, initially showed significant correlations with life satisfaction, but these are more or less swept away when other, more crucial and co-varying predictors are introduced. Age is an example of this. The initial correlation between age and satisfaction is a weak, but statistically significantly negative one. With higher age comes a slight decrease in satisfaction with present life. When other predictors are

[5] age, gender, civil status diseases and crises used as predictors.

Figure 8. Dimensions of gerotranscendence and satisfaction with life



Scales collapsed into five classes.
Coherence into three sclasses due to positiveley very skew distribution

introduced, however, this significant correlation is more or less swept away, showing that the small decrease in satisfaction with life has little to do with age *per se*, but is related to other correlates of age.

However, it should be noticed that the R^2 value in Table 3 is considerable. No less than 29 percent of the variance in satisfaction with present life is explained by the 10 predictors in the table. If the bottom five predictors are removed, the R2 value still remains as high as 27.

As regards the gerotranscendence dimensions, we can conclude that cosmic transcendence and surely the coherence dimension are positively correlated with satisfaction with present life, even when controlling for other probable predictors. The need for solitude, however, shows a zero order negative correlation with satisfaction with present life. This negative correlation is washed away when we account for other predictors.

In conclusion:

- The coherence dimension of gerotranscendence has very robust positive explanatory power as regards satisfaction with present life, even when other probable predictors are controlled for.
- The cosmic dimension of gerotranscendence shows modest, but significantly positive explanatory power as regards satisfaction with present life, even when other probable predictors are controlled for.
- The need for solitude dimension seems to be unrelated to satisfaction with present life, when other probable predictors are controlled for.

Table 3: ANOVA-MCA analysis of the satisfaction with present life.

	Eta	Beta	R^2
High Coherence	.44	.34	
High Activity index	.29	.14	
No crises	.23	.11	
Good health	.21	.11	
High Cosmic transcendence	.14	.10	
Self sustained Housing	.21	.09	
Married/cohabiting	.16	.04	
Skilled former profession	.16	.07	
Age: young old	.13	.07	
Low need for Solitude	.13	.04	
			.29

For plainness the variable values connected with high degree of satisfaction with present life are given in the predictor column.

Discussion

In our search for explanatory factors concerning the development of gerotranscendence, we have found, when looking at data from both the 1995 study (age 20-85) and the present 2001 study (age 65+), three types of explanatory factors: the *age developmental factor*, *social matrix factors* and *incident impact factors*. Gerotranscendence can be understood as a developmental process that is affected by social matrix factors, such as gender and profession, and by incident impact factors, such as diseases and crises.

Concerning *cosmic transcendence*, we can conclude that, during the major part of adult life, there seems to be a developmental pattern of increased cosmic transcendence, which is modified by social matrix and incident impact factors. These factors seem, however, to lose most of their importance when old age is reached. One exception is that men 95+, who have experienced a crisis during the past two years, show a *drop* in cosmic transcendence. In young adulthood and middle age, crises are positively related to the degree of cosmic transcendence (Tornstam, 1997 b).

As mentioned in the result section, both *satisfaction with present life* and *social activity* correlate positively with cosmic transcendence. This illustrates that gerotranscendence in general, and cosmic transcendence in particular, is surely something other than a "disengaged mystic withdrawal", as was incorrectly suggested (Jönson & Magnusson, 2001). As previously shown in a quantitative retrospective study of 912 Danes between the ages of 74 and 100 (Tornstam, 1994), cosmic transcendence correlated positively with social activity (in the Danish study eta = .17; $p < .001$). Also in the present 2001 study of Swedes 65+, we found a small but statistically significant positive correlation between cosmic transcendence and social activity, at the same time as the correlation between cosmic transcendence and satisfaction with present life is also positive. This shows clearly that cosmic transcendence is not a condition related to depressive passive withdrawal. On the contrary, cosmic transcendence is positively related to higher social activity and more satisfaction with present life.

