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Social representations and normative beliefs of aging

Abstract This study adopted the theory of social representations as a theoretical framework in order to characterize similarities and differences in social representations and normative beliefs of aging for different age groups. The 638 participants responded to self-administered questionnaire and were equally distributed by sex and age. The results show that aging is characterized by positive stereotypes (knowledge and experience); however, retirement is linked to aging, but in a negative way, particularly for men, involving illness, loneliness and disability. When age was considered, it was verified that the connections with the representational elements became more complex for older groups, showing social representation functionality, largely for the elderly. Adulthood seems to be preferred and old age is disliked. There were divergences related to the perception of the beginning of life phases, especially that of old age. Work was characterized as the opposite of aging, and it revealed the need for actions intended for the elderly and retired workers, with post-retirement projects. In addition, it suggests investment in public policies that encourage intergenerational contact, with efforts to reduce intolerance and discrimination based on age of people.

Key words Aging, Elderly, Retirement, Life phases
Introduction

There are differences on the orientation of the linearity of aging in the life cycle, but there is consensus that aging is characterized as a process while old age is characterized as a stage of development. Although old age is commonly defined by chronological age (from 60 years) there are also psychological, functional, biological ages. Chronological age does not consider factors such as gender and social class, but it is an important indicator for the assessment of functional capacity. The aging process is determined by multiple factors and reaches greater extent in old age phase. And the elderly in turn is a result of this aging process.

Studies on aging are polarized, on one hand are the concepts that link aging to decline, on the other hand, are concepts that assume the possibility of development during aging. In general, there are some physical and cognitive losses related to the stage of old age, especially concerning muscle tone, hearing and ortomuscular resistance, and possible difficulties in memory capacities, language and attention.

Some features and symptoms of some diseases are not perceived by the elderly people's family because they involve socially expected behaviors for old age, like forgetfulness, apathy, fatigue, even the isolation and lack of occupation. These behaviors expected by the society are greatly influenced by media instruments, television, print or digital, which could convey more positive models of old age, intending to reduce stereotypes and prejudices.

Old age is a polysemic social object, particularly by the impossibility to treat it as a homogeneous phenomenon. For this reason, the study of social representations of old age or the aging process should consider this heterogeneous perspective of objects, in addition to the experiences of elderly, considering your family and social context. The results of some studies about social representations associate the elderly with positive characteristics as wisdom and experience, and negative as, disease, loneliness, dependence and death.

The categorization of members of a group by means of age criterion involves features for which the perceivers will inevitably belong to, after all the vast majority of people live enough to reach the stage of old age and therefore one day will belong to the group that is now being categorized. The perception of the younger people of the elderly is based on stereotypical and prototypical categories, and that the cognitive representation of the elderly belongs to a social category that differentiates into subcategories: physical, personality and behavior.

In studies on social representation of aging, old age and the elderly for different age groups, we realize that elements aimed at the elderly evidenced the social role of “Grandfather” or features and objects that represent the same (white hair, wrinkles, walking stick). In common, studies present positive and negative aspects, which are opposed; the positive elements are focused more on the experience and wisdom, while the negative elements are more heterogeneous and differ according to the social group, relating generally to: inactivity, discouragement, physical deterioration and diseases, sadness, loneliness and death. The social representation of the elderly of an old person reflects little group identification, since they speak of the others, without recognizing how individuals aged.

In recent years, the framework of social representation theory has long been used in the field of health, as it contributes to the understanding of thought and social practices. Social representations (SR) are shared forms of identity used in recognizing the world, in a tension between the subjects and their subjectivities with collective standards of a particular culture and society. The SR are important tools that aid in understanding of information, positioning and justification of actions of people's actions. Given the above, this study aimed to characterize social representations and normative beliefs about aging, in an effort to identify similarities and differences considering gender and age of the participants, and by so doing contribute to the public debate on policies for the elderly and aging, whether in in the field of health or social care.

