UNIVERSITY OF SAO PAULO
SCHOOL OF NURSING

RELIGIOSITY AND HEALTH RELATED QUALITY OF LIFE OF ELDERLY PEOPLE: POPULATIONAL STUDY IN SAO PAULO CITY

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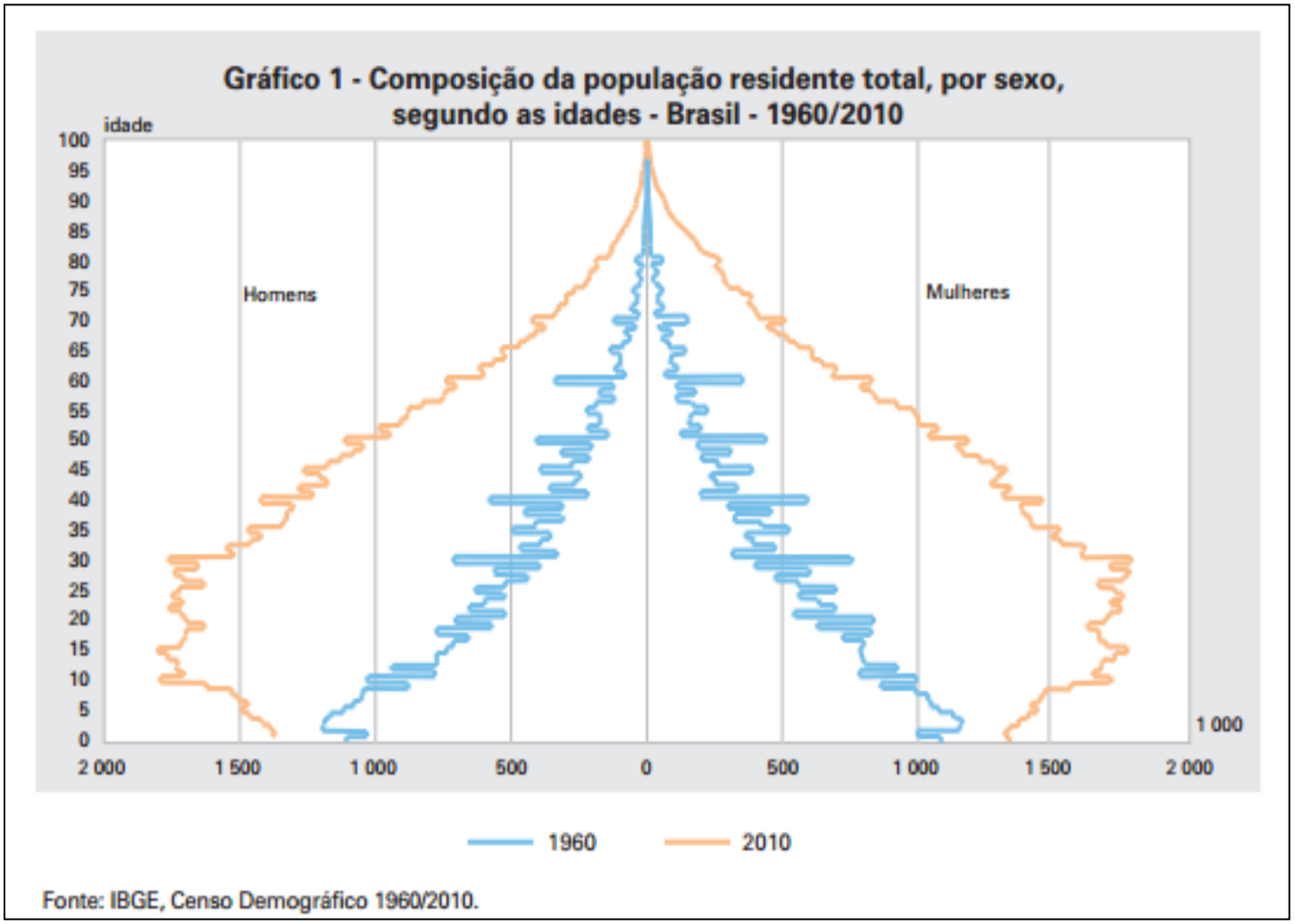
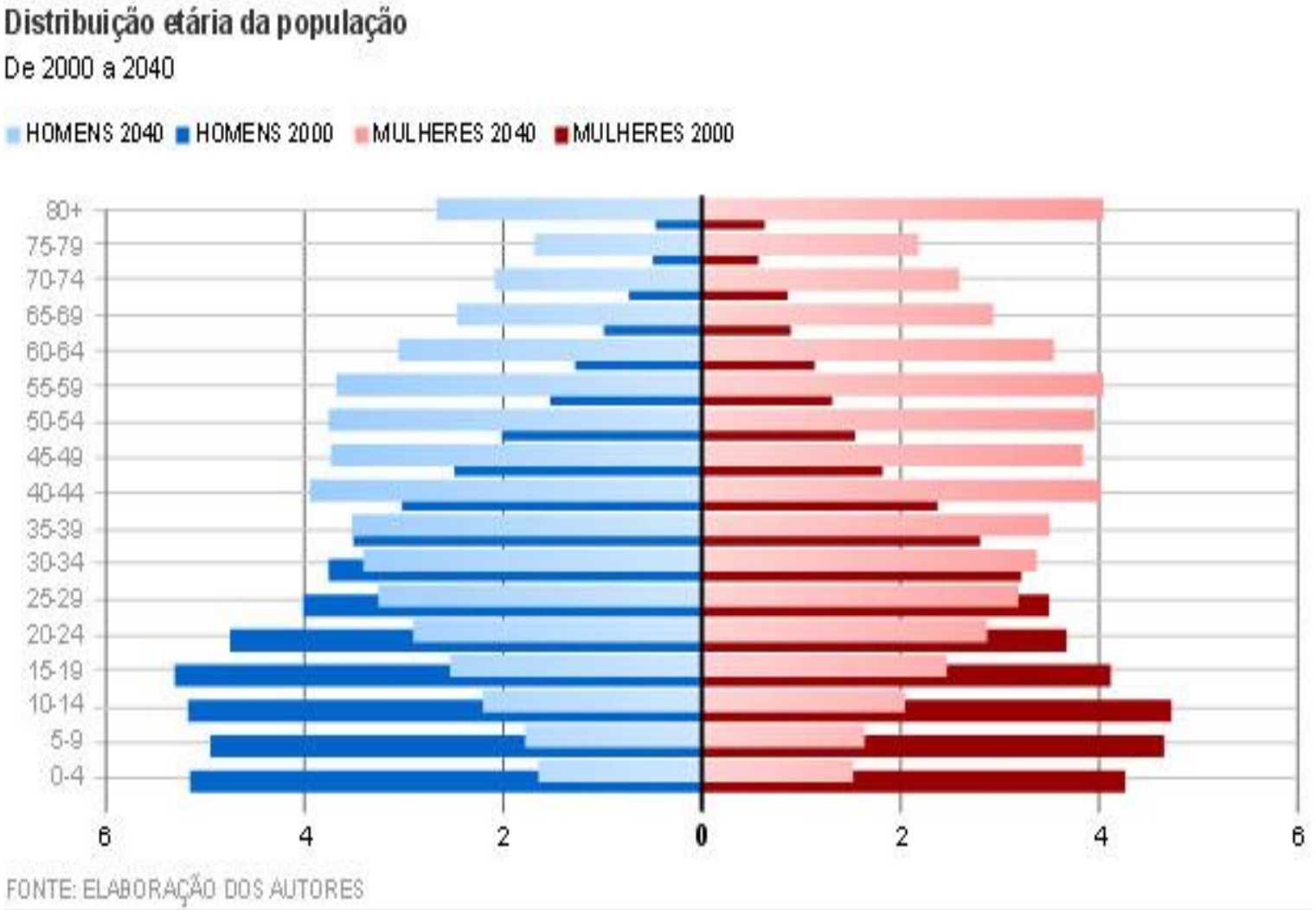
Sao Paulo/Brazil, 2014

1 INTRODUCTION

Figure 1 – Distribution of the population by gender and age. Brazil (1960-2010).



1 INTRODUCTION



Source: IPEA, 2011.

1 INTRODUCTION

- The presence of chronic diseases
- The multimorbidity is predictive of a worse HRQoL in elderly
- Limitation for BADL and IADL
- Other factors can also influence the HRQoL according to the literature are: age, gender, education, family functionality

1 INTRODUCTION

- Religion - protective effect / mediator of beliefs and religious/spiritual practices (Lucchetti et al., 2011).

- Several studies have shown a positive correlation between religion/spirituality and physical and mental health.

- Souza (2011) - Profile of religiosity of the elderly in 2000 and 2006 – to have religion and attach importance to it had a positive impact on the perception of health.

1 INTRODUCTION

- Ribeiro (2011) - related to the HRQoL of elderly people, where 2 predictor variables were included for religiosity (religious affiliation and importance of religion), but none of them was associated with physical and mental components of the SF-12.

- Objective: To test the mediating effect of religiosity in a hypothetical health-related quality of life of older model.

