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**Bakti and Sayan traditions among the Tenggerese people in East Java:
the role of indigenous institutions in integrated elderly care
development in Indonesia**

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CHAPTER VII UTILISATION PATTERNS OF THE PLURAL ELDERLY CARE SYSTEM

7.1 Behavioural Patterns of the Utilisation of the Elderly Care System

Based on the quantitative data analysis in the household surveys of 312 respondents from the four sample villages, Table 7.1 shows the distribution of the selected variables of the respondents over the variables of reported utilisation of the plural elderly care system in the four sample villages (N=312).

Table 7.1 Distribution of the Selected Sample Village Variables of the Respondents over the Variables of Reported Utilisation of the Plural Elderly Care System in the Four Sample Villages (N=312)

Sample Village Name	Utilisation of the Elderly Care Institutions and Organisations							
	Traditional		Transitional		Modern		Total	
	N	%	N	%	N	%	N	%
Argosari	72	83.7	14	16.3	0	0.0	86	100.0
Ditotrunan	56	81.2	2	2.9	11	15.9	69	100.0
Ngadas	51	71.8	20	28.2	0	0.0	71	100.0
Tlogomas	42	48.8	24	27.9	20	23.3	86	100.0
Total	221	70.8	60	19.2	31	9.9	312	100.0

Pearson's Chi-Square = .000 / Cramer's V = .307

Table 7.1 indicates the most strongly significant correlation between the selected sample village variable over the differential utilisation of the plural elderly care system of respondents in the four sample villages ($\chi^2 = .000$), and extremely strong association with Cramer's V = .307.

The overall distribution in Table 7.1 of the Sample Village variables (N=312) over the reported utilisation rate of the plural elderly care system shows a very high utilisation rate of almost three-quarter (70.8%, n=221) of the the traditional elderly care institution, followed by a utilisation rate of almost one-fifth (19.2%, n=60) of the transitional elderly care organisation, and a utilisation rate of nearly one-tenth (9.9%, n=31) of the modern elderly care organisation.

Table 7.1 also shows that more than four-fifth (83.7%, n=72) of the respondents from Argosari prefer the traditional elderly care institutions while no one prefers the modern organisations. In Ngadas village which also represents the Tenggerese, almost three-quarter (71.8%, n=51) of the respondents prefer the traditional elderly care institutions and no one prefers the modern organisations. So, the Tenggerese people still believe and practice their tradition-related care of the elderly, *i.e.* the *bakti* and *sayan* local traditions.

In Tlogomas village, almost half of the respondents (48.8%, n=42) utilise traditional elderly care institutions, while more than one-third (27.9%, n=24) utilise transitional elderly care organisations, and one-quarter (23.3%, n=20) the modern organisations.

In Ditotrunan, more than four-fifth of the respondents (81.2%, n=56) utilise the traditional elderly care institutions, while more than one-tenth (15.9%, n=11) utilise the modern elderly care organisations, and only a few (2.9%, n=2) utilise the transitional organisations.

In general, the respondents reported to utilise the traditional elderly care institutions as their first preference, followed by the transitional elderly care organisations. Only, about 10% of respondents prefer to utilise the modern elderly care organisations. The majority of respondents still prefer to care of and support the elderly by themselves and with their family. In addition, one-fifth (19.2%, n=60) of the respondents prefer to utilise the transitional elderly care organisations, combining care and support from the family and the community. The community has a role in helping each family to support the elderly in the community.

The role of a community is not only in the health aspects, such as routine health checks in the *Posyandu Lansia*, but also as a form of social support for the elderly, such as activities in the *Karang Werda*, *i.e.* gymnastics exercises, religious activities, etc.

Based on the results indicated in Table 7.1, the Figure 7.1 presents a schematic representation of the reported utilisation patterns of the sample of respondents of household heads (100.0%, N=312), distributed over the three components of the plural elderly care system, sub-divided over the traditional elderly care institutions, transitional and modern elderly care organisations in the Tengger Region of East Java. The calculated distribution is also reflected in the subsequent bivariate, mutual correlations, multivariate, and multiple regression data analyses.

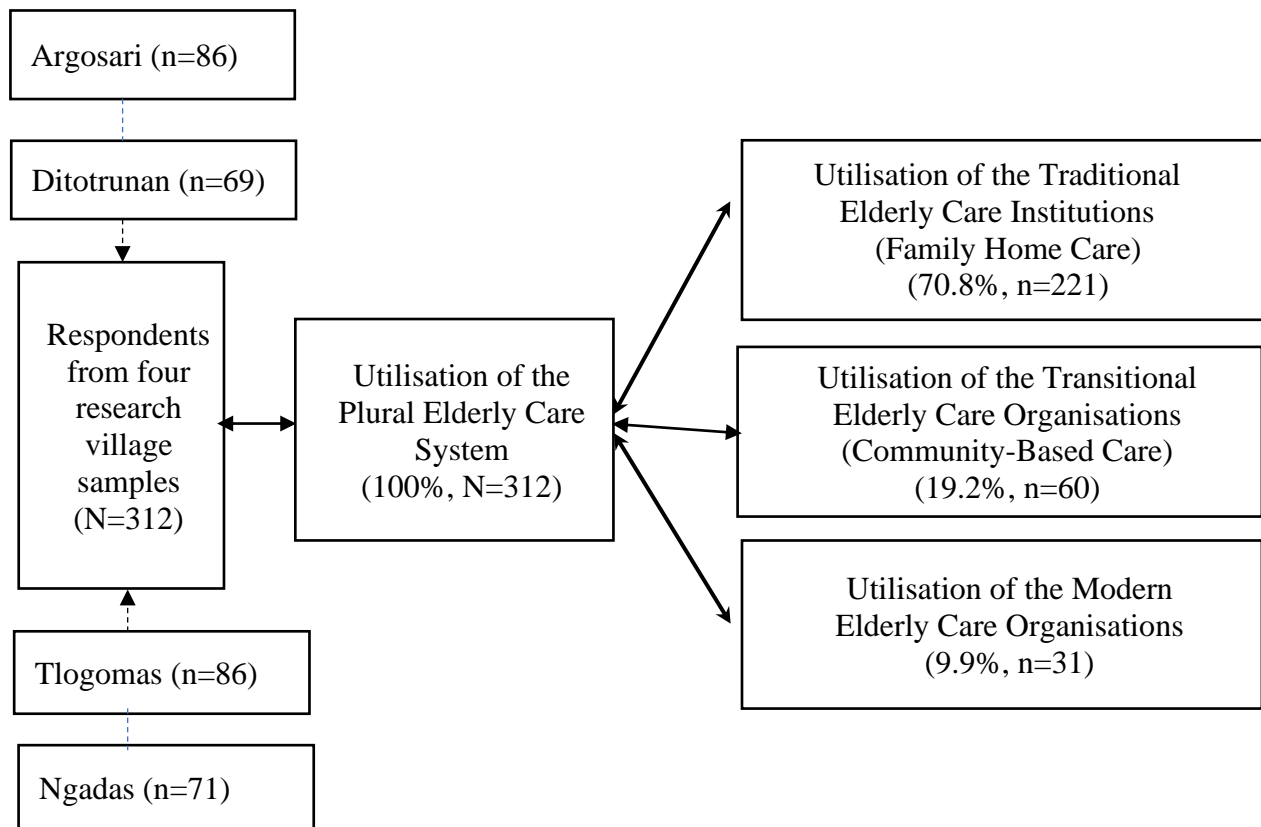


Figure 7.1 Schematic Representation of the distribution of 312 (100.0%) Household Respondents in the four villages over Their Reported Utilisation Patterns of the Plural Elderly Care System, subdivided into the three Elderly Care Institutions and Organisations in East Java.
 Source: Adapted from the Computation of the Data set from the Fieldwork (2018).

The explanation of the fact, that only one-tenth (9.9%, n=31) of the respondents prefer to utilise the modern elderly care organisations in comparison with traditional and transitional organisations, the responsibility to care and support the elderly in modern elderly care organisations is that the care is provided by outsiders, such as nurses, doctors, or medical personnel, and paid for by the government or privately.

Although the outside providers of care possess certain skills and expertise in care of the elderly, the professional personnel seem to lack an understanding of the local culture in terms of indigenous customs, norms, values and knowledge systems. While the elderly generally prefer to stay with their families in the community, they also can live with other elderly in the same place such as *Panti Jompo* or get medical treatment in the *Puskesmas Santun Lansia*.

7.2 Bivariate Analysis of Selected Variables

The bivariate analysis is the starting point for the quantitative analysis of the data sets of the utilisation contacts reported by the household heads in the sample. As Slikkerveer (1990: 237) provides the calculation of the number of contacts between clients or patients and a particular health institution or organisation by recording the number of visits or contacts to determine the level of utilisation, the case of the utilisation by the elderly of the plural elderly care system is expressed in scores, called utilisation rates. In this research, the utilisation scores refer to the reported utilisation by household heads of the elderly care institutions or organisations in the four selected villages, recorded for the period of time in the preceding year of the research. The technique of ‘cross-tabulation’ is selected as a method to execute the bivariate analysis to the present data. The method of cross-tabulation arranges the distribution of two categorical variables through frequencies, which hereafter illustrate the total number of elements in each combination of categories (*cf.* Slikkerveer 1990; Field 2009; Aiglsperger 2014).

The cross-tabulation refers to a frequency table, where the number of categorical variables is reflected in the table’s rows and columns. In this way, the cross-tabulation method is used to establish the distribution of the independent and intervening variables of the respondents over their reported utilisation of the plural elderly care system and analyse the significance of the correlation of each independent variable with the dependent variables. Given the rather dominant, but so far neglected position of the traditional elderly care institutions, the bivariate analysis will focus on the utilisation of the traditional elderly care institutions in comparison to the transitional and modern elderly care organisation in the research area.

7.2.1 Bivariate Analysis of the Socio-Demographic Variables

Socio-demographic variables indicate the characteristics of the respondents in the society or community concerned, based on user-based indicators such as the relationship with the elderly, age, sex, education, marital status, occupation, religion, and place of birth. The word ‘society’ in this context refers to a group of respondents of a selected society, classified by their sociological and demographic characteristics. The social sciences use socio-demographic variables to describe the profile of a particular group or sample, in order to explain people’s behaviour in particular circumstances (*cf.* Manstead 2018). In line with the above-mentioned distribution of 312 (100.0%) household respondents in the four villages over their reported utilisation patterns of the plural elderly care system, Tables 7.2a – 7.2h show the overall distribution of the various socio-demographic variables of respondents over their reported utilisation rates of the plural elderly care system with a generally very high utilisation rate of the traditional elderly care institutions (*cf.* Figure 7.1).

Table 7.2a Distribution of the Socio-Demographic Variable ‘Relation of Household Head with Elderly’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
Relation of Household Head with Elderly	N	%	N	%	N	%	N	%
Parents	139	77.2	33	18.3	8	4.4	180	100.0
Parents-in-law	69	75.0	19	20.7	4	4.3	92	100.0
Grandparents	10	50.0	6	30.0	4	20.0	20	100.0
Other kin	3	17.6	2	11.8	12	70.6	17	100.0
Non kin	0	0.0	0	0.0	3	100.0	3	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .423

As regards the socio-demographic variable ‘relation of household head with elderly’, Table 7.2a shows the most strongly significant correlation between the household head’s relationship with the elderly and their differential utilisation of the plural elderly care system ($\chi^2 = .000$). In line with these results, the association is extremely strong with Cramer’s V= .423.

Table 7.2a also shows that more than two-third (77.2%, n=139) of respondents living with their parents report the highest utilisation of traditional elderly care institutions, followed by nearly one-fifth (17.6%, n=3) of respondents living with other kin (*e.g.* uncle or aunt) also reporting their utilisation of traditional elderly care institutions.

In comparison, almost one-third (30.0%, n=6) of respondents living with their grandparents report the highest utilisation of transitional elderly care organisations, while more than two-third (70.6%, n=12) of respondents living with other kin report the highest utilisation of the modern elderly care organisations.

Table 7.2b Distribution of the Socio-Demographic Variable ‘Age’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
Age	N	%	N	%	N	%	N	%
0-4 years	0	0.0	0	0.0	0	0.0	0	0.0
5-9 years	0	0.0	0	0.0	0	0.0	0	0.0
10-14 years	1	100.0	0	0.0	0	0.0	1	100.0
15-19 years	8	100.0	0	0.0	0	0.0	8	100.0
20-24 years	22	75.9	5	17.2	2	6.9	29	100.0
25-29 years	32	69.6	12	26.1	2	4.3	46	100.0
30-34 years	28	68.3	12	29.3	1	2.4	41	100.0
35-39 years	38	88.4	4	9.3	1	2.3	43	100.0
40-44 years	28	66.7	12	28.6	2	4.8	42	100.0
45-49 years	31	68.	7	15.6	7	15.6	45	100.0
50-54 years	27	71.1	5	13.2	6	15.8	38	100.0
55-59 years	5	45.5	2	18.2	4	36.4	11	100.0
60-64 years	1	16.7	1	16.7	4	66.7	6	100.0
65-69 years	0	0.0	0	0.0	0	0.0	0	0.0
70-74 years	0	0.0	0	0.0	1	100.0	1	100.0
75-79 years	0	0.0	0	0.0	0	0.0	0	0.0
80-84 years	0	0.0	0	0.0	1	100.0	1	100.0
85-89 years	0	0.0	0	0.0	0	0.0	0	0.0
90-94 years	0	0.0	0	0.0	0	0.0	0	0.0
>95 years	0	0.0	0	0.0	0	0.0	0	0.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = 0.000 / Cramer’s V = .343

As regards the socio-demographic variable ‘age’, Table 7.2b shows the most strongly significant correlation between the age category of the respondents and their differential utilisation of the plural elderly care system ($\chi^2 = .000$), and a strong association with the Cramer’s V= .343.

Table 7.2b also shows that almost nine-tenth (88.4%, n=38) of the respondents in the 35-39 age group, followed by almost three-quarter (75.9%, n=22) of respondents in the 20-24 age group reporting the second highest utilisation of traditional elderly care institutions. In comparison, two-third (29.3%, n=12) of the respondents in the 30-34 age group is reporting the highest utilisation of the transitional elderly care organisations, while two-third (66.7%, n=4) of the respondents in the 60-64 age group is reporting the highest utilisation of the modern elderly care organisations.

