RIASE
REVISTA IBERO-AMERICANA DE SAÚDE E ENVELHECIMENTO
REVISTA IBERO-AMERICANA DE SALUD Y ENVEJECIMIENTO

HEALTH AND CHILDLESSNESS IN OLD AGE:
A BRIEF REVIEW

Gerardo Zamora - Departamento de Ciencias de la Salud, Universidad Pública de Navarra
Rosanna de la Rosa - Departamento de Ciencias de la Salud, Universidad Pública de Navarra

VOL. 1 N.º 1 APRIL 2015

ABSTRACT

The evidence on childlessness and health in old age has been largely based on studies from high-income countries, which have focused on women and overlooked men's childlessness. Many empirical studies have confounded the effects of parenthood, marriage and cohabitation, therefore making it difficult to disentangle the effects of childlessness on health. However, the available evidence suggest that childlessness does have an effect in various domains of physical and mental health, although these effects seem to be mediated by the cultural setting s and social norms around childlessness. The importance of this topic is highlight by population and the increasing decline in fertility rates at global scale.

Descriptors: Childlessness; ageing; health; low fertility regimes; public health

INTRODUCTION

Parenthood[1] is one of the key social markers of adulthood (Benson, & Furstenberg, 2006) and becoming a parent is a major normative social expectation (Aronson, 2008; Dykstra, & Hagestad, 2007). In turn, becoming a grand-parent is also a foremost normative social expectation: the social images of older adults are inextricably linked to that of grand-parents. Being an older, childless person is usually '*out of the picture*' (Dykstra, & Hagestad, 2007). Parenthood and grand-parenthood greatly shape the social organisation of care. In fact, most societies at different degrees, rely on family care for their older kin, whether parents or grandparents. This is even more salient in the family welfare regimes as is the case of Mediterranean welfare regimes (Moreno, 2006; OECD,2010), or even the case of most Latin American countries, where care in old age is commonly family-based (Riesco, 2007; De Vos, 2012). However, an important share of older individuals in contemporary European societies and in some Latin American countries had not had children and thus grand-children (De Vos, 2012; Rosero-Bixby, Casto-Martin & Martin-Garcia, 2009). The life course of these individuals is in many dimensions different from those who became parents. Frequently, non-parents, or childless adults, are socially considered less mature, selfish, unfulfilled or they might suffer from different forms of stigmatisation (Giles, Shaw, & Morgan, 2009; Rijken, & Merz, 2014).

1 The concepts 'parenthood, grandparenthood and childlessness' do not have a standard, official translation in Spanish. We use 'parentalidad' and 'abuelidad as translations already used in the gerontological literature in Spanish, but keep childlessness it is practically impossible to translate it using a single word. / Los conceptos 'parenthood, grandparenthood and childlessness' no tienen una traducción estándar y oficial en español. Usamos 'parentalidad' and 'abuelidad' como traducciones ya utilizadas en la literatura gerontológica en español, pero mantenemos 'childlessness', ya que es prácticamente imposible traducirla en una sola palabra.

Currently, there is increasing scientific and policy interest in childless adults and older adults in the midst of contemporary demographic changes such as population ageing or rising low fertility and the constraints these processes inflict on how social and health care is organised and delivered.

This brief review seeks to add light to this renewed interest by emphasising that current rates of childlessness are not new in historical terms, by highlighting the major themes researchers have looked and the research questions they have asked concerning childlessness, and by examining the relationship between childlessness, health and older persons. This brief review contributes to enhance the scholarship of ageing, health and childlessness.

Defining and understanding childlessness

Very concisely, childlessness refers to the state of not having offspring, whether temporarily or permanently, voluntarily or involuntarily. As such is not a new phenomenon; in every society there have been individual who, once they reached their reproductive age, did not have children. The interest on childlessness has been expanding from a topic almost 'owned' by demographers and population researchers to other scientists interested the economics, health and social implications, or psychological effects of childlessness. Owing to the fact that all sciences have been gender-biased, scientific research on childlessness has been built mostly on studying women's fertility behaviours and the health, social and psychological complications childless women faced if compared to mothers or on understanding 'why' they were in such state. This bias is rooted in the idea that all women are going to be (and must be) mothers. From a public health perspective, the interest has been really scarce despite the fact that parenthood is a powerful factor structuring private and public services, social life and health behaviours (Dykstra, 2009).

Therefore, the categories to research and understand childlessness in adult age and old age are founded largely on the biology of women. Voluntary childlessness refers to the decision of not becoming a parent (mother) and then 'remain childless' as has been typically phrased in the scientific literature (González, & Jurado-Guerrero, 2006; Silka, & Kiesler, 1977). Involuntary childlessness refers to a situation in which biological factors, i.e. infertility or fertility problems, inhibit reproduction, or to the outcome of fertile women who postponed motherhood for so long during their reproductive years that they end up having no children. And temporary childlessness refers to the state in which the aspiration to become a parent (mother) is present but there is still time to postpone parenthood because of other social factors (e.g. education, employment, marriage delay, unavailable housing, unemployment, divorce) or because there are fertility difficulties being dealt with.