2 LITERATURE REVIEW

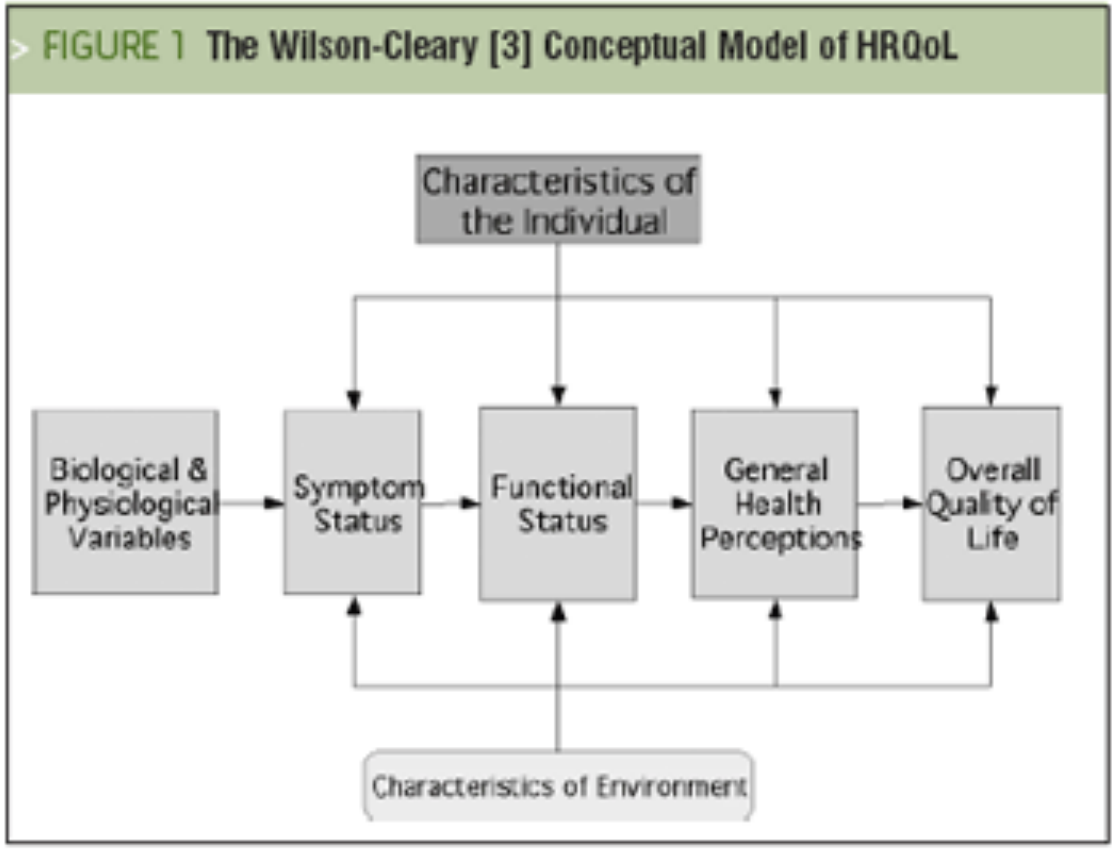
Quality of life - QoL

•WHO: "an individual's perception of their position in life in the context of the culture and value systems in which they live and in relation to their expectations, their standards and their concerns.“
•**Subjectivity** - perceptions and personal experiences (Anderson, Burckhardt, 1999 Pascoal, 2000 Fleck et al, 2008).
•Welfare, happiness and **satisfaction with life.**

Health related Quality of Life- HRQoL

- "The value assigned to life, weighted by **functional deterioration**, perceptions and social conditions that are induced by disease, diseases, treatments, and political and economic organization of the health care system" (Auquier et al., Cited Minayo, Hartz, Buss, 2005).
- Includes aspects of overall quality of life, such as health status, **functional capacity** and social support, which affect both physical as mental health (CDC, 2000).
- **multidimensionality**
- **subjectivity**

Theoretical Model – Wilson and Cleary - 1995



Ferrans et al, 2005

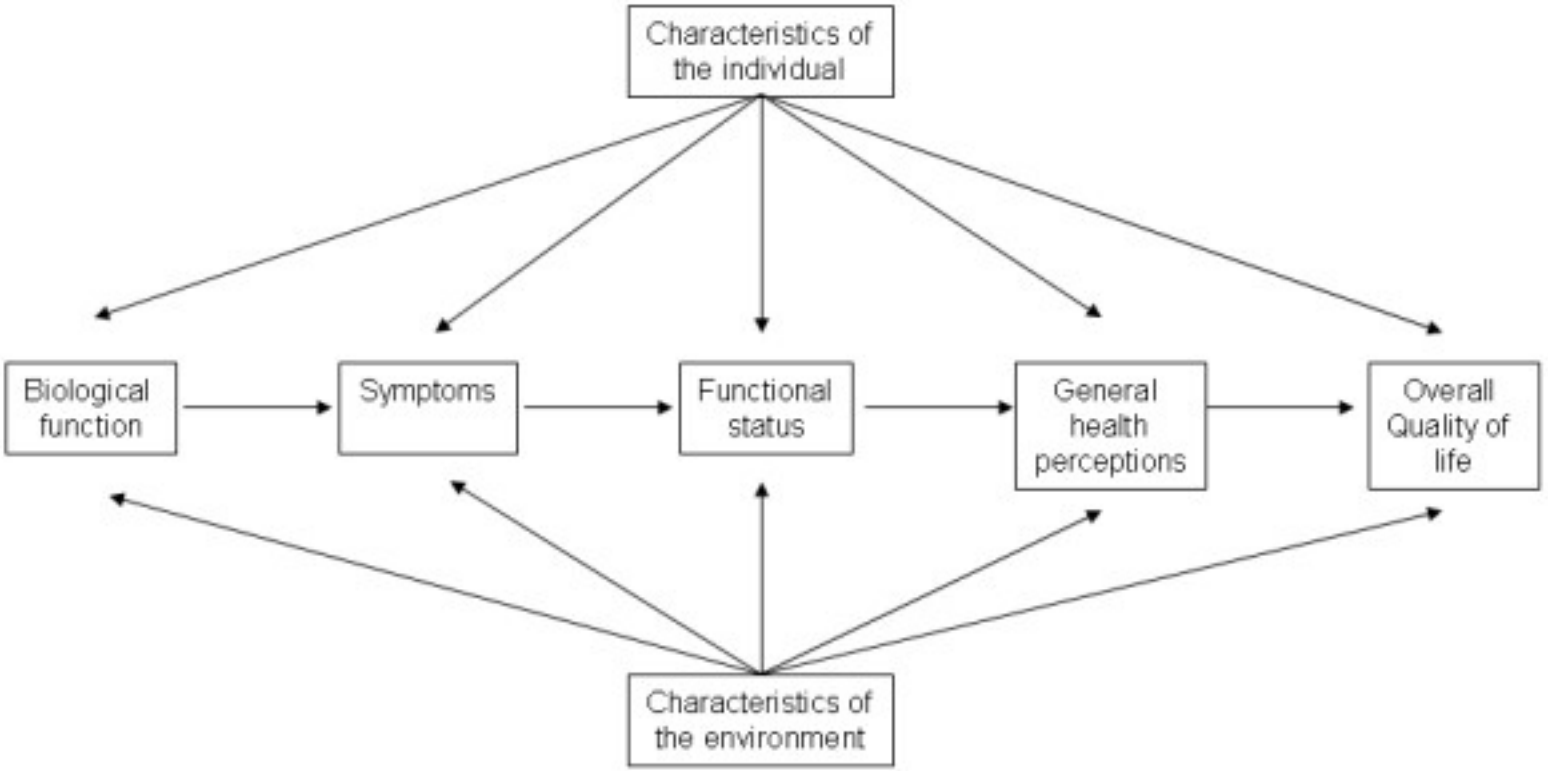
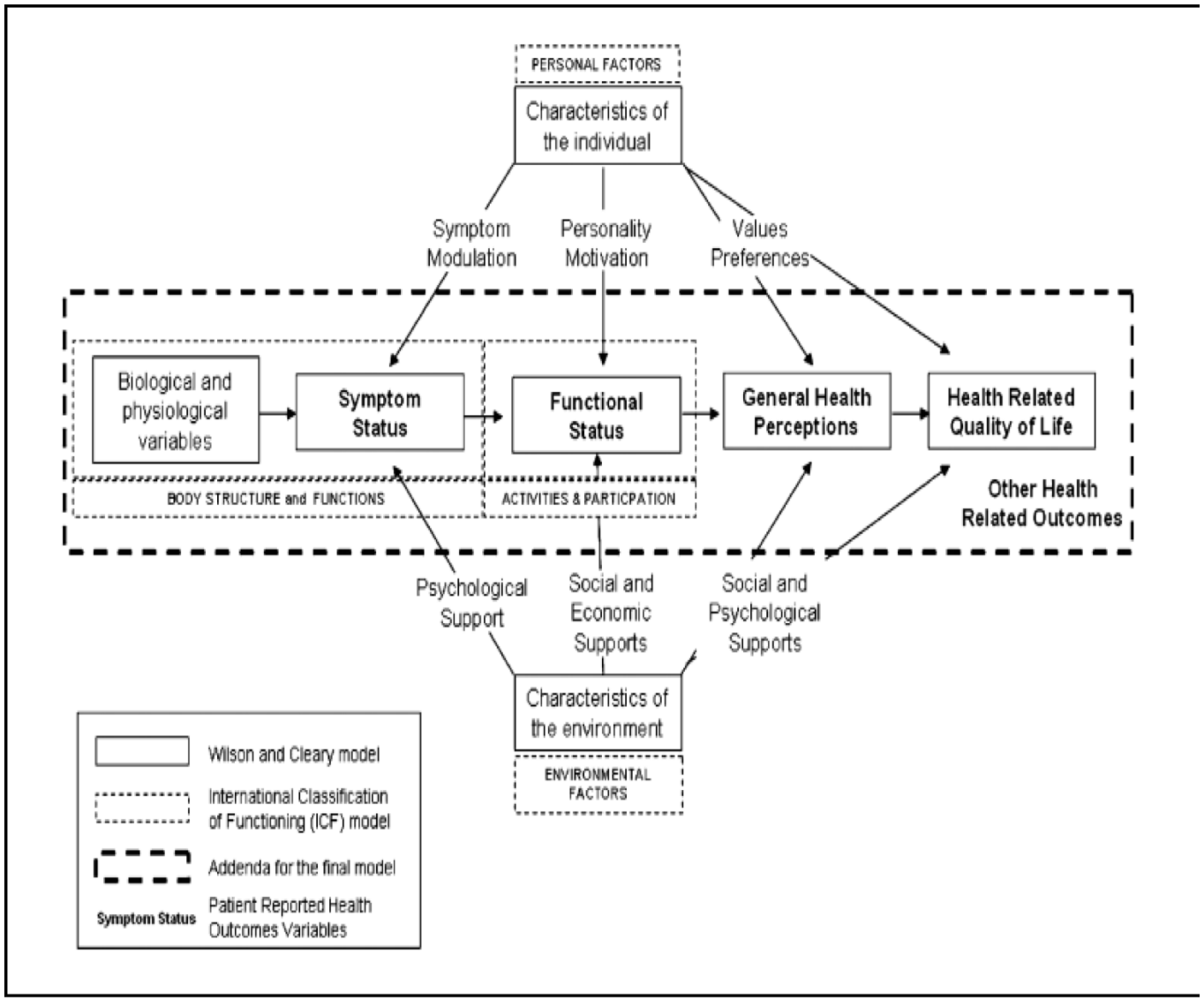


Figura 5: Modelo integrado de um PRO com desfecho para QVRS de Valderas e Alonso (2008).