Table 7.2c Distribution of the Socio-Demographic Variable ‘Education’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		N	%
Education	N	%	N	%	N	%	N	%
No education	8	100.0	0	0.0	0	0.0	8	100.0
Elementary school	89	72.4	31	25.2	3	2.4	123	100.0
Junior high school	53	82.8	9	14.1	2	3.1	64	100.0
High school	53	60.9	17	19.5	17	19.5	87	100.0
University	18	60.0	3	10.0	9	30.0	30	100.0
Other	0	0.0	0	0.0	0	0.0	0.0	100.0
Utilisation rate	22	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .256

As regards the socio-demographic variable ‘education’, Table 7.2c shows the most strongly significant correlation between the education category of the respondents and their differential utilisation of the plural elderly care system ($\chi^2 = .000$), and a moderate association with the Cramer’s V = .256.

Table 7.2c also shows that all (100.0%, n=8) the respondents with no education is reporting the highest utilisation of traditional elderly care institutions, followed by almost two-third (72.4%, n=89) of respondents with elementary school education reporting the second highest utilisation of traditional elderly care institutions.

In contrast, one-fourth (25.2%, n=31) of the respondents with elementary school education is reporting the highest utilisation of the transitional elderly care organisations, while less than one-third (30.0%, N=9) of the respondents with university education is reporting the highest utilisation of the modern elderly care organisations.

Table 7.2d Distribution of the Socio-Demographic Variable ‘Place of Birth’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		N	%
Place of Birth	N	%	N	%	N	%	N	%
In this place	188	74.3	51	20.2	14	5.5	253	100.0
Elsewhere	33	55.9	9	15.3	17	28.8	59	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .305

As regards the socio-demographic variable ‘place of birth’, Table 7.2d shows the most strongly significant correlation between the place of birth of the respondents and their differential utilisation of the plural elderly care system ($\chi^2 = .000$), and a similarly strong association with the Cramer’s V = .305. Table 7.2d also shows that two-third (74.3%, n=188) of the respondents whose place of birth is in their village is reporting the highest utilisation of traditional elderly care institutions.

In contrast, one-fifth (20.2%, n=51) of the respondents whose place of birth is in their village is reporting the highest utilisation of the transitional elderly care organisations, while nearly one-third (28.8%, n=17) of the respondents born elsewhere is reporting the highest utilisation of the modern elderly care organisations.

Table 7.2e Distribution of the Socio-Demographic Variable ‘Ethnicity’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Ethnicity								
Javanese	104	64.6	27	16.8	30	18.6	161	100.0
Sundanese	0	0.0	0	0.0	0	0.0	0	0.0
Madurese	3	75.0	0	0.0	1	25.0	4	100.0
Chinese	0	0.0	0	0.0	0	0.0	0	0.0
Tenggerese	114	77.6	33	22.4	0	0.0	147	100.0
Utilisation rate	221	70.8	60	19.2	3	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = 0.000 / Cramer’s V = .225

As regards the socio-demographic variable ‘ethnicity’ Table 7.2e shows the most strongly significant correlation between the ethnicity of the respondents and their differential utilisation of the plural elderly care system ($\chi^2 = .000$), and a moderate association with the Cramer’s V = .225.

Table 7.2e also shows that more than two-third (77.6%, n=114) of the respondents with the Tenggerese ethnicity is reporting the highest utilisation of traditional elderly care institutions, followed by about two-third (64.6%, n=104) of respondents with the Javanese ethnicity is reporting the second highest utilisation of traditional elderly care institutions.

Similarly, more than one-fifth (22.4%, n=33) of the respondents with the Tenggerese ethnicity is reporting the highest utilisation of the transitional elderly care organisations, while nearly one-fourth (25.0%, n=1) of the respondents with the Madurese ethnicity is reporting the highest utilisation of the modern elderly care organisations.

Table 7.2f Distribution of the Socio-Demographic Variable ‘Marital Status’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Marital Status								
Single	29	76.3	6	15.8	3	7.9	38	100.0
Married	178	72.7	48	19.6	19	7.8	245	100.0
Divorced	2	100.0	0	0.0	0	0.0	2	100.0
Widow	9	50.0	4	22.2	5	27.8	18	100.0
Widower	3	33.3	2	22.2	4	44.4	9	100.0
Other	0	0.0	0	0.0	0	0.0	0	0.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .004 / Cramer’s V = .189

As regards the socio-demographic variable ‘marital status’, Table 7.2f shows a very strongly significant correlation between the marital status of the respondents and their differential utilisation of the plural elderly care system ($\chi^2 = .004$), and a moderate association with the Cramer’s V = .225.

Table 7.2f also shows that more than two-third (76.3%, n=29) of the respondents with a single marital status is reporting the highest utilisation of traditional elderly care institutions, followed by more than two-third (72.7%, n=178) of the respondents with a married marital status similarly reporting the second highest utilisation of the traditional elderly care institutions.

In contrast, more than one-fifth (22.2%, n=4) of the respondents with a marital status of widow, as well as more than one-fifth (22.2%, n=2) of the respondents with a marital status of widower is reporting the highest utilisation of the transitional elderly care organisations.

In addition, nearly half (44.4%, n=4) of the respondents with a marital status of widower, as well as nearly one-third (27.8%, n=5) of the respondents with a marital status of widow is reporting the highest utilisation of the modern elderly care organisations.

Table 7.2g Distribution of the Socio-Demographic Variable ‘Employment in Family Business/Farm’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Employment in Family Business/Farm								
No	76	65.0	18	15.4	23	19.7	117	100.0
Yes	145	74.4	42	21.5	8	4.1	195	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .254

As regards the socio-demographic variable ‘employment in family business/farm’, Table 7.2g shows the most strongly significant correlation between the employment in family business/farm of the respondents and their differential utilisation of the plural elderly care system ($\chi^2 = .000$), with a moderate association with the Cramer’s V= .254.

Table 7.2g also shows that more than two-third (74.4%, n=145) of the respondents with employment in family business/farm is reporting the highest utilisation of traditional elderly care institutions. In addition, one-fifth (21.5%, n= 42) of the respondents with employment in family business/farm is reporting the highest utilisation of transitional elderly care organisations. In contrast, nearly one-fifth (19.7%, n=23) of the respondents with no employment in family business/farm is reporting the highest utilisation of modern elderly care organisations.

Table 7.2h Distribution of the Socio-Demographic Variable ‘Occupation’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Occupation								
Farmer	115	77.7	33	22.3	0	0.0	148	100.0
Civil servant	9	69.2	1	7.7	3	23.1	13	100.0
Private employee	46	65.7	12	17.1	12	17.1	70	100.0
Teacher	4	100.0	0	0.0	0	0.0	4	100.0
Maid	0	0.0	0	0.0	0	0.0	0	0.0
Industrial labourer	11	73.3	2	13.3	2	13.3	15	100.0
Small traders/retailer	9	60.0	2	13.3	4	26.7	15	100.0
Entrepreneur	18	56.3	7	21.9	7	21.9	32	100.0
Military/policy	0	0.0	0	0.0	0	0.0	0	0.0
Craftsman	1	100.0	0	0.0	0	0.0	1	100.0
Retired	0	0.0	1	33.3	2	66.7	3	100.0
Housewife	1	100.0	0	0.0	0	0.0	1	100.0
Security	0	0.0	1	100.0	0	0.0	1	100.0
Driver	7	100.0	0	0.0	0	0.0	7	100.0
Guide	0	0.0	0	0.0	0	0.0	0	0.0
Religious leader	0	0.0	0	0.0	0	0.0	0	0.0
Other	0	0.0	1	50.0	1	50.0	2	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .315

As regards the socio-demographic variable ‘occupation’, Table 7.2h shows the most strongly significant correlation between of the respondents occupation and their differential utilisation of the plural elderly care system ($\chi^2 = .000$), and a strong association with Cramer’s V value of .315.

Table 7.2h also shows that more than three-fourth (77.7%, n=115) of the respondents with the occupation of farmer is reporting their highest utilisation of traditional elderly care institutions, followed by nearly three-fourth (73.3%, n=11) of the respondents with the occupation of industrial labourer similarly reporting their highest utilisation of traditional elderly care institutions. In addition, more than one-fifth (22.3%, n=33) of the respondents with the occupation of farmer is reporting the highest utilisation of transitional elderly care organisations.

In contrast, more than one-fourth (26.7%. n=4) of the respondents with the occupation of small traders or retailer is reporting the highest utilisation of the modern elderly care organisations.

The explanation of the most strongly significant correlations between respondents with selected socio-demographic variables and their reported highest utilisation of the traditional elderly care institutions is that the majority of respondents in this context continue to practice the generations-long local traditions of *bakti* and *sayan* of their ethno-cultural subgroups in the research area.

The fact that the variable of the selected socio-demographic variables of the respondents shows the most strongly significant correlation with their utilisation of the traditional elderly care institution implies that this variable is very important for the proposed development of integrated elderly care in the Tengger Region of East Java.

7.2.2 Bivariate Analysis of the Psycho-Social Variables

In line with the above-mentioned correlations of the socio-demographic variables, Tables 7.3a – 7.3i show that the overall distribution of the various psycho-social variables of respondents (N=312) over their reported utilisation rates of the plural elderly care system, are generally indicating very high utilisation rate of the traditional elderly care institutions.

Table 7.3a Distribution of the Psycho-Social Variable ‘Knowledge of Traditional Elderly Care Institutions’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Knowledge of Traditional Elderly Care Institutions								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	0	0.0	0	0.0	0	0.0	0	0.0
Very little knowledge	4	100.0	0	0.0	0	0.0	4	100.0
Little knowledge	20	58.8	12	35.3	2	5.9	34	100.0
Average	1	100.0	0	0.0	0	0.0	1	100.0
Much knowledge	140	69.7	36	17.9	25	12.4	201	100.0
Very much knowledge	56	77.8	12	16.7	4	5.6	72	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .175 / Cramer’s V = .136

As regards the psycho-social variable ‘knowledge of traditional elderly care institutions’, Table 7.3a shows a non-significant correlation between the ‘knowledge of traditional elderly care institutions’ of the respondents and their differential utilisation of the plural elderly care system ($\chi^2 = .175$), while the score of Cramer’s V value of .136 indicates a very weak association between this variable and the utilisation variables of the Plural Elderly Care System.

Although Table 7.3a also shows that more than three-fourth (77.8%, n= 56) of the respondents with very much knowledge of traditional elderly care institutions is reporting their highest utilisation of traditional elderly care institutions, followed by nearly three-fourth (69.7%, n=140) of the respondents with much knowledge of traditional elderly care institutions similarly reporting their highest utilisation of traditional elderly care institutions, there is no significant correlation between these psycho-social variables and the utilisation variables found.

As regards the psycho-social variable ‘knowledge of transitional elderly care organisations’, Table 7.3b shows the most strongly significant correlation ($\chi^2 = .000$) and an extremely strong association with the Cramer’s V value of .418.

Table 7.3b Distribution of the Psycho-Social Variable ‘Knowledge of Transitional Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Knowledge of Transitional Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	35	97.2	0	0.0	1	2.8	36	100.0
Very little knowledge	70	84.3	7	8.4	6	7.2	83	100.0
Little knowledge	93	78.8	10	8.5	15	12.7	118	100.0
Average	0	0.0	1	100.0	0	0.0	1	100.0
Much knowledge	20	34.5	30	51.7	8	13.8	58	100.0
Very much knowledge	3	18.8	12	75.0	1	6.3	16	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .418

Table 7.3b also shows that nearly all (97.2%, n=35) of the respondents with no knowledge of transitional elderly care organisations are reporting their highest utilisation of traditional elderly care institutions, followed by nearly three-fourth (84.3%, n=70) of the respondents with very little knowledge of transitional elderly care organisations similarly reporting their highest utilisation of traditional elderly care institutions. In addition, three-fourth (75.0%, n=12) of the respondents with very much knowledge of transitional elderly care organisations is reporting the highest utilisation of transitional elderly care organisations. In contrast, more than one-tenth (13.8%, n=8) of the respondents with much knowledge of transitional elderly care organisations is reporting the highest utilisation of the modern elderly care organisations.

Table 7.3c Distribution of the Psycho-Social Variable ‘Knowledge of Modern Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Knowledge of Modern Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	63	90.0	7	10.0	0	0.0	70	100.0
Very little knowledge	84	71.8	32	27.4	1	0.9	117	100.0
Little knowledge	62	66.7	21	22.6	10	10.8	93	100.0
Average	0	0.0	0	0.0	1	100.0	1	100.0
Much knowledge	11	39.3	0	0.0	17	60.7	28	100.0
Very much knowledge	1	33.3	0	0.0	2	66.7	3	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .457

As regards the psycho-social variable ‘knowledge of modern elderly care organisations’, Table 7.3c shows the most strongly significant correlation ($\chi^2 = .000$) and an extremely strong association with Cramer’s V value of .457.

Table 7.3c also shows that nearly all (90.0%, n=63) of the respondents with no knowledge of modern elderly care organisations are reporting their highest utilisation of traditional elderly care institutions, followed by nearly three-fourth (71.8%, n=84) of the respondents with very little knowledge of modern elderly care organisations similarly reporting their highest utilisation of traditional elderly care institutions. In addition, more than one-fourth (27.4%, n=32) of the respondents with very little knowledge of modern elderly care organisations is reporting their highest utilisation of transitional elderly care organisations. In contrast, nearly two-third (60.7%, n=17) of the respondents with much knowledge of modern elderly care organisations is reporting the highest utilisation of the modern elderly care organisations.