Method

Participants

The participants (N = 638) living in the city of Florianópolis and São José, in the state of Santa Catarina, who are affiliated to the educational institutions (teachers, staff, students or users of services offered by the educational institutions), were divided in a paired form by sex and age (adolescents aged 14 to 18 years, adults 19-59 years and the elderly from 60 years) or aged groups...
Data collection instruments

Semi-structured questionnaire, composed of questions regarding participants’ characteristics (age, sex, education) was utilized; social network of same (marital status, who they live with, frequent contact); perception about the stages of life; grouping of words from the choice of words with greater and lesser relationship with the inducing word “aging”; and normative beliefs on this topic.

This study was approved by the Ethics Committee on Research with Human Subjects and all participants signed the Informed Consent (IC). The application period varied from thirty minutes to one hour and thirty minutes, depending on the age group and educational level of the participants.

Data Analysis

For the analysis of demographic data, descriptive and inferential statistical analysis was used. The results of the questions on aging were analyzed by concurrence, indicating the force with which the elements connect to each other.

The textual content regarding the discursive in the questionnaire question (What do people of your age think about aging?), was submitted to factor analysis of binary match (AFC), based on the specific vocabulary considering how active variables: age group, sex, people of different ages which have frequent contact and perception of the best stage of life.

Results

The study included 638 people divided to form paired by sex and age group, with 32% being teenagers, 35.1% adults and 32.9% were elderly, with a mean age of 15 years and nine months (SD = 1.03), 43 years and two months (SD = 9.67) and approximately 66 years (SD = 5.78), respectively.

With respect to sociodemographic characteristics described in Table 1, the profile of participants can be seen such as higher education, married and single, with average and high family income.

There was a significant association between age group and the socioeconomic situation of the participants \( \chi^2(6) = 79.05; p < 0.001; V = 0.25 \), highlighting the aged who had higher socioeconomic status, and there was also an association between sex and socioeconomic status, especially for men who earn higher.

Regarding social network, 49.5% of the adolescents and 83% of the adults claimed that they do not have frequent contact with their grandparents. Among adolescents who have frequent contact with their grandparents, 30.9% are girls, an aspect that is repeated among adults because of the 17% who claimed to have contact with grandparents, 12.1% are women, although in the latter case, the average age of adults is possible to infer that these respondents are young adults.

Still in relation to social network, there was a significant association between age group and contact with parents \( \chi^2(2) = 254.11; p < 0.001 \), and this association is strong \( V = 0.63 \), as especially teenagers and adults claimed that people of different ages which have frequent contact are their parents. There was a significant association between the variables: age group and contact with grandparents, both for the adolescents \( \chi^2(1) = 11.30; p < 0.001; V = 0.23 \) as well as for the adults \( \chi^2(1) = 7.11; p < 0.01; V = 0.17 \). As for the contact with children, women stand out relative to men in another significant association \( \chi^2(1) = 7.24; p < 0.01; C = 0.10 \).

The association between contact with parents and educational level occurred among women, especially those with secondary or complete higher education \( \chi^2(2) = 32.12; p < 0.001; V = 0.32 \) as opposed to men, where there was an inverse association, the less education they had, the

<table>
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<th>Variables of characterization</th>
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<td>Education</td>
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<tr>
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<td>29.9</td>
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<tr>
<td>Up to high school</td>
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<tr>
<td>Up to higher education</td>
<td>36.1</td>
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<tr>
<td>Marital status</td>
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<tr>
<td>Single</td>
<td>37.5</td>
</tr>
<tr>
<td>Separated/divorced</td>
<td>10.3</td>
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<tr>
<td>Widowed</td>
<td>6.3</td>
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<td>Stable union</td>
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<tr>
<td>Socioeconomic status (income)</td>
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<td>From 8 to 12 minimum wages</td>
<td>25.7</td>
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<td>More than 12 minimum wages</td>
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Table 1. Sociodemographic characteristics of the participants (N = 638).
When asked about the early development phases (adolescence, adulthood and old age) the adolescents reported on average that adolescence was started around 13 years old, much like with the perception of the elderly and slightly higher than the perception of the adults. On average adulthood begins for the participants of this study after the age of 21. Whereas the phase of old age, for the adolescents starts on average two years before the age of 60, for adults, shortly after the 61 and for the aged old age begins practically at the age of 64 years.