Fonte- Valderas e Alonso (2008).

2. LITERATURE REVIEW

Religiosity

- Means what is sacred, involving expressions of spirituality, faith traditions, participation in established churches (Pargament, 1997).
- Belief that an individual adheres (Sulmasy, 2006; Larson, 2003) system.
- **ORA** - belong to a church and attend it
  NORA - private religious behaviors or informal
  IR - how the individual perceives the importance of religion in life
  (Koenig, McCollough, Larson, 2001).
- "Traditional Construct with multiple dimensions: affiliation, religious attitudes and experiences ..." (Koenig, King, Larson, 2012).

Spirituality

•"Current experience of a person in relation to others, with nature and with God. Spirituality is found through a personal relationship with God " (Larson, 2003)

• Set of characteristics and qualities of the relationship of one to the transcendent (Sulmasy, 2006).

• Construct that has changed over the years in order to include not only religious but also non-religious people, including positive experiences, traits and personality characteristics that reflect more good mental health and social than actually spirituality (Koenig, King, Larson, 2012).

3 AIMS

GENERAL:

- To test the mediating effect of religiosity on a hypothetical model of health-related quality of life (HRQoL) of elderly through Structural Equation Modeling (SEM).

SPECIFICS:

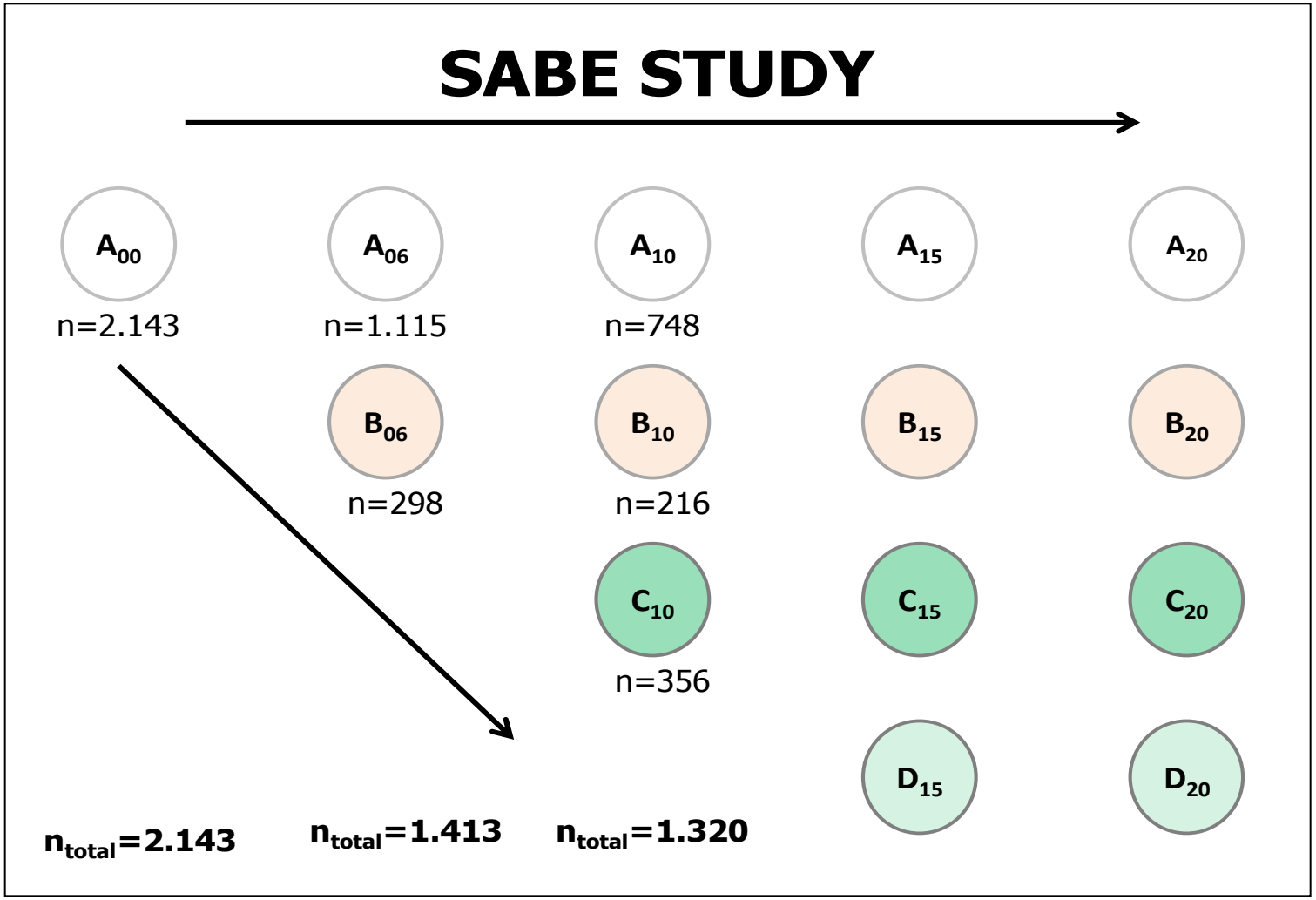
- To compare the organizational , non organizacional and intrinsic dimensions of religiosity among men and women over 60s;
- To compare the HRQoL among elderly (men and women);
- To check whether there are gender differences in relation to the influence of sociodemographic and clinical factors (age, education, family functioning and multimorbidity) on the physical and mental health of the elderly;
- To check the mediating effect of different dimensions of religiosity on the relationship between selected factors and physical and mental health in older men and women.

4 HYPOTESES

- Older women have higher religiosity than men;
- Elderly women have worse HRQoL than men;
- Seniors with older age, lower educational level, better family functioning and fewer chronic diseases have higher levels of religiosity;
- Seniors with higher levels of religiosity have better physical and mental HRQoL.
- The association of age, educational level, family functioning and multimorbidity in physical and mental HRQoL of elderly will be mediated by religiosity.

METHODS

Figure 6- Graphical Design of the SABE Study, 2006.



Source: SABE Study, 2006.

5 METHODS

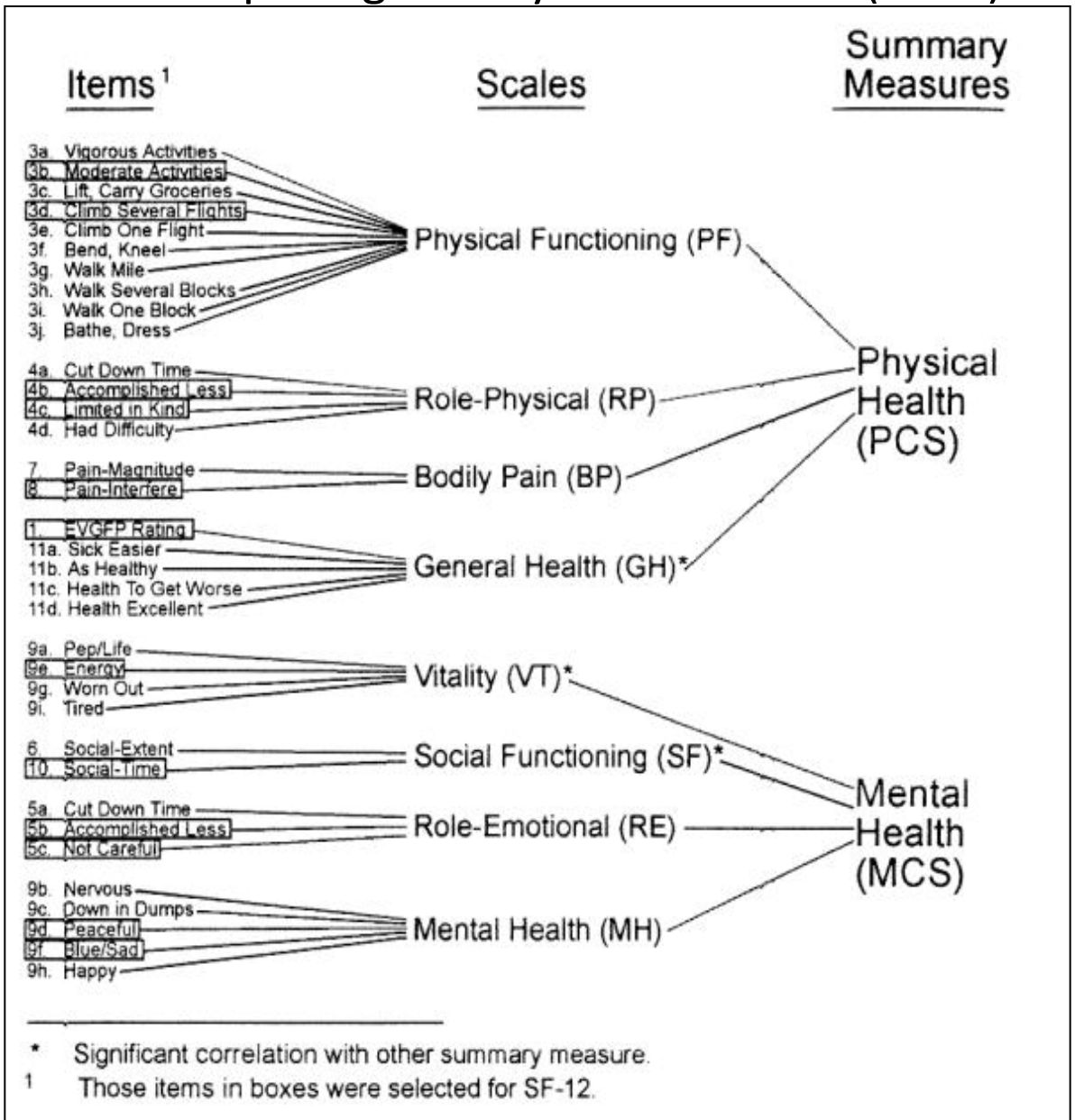
- Exclusion criteria:

Tabela 5.1- Distribution of elderly by exclusion criteria. São Paulo, 2006.

Cognitive impairment (Herrera et al., 2002)	Answered by elderly people (Andresen et al, 2001; Sneew et al, 2002; Pickard et al, 2005; Arons et al, 2013)		TOTAL n (%)
	Yes n (%)	**No** n (%)	
Without impairment	7 (0.8)	**911 (99.2)**	918 (100)
With impairment	105 (21.4)	386 (78.6)	491 (100)
TOTAL	112 (7.9)	1297 (92.1)	1409 (100)

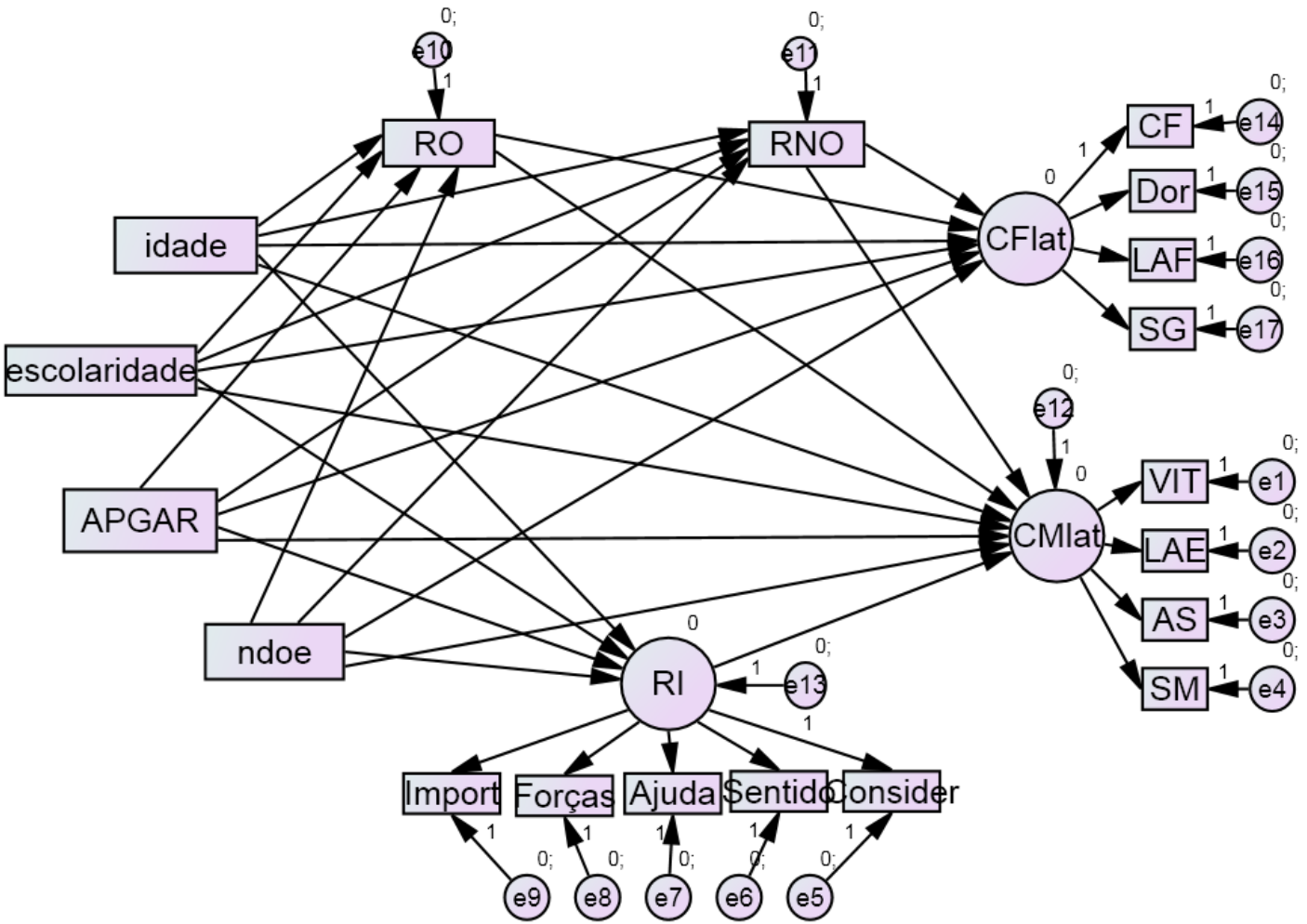
Source: SABE Study, 2006.

•MOS 36-Item Short Survey (SF - 36) (Ware, Sherbourne, 1992), translated and validated into portuguese by Ciconell et al. (1999).



- The SF -12 is reliable and valid.
- General population (Silveira et al., 2013)
- Specifics diseases (D'Amorim, 2001, Camelier, 2004; Andrade et al., 2007)
- Cronbach's $\alpha = 0.85$ for PC and 0.80 for MC.

Figure 8 – Pathway diagram exibiting SEM's structural and Measurement model. SABE Study, 2006.



Source: SABE Study, 2006.

5 METHODS

- It was used the maximum likelihood method (Hair et al., 2009).
- The confidence interval (CI) was set at 90%.
- GOF (goodness of fit) were used the Root Mean Square Error of Approximation (RMSEA); the Comparative Fit Index (CFI), the Tucker-Lewis index (TLI).
- The specifications shall be made to better approximate the theory to be tested, rather than waiting for them to increase the fit (Hair et al., 2009 p.574)

RESULTS

Table 6.1- Distribution of the elderly by social demographics characteristics and age. Sao Paulo, 2006 ($p<0.05$)

Sociodemographic characteristics	Female %	Male %	Total %
Gender	58.9	41.1	100.0
Age			
60-69	59.8	66.9	62.7
70-79	32.7	26.4	30.1
80+	7.5	6.7	7.2
Literacy			
Without education	18.9	11.7	15.9
1 - 3 years of study	25.4	24.4	25.0
4 - 7 years of study	41.6	46.6	43.6
8 years and more	14.1	17.3	15.4
Income			
Without income	6.8	0.5	4.4
0- 1 minimal wage	29.4	8.6	21.3
>1 – 2 mw	26.6	24.8	25.9
>2 - 3 mw	15.4	20.6	17.4
>3 - 4 mw	12.0	24.5	16.9
>5 mw	9.8	20.9	14.1
APGAR (family functionality)			
High family difunction	6.8	3.9	5.6
Moderate family disfunction	4.0	5.5	4.6
Good family disunction	89.2	90.6	89.8

Source: SABE Study, 2006

Table 6.2- Distribution of the elderly by health characteristics and gender. Sao Paulo, 2006 ($p<0.05$)

Health characteristics	Female %	Male %	Total %
Limitation for BADL			
Without limitation	79.5	92.7	84.9
Moderate	19.1	6.8	14.1
Severe	1.4	0.4	1.0
Limitation for IADL			
Without limitation	71.4	86.4	77.5
Moderate	22.7	10.3	17.7
Severe	5.9	3.3	4.8
Number of referred diseases			
None	16.2	20.8	18.1
1-2	61.2	63.1	61.9
3-4	20.8	15.1	18.5
5-6	1.8	1.1	1.5

Source: SABE Study, 2006

Table 6.3- Distribution of the elederly by religion's dimension and gender. Sao Paulo, 2006 ($p<0.05$).

Dimensions of religiosity	Female (%)	Male (%)	Total (%)
ORA- Organization Religious Affiliation			
Never	7.4	12.5	9.5
Several times per year	20.1	36.4	26.8
1 or 2 times per month	15.7	12.0	14.2
Amost every week	25.1	18.6	22.4
More than once per week	31.7	20.4	27.1
NORA- Non Organizational ReligiousAfiiliation (private religious Activities).			
Almost never or never	2.2	6.9	4.1
Only in special ocasions	0.7	9.7	4.4
Several times per week	3.8	7.1	5.1
Once a day	35.9	41.9	38.4
Several times a day	57.5	34.4	48.0

Source: SABE Study, 2006.

Women are more open to express their religious feelings, comment, participate and engage in the tasks of the church. They are also more intimate with God at death, while men are more passive.

(Neuger, in Kimble, McFadden, 2003).