Table 7.3d Distribution of the Psycho-Social Variable ‘Belief in Traditional Elderly Care Institutions’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Belief in Traditional Elderly Care Institutions								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	0	0.0	0	0.0	0	0.0	0	0.0
Very little belief	1	100.0	0	0.0	0	0.0	1	100.0
Little belief	7	87.5	0	0.0	1	12.5	8	100.0
Average	0	0.0	0	0.0	0	0.0	0	100.0
Much belief	116	65.5	35	19.8	26	14.7	177	100.0
Very much belief	97	77.0	25	19.8	4	3.2	126	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .035 / Cramer’s V = .150

As regards the psycho-social variable ‘belief in traditional elderly care institutions’, Table 7.3d shows a strongly significant correlation ($\chi^2 = .035$) and a weak association with the Cramer’s V value of .150. Table 7.3d also shows that nearly all (87.5%, n=7) of the respondents with little belief in the traditional elderly care institutions are reporting their highest utilisation of traditional elderly care institutions, followed by more than two-fourth (77.0%, n=97) of the respondents with very much believe in traditional elderly care institutions similarly reporting their highest utilisation of traditional elderly care institutions. In addition, nearly one-fifth (19.8%, n=35) of the respondents with much believe in traditional elderly care institutions is reporting the highest utilisation of the transitional elderly care organisations

Table 7.3e Distribution of the Psycho-Social Variable ‘Belief in Transitional Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Belief in Transitional Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	35	97.2	0	0.0	1	2.8	36	100.0
Very little belief	59	96.7	0	0.0	2	3.3	61	100.0
Little belief	87	85.3	0	0.0	15	14.7	102	100.0
Average	2	100.0	0	0.0	0	0.0	2	100.0
Much belief	35	36.5	49	51.0	12	12.5	96	100.0
Very much belief	3	20.0	11	73.3	1	6.7	15	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .497

As regards the psycho-social variable ‘belief in transitional elderly care organisations’, Table 7.3e shows the most strongly significant correlation ($\chi^2 = .000$) and an extremely strong association with the Cramer’s V value .497.

Table 7.3e also shows that nearly all (97.2%, n=35) of the respondents with no belief in the transitional elderly care organisations are reporting their highest utilisation of traditional elderly care institutions, followed by more than nine-tenth (96.7%, n=59) of the respondents with very little believe in transitional elderly care organisations similarly reporting their highest utilisation of traditional elderly care institutions.

In contrast, more than two-third (73.3%, n=11) of the respondents with very much believe in transitional elderly care organisations is reporting the highest utilisation of the transitional elderly care organisations.

In addition, nearly one-fifth (14.7%, n=15) of the respondents with little believe in transitional elderly care organisations is reporting the highest utilisation of the modern elderly care organisations.

Table 7.3f Distribution of the Psycho-Social Variable ‘Belief in Modern Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Belief in Modern Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	63	90.0	7	10.0	0	0.0	70	100.0
Very little belief	106	71.6	39	26.4	3	2.0	148	100.0
Little belief	50	69.4	13	18.1	9	12.5	72	100.0
Average	1	12.5	0	0.0	7	87.5	8	100.0
Much belief	1	7.1	1	7.1	12	85.7	14	100.0
Very much belief	0	0.0	0	0.0	0	0.0	0	0.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .524

As regards the psycho-social variable ‘belief in modern elderly care organisations’, Table 7.3f shows the most strongly significant correlation ($\chi^2 = .000$) and an extremely strong association with the Cramer’s V value .524.

Table 7.3f also shows that nine-tenth (90.0%, n=63) of the respondents with no belief in the modern elderly care organisations are reporting their highest utilisation of traditional elderly care institutions, followed by more than nine-tenth (71.6%, n=106) of the respondents with very little believe in modern elderly care organisations similarly reporting their highest utilisation of traditional elderly care institutions.

In contrast, nearly one-fourth (26.4%, n=39) of the respondents with very little believe in modern elderly care organisations is reporting the highest utilisation of the transitional elderly care organisations.

In addition, more than four-fifth (87.5%, n=7) of the respondents with average belief in modern elderly care organisations is reporting the highest utilisation of the modern elderly care organisations.

Table 7.3g Distribution of the Psycho-Social Variable ‘Opinion on the Traditional Elderly Care Institutions’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Opinion on the Traditional Elderly Care institutions								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
No opinion	0	0.0	0	0.0	0	0.0	0	0.0
Very negative opinion	0	0.0	0	0.0	0	0.0	0	0.0
Negative opinion	8	100.0	0	0.0	0	0.0	8	100.0
Neutral	1	100.0	0	0.0	0	0.0	1	100.0
Positive opinion	112	71.3	25	15.9	20	12.7	157	100.0
Very positive opinion	100	68.5	35	24.0	11	7.5	146	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .203 / Cramer’s V = .117

As regards the psycho-social variable ‘opinion on the traditional elderly care institutions’, Table 7.3g shows a non-significant correlation ($\chi^2 = .203$) and a very weak association with the Cramer’s V value .117.

Table 7.3g also shows that all (100.0%, n=8) of the respondents with a negative opinion on the traditional elderly care institutions are still reporting their highest utilisation of traditional elderly care institutions, while nearly three-fourth (68.5%, n=100) of the respondents with a very positive opinion on traditional elderly care institutions are reporting their highest utilisation of traditional elderly care institutions. In addition, nearly one-fourth (24.0%, n=35) of the respondents with a very positive opinion on traditional elderly care institutions is reporting the highest utilisation of the transitional elderly care organisations. In contrast, more than nine-tenth (12.7%, n=20) of the respondents with a positive opinion on traditional elderly care institutions is reporting the highest utilisation of the modern elderly care organisations.

Table 7.3h Distribution of the Psycho-Social Variable 'Opinion on the Transitional Elderly Care Organisations' over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
Opinion on the Transitional Elderly Care organisations	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
No opinion	34	97.1	0	0.0	1	2.9	35	100.0
Very negative opinion	65	95.6	0	0.0	3	4.4	68	100.0
Negative opinion	89	85.6	1	1.0	14	13.5	104	100.0
Neutral	2	100.0	0	0.0	0	0.0	2	100.0
Positive opinion	29	33.3	47	54.0	11	12.6	87	100.0
Very positive opinion	2	12.5	12	75.0	2	12.5	16	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson's Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer's V = .511

As regards the psycho-social variable 'opinion on the transitional elderly care organisations', Table 7.3h shows the most strongly significant correlation ($\chi^2 = .000$) and an extremely strong association with the Cramer's V = .511. Table 7.3h also shows that almost all (97.1%, n=34) of the respondents with no opinion on the transitional elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, similarly followed by almost all (95.6%, n=65) of the respondents with very negative opinion on the transitional elderly care organisations, also reporting their highest utilisation of traditional elderly care institutions. In contrast, nearly three-fourth (75.0%, n=12) of the respondents with very positive opinion on transitional elderly care organisations is reporting the highest utilisation of the transitional elderly care organisations. In addition, more than one-tenth (12.6%, n=11) of the respondents with a positive opinion on transitional elderly care organisations is reporting the highest utilisation of the modern elderly care organisations.

Table 7.3i Distribution of the Psycho-Social Variable 'Opinion on the Modern Elderly Care Organisations' over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
Opinion on the Modern Elderly Care Organisations	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
No opinion	64	90.1	7	9.9	0	0.0	71	100.0
Very negative opinion	104	72.2	38	26.4	2	1.4	144	100.0
Negative opinion	50	67.6	13	17.6	11	14.9	74	100.0
Neutral	0	0.0	0	0.0	11	100.0	11	100.0
Positive opinion	3	30.0	2	20.0	5	50.0	10	100.0
Very positive opinion	0	0.0	0	0.0	2	100.0	2	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson's Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer's V = .517

As regards the psycho-social variable ‘opinion on the modern elderly care organisations’, Table 7.3i shows the most strongly significant correlation ($\chi^2 = .000$) and an extremely strong association with the Cramer’s V= .517.

Table 7.3i also shows that almost all (90.1%, n=64) of the respondents with no opinion on the modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, similarly followed by almost three-fourth (72.2%, n=104) of the respondents with a very negative opinion on the modern elderly care organisations, also reporting their highest utilisation of traditional elderly care institutions.

In addition, more than one-fourth (26.4%, n=38) of the respondents with a very negative opinion on modern elderly care organisations is reporting the highest utilisation of the transitional elderly care organisations. In contrast, more than one-tenth (100.0%, n=11) of the respondents with a neutral on modern elderly care organisations is reporting the highest utilisation of the modern elderly care organisations.

The explanation of the most strongly significant correlations between respondents with selected psycho-social variables on the plural elderly care system, reporting their highest utilisation of traditional elderly care institutions is further supporting the result, that the majority of respondents continue to utilise the traditional elderly care institutions in their villages, where the transitional and modern elderly care organisations have not yet been fully accepted.

The fact that the psycho-social variables the respondents shows a most strongly significant correlation with their utilisation of the traditional elderly care institution emphasises again that this variable is very important for the proposed development of integrated elderly care in the Tengger Region of East Java

7.2.3 Bivariate Analysis of Perceived Needs Variables

The distribution of the independent perceived needs variable of respondents over the dependent variables of the utilisation of the plural elderly care system indicates in general a most strongly significant correlation, as presented in the following Table 7.4.

Table 7.4 Distribution of the Perceived Need Variable ‘Perceived Needs of Using the Plural Elderly Care System’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Perceived Needs of Using the Plural Elderly Care System								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
No perceived needs	0	0.0	0	0.0	0	0.0	0	0.0
Financial need	3	42.9	1	14.3	3	42.9	7	100.0
Socio-cultural need	39	76.5	11	21.6	1	2.0	51	100.0
Health need	14	60.9	3	13.0	6	26.1	23	100.0
Emotional need	156	75.4	36	17.4	15	7.2	207	100.0
Primary need	9	37.5	9	37.5	6	25.0	24	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .236

As regards the perceived need variable ‘perceived needs for using the plural elderly care system’, Table 7.4 shows the most strongly significant correlation ($\chi^2 = .000$) and an extremely strong association with the Cramer’s V= .517. Table 7.4 also shows that more than three-fourth (76.5%, n=39) of the respondents with perceived socio-cultural needs of elderly care are reporting their highest utilisation of the traditional elderly care institutions, followed by three-fourth (75.4%, n=156) of the respondents with an emotional need of elderly care is also reporting their highest utilisation of traditional elderly care institutions.

In addition, more than one-third (37.5%, n=9) of the respondents with perceived primary need of elderly care is reporting the highest utilisation of the transitional elderly care organisations. In contrast, more than two-fifth (42.9%, n=3) of the respondents with perceived financial need of elderly care is reporting the highest utilisation of the modern elderly care organisations.

The explanation of the most strongly significant correlations between respondents with perceived socio-cultural needs of elderly care reporting their highest utilisation of traditional elderly care institutions in comparison with the most strongly significant correlations between respondents with perceived financial needs of elderly care reporting their highest utilisation of modern elderly care organisations is that perceived socio-cultural needs of elderly care are accommodated within the traditional elderly care institutions, while perceived financial needs of elderly care are met within the modern elderly care organisations.

The fact that the variable ‘perceived needs for using the plural elderly care system’ of the respondents shows a most strongly significant correlation with their utilisation of the traditional elderly care institution *versus* the modern elderly care organisation emphasises the importance of this variable for the proposed development of integrated elderly care in the Tengger Region of East Java.

7.2.4 Bivariate Analysis of Enabling Variables

The distribution of the selected independent enabling variables of respondents over the dependent variables of the utilisation of the plural elderly care system indicates in general a most strongly significant correlation, as presented in the following Tables 7.5a – 7.5c.

Table 7.5a Distribution of the Enabling Variable ‘Monthly Income of the Household Head’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
Monthly Income of the Household Head	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	0	0.0	0	0.0	0	0.0	0	0.0
Rp. 1-1.000.000	37	68.5	11	20.4	6	11.1	54	100.0
Rp. 1.001.000-2.000.000	102	81.0	18	14.3	6	4.8	126	100.0
Rp. 2.001.000-3.000.000	47	61.8	18	23.7	11	14.5	76	100.0
Rp. 3.001.000-4.000.000	17	58.6	5	17.2	7	24.1	29	100.0
Rp. > Rp. 4.001.000	18	66.7	8	29.6	1	3.7	27	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .013 / Cramer’s V = .176

As regards the enabling variable ‘monthly income of household head’, Table 7.5a shows a strongly significant correlation ($\chi^2 = .013$) and a weak association with the Cramer’s V = .176.

Table 7.5a also shows that more than four-fifth (81.0%, n=102) of the respondents with a monthly income of the Household Head of Rp. 1.001.000-2.000.000 are reporting their highest utilisation of the traditional elderly care institutions, followed by more than two-third (68.5%, n=37) of the respondents with a monthly income of the Household Head of Rp. 1-1.000.000 is also reporting their highest utilisation of traditional elderly care institutions.

In addition, nearly one-third (29.6%, n=8) of the respondents with a monthly income of the household head of > Rp. 4.001.000 is reporting the highest utilisation of the transitional elderly care organisations.

In contrast, more than two-fifth (24.1%, n=7) of the respondents with a monthly income of the household head of Rp. 3.001.000-4.000.000 is reporting the highest utilisation of the modern elderly care organisations.

Table 7.5b Distribution of the Enabling Variable ‘Monthly Income of the Household Members’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Monthly Income of the Household Members								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	7	33.3	5	23.8	9	42.9	21	100.0
Rp. 1-1.000.000	44	80.0	8	14.5	3	5.5	55	100.0
Rp. 1.001.000-2.000.000	80	71.4	23	20.5	9	8.0	112	100.0
Rp. 2.001.000-3.000.000	42	68.9	15	24.6	4	4.6	61	100.0
Rp. 3.001.000-4.000.000	20	76.9	3	11.5	3	11.5	26	100.0
Rp. >4.001.000	28	75.7	6	16.2	3	8.1	37	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .231

As regards the enabling variable ‘monthly income of the household members’, Table 7.5b shows the most strongly significant correlation ($\chi^2 = .000$) and a moderate association with the Cramer’s V = .231.

Table 7.5b also shows that four-fifth (80.0%, n=44) of the respondents with a monthly income of the household members of Rp. 1-1.000.000 are reporting their highest utilisation of the traditional elderly care institutions, followed by more than three-fourth (76.9%, n=20) of the respondents with a monthly income of the household members of Rp. 3.001.000-4.000.000 similarly reporting their highest utilisation of traditional elderly care institutions. In addition, nearly one-fourth (24.6%, n=15) of the respondents with a monthly income of the household members of Rp.2.001.000-3.000.000 is reporting the highest utilisation of the transitional elderly care organisation.