In general, when comparing the age of the participants who stated the onset age of early phases of life, it appears that among the elderly there is a tendency to increase by approximately two years the onset of old age (M = 2.14; SD = 10.96).

In considering sex and age group of the participants, it turns out that women of all age groups tend to attribute less age for early phases of adolescence and adulthood, compared to the male perception, but the opposite happens at the stage of old age, when men attribute a younger age than women. It is possible to note that there are differences between men and women on the perceptions of the early phases of life. The perception of adolescence phase differed significantly between men and women in all groups [t(202) = 3.03; p < 0.005; d = 0.43 for the adolescents; t(220) = 4.89; p < 0.001; d = 0.68 for the adults and t(199) = 2.94; p < 0.005; d = 0.42 for the elderly]. As regards the perception of early adulthood, the difference was only significant among adult men and women [t(221) = 2.35; p < 0.05; d = 0.32]. And on the beginning of the phase of old age, there was difference in perception between male and female adolescents[t(202) = 3.10; p < 0.005; d = 0.44]. As regards the perception of early adulthood, the difference was only significant among adult men and women [t (221) = 2.35; p < 0.05; d = 0.32]. In the case of the onset of old age, significant difference was found in the perception between men and adolescent women [t (202) = 3.10; p < 0.005; d = 0.44].

The age groups were divided on the beginning of the phases of life, but only at the stage of old age, this divergence was significant between the three groups [F(2/617) = 18.78; p < 0.05], with a moderate effect (d = 0.49), especially when the perception of the adolescents was compared with that of the elderly. When age of the participants and their responses on the early phases of development were correlated, it was found that only the phase of old age has a weak correlation with the age of the participants, especially among the elderly [r = 0.33, p < 0.001 for men; r = 0.19, p < 0.001 for women, respectively].

When participants were asked about the best stage of life, 25.4% indicated childhood, 31% adolescence, 36.8% adulthood and 6.7% said it is at old age. It appears that there is a significant association between variables, gender and perception of the best stage of life [χ²(3) = 9.66; p < 0.05], but this association is weak (V = 0.13), This is because most men prefer adolescence and adulthood whereas women prefer mainly the adulthood. When age group was considered, an association between the variables was identified [χ²(6) = 177.53; p < 0.001], but in this case the association was a bit moderate (V = 0.48). To the extent that while the adolescents prefer the of adolescence phase and the adults the adult phase, differently, the elderly prefer the adult and childhood stages.

**Centrality and connection of elements of social representation of aging**

In an attempt to assess the structure of the social representations of aging, we sought to confirm the words related to the core of social representations of aging using for this purpose, a question of grouping of words, based on the Brazilian studies on the subject, as described in the method.

By analyzing all the groups together, it turns out that there is an organization around the word wisdom, which has a strong connection to “retirement” and “experience”, and to a lesser way with the “loneliness” element. As evidenced in Figure 1, which shows the maximum tree with connections obtained by applying the first filter, whose criterion was 40 bids.

The elements of “wisdom”, “experience” and “retirement” remain central even when comparative analysis was done considering the age or sex group. The specificity occurs in relation to men who add elements (illness, loneliness and disability) related to retirement, and women bring to mind family experience. Considering the age group, we found that although the structure is maintained in the triad wisdom-experience-retirement, the composition of the representation elements get more complex as the group becomes older. Among the elderly the elements are presented in more piecemeal fashion, the single strongest connection is between the elements’ re-
tirement and wisdom“, noting that all other connections, including the element “experience“, are presented through weak connections. It appears that the element of “wisdom” acts as organizer of the other elements providing meaning about the representation of the object. The element “wisdom” relates in a more positive outlook with the “experience” factor, which in turn is linked to the elements “family and friends”. In the similar fashion, when the element “happiness” is connected to a more negative view it organizes the elements “disability and disease.” Demonstrating that the aging for the elderly is more heterogeneous, since the connections are weak, but also that there are two opposing perspectives, one positive and one negative aging.