Table 6.3- Distribution of the elederly by religion's dimension and gender. Sao Paulo, 2006 (p<0.05). **Continuation**

Dimensions of religiosity	Female (%)	Male (%)	Total (%)
RI- Importance of religion in life			
Nothing important	1.7	5.0	3.1
Regular	3.0	6.7	4.5
Important	95.2	88.3	92.4
RI- How much religion give strength to cope in difficulties			
Nothing	1.7	6.6	3.7
Not much	4.3	12.8	7.8
A lot	50.9	51.0	51.0
Completly	43.1	29.6	37.5
RI- How much religion helps to Understand the difficulties			
Nothing	2.1	8.3	4.7
Not much	7.2	12.3	9.3
A lot	50.0	52.5	51.0
Completly	40.7	26.9	35.0
RI- Religion gives meaning to life			
Never	2.2	8.8	5.0
Sometimes	6.9	12.2	9.1
A lot	42.0	47.9	44.4
Totally	48.9	31.0	41.5
RI- How religious you are			
Nothing	2.6	5.1	3.6
Not much	6.0	11.0	8.1
A litlle	27.9	40.9	33.2
A lot	63.5	43.1	55.1

Source: SABE Study, 2006.

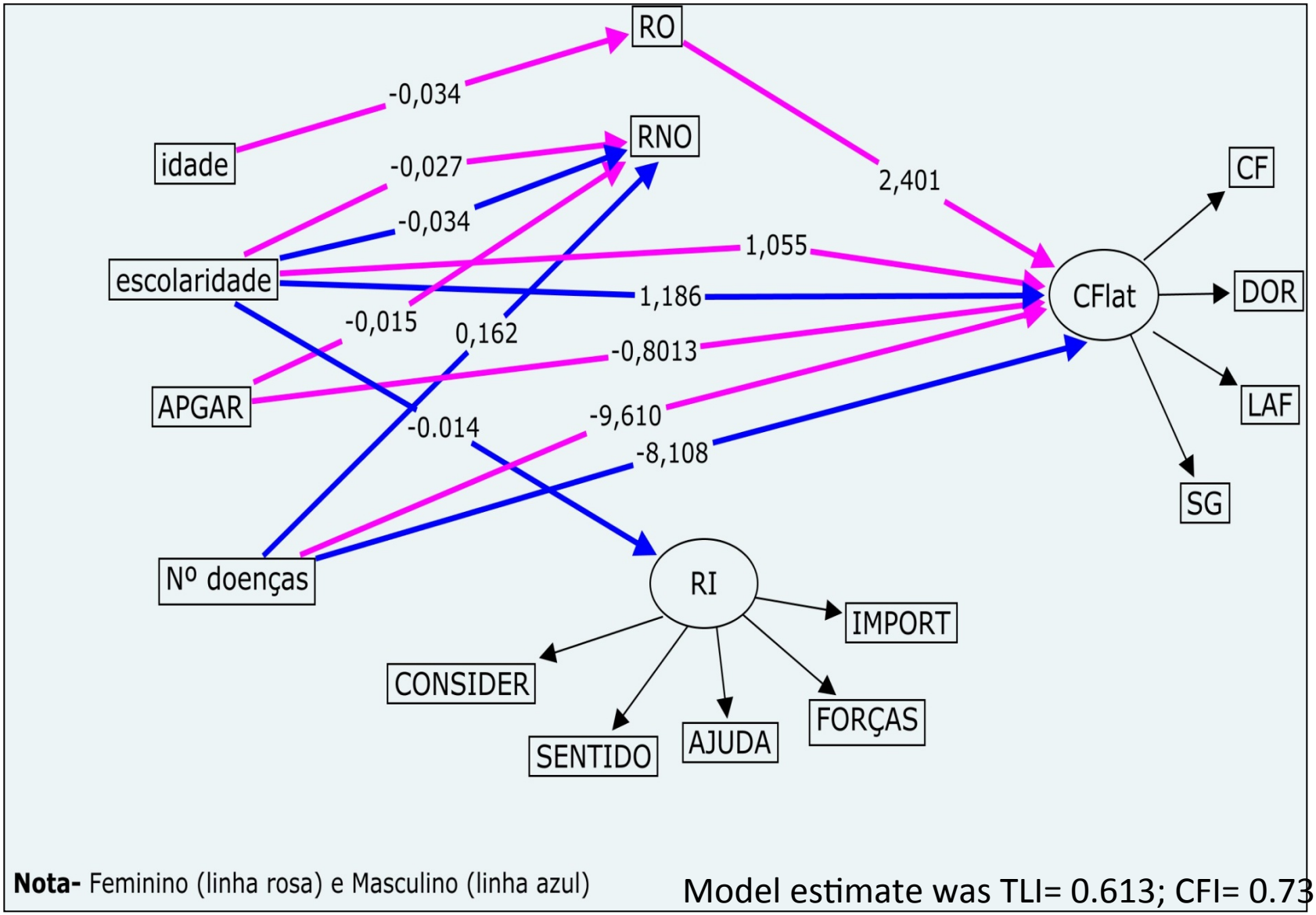
Table 6.4- Mean and standard deviation of the dimensions of physical and Mental Components (HRQoL) by gender. Sao Paulo, 2006.

Dimensions of Physcal and Mental Components of HRQoL	Total mean (sd)	Male	Female
Physical component	**45.1 (9.62)**	**47.6 (7.90)**	**43.4 (10.3)**
Functional Capacity	68.7 (33.8)	77.4 (30.2)	62.8 (34.8
Pain	81.6 (26.8)	88.2 (21.1)	77.0 (29.4)
Physical asp. limitations	78.5 (39.7)	85.4 (34.1)	73.8 (42.6)
General health	69.9 (18.1)	70.7 (17.2)	69.2 (18.6)
Mental component	**54.3 (8.7)**	**55.0 (7.8)**	**53.7 (9.1)**
Vitality	70.0 (26.6)	74.4 (25.4)	67.0 (26.9)
Emotional asp. limitations	86.7 (31.8)	89.6 (28.2)	84.7 (34.0)
Social aspects	87.8 (15.3)	91.3 (21.6)	85.4 (27.3)
Mental health	76.9 (20.5)	79.7 (18.6)	75.0 (21.6)

Source: SABE Study, 2006.

- In a study of 1942 women in California / USA, using the SF-36, also found a similar score on the physical component of women (43.4, ± 11.3) and slightly larger for the mental component score (56.6 , ± 7.3). (Vahia et al., 2012)
- Other studies have also found this difference unfavorable to women. (Lopes et al, 2007; Ware et al, 2007; Lima et al, 2009; Ribeiro, 2011).
- Women also live longer with physical disability and poor quality of life in the physical domain, especially the less educated (Parahyba, Veras, Melzer, 2005) and older (Soares et al., 2010).

Figure 12- Structural Equation Modeling with Religiosity as a mediator between sociodemographic variables and Physical Component (men and women), 2006.



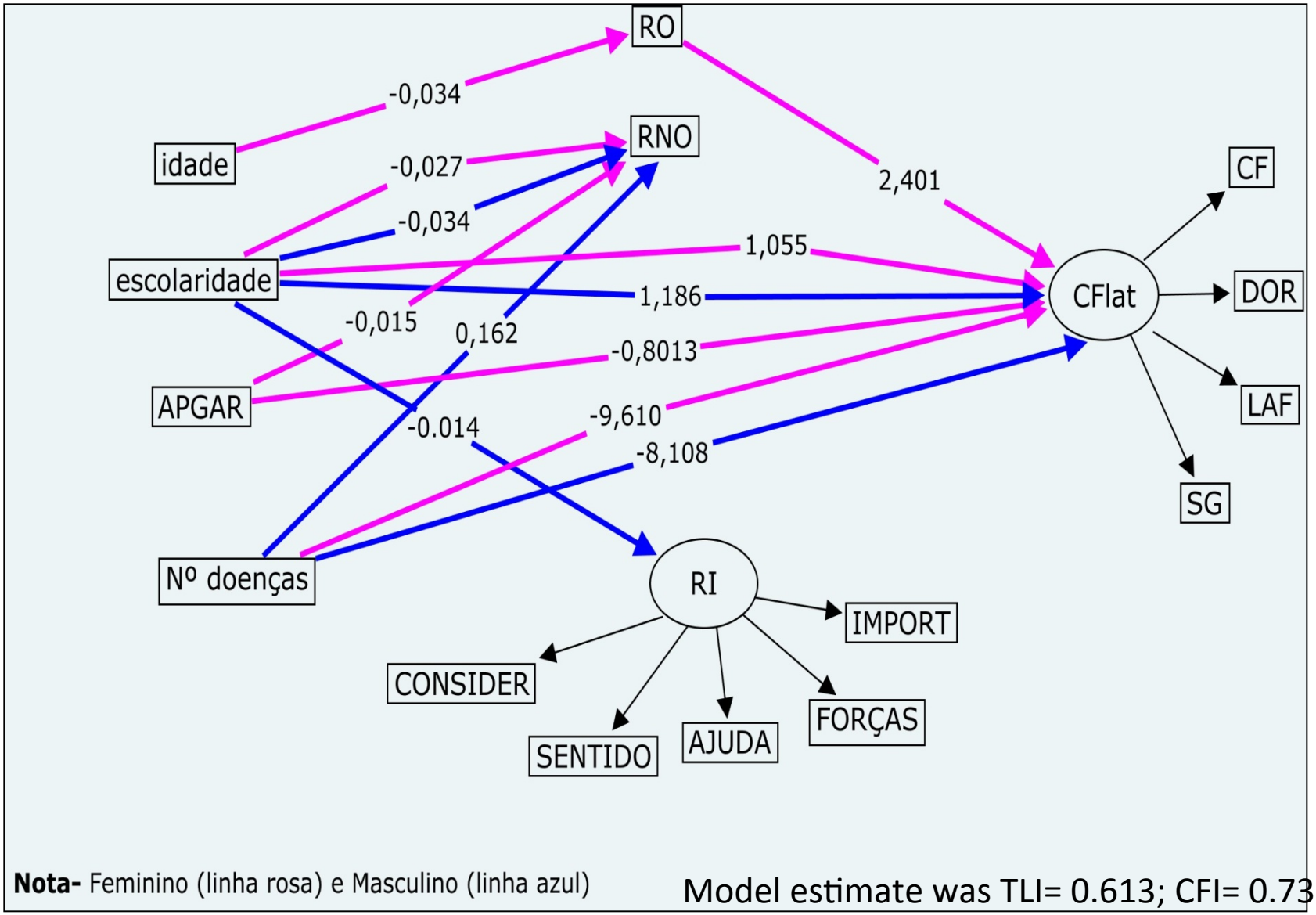
Nota- Feminino (linha rosa) e Masculino (linha azul)

Model estimate was TLI= 0.613; CFI= 0.731; RMSEA= 0.08 ($p \leq 0.05$, IC=90%)

Source: SABE Study, 2006.