In contrast, more than two-fifth (42.9%, n=9) of the respondents with no monthly income of the household members is reporting the highest utilisation of the modern elderly care organisations.

Table 7.5c Distribution of the Enabling Variable ‘Socio-Economic Status (SES)’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System (N=312)							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Socio-Economic Status (SES)								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
Very poor	6	66.7	1	11.1	2	22.2	9	100.0
Poor	48	81.4	8	13.6	3	5.1	59	100.0
Average	29	54.7	11	20.8	13	24.5	53	100.0
Rich	79	71.2	25	22.5	7	6.3	111	100.0
Very rich	59	73.8	15	18.8	6	7.5	80	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .007 / Cramer’s V = .184

As regards the variable ‘socio-economic status’, Table 7.5c shows a very strongly significant correlation ($\chi^2 = .007$) and weak association with Cramer’s V = .184.

Table 7.5c also shows that more than four-fifth (81.4%, n=48) of the respondents with a poor socio-economic status are reporting their highest utilisation of the traditional elderly care institutions. In comparison, more than one-fifth (22.5%, n=25) of the respondents with a rich socio-economic status is reporting the highest utilisation of the transitional elderly care organisations.

In contrast, nearly one-fourth-fifth (24.5%, n=13) of the respondents with an average socio-economic status is reporting the highest utilisation of the modern elderly care organisations.

The explanation of the very strongly significant correlations between respondents with selected enabling variables reporting their highest utilisation of traditional elderly care institutions, is that the enabling variables is influencing the utilisation behaviour of the majority of respondents, largely because of the cost of care concerned. The fact that the enabling variable of the respondents shows a

very strongly significant correlation with their utilisation of the traditional elderly care institution *versus* the modern elderly care organisation, emphasises the importance of this enabling variable for the proposed development of integrated elderly care in the Tengger Region.

7.2.5 Bivariate Analysis of Institutional Variables

The distribution of the independent institutional variables of respondents over the dependent variables of the utilisation of the plural elderly care system indicates in general a most strongly significant correlation, as presented in the following Tables 7.6a – 7.6e. As regards the institutional variable ‘financial support availability from traditional elderly care institutions’, Table 7.6a shows a most strongly significant correlation ($\chi^2 = .000$) and moderate association with Cramer’s V = .227.

Table 7.6a Distribution of the Institutional Variable ‘Financial support availability from Traditional Elderly Care Institutions’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Financial support availability from Traditional Elderly Care Institutions								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	48	64.0	24	32.0	3	4.0	75	100.0
Very little	9	64.3	5	35.7	0	0.0	14	100.0
Little	36	61.0	14	23.7	9	15.3	59	100.0
Average	1	50.0	0	0.0	1	50.0	2	100.0
Much	84	73.7	15	13.2	15	13.2	114	100.0
Very much	43	89.6	2	4.2	3	6.3	48	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .227

Table 7.6a also shows that nearly nine-tenth (89.6%, n=43) of the respondents with very much financial support availability from traditional elderly care institutions are reporting their highest utilisation of the traditional elderly care institutions, followed by nearly three-fourth (73.7%, n=84) of respondents with much financial support availability from traditional elderly care institutions are reporting their highest utilisation of the traditional elderly care institutions.

In contrast, more than one-third (35.7%, n=5) of the respondents with very little financial support availability from traditional elderly care institutions is reporting the highest utilisation of the transitional elderly care organisations. Similarly, nearly one-fifth (15.3%, n=9) of the respondents with little financial support availability from traditional elderly care institutions is reporting their highest utilisation of the modern elderly care organisations.

Table 7.6b Distribution of the Institutional Variable ‘Geographical Accessibility of Transitional Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Geographical Accessibility of Transitional Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	82	86.3	6	6.3	7	7.4	95	100.0
Very difficult	22	81.5	3	11.1	2	7.4	27	100.0
Difficult	69	72.6	13	13.7	13	13.7	95	100.0
Average	1	33.3	2	66.7	0	0.0	3	100.0
Easy	41	52.6	29	37.2	8	10.3	78	100.0
Very easy	6	42.9	7	50.0	1	7.1	14	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .272

As regards the institutional variable ‘geographical accessibility of transitional elderly care organisations’, Table 7.6b shows a most strongly significant correlation ($\chi^2 = .000$) and moderate association with Cramer’s $V = .272$.

Table 7.6b also shows that nearly nine-tenth (86.3%, $n=82$) of the respondents with none geographical accessibility of transitional elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by more than four-fifth (81.5%, $n=22$) of respondents with very difficult geographical accessibility of transitional elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions.

In contrast, more than two-third (66.7%, $n=2$) of the respondents with average geographical accessibility of transitional elderly care organisations is reporting their highest utilisation of the transitional elderly care organisations. Similarly, nearly one-fifth (13.7%, $n=13$) of the respondents with difficult geographical accessibility of transitional elderly care organisations is reporting their highest utilisation of the modern elderly care organisations.

Table 7.6c Distribution of the Institutional Variable ‘Accessibility Cost to Modern Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System ($N=312$)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
	N	%	N	%	N	%	N	%
Accessibility Cost to Modern Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
No cost	210	76.6	53	19.3	11	4.0	274	100.0
Rp. 1-500.000	2	100.0	0	0.0	0	0.0	2	100.0
Rp. 501.000-1.000.000	2	66.7	1	33.3	0	0.0	3	100.0
Rp. 1.001.000-1.500.000	0	0.0	1	7.7	12	92.3	13	100.0
Rp. 1.501.000-2.000.000	1	14.3	2	28.6	4	57.1	7	100.0
Rp. > Rp. 2.001.000	6	46.2	3	23.1	4	30.8	13	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s $V = .469$

As regards the institutional variable ‘accessibility cost to modern elderly care organisations’, Table 7.6c shows a most strongly significant correlation ($\chi^2 = .000$) and moderate association with Cramer’s $V = .469$.

Table 7.6c also shows that more than two-third (76.6%, $n=210$) of the respondents with no accessibility cost to modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by more than two-third (66.7%, $n=2$) of respondents with accessibility cost of Rp. 501.000-1.000.000 to modern elderly care organisations are similarly reporting their highest utilisation of the traditional elderly care institutions.

In addition, nearly one-fifth (28.6%, $n=2$) of the respondents with accessibility cost of Rp. 1.501.000-2.000.000 to modern elderly care organisations is reporting their highest utilisation of the transitional elderly care organisations. In contrast, nearly all (92.3%, $n=12$) of the respondents with accessibility cost of Rp. Rp. 1.001.000-1.500.000 to modern elderly care organisations is reporting their highest utilisation of the modern elderly care organisations.

As regards the institutional variable ‘financial support availability from modern elderly care organisations’, Table 7.6d shows a very strongly significant correlation ($\chi^2 = .006$) and a weak association with Cramer’s $V = .185$. Table 7.6d also shows that more than two-third (72.3%, $n=206$) of the respondents with no financial support from modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by more than two-third (70.6%, $n=12$) of respondents with very little financial support from modern elderly care organisations, similarly reporting their highest utilisation of the traditional elderly care institutions.

Table 7.6d Distribution of the Institutional Variable ‘Financial Support availability from Modern Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System							
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		Total	
Financial Support availability from Modern Elderly Care Organisations	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	206	72.3	56	19.6	23	8.1	285	100.0
Very little	12	70.6	1	5.9	4	23.5	17	100.0
Little	1	20.0	2	40.0	2	40.0	5	100.0
Average	0	0.0	0	0.0	0	0.0	0	0.0
Much	1	25.0	1	25.0	2	50.0	4	100.0
Very much	1	100.0	0	0.0	0	0.0	1	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .006 / Cramer’s V = .185

In addition, two-fifth (40.0%, n=2) of the respondents with little financial support from modern elderly care organisations is reporting their highest utilisation of the transitional elderly care organisations. Similarly, a half (50.0%, n=2) of the respondents with much financial support from modern elderly care organisations is reporting their highest utilisation of the modern elderly care organisations.

Table 7.6e Distribution of the Institutional Variable ‘Geographical Accessibility of Modern Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		N	%
Geographical Accessibility of Modern Elderly Care Organisations	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	175	73.2	53	22.2	11	4.6	239	100.0
Very difficult	35	67.3	5	9.6	12	23.1	52	100.0
Difficult	10	58.8	2	11.8	5	29.4	17	100.0
Average	0	0.0	0	0.0	0	0.0	0	0.0
Easy	1	33.3	0	0.0	2	66.7	3	100.0
Very easy	0.0	0	0	0.0	1	100.0	1	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .275

As regards the institutional variable ‘geographical accessibility of modern elderly care organisations’, Table 7.6e shows a most strongly significant correlation ($\chi^2 = .000$) and moderate association with Cramer’s V = .275.

Table 7.6e also shows that nearly two-third (73.2%, n=175) of the respondents with none geographical accessibility of modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by more than two-third (67.3%, n=35) of respondents with very difficult geographical accessibility of modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions.

Similarly, nearly one-fourth (22.2%, n=53) of the respondents with none geographical accessibility of modern elderly care organisations is reporting their highest utilisation of the transitional elderly care organisations. In contrast, nearly two-third (66.7%, n=2) of the respondents with easy geographical accessibility of modern elderly care organisations is reporting their highest utilisation of the modern elderly care organisations.

The explanation of the most strongly significant correlations between respondents with selected institutional variables reporting their highest utilisation of traditional elderly care institutions, is that

they have no geographical difficulty to utilise the traditional elderly care institutions is in their local communities.

The fact, that respondents with different institutional variables are showing a most strongly significant correlation with their utilisation of the traditional elderly care institution, supports the importance of this institutional variable for the proposed development of integrated elderly care in the Tengger Region.

7.2.6 Bivariate Analysis of Environmental Variables

The distribution of the independent Environmental variables of respondents over the dependent variables of the utilisation of the plural elderly care system indicates in general a most strongly significant correlation, as presented in the following Table 7.7.

Table 7.7 Distribution of the Environmental Variable ‘Type of Residence’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		N	%
Type of Residence	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
Rural	123	78.3	34	21.7	0	0.0	157	100.0
Semi urban	56	81.2	22.9	11	11	69.0	100.0	100.0
Urban	42	48.8	24	27.9	20	23.3	86	100.0
Other	0	0.0	0	0.0	0	0.0	0	0.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .279

As regards the environmental variable ‘type of residence’, Table 7.7 shows a most strongly significant correlation ($\chi^2 = .000$) and moderate association with Cramer’s V = .279.

Table 7.7 also shows that more than four-fifth (81.2%, n=56) of the respondents whose residence is in a semi-urban area are reporting their highest utilisation of the traditional elderly care institutions, followed by nearly four-fifth (78.3%, n=123) of respondents whose residence is in a rural area are reporting their highest utilisation of the traditional elderly care institutions.

In addition, nearly one-fourth (27.9%, n=24) of the respondents whose residence is in an urban area are reporting their highest utilisation of the transitional elderly care organisations.

In comparison, nearly one-fifth (69.0%, n=11) of the respondents whose residence is in a semi-urban area is reporting their highest utilisation of the modern elderly care organisations.

The explanation of the most strongly significant correlations between respondents whose residence is in a rural or semi-urban area reporting their highest utilisation of traditional elderly care institutions, is that they prefer to utilise the traditional elderly care institutions is in their local communities.

The fact, that the environmental variable ‘type of residence’ of respondents whose residence is in different areas is showing a most strongly significant correlation with their utilisation of the traditional elderly care institution, supports the importance of this environmental variable for the proposed development of integrated elderly care in the Tengger Region.

7.2.7 Bivariate Analysis of Intervening Variables

The distribution of the independent Intervening variables of respondents over the dependent variables of the utilisation of the plural elderly care system indicates in general a most strongly significant correlation, as presented in the following Tables 7.8a – 7.8f.

As regards the intervening variables ‘impact of government regulation on the traditional elderly care institutions’, Table 7.8a shows a most strongly significant correlation ($\chi^2 = .000$) and a moderate association with Cramer’s V = .241.

Table 7.8a Distribution of the Intervening Variable ‘Impact of Government Regulation on Traditional Elderly Care Institutions’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations			
Impact of Government Regulation on the Traditional Elderly Care Institutions	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	36	75.0	11	22.9	1	2.1	48	100.0
Very little	84	82.4	18	17.6	0	0.0	102	100.0
Little	38	70.4	8	14.8	8	14.8	54	100.0
Average	10	71.4	1	7.1	3	21.4	14	100.0
Much	47	58.0	17	21.0	17	21.0	81	100.0
Very much	6	46.2	5	38.5	2	15.4	13	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .241

Table 7.8a shows that more than four-fifth (82.4%, n=84) of the respondents who experienced very little impact of government regulation on the traditional elderly care institutions are reporting their highest utilisation of the traditional elderly care institutions.

In contrast, nearly two-fifth (38.5%, n=5) of the respondents who experienced very much impact of government regulation on the traditional elderly care institutions are reporting their highest utilisation of the transitional elderly care organisations.

In comparison, nearly one-fifth (21.4%, n=3) of the respondents who experienced average impact of government regulation on the traditional elderly care institutions are reporting their highest utilisation of the modern elderly care organisations.

Table 7.8b Distribution of the Intervening Variables ‘Impact of Government Regulation on Transitional Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations			
Impact of Government Regulation on the Transitional Elderly Care Organisations	N	%	N	%	N	%	N	%
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	109	87.2	8	6.4	8	6.4	125	100.0
Very little	40	65.6	21	34.4	0	0.0	61	100.0
Little	13	56.5	9	39.1	1	4.3	23	100.0
Average	5	62.5	0	0.0	3	37.5	8	100.0
Much	48	58.5	17	20.7	17	20.7	82	100.0
Very much	6	46.2	5	38.5	2	15.4	13	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .310

As regards the intervening variables ‘impact of government regulation on the transitional elderly care organisations’, Table 7.8b shows a most strongly significant correlation ($\chi^2 = .000$) and a strong association with Cramer’s V= .310. Table 7.8b also shows that more than four-fifth (87.2%, n=109) of the respondents who experienced no impact of government regulation on the transitional elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by three-fourth (65.6%, n=40) of respondents who experienced very little impact of government regulation on the transitional elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions.