In addition to the elements that are related to aging, participants also responded which elements that are less is related to the said social object. At this point it is interesting to show how much these elements are distanced from those that are part of the core elements of social representation of aging.

In presenting the overall tree (Figure 2) without considering the variables (gender and age groups) is possible to highlight that the participants distanced themselves from social object “aging” especially the element of “work” which is the organizer of other elements (utility, health, sex, activity, friends, capacity) and which also connects to the element “sadness” that organizes the elements “loneliness, incapacity, death, dependency and decline”. Indicating again two perspectives: (1) the positive aspects that are not part of aging, which is lost with old age and, (2) the negative aspects that are not part of aging that which the participants do not directly related to aging. It is important to mention that this structure was evident both among men and women.

Among the adolescents the “work” connects especially to the elements “activity and sex”, and especially the positive aspects appeared as unlinked from the aging, in the case of the adults. Likewise, the “work” is the organizer of other elements, excluding also of elements related to the social representation of aging, the elements: “capacity, health and activity”. The elderly also have excluded the elements ‘job, activity and sex”, as members of the central elements of the representation of aging, but also excluded the elements “usefulness, health, capacity”, and more weak ‘friends and wisdom”, who do not even appear in the tree general as it is possible to view through the Figure 2.

The structure of social representation of aging involves the loss of labor activity (work), characterized by retirement, both for men and for women. Interesting aspect, since it is precisely the work that organizes the other excluded elements of the structure of social representation of aging. But also the aging is represented in a more subjective, in a perspective of gains (experience and wisdom) and losses (disease, limiting, loneliness), where losses are more significant for the elderly, while for the adolescents the relationship is reversed, the gains are of greater relevance. For adults, a triangular relationship;

![Figure 1](image1.png)  
Figure 1. Graph of the related aging elements - Filter 40.

![Figure 2](image2.png)  
Figure 2. Graph of the maximum tree for not central elements related to aging - Filter 60.
“experience, wisdom and limitation” connect, involving the which demonstrates that is the foundation of social representation of aging for this group. However, all groups presented connection between the elements “wisdom, experience and retirement”.

Normative beliefs on aging

From the analysis of the question: What do people of your age think about aging? We conducted a factorial correspondence analysis (AFC), considering the following categories: age group, gender, people of different ages with whom he has frequent contact and perception of the best stage of life. The total Phi² analysis was 0.0851 and 11 factors were extracted, and the five factors accounted for 78.28% of the variance.

The first factor was the most representative in the AFC, it explains alone 41.58% of the variance, with self-value of 0.035. It is observed that the group of adolescents opposes the elderly. In the first factor, aging while normative belief appears to the adolescents as linked to the elderly person and their personality characteristics, for example the boring elderly and the experienced elderly. In addition, these participants contend that aging is an issue that it is not thought anything. This dimension content relates to age stereotypes. Also in factor 1, aging is indicated by the elderly as something that you have to face, looking for a better quality of life, but understanding that there are negative aspects such as pain, disease, decline, causing feelings of sadness difficult to adapt to the process the stage of aging and old age. However, the same understand that the best way to face the difficulties would be by taking trips and seeking to carry out activities. In addition, the elderly as expected had no contact with their parents, but they have contact with their grandchildren as groups of different ages, and believe that adulthood is the best stage of life.

The second factor explains 12.5% of the variance, with eigenvalue of 0.011. In that factor, there is the contraposition among the participants considering sex. In addition, there is also a contraposition between adults and the elderly, and adulthood as the best stage of life as opposed to old age. The women characterized aging as a process.

The changes that occur in the body occasioned by aging, together with the dependency by the elderly, the separation between what is considered the current situation and the future reality, involve a sort of fear that one is growing old and this is difficult for women even for the adult who see aging as something even far from themselves. However, participants indicate their grandparents as a model that could represent the aging, in which case a positive stereotype (experience) appears as an indication of the participant group. On the other hand, it is clear the prospect of finite nature of life, the aging characterized as the end. The arrival of old age is accompanied by sadness and loneliness when they get old and no longer being of youthful age, i.e. no longer being able to perform the same activities.