- One of the ways in which religion can affect health is through the social support network that promotes participation in religious communities (Koenig, McCollough, Carson, 2001; Koenig 1998; Moreira-Almeida, 2006). The church attendance promotes greater social support and is a regular activity for many seniors (Floriano, Dalgalarrondo, 2007). It is the "feeling of belonging, incorporate and participate sanctions continuity in relationships, family patterns and other support systems" (Lotufo Neto, 2009, p. 164

Figure 12- Structural Equation Modeling with Religiosity as a mediator between sociodemographic variables and Physical Component (men and women), 2006.



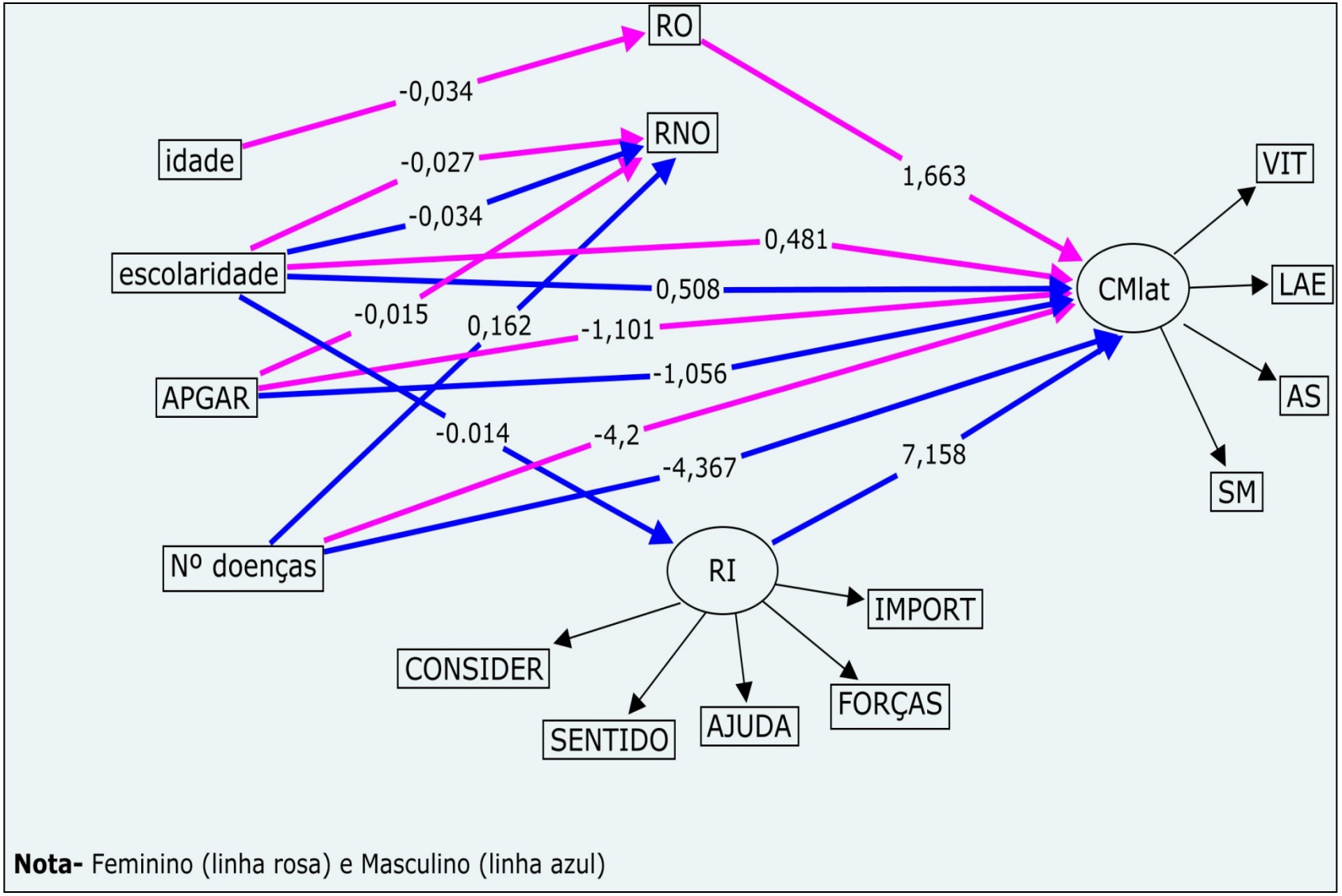
Nota- Feminino (linha rosa) e Masculino (linha azul)

Model estimate was TLI= 0.613; CFI= 0.731; RMSEA= 0.08 ($p \leq 0.05$, IC=90%)

Source: SABE Study, 2006.

- Other studies corroborate these findings in which higher education (Floriano, Dalgalarrondo, 2007; Parahyba, Veras, Melzer, 2005) and fewer diseases (Koenig, 2011) predict a better HRQoL in the elderly.

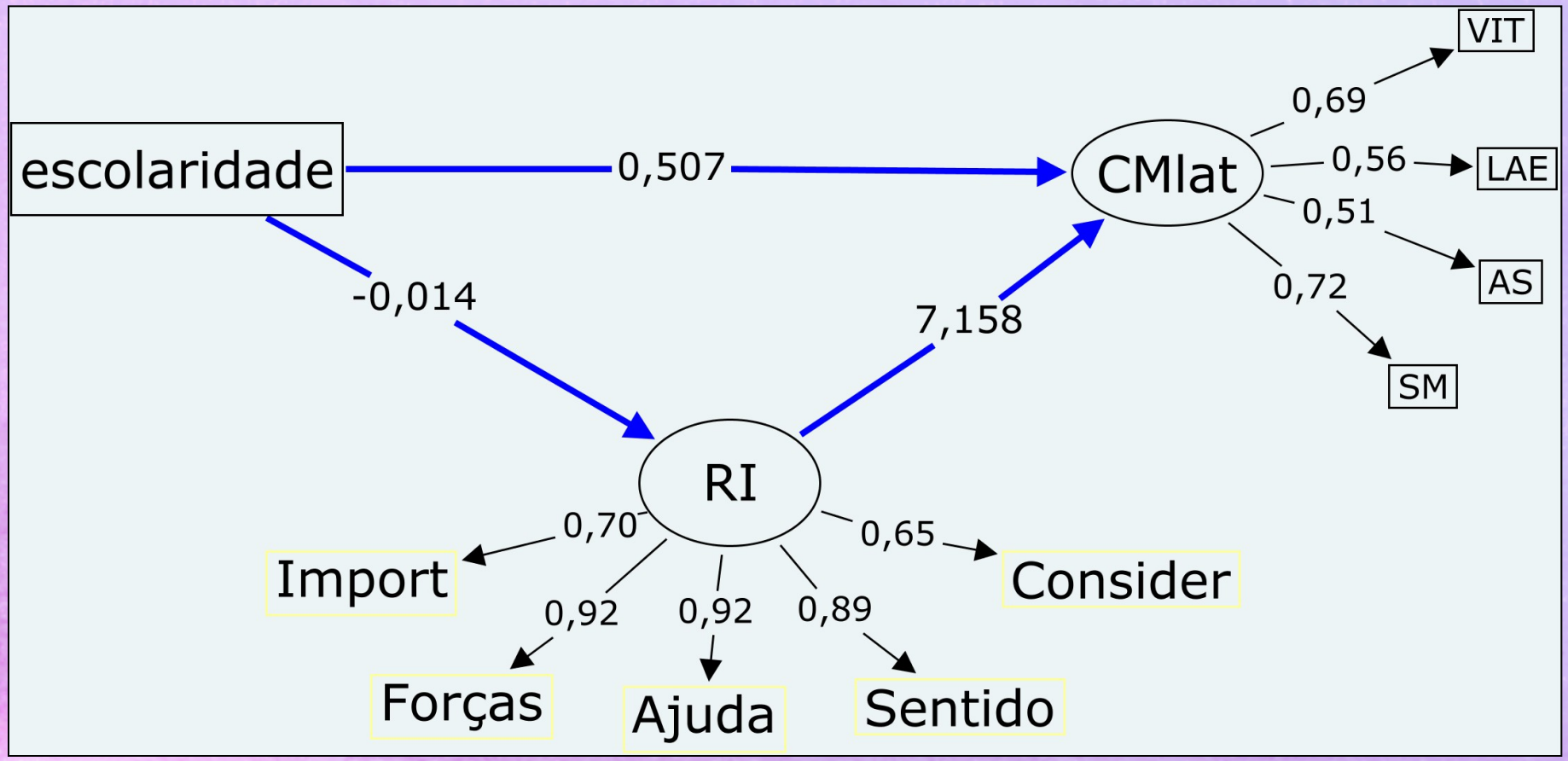
Figure 14- Structural Equation Modeling with Religiosity as a mediator between sociodemographic variables and Mental Component (men and women), 2006.