In contrast, nearly two-fifth (39.1%, n=9) of the respondents who experienced little impact of government regulation on the transitional elderly care organisations are reporting their highest utilisation of the transitional elderly care organisations.

In comparison, nearly two-fifth (37,5%, n=3) of the respondents respondents who experienced average impact of government regulation on the transitional elderly care organisations are reporting their highest utilisation of the modern elderly care organisations.

Table 7.8c Distribution of the Intervening Variables ‘Impact of Government Regulation on Modern Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		N	%
	N	%	N	%	N	%		
Impact of Government Regulation on the Modern Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	165	74.0	41	18.4	17	7.6	223	100.0
Very little	20	80.0	5	20.0	0	0.0	25	100.0
Little	11	61.1	7	38.9	0	0.0	18	100.0
Average	7	58.3	0	0.0	5	41.7	12	100.0
Much	13	59.1	2	9.1	7	31.8	22	100.0
Very much	5	41.7	5	41.7	2	16.7	12	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .260

As regards the intervening variables ‘impact of government regulation on the modern elderly care organisations’, Table 7.8c shows a most strongly significant correlation ($\chi^2 = .000$) and a moderate association with Cramer’s V= .260. Table 7.8c also shows that four-fifth (80.0%, n=20) of the respondents who experienced very little impact of government regulation on the modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by nearly three-fourth (74.0%, n=165) of respondents who experienced very no impact of government regulation on the modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions. In contrast, more than two-fifth (41.7%, n=5) of the respondents who experienced very much impact of government regulation on the modern elderly care organisations are reporting their highest utilisation of the transitional elderly care organisations.

In comparison, more than two-fifth (41.7%, n=5) of the respondents respondents who experienced average impact of government regulation on the modern elderly care organisations are reporting their highest utilisation of the modern elderly care organisations.

Table 7.8d Distribution of the Intervening Variable ‘Impact of Private Promotion on Traditional Elderly Care Institutions’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations		N	%
	N	%	N	%	N	%		
Impact of Private Promotion on Traditional Elderly Care Institutions								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	175	73.2	41	17.2	23	9.6	239	100.0
Very little	9	75.0	3	25.0	0	0.0	12	100.0
Little	24	77.4	7	22.6	0	0.0	31	100.0
Average	1	50.0	1	50.0	0	0.0	2	100.0
Much	12	52.2	5	21.7	6	26.1	23	100.0
Very much	0	0.0	3	60.0	2	40.0	5	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .003 / Cramer’s V = .206

As regards the intervening variable ‘impact of Private Promotion on Traditional Elderly Care Institutions’, Table 7.8d shows a very strongly significant correlation ($\chi^2 = .003$) and a moderate association with Cramer’s V= .206. Table 7.8d also shows that more than three-fourth (77.4%, n=24) of the respondents who experienced little impact of private promotion on traditional elderly care

institutions are reporting their highest utilisation of the traditional elderly care institutions, followed by three-fourth (75.0%, n=9) of respondents who experienced very little impact of private promotion on traditional elderly care institutions, are reporting their highest utilisation of the traditional elderly care institutions. In contrast, more than three-fifth (60.0%, n=3) of the respondents who experienced very much impact of private promotion on traditional elderly care institutions, are reporting their highest utilisation of the transitional elderly care organisations. In comparison, more than two-fifth (40.0%, n=2) of the respondents who experienced very much impact of private promotion on traditional elderly care institutions report their highest utilisation of modern elderly care organisations.

Table 7.8e Distribution of the Intervening Variable ‘Impact of Private Promotion on Transitional Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations			
	N	%	N	%	N	%	N	%
Impact of Private Promotion on Transitional Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	187	70.3	56	21.1	23	8.6	266	100.0
Very little	3	75.0	1	25.0	0	0.0	4	100.0
Little	18	90.0	1	5.0	1	5.0	20	100.0
Average	3	50.0	1	16.7	2	33.3	6	100.0
Much	10	76.9	0	0.0	3	23.1	13	100.0
Very much	0	0.0	1	33.3	2	66.7	3	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .004 / Cramer’s V = .203

As regards the intervening variable ‘impact of Private Promotion on Transitional Elderly Care Organisations’, Table 7.8e shows a very strongly significant correlation ($\chi^2 = .004$) and a moderate association with Cramer’s V = .203. Table 7.8e also shows that more than nine-tenth (90.0%, n=18) of the respondents who experienced little impact of private promotion on transitional elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by three-fourth (76.9%, n=10) of respondents, who experienced much impact of private promotion on transitional elderly care organisations, and are reporting their highest utilisation of the traditional elderly care institutions. In contrast, more than one-fifth (21.1%, n=56) of the respondents who experienced no impact of private promotion on transitional elderly care organisations, are reporting their highest utilisation of the transitional elderly care organisations.

In comparison, more than two-third (66.7%, n=2) of the respondents who experienced very much impact of private promotion on transitional elderly care institutions, are reporting their highest utilisation of the modern elderly care organisations.

Table 7.8f Distribution of the Intervening Variable ‘Impact of Private Promotion on Modern Elderly Care Organisations’ over the Dependent Variables of the Utilisation of the Plural Elderly Care System (N=312)

Variable	Utilisation of the Plural Elderly Care System						Total	
	Traditional Elderly Care Institutions		Transitional Elderly Care Organisations		Modern Elderly Care Organisations			
	N	%	N	%	N	%	N	%
Impact of Private Promotion on Modern Elderly Care Organisations								
Do not know	0	0.0	0	0.0	0	0.0	0	0.0
None	189	72.1	56	21.4	17	6.5	262	100.0
Very little	3	100.0	0	0.0	0	0.0	3	100.0
Little	12	75.0	0	0.0	4	25.0	16	100.0
Average	2	22.2	1	11.1	6	66.7	9	100.0
Much	15	75.0	2	10.0	3	15.0	20	100.0
Very much	0	0.0	1	50.0	1	50.0	2	100.0
Utilisation rate	221	70.8	60	19.2	31	9.9	312	100.0

Pearson’s Chi-Square (Asympt. Sig., 2-sided) = .000 / Cramer’s V = .287

As regards the intervening variable ‘impact of Private Promotion on Modern Elderly Care Organisations’, Table 7.8f indicates a most strongly significant correlation ($\chi^2 = .000$), and a moderately strong association with Cramer’s $V = .287$. Table 7.8f also shows that all (100.0%, $n=3$) of the respondents who experienced very little impact of private promotion on modern elderly care organisations are reporting their highest utilisation of the traditional elderly care institutions, followed by three-fourth (75.0%, $n=12$) of respondents, who experienced little impact of private promotion on modern elderly care organisations, and are reporting their highest utilisation of the traditional elderly care institutions. In contrast, more than one-fifth (21.4%, $n=56$) of the respondents who experienced no impact of private promotion on modern elderly care organisations, are reporting their highest utilisation of the transitional elderly care organisations.

In comparison, more than two-third (66.7%, $n=6$) of the respondents who experienced average impact of private promotion on modern elderly care organisations, are reporting their highest utilisation of the modern elderly care organisations.

7.2.8 Results of the Significant Variables of the Bivariate Analysis

The results of the bivariate analysis of the relationship between the selected categories of independent, intervening and dependent variables in the analytical model encompass the following significant correlations:

1. As regards the socio-demographic variables, there are nine significant variables which have mutual correlations with the intervening variables influencing the utilisation of traditional elderly care institutions in contrast to transitional and modern ones. These are: relationship with the elderly (.000), age (.000), education (.000), place of birth (.000), ethno-cultural affiliation (.000), religious affiliation (.000), marital status (.004), occupation (.000), and employment in family business/farm (.000).
2. As regards the psycho-social variables, there are seven significant variables which have mutual correlations with the intervening variables influencing the utilisation of traditional elderly care institutions in contrast to transitional and modern ones. These are: knowledge of transitional elderly care (.000), knowledge of modern elderly care (.000), belief in traditional elderly care (.035), belief in transitional elderly care (.000), belief in modern elderly care (.000), opinion on transitional elderly care (.000), and opinion on modern elderly care (.000).
3. As regards the perceived needs variables, there is only one significant variable which has mutual correlations with the intervening variables influencing the utilisation of traditional elderly care institutions in contrast to transitional and modern ones. This is the perceived needs for using elderly care institutions or organisations (.000).
4. As regards the enabling variables, there are three significant variables which have mutual correlations with the intervening variables influencing the utilisation of traditional elderly care institutions in contrast to transitional and modern ones. These are: monthly income of household head (.013), monthly income of household members (.000), and socio-economic status (.007).
5. As regards the institutional variables, there are five significant variables which have mutual correlations with the intervening variables influencing the utilisation of traditional elderly care institutions in contrast to transitional and modern ones. These are: accessibility costs of modern elderly care (.000), financial support availability from traditional elderly care institutions (.000), financial support availability from modern elderly care organisations (.006), geographical accessibility of transitional elderly care organisations (.000), and geographical accessibility of modern elderly care organisations (.000).

6. As regards the environmental variables, there is only one significant variable which has mutual correlations with the intervening variables influencing the utilisation of traditional elderly care institutions in contrast to transitional and modern ones. This is type of residents, which means the environmental locations of the household (.000).
7. As regards the intervening variables in this model indicate the mutual correlations between the independent variables and the intervening variables influencing the utilisation of traditional elderly care institutions, in contrast to transitional and modern ones. These are: the impact of government regulation on the traditional, transitional, and modern elderly care organisations (each counts .000), and the impact of private promotion on traditional, transitional, and modern elderly care organisations (each counts <.05).

By consequence, the overall explanation of the various significant correlations between respondents with selected independent and intervening variables and their reported preference for the utilisation of the traditional elderly care institutions, is that the respondents tend to favour to utilise the traditional elderly care institutions because of the cultural context of the proximity of family members and availability within the local communities.

The fact, that the significant correlations between the independent and intervening variables of the respondents and their reported preference for the utilisation of the traditional elderly care institutions is supporting the importance of the integration of the socio-cultural determinants for the proposed development of integrated elderly care in the Tengger Region of East Java.

7.3 Mutual Correlations Analysis of Significant Variables

As mentioned above, Slikkerveer (2016) adapted his ethno-methodological data analysis model by his elaboration of the 'mutual correlation analysis' as the second phase in the stepwise analysis of utilisation behaviour of participants in the transcultural research setting of pluralistic systems. In this way, the bivariate analysis of the independent, intervening and dependent variables is presented in the mutual correlations analysis, providing a schematic model of the configuration of significant correlations in the model. The model of the mutual correlations analysis is based on the respondents' reported behavioural patterns of their utilising the plural elderly care system in the four village samples as shown in Figure 7.2.

In the statistical evaluations of the significance of the correlations among the variables to determine the utilisation behaviour of the elderly care systems by the respondents in the four village samples, the following correlations have been identified:

There are 32 significant variables in Block 1 to Block 7. This study concludes that there are 9 significant independent variables under Block 1 of the 'Socio-demographic Variables,' 7 significant independent variables under Block 2 of the 'Psycho-social Variables,' 1 significant independent variable under Block 3 of the 'Perceived Needs Variables,' 3 significant independent variables under Block 4 of the 'Enabling Variables,' 5 significant independent variables under Block 5 of the 'Institutional Variables,' 1 significant independent variable under Block 6 of the 'Environmental Variables,' and 6 significant variables under Block 7 of the 'Intervening Variables'.

Table 7.9 shows a list of the strength of the correlations among selected significant independent, intervening and utilisation variables of the model of transcultural elderly care utilisation in the research area.

Table 7.9 List of the Selected Significant Variables and Variable Labels based on Blocks of Determinant Variables, indicating their Significance and Interpretation of their Value with the Dependent Variables

Variable Name	Variable Label	Significance Value	Interpretation of Value
INDEPENDENT VARIABLES:			
Block 1: Socio-Demographic Variables			
Relationship with the elderly	<i>Relhh</i>	.000	Most Strongly
Age	<i>Age</i>	.000	Most Strongly
Education	<i>Edu</i>	.000	Most Strongly
Place of birth	<i>Placb</i>	.000	Most Strongly
Ethno-cultural affiliation	<i>Ethn</i>	.000	Most Strongly
Religious affiliation	<i>Rel</i>	.000	Most Strongly
Marital Status	<i>Marstat</i>	.004	Very Strongly
Occupation	<i>Occup</i>	.000	Most Strongly
Employment in Family Business/farm	<i>Fambuss</i>	.000	Most Strongly
Block 2: Psycho-Social Variables			
Knowledge of transitional elderly care	<i>knowtsec</i>	.000	Most Strongly
Knowledge of modern elderly care	<i>knowmec</i>	.000	Most Strongly
Belief in traditional elderly care	<i>beltdec</i>	.035	Strongly
Belief in transitional elderly care	<i>beltsec</i>	.000	Most Strongly
Belief in modern elderly care	<i>belmec</i>	.000	Most Strongly
Opinion on transitional elderly care	<i>optsec</i>	.000	Most Strongly
Opinion on modern elderly care	<i>opmec</i>	.000	Most Strongly
Block 3: Perceived Needs Variable			
Perceived needs for using elderly care	<i>percec</i>	.000	Most Strongly
Block 4: Enabling Variables			
Monthly income of the household head	<i>inchh</i>	.013	Strongly
Monthly income of the household members	<i>inchm</i>	.000	Most Strongly
Socio-Economic Status (SES)	<i>obsosec</i>	.007	Very Strongly
Block 5: Institutional Variables			
Accessibility Cost of modern elderly care	<i>costmec</i>	.000	Most Strongly
Geographical Accessibility of transitional elderly care	<i>accstsec</i>	.000	Most Strongly
Geographical Accessibility of modern elderly care	<i>accsmec</i>	.000	Most Strongly
Financial support availability from traditional elderly care	<i>fintdec</i>	.000	Most Strongly
Financial support availability from modern elderly care	<i>finmec</i>	.006	Very Strongly
Block 6: Environmental Variables			
Type of residence	<i>res</i>	.000	Most Strongly
INTERVENING VARIABLES:			
Block 7: Government or Public Programme Variables			
Impact of government regulation on trad. eldcare	<i>gregtdec</i>	.000	Most Strongly
Impact of government regulation on transt. eldcare	<i>gregtsec</i>	.000	Most Strongly
Impact of government regulation on mod. eldcare	<i>gregmec</i>	.000	Most Strongly
Impact of private promotion on trad. eldcare	<i>pprmtdec</i>	.003	Very Strongly
Impact of private promotion on transt. eldcare	<i>pprmtsec</i>	.004	Very Strongly
Impact of private promotion on mod. eldcare	<i>pprmec</i>	.000	Most Strongly
DEPENDENT VARIABLES:			
Block 8: Utilisation of Traditional Elderly Care Institutions	<i>tdec</i>		
Block 9: Utilisation of Transitional Elderly Care Organisations	<i>tsec</i>		
Block 10: Utilisation of Modern Elderly Care Organisations	<i>mec</i>		

Source: Computation of the Data set from the Fieldwork (2018).