These three categories of childlessness (voluntary, involuntary and temporary) are widely used by researchers, both in English and in other languages, although the difficulty to translate 'childless' or 'childlessness' is usually acknowledged, as is the case of Spanish or Portuguese.

Historical trends and recent data

Historically, global estimates of childlessness are uncommon, especially because data for middle- and low-income countries are not robust or inexistent (De Vos, 2012). Conversely, data for European and other high-income countries are more easily assembled due to the availability of records (Rowland, 2007). These data contradict the commonly found statements on the 'upsetting' current high rates of childlessness, which are in fact lower than those found in the early decades of past century.

Recent research shows that childlessness rates in Europe and other high-income countries was high early in the twentieth century, decreased in in the postwar period of 1950-1960, and then slowly started to show different patterns (growth, decrease, stagnation) in the decades after 1970-1980. Table 1 shows rates for childlessness for different birth cohorts of women aged 45 between 1900 and 1964. By the mid-twentieth century, a time of major pro-natalism policies and of the birth of baby-boomers, some demographers went as far as predicting the extinction of childlessness (Whelpton, Campbell & Patterson, 1966). In fact, empirical studies suggest that it has being growing in many settings (Silverstein & Giarrusso, 2010; Tanturri & Mencarini, 2008), as Table 1 shows with data only for women as data for men is practically unavailable.

Table 1. Proportion of *childless* women for several birth cohorts 1900-1964 (selected European countries and other high-income countries) (%)

Counrty/País	1900-1910	1920-1924)	1940-1944	1960-1964
European countries / Países europeos				
Austria	27	18	12	16
Finland/Finlandia	26a	18	14	19
Germany/Alemania (former F.R/antigua R.F)	26	17	12	24
Germany/Alemania (former D.R/antigua R.D)	26	18	9	9
France	25	19	11	10.7[b]
Netherlands/Países Bajos	23	15	12	18
Switzerland/Suiza	22	-	16	27
Portugal	21	17	11c	5
Italy/Italia	18	16	14	18
Spain/España	14	14	12	12
Polond/Polonia	12	7	-	13
Other countries / Otros países				
Australia	31	15	9	16
United States	24	17	9	15
Canada	22	15	14	16[d]

Sources/Fuentes: All figures from Dykstra (2009). except when indicated./Todos los datos tomados de Dykstra, (2009) excepto cuando se indica.

Notes:
a. Data corresponding to the 1905-1909 cohorts. / Datos correspondientes a la cohorts 1905-1909.
b. Data taken from Tanturri & Mencarini (2008) / Datos tomados de Tanturri & Mencarini, 2008).
c. Data corresponding to the 1945-1949 cohorts. / Datos correspondientes a la cohorts 1945-1949.
d. Data corresponding to the 1955-1959 cohorts. / Datos correspondientes a la cohorts 1955-1959.

Unfortunately, historical data on Latin American countries are scarce and recent efforts in this direction are filling this gap (De Vos, 2012; Rosero-Bixby, Castro-Martín & Martín-García, 2009).

Table 2 shows data for childlessness for some Latin American countries with respect to 60-year-old women at different years. As can be seen some Latin American countries present higher rates of women's childlessness than those of some European countries for the 1960-1964 birth cohorts shown in Table 1.

Table 2. Proportion of *childless* women aged 60 in selected Latina American countries for years where data were available (year in parenthesis)

Counrty/País	%	Counrty/País	%
Ecuador (2000)	18.3	Panama/Panamá (1990)	12.4
Uruguay	18.3	Chile (2000)	12.0
Bolivia (1992)	16.5	Brazil/Brasil (2000)	11.2
El Salvador (1992)	13.8	Costa Rica (2000)	11.2
Dominican R./R.D (2002)	13.7	Venezuela (1990)	10.7
Colombia (1993)	13.6	Paraguay (2002)	9.2
Argentina (2001)	13.0	México (2000)	9.4
Puerto Rico (1990)	12.6		

Sources/Fuentes: All data taken and adatpted from De Vos, (2012) que usa datos de IPUMS-International. / Todos los datos tomados y adaptados de De Vos (2012) que usa datos de IPUMS-International.