At the outset of the present study, our intention was to shed some light on a puzzling gender difference in cosmic transcendence found in the 1995 study, which showed a continuous development with age for women but a final age drop for men. In the 2001 study, this pattern was replicated, but with a time lag, hinting at a possible cohort effect; the gender difference was not statistically significant.

The pattern from the 1995 study, showing married/cohabiting men to have a lower degree of cosmic transcendence in comparison with married/cohabiting women, was not replicated in the present study. Instead, the present study indicates that the experience of crises seems to affect old men and women differently. For women 65+, the experience of crises seems to have lost its effect on the level of cosmic transcendence. Also for men 65-94, the experience of crises seems to have lost its effect, while the effect appears to become negative for the oldest men, those 95+. This brings to mind the old Chinese saying that crises carry the potential of both threat and opportunity. To gain a deeper understanding of this, we will probably have to use other qualitative methods.

The *coherence dimension* of gerotranscendence is different from the cosmic dimension in that both social matrix factors and incident impact factors still play a role in old age. In old age, the developmental factor, the social matrix factors and the incident impact factors seem to be independent and equally important.

Also the *solitude dimension* shows a similar pattern. There is a clear developmental age factor, still prevalent in old age, supplemented with some social matrix factors and incident impact factors. There seems to be an age-dependent and growing need for solitude, a developmental factor, which can be affected by factors such as widowhood, divorce, and diseases.

Finally, again returning to the positive correlation between cosmic transcendence and *satisfaction with present* life in this 65+ study, we presume that cosmic transcendence is positively related to life satisfaction in old age, but not among younger subjects. In two different empirical studies, both focusing on older respondents (in Denmark age 74-100, and in the present 65+ study), we have found this positive correlation between cosmic transcendence and satisfaction with life, while the aforementioned 1995 study, focusing on ages 20-85, showed no significant correlation. Thus, the combination of cosmic transcendence and satisfaction with present life would seem to be a fruit especially reserved for old age.

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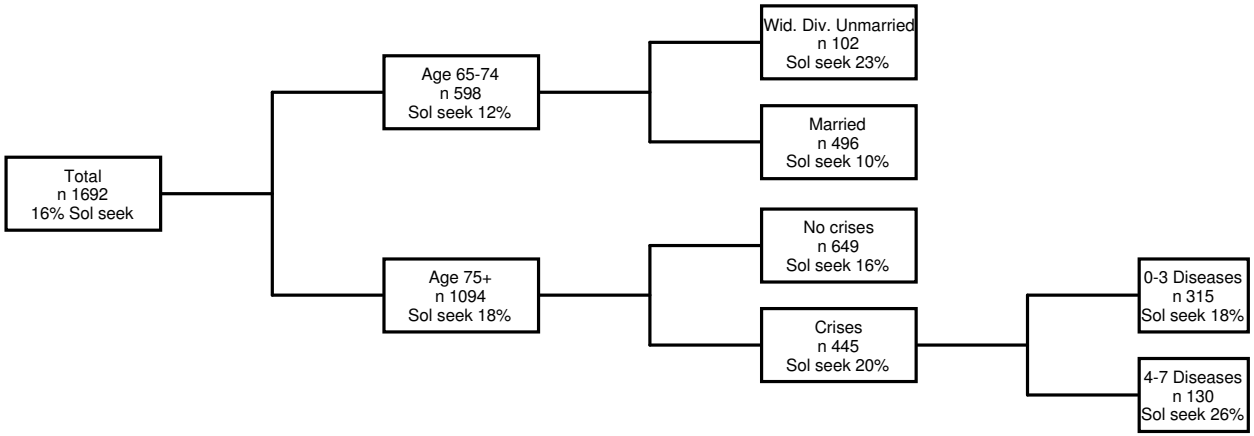
Figure 7. CHAID-analysis of Solitude need



Solitude seekers= individuals belonging to the 16% highest on the solitude scale