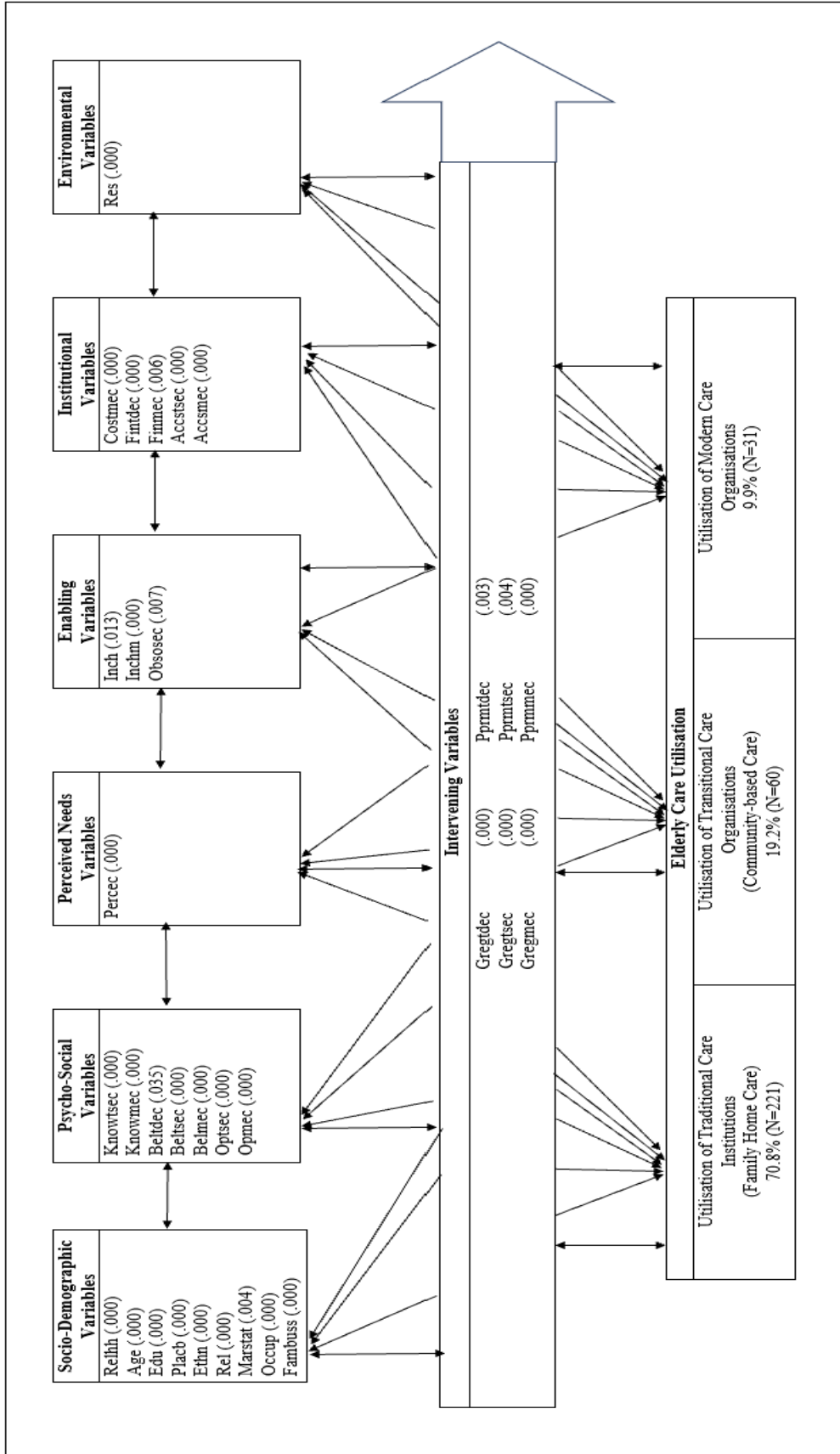


Figure 7.2 Model of the Mutual Correlations Analysis of the Blocks of Variables
 Source: Adapted from Slikkerveer (2016).

7.4 Multivariate Analysis of Significant Variables

7.4.1 Multivariate Analysis of the Variables by OVERALS

This study also included a multivariate analysis after the bivariate analysis. The multivariate analysis is implemented with the Non-Linear Generalized Canonical Correlation Analysis, which is known as OVERALS. The OVERALS procedure is a part of the SPSS, allowing variables to have different measurement levels: nominal, ordinal, or interval, within the same analysis. The approach enables combining phenomena which cannot be measured under the same level, for some variables as in categories which reflect a rank or classification, with intrinsic or semantic differences; this is typical for ethnoscience research (*cf.* De Bekker 2020). Similar studies also report the utilisation of OVERALS, *e.g.* Slikkerveer (1990), Agung (2005), Leurs (2010), Djen Amar (2010), Ambaretnani (2012), Chirangi (2013); Aiglsperger (2014); Saefullah (2019), De Bekker (2020) and Febriyanti (2021) in the study of various topics on ethnoscience and sustainable development.

In this multivariate analysis, the study applies the multiple regression and the canonical correlation analyses, while at the same time OVERALS is also applied to indicate the relationship among sets of independent variables. Seven blocks of independent variables, including one intervening variable, are used to analyse their influence on three dependent variables of the utilisation behaviour on elderly care systems. In addition to assessing the correlation among sets of variables, OVERALS evaluates the correlations between the canonical variates and the original variables, known as ‘canonical’ or ‘component’ loadings. The component loadings indicate to which extent each variable contributes to the variance within the canonical variate. The component loadings can estimate the significance of each variable in the overall model. In general, the higher the component loading of the single variable, the more significant the variable’s contribution to the overall model of utilisation of elderly care institutions. In this respect, positive and negative values of $\pm .3$ reveal a medium effect, while positive and negative values of $\pm .5$ indicate a large effect in the variable. The strong and medium independent and intervening variables are highlighted in descending order for each dimension.

Table 7.10 shows the distribution of the component loadings with two dimensions in the OVERALS analysis of 32 variables of the 312 respondents. Based on Table 7.10, there are five leading independent variables in Dimensions 1 and 2, as also shown in Table 7.11, which explain the strongest correlation to people’s behaviour in the utilisation of the plural elderly care system. Based on Table 7.10, as in the analysis, the variable ‘belief in modern elderly care organisations’ (‘Belmec’) of the psycho-social variables in Dimension 1 has the strongest correlation to people’s behaviour in the utilisation of elderly care institution (correlation score of .759). On the other hand, the variable ‘opinion on transitional elderly care organisations’ (‘Optsec’) in the psycho-social variables in Dimension 2 has the strongest correlation to people’s behaviour in the utilisation of elderly care institutions (correlation score of .824). Following sequentially from strong to low correlation are the variables ‘belief in transitional elderly care organisations’ (‘Beltsec’), ‘knowledge of transitional elderly care organisations’ (‘Knowtsec’), ‘geographical accessibility of transitional elderly care organisations’ (‘Accstsec’), and ‘financial support availability from traditional elderly care institutions’ (‘Fintdec’).

In addition to Table 7.11, Figure 7.3 presents a graphic representation of the OVERALS solution, where Dimension 1 is presented horizontally and Dimension 2 is presented vertically. The component loadings serve as vector coordinates, which constitute each variable, and are projections of each variable’s correlations with all other variables in the canonical space.

The distance between the vector points and the origin of the scatter plot illustrates the significance of each variable within the overall model. In order to highlight the effects of the dependent variables in the model, the distance between the vector points of the three dependent variables and the origin have been marked in the graph with a straight line (*cf.* Aiglsperger 2014).

Table 7.10 Distribution of the Component Loadings of the 32 Variables of the Utilisation of Traditional Elderly Care Institutions, Transitional and Modern Elderly Care Organisations by Respondents in Four Villages of East Java (N=312)

Set (Block)	Variable	Dimension	
		1	2
1	relhh ^{a,b}	.551	.083
	age ^{b,c}	.421	.014
	edu ^{b,c}	.280	-.075
	plac ^{a,b}	.321	.006
	ethn ^{a,b}	-.338	.020
	rel ^{a,b}	-.192	-.050
	marstat ^{a,b}	.129	.037
	occup ^{a,b}	.138	.150
2	fambuss ^{a,b}	-.264	.034
	knowtsec ^{b,c}	.006	.648
	knowmec ^{b,c}	.634	-.060
	beltdec ^{b,c}	-.190	-.006
	beltsec ^{b,c}	.035	.789
	belmec ^{b,c}	.759	.037
	optsec ^{b,c}	.060	.824
	opmec ^{b,c}	.385	.106
3	percec ^{a,b}	-.255	-.028
	4	inchh ^{b,c}	.099
inchm ^{b,c}		-.271	-.085
5	obsosec ^{b,c}	-.113	.007
	costmec ^{b,c}	.611	.117
	fintdec ^{b,c}	.049	-.263
	finmec ^{b,c}	.190	.096
	accstsec ^{b,c}	.024	.349
6	accsmec ^{b,c}	.310	-.019
	res ^{a,b}	.367	.030
7	gregtdec ^{b,c}	.169	.140
	gregtsec ^{b,c}	.094	.243
	gregmec ^{b,c}	.144	.129
	pprmtdec ^{b,c}	.142	.191
	pprmtsec ^{b,c}	.194	.087
	pprmec ^{b,c}	.299	-.076
8	TDEC ^{a,b}	-.487	-.828
	TSEC ^{a,b}	-.183	.937
	MEC ^{a,b}	.981	.023

- a. Optimal Scaling Level: Single Nominal
- b. Projections of the Single Quantified Variables in the Object Space
- c. Optimal Scaling Level: Ordinal

Source: Computations based on Fieldwork Survey (2018).

Table 7.11 Distribution of the Strongest Correlated Variables to People's Behaviour in the Utilisation of Traditional, Transitional and Modern Elderly Care over Respondents in the Four Villages of East Java (N= 312)

Dimension 1	Dimension 2
Belmec	Optsec
Knowmec	Beltsec
Costmec	Knowtsec
Relhh	Accstsec
Age	Fintdec

Source: Computation from the Fieldwork Survey (2018).

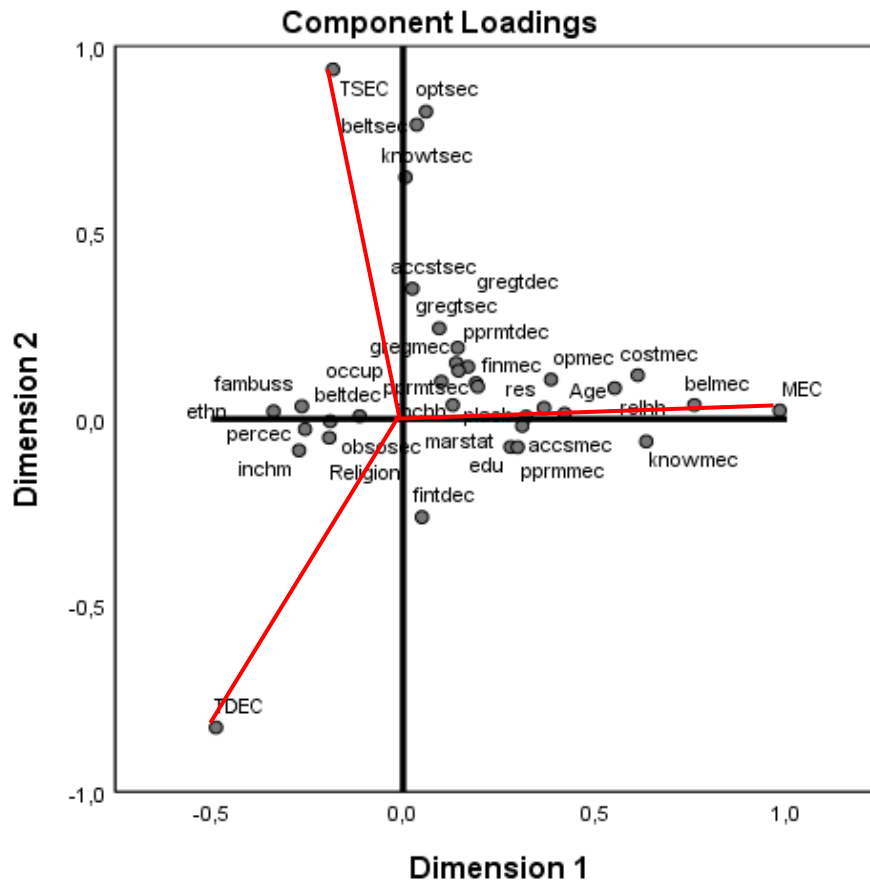


Figure 7.3 Plot of Component Loading Analysis (OVERALS) in the Utilisation of Elderly Care Institutions and Organisations in East Java.
 Source: Computations based on Fieldwork Survey (2018).