The third factor explains 10.6% of the variance, with self-value of 0.009. In that factor, again there is a contraposition between men and women. It involves on the one hand, the aging male, where there is a functional feature, a concern caused by retirement, linking it with declining health and the need for greater care. In this dimension, aging is characterized as a natural part of the life cycle where with care mentioned before, it is possible to achieve well-being. On the other hand, on the female aging, the participants consider that old age can be a difficult time, worse than the others, where the elderly becomes inefficient, annoying and demand coexist less and less with others. In contrast, there is evidence of the importance of this dimension of elderly groups as the living among the elderly seems to help in adapting the changes over time, the changes between yesterday and today. In groups, the elderly learn, improve their skills, and carry out new activities. Also in this dimension, aging is related to wisdom and experience.

The fourth factor explains 7.4% of the variance, with self-value of 0.006 and the fifth factor explains 6.2% of the variance, with self-value of 0.005. In opposition in the fourth factor, adults and the elderly, but portraying the same aspect of aging: the losses. On the one hand, it portrays the physical losses, the change in appearance, old age as expected, the end of the cycle, the old age. Moreover, on the other, it shows the functional losses, related to the activity, aging while idle moment, where you should take advantage of the possible, but that death is something always present.

In the fifth factor, preferences for the best stage of life are contrapositioned, the phases of childhood and old age on one side and the adolescence on the other. There is a contraposition among the activities and limitations; the first category illustrates the need to keep active, whether working or doing other things, in a way that one do not have to keep waiting for death
or just thinking about the difficulties that arise with aging, waiting for life to pass. The second category reflects the current limitations and the difference from “today and yesterday,” characterizes the concern to respect the limits themselves, and the realization that beauty is greater during adolescence and lower in old age. Figure 3 shows a graphical representation of the first two factors in the Cartesian plane. It was decided to consider the first two factors because of their contribution to the variance of the contents, which together involve 54.04% of the same. The first factor has the dimensions: age x coping and adaptation stereotypes, and the second factor has the dimensions: process x finitude. The words that contributed to the factor 1 are underlined, those who contributed to the factor 2 are in italics, those who have contributed to the two factors are underlined and in italics, and the words in bold are the details of the factors.

**Discussion**

On evaluating the structure of social representation of aging considering the variables: age group and sex; it is noted that the above elements (wisdom, experience and retirement) do not change and continue organizing and centralizing other elements connections, they are elements that are part of the shared content between groups.

However, some elements although they have a high frequency, are characteristic of the group, which it represents, indicating that it probably belongs to a close periphery. For men, aging is represented by pathological and negative outlook (illness, loneliness and disability) that relates to the element “retirement”, indicating how the “loss” of the work is linked to the loss of health, of the contacts social and physical ability.

These results also are in line with the study by Fast et al. that indicate three social representations of aging, the first domestic and feminine related to family ties, the second functionalist and male related job loss and the last more utilitarian related to human attrition. In our study, the first two social representations associated with male and female characteristics were maintained, with a single differential, retirement becomes an element that appears in both groups certainly in a reflection of the current importance of the labor market also for women. Studies on perception of

Figure 3. Factorial plan for factors 1 and 2.
aging indicate more positive outlook in relation to older people who continue working\textsuperscript{25}.

On assessing the strength of the relation between the elements of social representation of aging, it was possible to identify its structure. In the central nucleus are the elements: “wisdom, experience and retirement”. This is in agreement with previous studies\textsuperscript{9,11,26,27} that mainly indicate the first two elements as belonging to the central nucleus, being stereotyped ways, more specifically age positive stereotypes.

Aging is presented to the participants in this study as a detached social object, especially of labor and of the elements related to it (activity, capacity, health, gender, friends, usefulness). For this reason, the element “retirement” appears as central to all groups, indicating that the arrival of retirement means the maximum moment of wisdom and experience, but also a kind of decadence, when it comes to the apex and then expected to decline.

