Veneto Families
Grouped According to Distress Risk(*)
Gruppi di famiglie venete individuati sulla base del rischio di disagio

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Riassunto: I problemi fanno parte del vivere quotidiano. La famiglia subisce il disagio
derivante da eventi avversi e dai problemi dei singoli membri, o del gruppo familiare
nel suo complesso, quando non è in grado di farvi fronte con le proprie risorse. L’ener-
gia che la famiglia è in grado di sviluppare dipende dalla sua struttura e dalla sua storia.
Di fronte alle stesse avversità, alcune famiglie riescono a superarle, mentre altre avver-
tono livelli patologici di disagio. Nella nota si discutono le caratteristiche dei gruppi fa-
miliari maggiormente a rischio di disagio. I gruppi a rischio sono stati individuati appli-
cando un metodo di segmentazione binaria basato su odds proporzionali riferiti a vari li-
velli di disagio: uno a cui la famiglia è in grado di far fronte con le proprie forze, uno
che richiede un intervento esterno e uno per il quale non c’è nulla da fare. I dati analizz-
ati sono stati raccolti negli anni 2004 e 2005 per conto del Centro di Documentazione
e Analisi sulla Famiglia Veneta.

Keywords: Family distress, Segmentation analysis, Proportional-odds model.

1. The risk of family distress

Family life is threatened by various critical events. In general, families face critical
events with their own resources. Sometimes problems may be so serious that families
either have to ask services for help or, in the very severe cases, they accept the situation
and wait for the end of the negative phase. Our hypothesis is that families with good
own resources are able to face the negative events. Hence, it is to be defined the charac-
teristics of the families exposed to the risk of distress in order to forecast their needs for
external help (public services, voluntary services).

Poffe and Fabbris (2005) identified some groups of Veneto families characterised by
high risks of distress. In this paper, we identify and discuss the determinants of family
distress measured on a 4-grade ordinal scale: no serious problems, problems resolvable
with family resources, problems resolvable with social or voluntary services help, ir-
resolvable problems. To achieve this aim, we applied a segmentation analysis method
based on the proportional-odds logic (Poffe, 2005) on data collected in 2004 and 2005
by the Regional (Veneto) Center for Documentation and Analysis of the Family.

In Section 2, we describe the sampling and research methods. In Section 3, we present
the segmentation analysis outcomes and in Section 4 we report some purposive remarks.

(*) This work was realised within the National project (PRIN) “Transizioni Università-Lavoro e valorizza-
ze delle competenze professionali dei laureati: modelli e metodi di analisi multidimensionale delle de-
terminanti”, financed by MIUR and coordinated by L. Fabbris. L. Fabbris wrote Sections 1 and 4, where-
as S. Poffe wrote Sections 2 and 3.
2. Data and research methods

A sample of 3,100 families was randomly selected from the telephone directory for a CATI (Computer Assisted Telephone Interviewing) survey. A number of 2459 eligible adults responded to the questionnaire. The questionnaire included questions on both individuals members’ (demographic traits; education; health condition; employment status) and family’s characteristics (structure; house, other durable goods; eating, recreational and cultural practices; services and family network trusted in case of need; critical events, financial situation), and a 4-point scale of perceived distress.

In order to identify homogeneous groups of families based on perceived distress, we adopted the method of binary segmentation analysis (Fabbris, 1997). This is a stepwise procedure for binary splitting the sample with respect to a combination of categories of an explanatory variable at a time. The criterion variable was a transformation of the ordinal distress into proportional-odds (McCullagh, 1980). The categories of an explanatory variable are combined in such a way that the ratio between the odds that can be computed for the two resulting groups is maximum. Let \( \mathbf{x}_1 \) and \( \mathbf{x}_2 \) be the vectors of covariates of groups 1 and 2, the ratio between the odds is (Agresti, 2002):

\[
OR = \frac{\gamma_j(\mathbf{x}_1) / [1 - \gamma_j(\mathbf{x}_1)]}{\gamma_j(\mathbf{x}_2) / [1 - \gamma_j(\mathbf{x}_2)]} = \exp[\mathbf{\beta}^T (\mathbf{x}_1 - \mathbf{x}_2)],
\]

where \( \gamma_j(\mathbf{x}) = \Pr(Y \leq j \mid \mathbf{x}), \ j = 1, \ldots, k \), is the cumulative probability up to and including category \( j \) and \( Y \) is the ordinal response variable (McCullagh and Nelder, 1989).

The procedure SAS-LOGISTIC was used for the estimate of the proportional-odds.

