DOES THE CONTEXT AFFECT SUBJECTIVE WELL-BEING?

AREA OF RESIDENCE AND HOUSEHOLD INFLUENCES ON PHYSICAL AND MENTAL HEALTH OF ITALIAN ADULTS

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Introduction: Health represents one of the main dimensions of personal well-being. It has an impact of all aspects of an individual's life, modifying conditions, behaviors, social relations, opportunities and perspectives not only of the individual himself, but, very often, of his/her family too. As age increases, the role played by health on general well-being becomes more and more important and eventually exclusive at the oldest ages, when the risk of poor health is the highest and its impact on quality of life the strongest. A body of evidence has shown that individual characteristics are primary determinants of health outcomes; however, we know from more recent studies that contextual factors as well play a substantial role in shaping individual health. The context in fact can exert a direct effect on health and/or mediate the effect of individual determinants (Kawachi and Subramanian, 2005). Contextual factors can influence both the onset oh health problems and the ability to deal with them. Not only objective health outcomes, but also subjective perception of health can be affected by contextual factors. These factors mainly pertain to two typologies: (i) geographical, i.e. those linked to the location where the person lives and (ii) relational, involving the social network to which the individual belongs. The former can produce differences in health because of different characteristics of places (environmental, economic and social conditions or availability of public resources), the latter through shared health behaviors and reciprocal influences within the community.

Design of research: we decided to focus on health dimension of well-being and to investigate both territorial and relational factors as "contextual". More specifically we concentrated on perceived physical and mental conditions of individuals and defined territorial and relational levels according to precise hypotheses about the influence they could exert on perceived health in the Italian context. Therefore, we selected territorial boundaries corresponding to administrative health units, each of them offering to local residents a different extent of health care services in terms of availability and efficacy. This choice was motivated by the interest in investigating the effects of the decentralization of the Italian National Health System (NHS) and the consequent territorial heterogeneity in the availability of public health resources. It is worth of note that the effect that public resources have on population health is a much debated issue (Joumard *et al.* 2008) with no conclusive evidence to date.

At relational level we selected as significant cluster the household, being, especially for Italy, the main driver of a number of social and demographic phenomena, which are likely to have an effect on individual physical and emotional well-being. International literature has shown that family members exhibit similar patterns of morbidity (Johnson *et al*, 1965; Monden 2007; Merlo *et al.* 2012), health-related behaviors (Rice *et al.* 1998), help-seeking behavior (Cardol *et al*. 2005) and utilization of health services (Sepheri *et al*. 2008). On the one hand, we expect that household's specific characteristics, such as socio-economic level of the family, housing conditions, living arrangements and the presence of a ill-member can influence the physical and mental perceived health of all household's members. On the other hand, within the same household the health conditions of one member can modify the health status of other cohabiting members. Stated differently, household *mutual influences* in terms of health and health-related behaviors can result in a high resemblance of physical and mental conditions reported by people living together.
Very limited research have dealt with territorial and familial influences on well-being, and no studies of this kind have been carried out for the Italian context, where, paradoxically, the magnitude of the family influence is extremely pronounced.

Objective: This research aims to provide an estimation of the influence that the context , both territorial and relational, has on physical and mental health perceived by the individual and to gain a better understanding of the pathways through which this influence is exerted.

Methods: This is a population-based cross sectional study. Data come from the Italian Health Survey "Health conditions and health service use" (2005). The survey has a cluster sample design, with household selected at the first stage and all individuals pertaining to that household interviewed at the second stage. The Survey is representative of the Italian population at national, regional and sub-regional level. The sub-regional level is defined as "Aggregated Local Health Units – ALHU": an aggregation of neighboring Local Health Providers (*Aziende Sanitarie Locali* - ASL) constituting a unit in the decentralized Italian health system. Outcome variables selected as indicators of physical and emotional well-being were: Physical Component Summary – PCS and Mental Component Summary - MCS. These two measures are a quantitative assessment of physical and mental health conditions as perceived by the respondent through a standardized questionnaire (SF-12). Physical and mental health were studied adjusted for objective health conditions, in order to isolate their perceived component. Data have a hierarchical structure on three levels: individuals (level 1) living in different households (level 2), which are, in turn, located in different "ALHU" (level 3). We adopted a multilevel approach which is entirely coherent with this structure of the data and allows us to obtain unbiased

estimations of the effect of covariates operating on the three levels. By means of this approach we are also able to disentangle the proportion of variability due to differences between individuals, households or ALHU. We made use of linear multilevel models, with random intercepts at the household and ALHU level, in order to capture the amount of variability attributable to each level.

Results: We documented a very limited, although always significant, impact of the area of residence on physical and mental perceived health (variance partition coefficient: 0.3% for PCS, 0.6% for MCS, adjusted for individual covariates). This result is partially in contrast with previous works illustrating a health gradient for objective and subjective health in Italy (Costa *et al.* 2003; Mazzuco 2009). However, researches that adopted a multilevel approach to investigate the Italian Regional/ALHU health heterogeneity came to our same conclusion, recognizing a proportion of variability between Aggregated Local Health Units lower than 3% for poor self-perceived health among the elderly population (Pirani and Salvini 2012b). By contrast, the relevance of household on perceived health condition was quite substantive. About 15% of variability in PCS is due to household differences, whereas it raises up to 33% for MCS. The characteristics of the household (e.g. economic resources, family structure, size of the municipality of residence) are significantly associated with individual subjective perception of health , but they explain a very little amount of the overall variability between households. Given that the high heterogeneity between household is the other side of the coin of a high homogeneity in terms of well-being for individuals in the same household, we asked ourselves: why do individuals living in the same family tend to exhibit similar levels of personal well-being?

Mutual influences among family members could play a role in explaining this homogeneity, i.e. the health status of one member can have a direct effect on that of other members of the same household. We investigated this hypothesis by observing the pattern of perceived health resemblance by family structure. The hypothesis to test was the following: if mutual influences in perceived health within households exist, they will be particularly pronounced where the links between members are stronger. From this analysis, we found out that the similarity in self-rated physical and mental health was indeed higher in those households where the link between members supposedly tighter (2 component households, couples, mono-nucleus families). These results parallel findings from social psychology, which consistently document a similarity in mental illness, depressive symptom and distress between spouses (Meyler *et al.* 2007; Monden 2007), and with those from sociology reporting a positive effect of partners interactions on well-being, happiness and life satisfaction (White 1983). Furthermore, by conducting the whole research by means of two outcomes of well-being, we shed further light on the different profile of determinants for physical and mental conditions. More particularly, we illustrated

how PCS is affected by very concrete agents such as age, education, economic conditions, whereas MCS is particularly linked to socio-relational dimensions at the individual and household level. This result is coherent with the knowledge about determinants of mental health, which include elements as social support, perceived stress and self esteem (Bovier *et al.* 2004).

Conclusions: This research provides insights on the extent and the ways contextual factors shape subjective well-being, particularly those components related to health dimensions. We documented three more specific results: (i) the geographical effect on health, examined by means of a multilevel approach, is dramatically resized compared to previous studies of the Italian case which used an ecological perspective; (ii) household appears as a key-element in influencing perceived health of individuals, with a mark gradient from physical to mental component; (iii) the mechanism of the household effect (particularly on emotional well-being) can reasonably rely on the reciprocal influences between family members. Household seem to act as a multiplier of poor/good health conditions among family members, therefore, health policies could be more effective if targeted to households rather than single individuals.