In a study about the significance of retirement\textsuperscript{28} The author identified five patterns: right of the worker, rest, stay home idle, new stage of life, time to enjoy life. The decision to continue working is linked to pension schemes as idle and absence of alternative activities to work but also depends on the family dimension\textsuperscript{29}. Some studies indicate that retirement is often linked, whether among the laity or in scientific studies, to pathological aging\textsuperscript{29}. A conception that often relates to stereotypes of old age and the aging process, since the retiree’s image is directly related to old age.

The stages of life are perceived in different ways by each group. Women anticipate the stages of adolescence and adulthood and extend the early stage of old age, when compared to men. There is a denial on the part of some elderly people who seek to delay and leave the age for thereafter. With the exception of the elderly, the other two age groups perceive themselves as being included in its phases. Most one-third of older people do not perceive themselves in old age stage, and for these people old age should begin at approximately a decade after its present age. Studies\textsuperscript{30} have shown the perception of disability and functionality as linked to the question of age, so that when there is functionality and one is still able to “to give account”, then you bare not yet old yet, but when you are helpless and dependent, then you becomes old.

The results show that the structure, content and representational field of aging reinforce the perspective of structural approach of RS\textsuperscript{30} which states that the closer the social object the individual is, the more functional becomes the core of social representation. This is exactly what happens to individuals who have frequent contact with elderly people and this behavior interferes with the use of social representations of aging.

The normative beliefs relate to what is believed that the members of the group of belonging think about the object evaluated\textsuperscript{29}, being a good way to access elements that perhaps are masked by changes in the area of social representations\textsuperscript{31,32}.

Corroborating results of previous studies showing differences between elderly and non-elderly\textsuperscript{12,26,28,33} and also differences between elderly men and women, in the present study were also observed differences between men and women, particularly adolescents and the elderly. In general, aging takes on positive and negative characteristics, of losses and gains, however, the present study the losses prevail, especially for adolescents and elderly people. The conflict between profit and loss is not exactly a finding, since other studies have demonstrated these characteristics\textsuperscript{28,29}, the new aspect here, refers to the association of retirement as something negative associated with positive stereotypes (experience and wisdom).

According to Jodelet\textsuperscript{6} even though that investigate through social representations is the contents of a shared knowledge, one cannot ignore that the representations involving cognitive, affective processes or related to its action, are constructed by individuals placed in the world, actors in this construction process. Studies in social psychology involve four levels of analysis: intra-individual and inter-individual and situational, intergroup and societal (beliefs, representations, social standards)\textsuperscript{31}. Thus, it appears that these losses and gains of aging, shown in this study are related to intergroup and societal perspective.

Old people are seen very negatively either by the psychological characteristics (depression, cognitive impairment), physical (illness, pain, weakness) or social (non-productivity, isolation), which mark oppositions established by young and old; drawing attention that such oppositions can trigger intergenerational conflicts that are characterized as a fertile area for the expressions of dislike, discrimination, segregation and exclusion\textsuperscript{34}.

Also based on these results, we conclude that it is imperative to develop preparative actions for retirement in the context of management, whether in public or private organizations, taking into consideration for so much that in the common sense the work is presented demonstrates oppo-
sition to aging and retirement being linked to disease and unproductivity.

Although social representations have been divided between profit and loss, in addition to positive stereotypes attributed to the elderly, it is perceived as speaking on behalf of the group and not by itself, a negative perspective of aging emerges between the participants and stands out in the face of positive stereotypes. The promotion of such shared beliefs certainly influences the stereotypes, attitudes and behavior of groups. Currently, it is not rare to observe conflict between the olds and the young, in places where population aging has become a reality, but also it is a social and economic problem. The priorities of the elderly guaranteed by law can be a justification for the exclusion of this group by other generations. Think of places and situations that encourage interaction between generations would be an important action through public policies. First, it would encourage tolerance among groups and second, it will be a form of construction and articulation of a social support network for the elderly.

Collaborators

TL Torres, BV Camargo, AB Boulsfield and AO Silva contributed equally to the preparation of the manuscript. The research is based on the doctoral thesis of the first author of the manuscript.
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