The three dependent variables are plotted with three straight lines from the centre of the graph to distinguish them from the independent and the intervening variables. The line also explains the closest influences of each of the independent and intervening variables to the related dependent variables. For instance, the variable ‘income of household member’ (inchm) lies between the dependent variables of ‘utilisation of traditional elderly care institutions’ (TDEC) and ‘utilisation of transitional elderly care organisations’ (TSEC).

This means that the income of the household members living in a village household influence people’s behaviour in their preference to utilise traditional elderly care institutions in comparison with transitional elderly care organisations.

Another example, the ‘education’ variable (edu), lies between the variables ‘utilisation of traditional elderly care institutions’ (TDEC) and ‘utilisation of modern elderly care organisations’ (MEC); this shows that the ‘education’ of the household head influences people’s behaviour in their preference to utilise modern elderly care organisations in comparison with traditional elderly care institutions. The education variable is also demonstrated in both bivariate and qualitative analyses. For example, those who attend higher education, *i.e.* university, prefer modern elderly care organisations to traditional ones. On the contrary, those who only attend elementary school prefer traditional elderly care institutions to modern ones.

7.4.2 Multiple Regression Analysis of Blocks of Variables

After conducting the bivariate analyses which examine the correlations between one variable and another, the mutual correlations analysis examining interaction among variables follows. The next step is multiple regression analysis which compares the various blocks of variables in the model to determine the relative strong interactions. It focuses not on the individual variables but on the relationships between the dominant variables within the various blocks of the model. The multivariate analysis can be extended to develop an explanatory analytical model of utilisation behaviour towards the plural elderly care system: traditional elderly care institutions, and transitional or modern elderly care organisations.

OVERALS provides an Eigenvalue for each dimension (Ed) of the calculation, and forms the basis of subsequent calculations in the multiple correlation coefficients (r) for each dimension. The formula is used to calculate the multiple correlation coefficients for two blocks of variables is $2 \times Ed - 1$, meaning twice the *Eigenvalue* (d=dimension) minus one (*cf.* Van der Burg et al 1988; Agung 2005; Ibui 2007; Leurs 2010; Djen Amar 2010; Ambaretnani 2012; Chirangi 2013; Aiglsperger 2014; Erwina 2019; Saefullah 2019; De Bekker 2020). Moreover, multiple regression analysis estimates the significance of the overall model by comparing the observed values to the predicted ones for each dimension, represented by a multiple correlation coefficient (r).

Table 7.12 describes a list of all multiple correlation coefficients for all the combinations of the blocks of variables for each dimension. A regression analysis is conducted with the assistance of statistical software, IBM version 23, resulting in the Dimension-Reduction Optimal Scaling statistical technique which uses the Eigenvalue as the multivariate measure of interactions among all the variables. In Table 7.12, the first column to the left highlights the number of the respective blocks of variables, the second indicates the dimension of the solution, and the third calculates the multiple correlation coefficients reconstructed for each correlation using the Eigenvalues. Cohen (1988) and Field (2009) point out the value of the multiple correlation coefficient (r) for each dimension, where the value $r = .10$ reveals a weak correlation effect, $r = .30$ reveals a moderate correlation effect, and $r = .50$ reveals a strong correlation effect.

Any correlation coefficients between those values will be interpreted in between the categories. For instance, if the correlation coefficient is .40, it can be said that the correlation effect is moderate to strong, whereas the correlation coefficient of .025 can be said to be a weak to moderate correlation effect. Furthermore, Calkins (2005) categorized the coefficient correlations as very highly correlated for r 0.9 to 1.0, highly correlated for r 0.7 to 0.9, moderately correlated for r 0.5 to 0.7, weakly correlated for r 0.3 to 0.5, and slightly correlated for r less than 0.3 to 0 (*cf.* Calkins 2005).

As shown in Table 7.12, the correlation effect between Block 8 (utilisation of traditional elderly care institutions) and Block 9 (utilisation of transitional elderly care organisations) can be categorised as having a strong correlation effect since the correlation coefficient is .760. On the other hand, the correlation effect between Block 8 and Block 10 (utilisation of modern elderly care organisations) is considered a strong correlation effect since the correlation coefficient is .518. Moreover, the correlation effect between Block 9 and Block 10 is considered weak as the correlation coefficient is .162. The results reflect the tendency of local people in the studied villages to utilise traditional elderly care institutions as their first choice, followed by the transitional and modern ones (*cf.* Field 2009; Aiglsperger 2014; Saefullah 2019).

The relationship between Block 1 (socio-demographic variables) and Block 6 (environmental variables) produces the highest sum of the Eigenvalue and the strongest correlation coefficients on the first dimension, with a correlation coefficient of .968. Then, the relationship between Block 2 (psycho-social variables) and Block 7 (intervening variables) follows with a correlation coefficient of .938.

Table 7.12 List of the Multiple Correlation Coefficients calculated by means of Multiple Regression Analysis of the Ten Blocks of Variables of Two Dimensions (N=312)

Block <--> Block	Dimension (r= 2 x Ed -1)	Calculation Coefficient (r)	Multiple Correlation
1 <--> 2	1	r= (2x0.860)-1 =1.720-1=	0.720
	2	r= (2x0.783)-1 =1.566-1=	0.566
1 <--> 3	1	r= (2x0.770)-1 =1.540-1=	0.540
1 <--> 4	1	r= (2x0.774)-1 =1.548-1=	0.548
	2	r= (2x0.700)-1 =1.400-1=	0.400
1 <--> 5	1	r= (2x0.852)-1=1.704-1=	0.704
	2	r= (2x0.765)-1=1.530-1=	0.530
1 <--> 6	1	r= (2x0.984)-1=1.968-1=	0.968
1 <--> 7	1	r= (2x0.915)-1=1.830-1=	0.830
	2	r= (2x0.828)-1=1.656-1=	0.656
1 <--> 8	1	r= (2x0.762)-1=1.524-1=	0.524
1 <--> 9	1	r= (2x0.665)-1=1.330-1=	0.330
1 <--> 10	1	r= (2x0.879)-1=1.758-1=	0.758
2 <--> 3	1	r= (2x0.681)-1=1.362-1=	0.362
2 <--> 4	1	r= (2x0.700)-1=1.400-1=	0.400
	2	r= (2x0.657)-1=1.314-1=	0.314
2 <--> 5	1	r= (2x0.931)-1=1.862-1=	0.862
	2	r= (2x0.874)-1=1.748-1=	0.748
2 <--> 6	1	r= (2x0.827)-1=1.654-1=	0.654
2 <--> 7	1	r= (2x0.969)-1=1.938-1=	0.938
	2	r= (2x0.821)-1=1.642-1=	0.642
2 <--> 8	1	r= (2x0.889)-1=1.778-1=	0.778
2 <--> 9	1	r= (2x0.878)-1=1.756-1=	0.756
2 <--> 10	1	r= (2x0.892)-1=1.784-1=	0.784
3 <--> 4	1	r= (2x0.600)-1=1.200-1=	0.200
3 <--> 5	1	r= (2x0.667)-1=1.334-1=	0.334
3 <--> 6	1	r= (2x0.701)-1=1.402-1=	0.402
3 <--> 7	1	r= (2x0.728)-1=1.456-1=	0.456
3 <--> 8	1	r= (2x0.625)-1=1.250-1=	0.250
3 <--> 9	1	r= (2x0.572)-1=1.144-1=	0.144
3 <--> 10	1	r= (2x0.646)-1=1.292-1=	0.292
4 <--> 5	1	r= (2x0.690)-1=1.380-1=	0.380
	2	r= (2x0.635)-1=1.270-1=	0.270
4 <--> 6	1	r= (2x0.748)-1=1.496-1=	0.496
4 <--> 7	1	r= (2x0.714)-1=1.428-1=	0.428
	2	r= (2x0.663)-1=1.326-1=	0.326
4 <--> 8	1	r= (2x0.650)-1=1.300-1=	0.300
4 <--> 9	1	r= (2x0.597)-1=1.194-1=	0.194
4 <--> 10	1	r= (2x0.674)-1=1.348-1=	0.348
5 <--> 6	1	r= (2x0.834)-1=1.668-1=	0.668
5 <--> 7	1	r= (2x0.848)-1=1.696-1=	0.696
	2	r= (2x0.800)-1=1.600-1=	0.600
5 <--> 8	1	r= (2x0.750)-1=1.500-1=	0.500
5 <--> 9	1	r= (2x0.718)-1=1.436-1=	0.436
5 <--> 10	1	r= (2x0.825)-1=1.650-1=	0.650
6 <--> 7	1	r= (2x0.921)-1=1.842-1=	0.842
6 <--> 8	1	r= (2x0.639)-1=1.278-1=	0.278
6 <--> 9	1	r= (2x0.615)-1=1.230-1=	0.230
6 <--> 10	1	r= (2x0.671)-1=1.342-1=	0.342
7 <--> 8	1	r= (2x0.693)-1=1.386-1=	0.386
7 <--> 9	1	r= (2x0.680)-1=1.360-1=	0.360
7 <--> 10	1	r= (2x0.705)-1=1.410-1=	0.410
8 <--> 9	1	r= (2x0.880)-1=1.760-1=	0.760
8 <--> 10	1	r= (2x0.759)-1=1.518-1=	0.518
9 <--> 10	1	r= (2x0.581)-1=1.162-1=	0.162

Source: Computations based on Fieldwork Survey (2018).

The third relationship is calculated between Block 2 and Block 5 ('institutional variables') with a correlation coefficient of .862. The fourth is the relationship between Block 6 and Block 7 with a correlation coefficient of .842. The fifth is the relationship between Block 1 and Block 7 with a correlation coefficient of .830 (*cf.* Table 7.12).

The relationship between Block 3 (perceived needs variables) and Block 9 ('utilisation of transitional elderly care organisations') has the lowest sum for the Eigenvalue and the weakest correlations coefficient on the first dimension, of .144. The second is the relationship between Block 9 and Block 10 ('utilisation of modern elderly care organisations') with a correlation coefficient of .162. The third is the relationship between Block 4 ('enabling variables') and Block 9 with a correlation coefficient of .194. The fourth is the relationship between Block 3 and Block 4 with a correlation coefficient of .200. The fifth is the relationship between Block 6 ('environmental variables') and Block 9 with a correlation coefficient of .230 (*cf.* Table 7.12).

7.5 Results of the Analysis and Interpretation of the Findings

7.5.1 Preferences in the Utilisation of the Elderly Care System

Based on Figure 7.4, the majority of people in the studied village prefer to utilise traditional elderly care institutions, compared to the transitional and the modern ones. It can be seen that out of the 312 respondents, 70.8% (N=221) utilised traditional elderly care institutions whereas 19.2% (N=60) utilised transitional elderly care organisations, and only 9.9% (N=31) prefer modern elderly care organisations.

From the multivariate analysis, Figure 7.4 also shows the multivariate correlations of local people's preferences to utilise elderly care institutions, which is influenced by the six blocks of independent variables and one block of intervening variables. The numbers on the arrows are the correlation coefficients representing each of the correlations. It shows how each block of variables correlates to another block of variables, including the dependent variables. The higher the correlations coefficient, the higher the strength of its correlation among the block of variables as categorised by Cohen (1988) and Field (2009). Moreover, Figure 7.4 presents the final analytical model of the plural elderly care system.

7.5.2 Determinants of the Utilisation of the Plural Elderly Care System

The general aim of this research is to discover the utilisation behaviour of the local people in the studied village towards plural elderly care system as presented in Figure 7.4. From the socio-demographic variables, the relationship of the household heads with the elderly, age, education, place of birth, ethno-cultural affiliation, religion, marital status, occupation, and employment in family business/farm influences people's behaviour in utilising the plural elderly care system. By using Field's criteria (2009), these socio-demographic variables have a strong correlation to the utilisation of traditional elderly care institutions ($r = .524$), and the modern ones ($r = .758$). Additionally, the socio-demographic variables have a moderate correlation to the utilisation of transitional elderly care organisations, with a correlation coefficient of .330.

The psycho-social variables also influence local people's behaviour in utilising elderly care systems. The psycho-social variables include knowledge about transitional and modern elderly care organisations, belief in traditional, transitional, and modern elderly care organisations, and opinions about the transitional and modern elderly care organisations. Additionally, the psycho-social variables have a strong correlation to the utilisation of the plural elderly care system: $r = .778$ for the traditional, $r = .756$ for the transitional, and $r = .784$ for the modern elderly care organisations.