Source: SABE, Study, 2006.

- Public religious involvement helps the elderly to see more friends, have fewer feelings of depression, greater life satisfaction, less feeling of helplessness and hopelessness (Daaleman, Perera, Studenski, 2004; Duarte et al, 2008;. Idler, McLaughlin, Kasl, 2009).

Figure 16 – Synthesis of SEM for mental component (male). Sao Paulo, 2006.



Source: SABE, Study, 2006.

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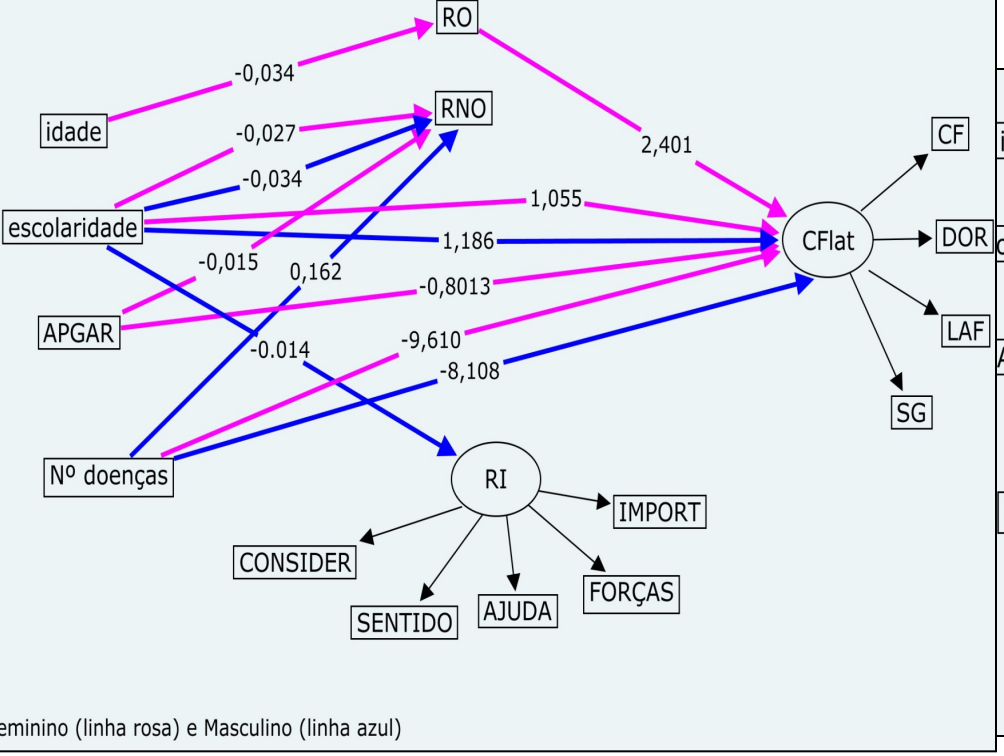
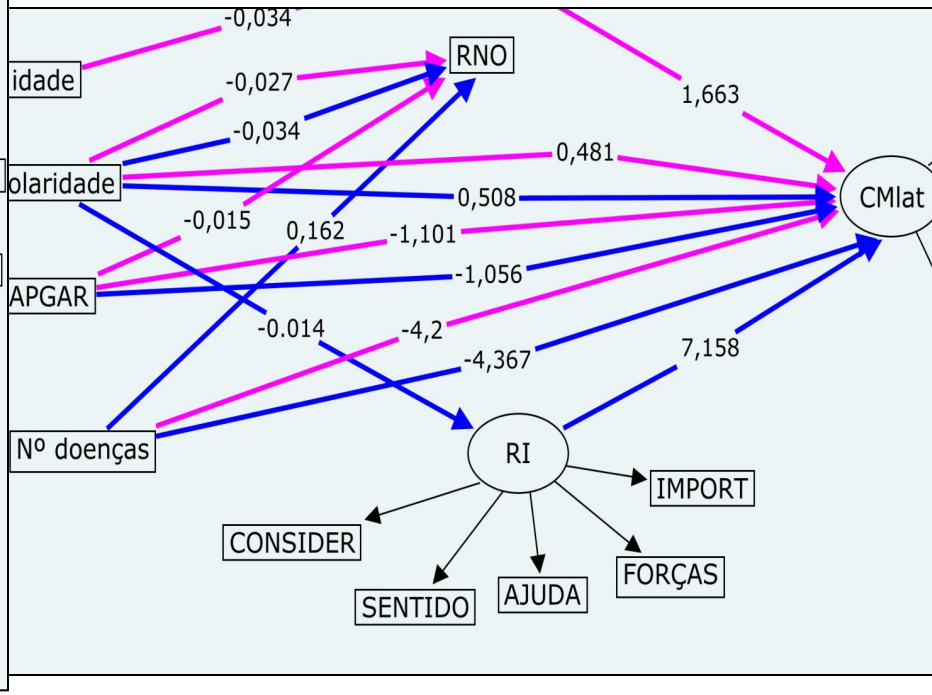
Literacy →CM = 0.507

Literacy → RI →CM (-0.014 X 7.158) = -0.1002

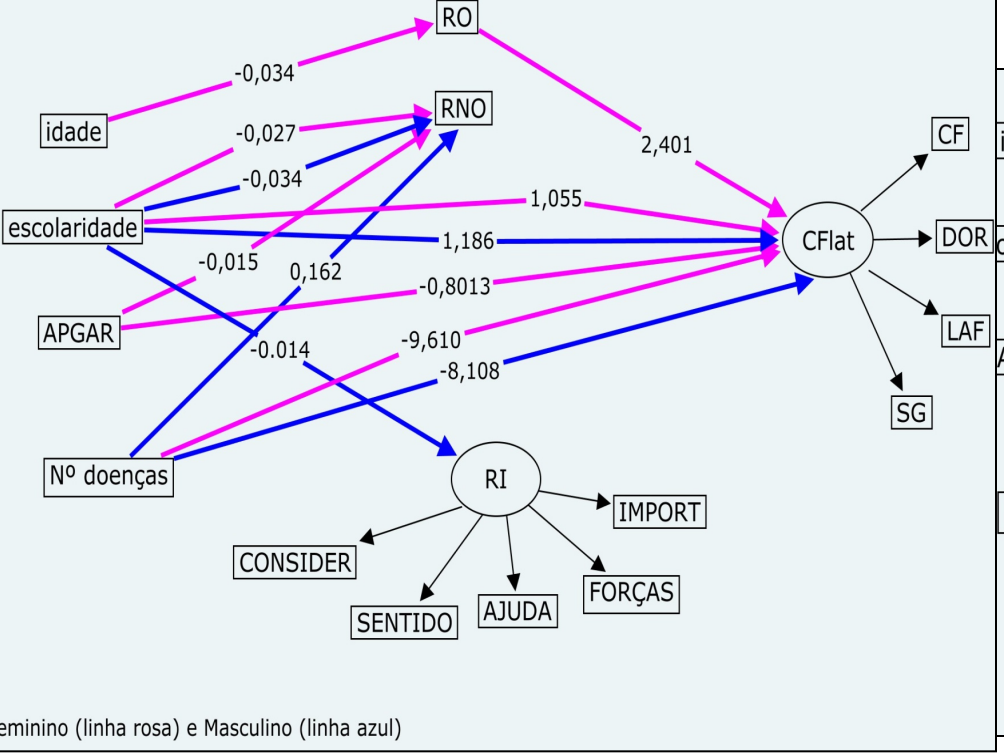
Total effect = 0.507 – 0.1002 = 0.4067

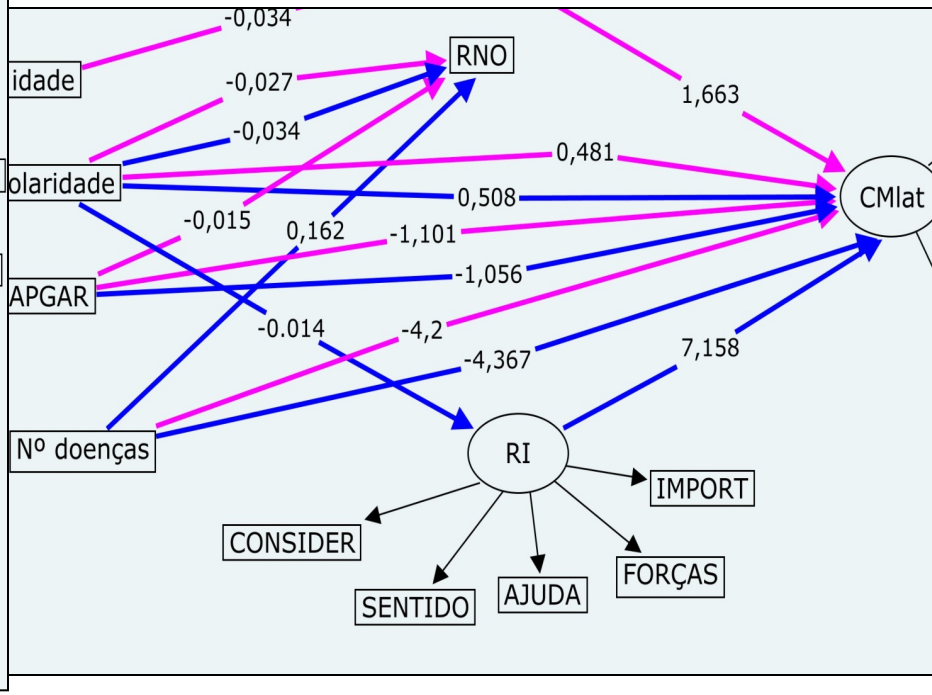
- Using two population surveys in 2001 and 2004, McFarland (2009) found that men with greater religious involvement had more benefits on mental health than women.
- The higher intrinsic religious involvement, the greater the satisfaction with life in the elderly (Cardoso Ferreira, 2009).