3 Determinants of distress

The proportion of Veneto families that feel themselves free from serious problems is 74.6%. Another 18.3% has problems that may be overcome with their own resources, 5.9% requires help from the public services, and 1.1% is exposed to irresolvable problems.

In Figure 1, we report the results of the segmentation analysis. The level of distress associated with each node may be perceived from the distance between the frequency distribution of each group and the parent distribution.

The variables that showed significance in partitioning the sample are:

- **the presence of invalids, even in families that are financially self-sufficient.** The risk of hard distress increases more than nine times if one or more members of the family is invalid: OR=9.3 in such families as compared with ‘healthy’ families. Only 30.5% of families with invalids do not suffer from continuous distress;

- **the presence of not-self-sufficient members affected by chronic-degenerative diseases in families with income lower than 3,000 euro** (OR=4.7). This kind of difficulty determines a risk of hard distress (19.4% as compared with 0.4% of families
Figure 1: Binary segmentation analysis related to “risk of distress” for Veneto families.

Legend
p1: % no problems
p2: % distress resolvable inside family
p3: % distress resolvable with external help
p4: % not resolvable problems

<table>
<thead>
<tr>
<th>Group</th>
<th>n</th>
<th>p1 (%)</th>
<th>p2 (%)</th>
<th>p3 (%)</th>
<th>p4 (%)</th>
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<td>15.2</td>
<td>4.4</td>
<td>1.6</td>
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<td>27.7</td>
<td>20.7</td>
<td>8.5</td>
</tr>
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<td>80.5</td>
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</table>

Legend
Gr. 1 need of financial help in the last year OR = 11.402
Gr. 5 need of financial help in the last year OR = 9.292
Gr. 6 income OR = 6.484
Gr. 7 need of financial help in the last year OR = 4.671
Gr. 8 autonomy of members affected by chronic-degenerative diseases OR = 3.147
Gr. 10 unemployment OR = 3.295
Gr. 13 need of financial help in the last year OR = 2.789
Gr. 15 unemployment OR = 2.789
Gr. 16 family type OR = 2.497
Gr. 17 unemployment OR = 2.400
Gr. 18 meals together OR = 2.073
Gr. 19 use of family help OR = 2.208
Gr. 20 use of family help OR = 2.440
Gr. 21 use of family help OR = 2.208
Gr. 22 use of family help OR = 2.440
Gr. 23 use of family help OR = 2.208

Number of cases: n=2465
Number of cases: n=2319
Number of cases: n=146
Number of cases: n=2132
Number of cases: n=187
Number of cases: n=626
Number of cases: n=1506
Number of cases: n=1432
Number of cases: n=71
Number of cases: n=26
Number of cases: n=1409
Number of cases: n=51
Number of cases: n=1359
Number of cases: n=1207
Number of cases: n=151
Number of cases: n=1117
Number of cases: n=90
Number of cases: n=61
Number of cases: n=1056
Number of cases: n=82
Number of cases: n=765
Number of cases: n=209

OR: Odds Ratio

with self-sufficient members). Even the need for public or voluntary services increases if there are members who are not self-sufficient (10.0% vs 3.3% with all members self-sufficient);

- *an anomalous family structure*. In particular, at serious risk of distress are the families that are composed by a single parent and children. The occurrence of hardships and the need of external help are as frequent, as frequently the negative events occur. Nevertheless, an adult that works faces the distress mostly with his or her own resources and the help of the ‘enlarged’ family and the public services (32.6% distress vs 16.7% of the other families);

- *not possessing a car*. In financially self-sufficient families, without invalids or other not-self-sufficient members, net income lower than 3,000 euro per month, and without unemployed members, i.e. in normal old-aged families, the risk of distress is high: 11.1% vs 2.7% (OR = 2.8) of those families that own their car(s). The car is a tool for moving in the case of need and a symbol of independent lifestyle;

- *the need of financial help*. This happened to 5.9% of the Veneto families each year. The economic difficulties depend on the absence of work and the misery of ‘social’ pensions. These families are tortured by the unlucky events: 8.5% of hard distress and 20.7% of distress for which a public service intervention is needed (OR = 11.4).

4. Final remarks

We identified some main groups of Veneto families according to their grade of distress risks. We used a 4-point scale of distress, instead than a two-point scale used by Poffe and Fabbri (2005). The more detailed algorithm gave results similar to, but more refined, than the binary scale one, showing that the families more exposed to hardship are those with health problems. Nevertheless, the families exposed to major distress are those with bare financial self-sufficiency. This continuous exposure to the events makes them weak and likely to experience hard distress.

References