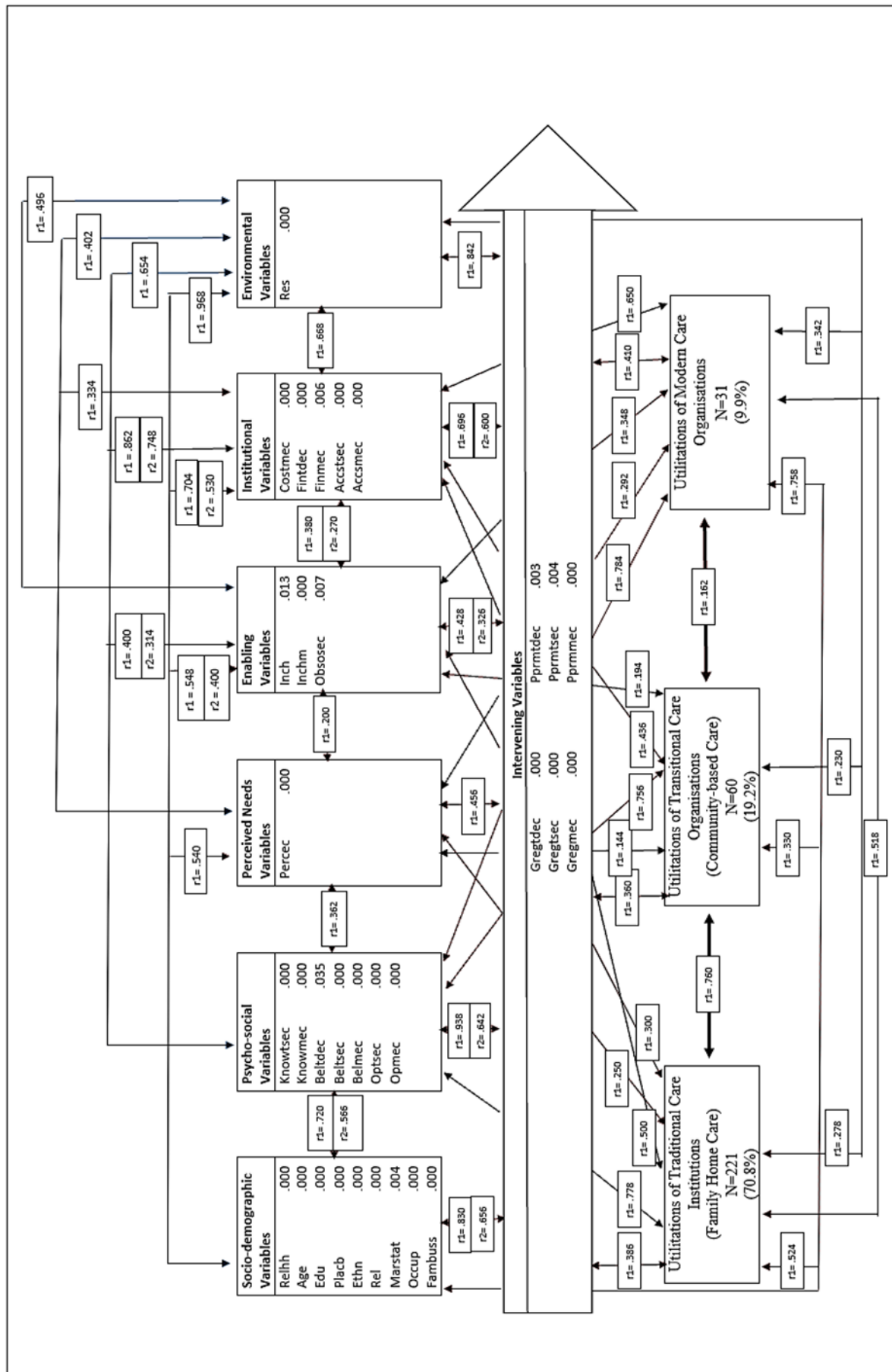


Figure 7.4 The Final Model of the Plural Elderly Care System.
Source: Computation based on Fieldwork Survey (2018)

The correlations between the perceived needs variables and the utilisation behaviour of the plural elderly care system reveal that perceived needs influence people's behaviour in utilising elderly care systems. The perceived needs variables have a moderate correlation effect, with $r = .250$ for traditional and $r = .292$ for modern elderly care organisations. However, the perceived needs variables have a weak correlation effect with a correlation coefficient of $.144$ for transitional elderly care organisations. Moreover, the determinant factor in the enabling variables, monthly income of the household head and members, and socio economic status influences people's behaviour in the utilisation of elderly care systems. The enabling variables have a moderate correlation effect to the traditional ($r = .300$) and modern ($r = .348$) organisations. However, the enabling variables have a weak correlation effect to transitional elderly care organisations ($r = .194$).

Furthermore, institutional variables influence local people's behaviour in utilising elderly care systems. The institutional variables include accessibility cost of modern elderly care organisations, geographical accessibility of transitional and modern elderly care organisations, as well as financial support from traditional and modern elderly care organisations. The institutional variables have a strong correlation to the utilisation of the plural elderly care system: $r = .500$ for the traditional, $r = .436$ for the transitional, and $r = .650$ for the modern elderly care organisations.

The determinant factor of the environmental variables, *i.e.* the type of residence variable, influences people's behaviour in the utilisation of the plural elderly care system. The environmental variables have a moderate correlation to the utilisation of the plural elderly care system: $r = .278$ for the traditional, $r = .230$ for the transitional, and $r = .342$ for the modern elderly care organisations.

The intervening variables also influence people's behaviour in the utilisation of the plural elderly care system. The variables consist of government regulation on traditional, transitional, and modern elderly care organisations, and private promotion of traditional, transitional, and modern elderly care organisations. The intervening variables have a moderate correlation to the utilisation of the plural elderly care system: $r = .386$ for the traditional, $r = .360$ for the transitional, and $r = .410$ for the modern elderly care organisations.

7.5.3 Qualitative Data of Behaviour Patterns of the Elderly Care System

The qualitative data of this study was collected to offer additional explanations for behavioural patterns of elderly care institutions from the sample population. Meanwhile, the quantitative data is also collected to present the statistical analysis results which enable the identification of the determinants of people's behaviour for the utilisation of elderly care institutions.

The research combines both qualitative and quantitative results where the quantitative ones serve to weigh whether the statistics are in line with the qualitative findings or vice versa. In general, the quantitative analysis presents household heads' preference in utilising elderly care systems. Additionally, the analysis results illustrate respondents' preferences from four villages in choosing traditional elderly care institutions as the first preference (70.8%) and transitional as their second preference (19.2%). Lastly, just 10% of respondents preferred to utilise modern elderly care organisations.

Moreover, the mutual correlations analysis of the blocks of variables shows that both socio-demographic and psycho-social variables have many significance values of the independent variables to the dependent variables. It means that the two blocks of variables influence people's behavioural patterns in the utilisation of elderly care institutions in four village samples more than for other blocks of variables, such as perceived needs, enabling, institutional, environmental, and intervening variables. This is shown in the model of the mutual correlations analysis of the blocks of variables in Figure 7.2. More specifically, in terms of the socio-demographic variables, there are nine significant variables: *relationship of household head with the elderly, age, education, place of birth, ethno-cultural affiliation, religion affiliation, marital status, occupation and employment in family business/farm.*

Meanwhile, in terms of the psycho-social variables, there are seven significant variables: *knowledge of transitional elderly care*, *knowledge of modern elderly care*, *belief in traditional elderly care*, *belief in transitional elderly care*, *belief in modern elderly care*, *opinion on transitional elderly care*, and *opinion on modern elderly care*.

The mutual correlations analysis shows the results from the bivariate analysis of all significant variables represented by each block in the analytical model. On the other hand, the multiple regression analysis compares the various blocks of variables in the model to determine relative strong interactions. It focuses not on the individual variables but on the relationships between the dominant variables within the various blocks of the model. Furthermore, Calkins (2005) categorised the correlation coefficient rates as follows: (a) 0.9 to 1.0 as very highly correlated, (b) 0.7 to 0.9 as highly correlated, (c) 0.5 to 0.7 as moderately correlated, and (d) less than 0.3 as slightly correlated. Based on the categorisation, the results of multiple regression analysis of the block of variables shows that the block of socio-demographic variables and the block of psycho-social variables have high correlation coefficient results with some blocks of independent variables. Moreover, the block of psycho-social variables shows high correlation with all blocks of dependent variables. Those blocks of variables are highly correlated with the coefficient correlation rates between 0.7 and 0.9, and very highly correlated with the rates between 0.9 and 1.0 (*cf.* Table 7.12; Figure 7.4).

The relationship between block 1 (socio-demographic variables) and block 6 (environmental variables) shows the strongest correlation coefficients (.968). The relationship between the household head with the elderly and the environmental variables show the strongest correlation. It indicates that household heads living with parents and parents-in-law report the utilisation of care and support services from traditional elderly care institutions. This quantitative result supports the qualitative findings where the majority live in rural areas.

In Tengger, adult children live with their parents and/or parents-in-law in one house or sometimes in separate houses in the same villages report the utilisation of traditional elderly care institutions. They have many relatives who also live in the same village. Likewise, respondents who live in semi-urban areas choose traditional elderly care institutions. On the contrary, respondents living with other kin (*e.g.* uncle and aunt) and non kin report the utilisation of modern elderly care organisations because some elderly who are categorised as having a non-kin relationship with the respondents do not have any family members who can take care of them. The researcher found that respondents in urban areas tend to report the utilisation of modern elderly care organisations. This is commonly because respondents are too busy with their work already and do not have relatives living near the elderly. So they cannot provide care of the elderly and choose modern elderly care organisations for care provision instead. Moreover, respondents in urban areas tend to choose transitional elderly care organisations when they still have kinship relations with the elderly, such as uncle and aunt.

The infrastructure and facilities of the higher education level in urban areas is more complete than rural areas. Meanwhile, the majority of respondents in rural areas only attend elementary or junior high school. The researcher found that the highest school level in Ngadas and Argosari villages is junior high school. The Tenggerese people need more effort to get to a higher school level. In this context, the education level is correlated with the occupation of the household heads. In this research, the majority of household heads work as farmers and live in rural areas. Their education level is only up to elementary school, primarily because those in rural areas can work as farmers which does not require special skills. They report the utilisation of traditional elderly care institutions more often than transitional and modern elderly care organisations.

This finding matches previous research stating that most Indonesians whose primary income source is agriculture live with their children. Moreover, most family members help to cultivate their parents' agricultural land and therefore inherit the land. When parents are unable to manage their own property, they may allow an adult child to run their farm or business in exchange for supporting them (*cf.* Rudkin 1994a). Meanwhile, household heads in urban areas with a higher education level tend to get jobs requiring special skills according to their education level.

It was found that they tend to report the utilisation of private modern elderly care organisations when they cannot provide home care of the elderly. However, those participants who are able to afford care and support for the elderly themselves can combine both traditional and transitional elderly care institutions and organisations.

The place of birth proved to be statistically significant towards the selection of elderly care institutions. Household heads who were born and live in the same place tend to choose traditional and transitional elderly care organisations. They tend to follow the traditional culture, *i.e.* Javanese culture, emphasising the children's role to take care of and respect their parents, known as filial piety (*cf.* Koentjaraningrat 1957). It is also common in rural areas where the parents are born and live with their children in the same village. The researcher found that the Tenggerese people prefer to stay and work in their village rather than move to live and work outside Tengger. The Tenggerese people believe that they will preserve their ancestors' traditions by living and working in the village including providing care and support for their elderly. Similar to the Javanese culture, the Tenggerese people practice the *bakti* local tradition where care and support for the elderly are personally provided and the *sayan* local tradition which is based on mutual aid in the local community. Hence, the Tenggerese people perceive themselves as secure and comfortable as long as they live near their families and relatives in Tengger. Moreover, the Tenggerese people also believe in bad *karma* when the adult children are not able, or ignore to take care of their elderly. They will be unlucky in their future lives and their community will judge them as *anak durhaka* ('rebellious') and even place social sanctions on them. They can also ask for help from other family members to take care of their parents, known as familism (*cf.* Holmes & Holmes 1995; Keasberry 2002). Meanwhile, household heads who migrate from their hometown tend to choose modern elderly care organisations if they cannot provide care and support for their elderly. This is also related to the fact that they have no family members living in the same place. The researcher found this happening in the urban areas.

The relationship between block 1 (socio-demographic variables) and block 7 (intervening variables) shows strong correlation coefficients (.830), similarly to the relationship between block 6 (environmental variables) and block 7 (enabling variables) (.842). The researcher found that many Tenggerese people seldom report the utilisation of *Kartu Indonesia Sehat* (KIS) ('Health Indonesia Card') even though they have it. The Tenggerese people believe that free care and support services may not help them, and they insist on paying to receive care and support services. It is also revealed that the Tenggerese people report the utilisation of traditional elderly care institutions more often than transitional and modern ones. Meanwhile, it is common for the Javanese to be more aware of the importance of using KIS and BPJS to receive health care services. People who are categorised as poor choose to report the utilisation of KIS and do not need to pay for health care and support services. They feel fortunate because they can get benefits from government policies. Moreover, household heads in urban areas are more open-minded and have easier access to get information, and understand government regulations and private promotion better. Some people report the utilisation of BPJS which requires them to pay monthly as insurance contributions and report the utilisation of transitional and modern elderly care organisations. On the contrary, household heads in rural areas have obstacles accessing information and understanding government regulations and private promotion, such as lack of resources in sharing related information to the community, and geographical accessibility of people in the rural areas to receive government and private programs. For that reason, household heads in rural areas report the utilisation of traditional elderly care institutions more often than transitional and modern ones.

The relationship between block 2 (psycho-social variables) and block 7 (intervening variables) in the utilisation of elderly care institutions shows very strong correlation (.938). Similarly, the relationship between block 2 (psycho-social variables) and block 5 (institutional variables) shows strong correlation coefficients (.862). It means that the knowledge, belief, and opinion variables of the household heads in each elderly care institution have an impact on the government's regulation and private promotion in the research areas. Moreover, the knowledge, belief, and opinion variables of the household heads about each elderly care institution have a strong relationship with the available information regarding financial and geographical accessibility perceived of each elderly care

institution. Financial accessibility refers to cost and financial support received by respondents in each elderly care institution, whereas geographical accessibility refers to the geographical accessibility of elderly care services. Those variables influence people's behaviour in the research villages and motivate their preferences in the utilisation of the 'Plural Elderly Care System.'

In the context of the Tenggerese people, the researcher found that some adult children and their elderly do not really believe in the health care services provided by the government because they believe in traditional medicine or healing more than transitional and modern health care. Some adult children have the opinion that when they brought their elderly to receive treatment or medicine, many of them were not getting better. Moreover, the Tenggerese people prefer going to '*dukun*' first to get '*suwuk*' to recover. '*Suwuk*' is a prayer of the *dukun* for sick people by casting a spell called '*mantra*' or '*japa*.' Hence, the elderly who live near transitional elderly care organisations do not report the utilisation of such services to check their health. Many respondents do not get enough information about care and support services provided by transitional care institutions because of the lack of human resources to distribute and share information to the community.

Moreover, in some areas, the village officials and staff do not actively share information about care and support services provided for the elderly. As such, many respondents know the existence of transitional elderly care organisations from the media such as television or newspapers. Furthermore, the researcher found that health and social care facilities in transitional and modern elderly care organisations tend to be better-managed in urban areas than rural areas. The researcher also found a lack of medical equipment, personnel, and medicine stock in providing care and support services in transitional and modern elderly care organisations in rural areas. In fact, transitional elderly care organisations in urban areas provide more activities than those in rural areas since they have adequate resources and ease of access to get care and support services. They not only focus on health services for the elderly but also hold creative and fun activities, such as sport for the elderly and recreation activities; thus, the elderly get more benefits from transitional care services in urban areas. Hence, many respondents in urban areas have the perception that transitional elderly care organisations are able to maintain the elderly's well-being.