- Apart from education, other factors that had a direct effect on the physical and mental component were the familiar functionality and fewer diseases.
- The role of the family is considered essential in predicting a better quality of life for seniors. In a study of 210 elderly people in Portugal, it was found that quality of life is higher among those with family functioning, it is important to consider it when planning actions to improve quality of life for seniors (Andrade and Martins 2011).



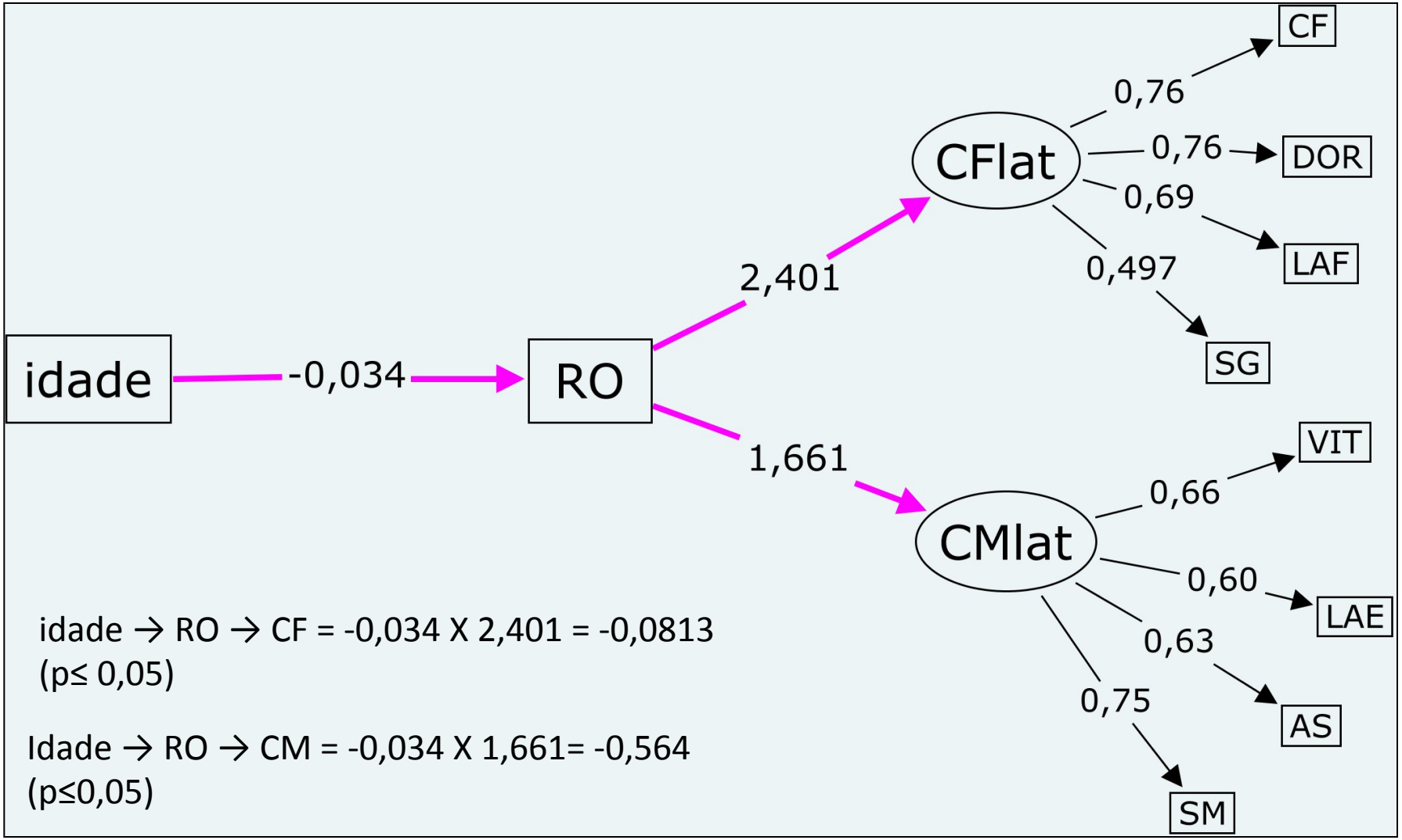


- Multimorbidity may interfere with church attendance by the inability of the elderly perform this activity and, was also a predictor of HRQoL in the elderly. It works as a suppressor variable HRQOL in preventing its good performance (Koenig, 2011).
- A statistically significant negative association was found between number of diseases and HRQL in both genders (Ribeiro, 2011).

8. CONCLUSION

- Older women are more religious than men in every dimension of religion
- Women had worse scores on the physical and mental components of HRQoL than men.
- The highest level of education and lowest number of diseases were direct predictors of better physical health for both men and women.
- Higher education, better family functioning and fewer diseases were direct predictors of better mental health for both genders.

Figure 13 and 15 – Synthesis of SEM for mental and physical components (**female**). Sao Paulo, 2006.



Source: SABE Study, 2006.

8. CONCLUSION

- In summary, the results of this study suggest that older adults with younger age, more education, higher family functioning and fewer illnesses enjoy better physical and mental health and that the effects of these factors on HRQOL may be partially mediated by religiosity.

LIMITATION OF THE STUDY

- Scarce scientific literature analyzing the relationship between the variables and HRQoL, mediated by religiosity, especially applying the ESM for data analysis;
- The majority of studies used a descriptive analysis, making it difficult to compare results;
- Cross sectional of the SABE study did not allow to establish causal relationships.

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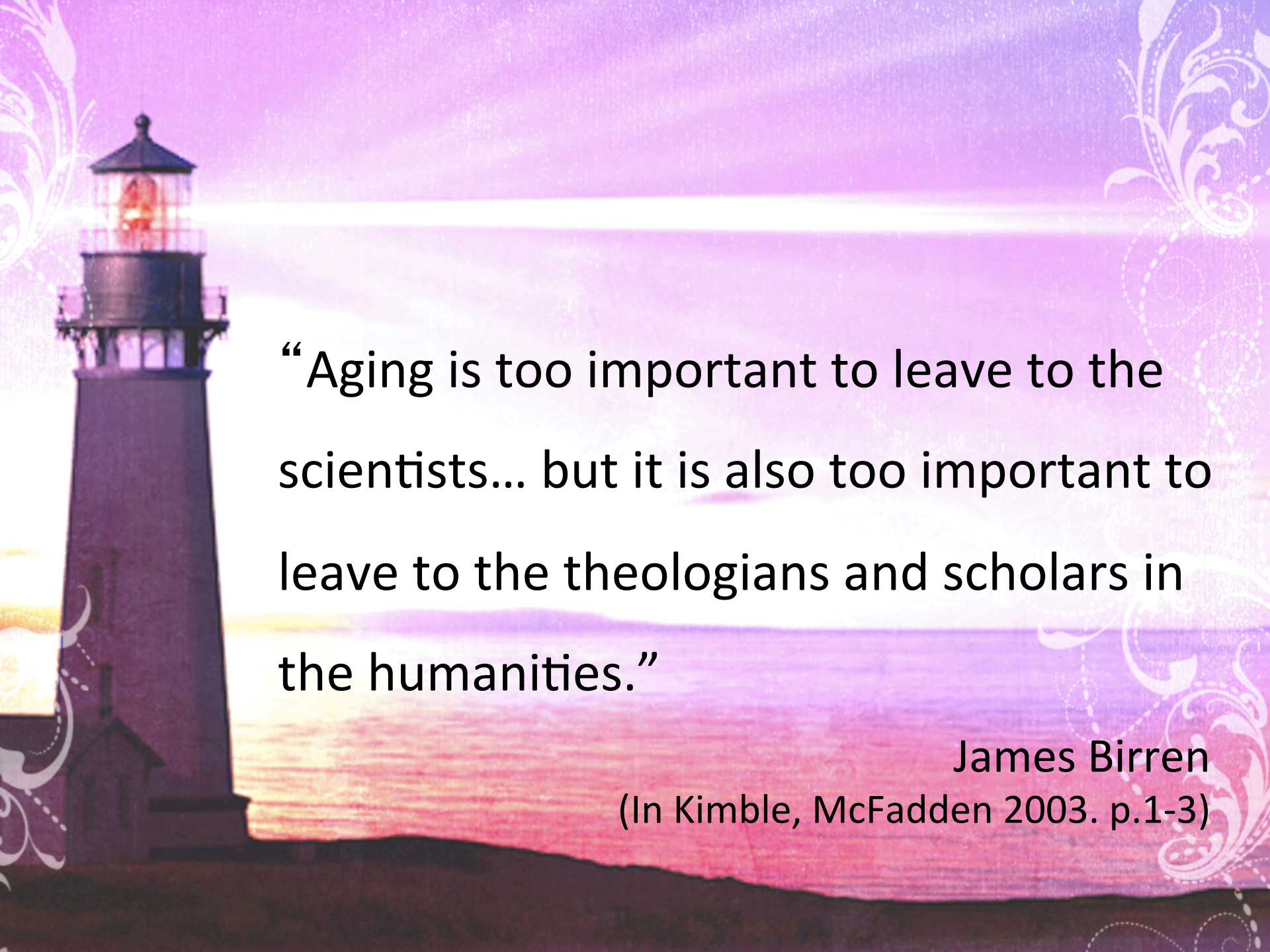

"Aging is too important to leave to the scientists… but it is also too important to leave to the theologians and scholars in the humanities."

James Birren
(In Kimble, McFadden 2003. p.1-3)