Childlessness and old age

Research on childlessness and old age is limited because of the type of questions researchers have asked, the kind of data they have collected and the characteristics of individuals who reach old age. Traditionally questions about childbearing have focused on women, and many times, these questions were usually asked only to married or ever-married women, irrespective of their age (Dykstra, 2009). Researchers have also pointed out that childless individuals, especially women, might be a great share of non-respondents in censuses or fertility surveys due to the effect of stigma or to the fact that many childless older adults are more likely to live alone and thus less likely to be reached (Dykstra & Hagestad, 2007a; Dykstra & Hagestad, 2007b) or they more frequently live in institutions than do older adults who are parents (Koropeckyj-Cox, & Call, 2007). Moreover, information on old age population usually suffers from a selectivity bias because many individuals who reach older age groups are more likely to the better-off and those with lower risk of mortality, while the childless are more likely to belong to the worse-off group and to present greater mortality risk (Ringbäck, Burström & Rosén, 2004; Tamakoshi, Tamakoshi, Lin, Mikami, Inaba, et al. 2011). Another difficulty to research childlessness in old age is the different uses of childlessness categories; for instance, many studies understand childlessness as not having living children or outliving one's children (Börsch-Supan, Hank & Jürges, 2005; Kohli & Albertini, 2009), which is very different from not having ever been a parent, a difference of major relevance for individuals and research (Dykstra & Wagner, 2007).

Why childlessness matters in old age?

Older adults who are childless are more likely than parents to have been the target of questions about their fit into social life, their sexuality, their life satisfaction or subject to social censure (Blackstone, 2014; Lampman & Dowling-Guyer, 1995; Park, 2005; McDavitt, Iverson, Kubicek, Weiss, Wong & Kipke, 2008; Warren, 2010). The stigma of being childless is still persistent despite growing acceptance of non-parenting adulthood and old age (Koropeckyj-Cox & Pendell, 2007; Tanturri & Mencarini, 2008). The impact of social stigma on health has been well-established (Stuber, Meyer & Link, 2008), although more research is needed to understand how it actually operates in modifying health behaviours and health outcomes in old age.

Parenthood has such an impressive influence on how societies are structured at every level of organization and social life (Dykstra, 2009): legal frameworks, health care, schooling, labour, tax systems or public spaces are all intersected by parenthood. Therefore, studying the lives of individuals who took a 'road less taken' (Dykstra & Hagestad, 2007b) is of immense scientific interest; yet, gerontology have conventionally overlooked childlessness and almost exclusively focused on grand-parents, their health and support needs (De Vos, 2012). In the near future, however, the decrease of fertility rates worldwide coupled with different rates of childlessness from country to country will affect how care and other public and private services are shaped, making gerontological research on the topic even more pressing.

Childleness and health

Research on the relationship between childlessness and health shows gaps, although findings suggest that parenthood exerts a social control influence on individuals' health behaviours rather than actually implying major health differences. Yet, this influence is big enough to contribute to certain differences between childless individuals and parents. The comprehensive review by Kendig, Dykstra, Gaalen, and Melkas (2007) suggest four areas of research: (i) longevity and reproductive history, (ii) health and marital status, (iii) health and social roles, and (iv) social networks. We use this scheme and suggest expanding the fourth are to include stigma and heteronormativity.

For the first stream of research (i.e. longevity and reproductive history), the most relevant findings point to the association between parity and all-cause mortality. Studies suggest that childless women and women with more than 5 children might present higher mortality rates and greater mortality risk (Hurt, Ronsmans & Thomas, 2006; Lund, Arnesen & Borgan, 1990; Simons, Simons, Friedlander & McCallum, 2012), creating U-pattern figure. The explanations put forward are varied. Some researchers suggest a health selection effect: on the one hand, subfecundity or sterility might be linked to poorer health and higher mortality (Hurt, Ronsmans, & Thomas, 2006) as well as diminished protection against hormonally-related cancers (Nagle, Bain, Green & Webb, 2008); on the other hand, high parity might repeatedly trigger certain

conditions or diseases such as diabetes, hypertension and other vascular complications (Gunderson, Chiang, Pletcher, Jacobs, Quesenberry, Sidney, et al., 2014; Koski-Rahikkala, Pouta, Pietiläinen & Hartikainen, 2006). Unfortunately, most studies have looked only at ever-married women. Studies on men are not common, but some have found an association between the number of children and mortality (Westendorp & Kirkwood, 1998), while others have not or sprightly reject the theory that reproduction decreases human longevity (Doblhammer & Oeppen, 2003; Le Bourg, 2007). Other studies suggest associations between major depressive disorder at early age and childlessness in men (Yates, Meller, Lund, Thurber & Grambsch, 2010) or between childlessness and a reduced risk of prostate cancer (Giwercman, Richiardi, Kaijser, Ekbom & Akre, 2005).

A second stream of research deals with the association between health and marital status. The most common outcome used to research this association is mortality; however, as Kendig et al. (2007) point out, in most studies it is difficult to untie marriage and parenthood. Moreover, some studies have largely tied childlessness and singleness, making it even more difficult to distinguish effects (not all childless individuals are single, although they are in fact less likely to be married (Dykstra & Hagestad, 2007a). Again, most studies have only included ever-married women. One of the key findings is that childless women might be more prone to suicide than mothers (Høyer & Lund, 1993; Yang, 2010) and thus supporting the theory that parenthood has a protective effect against suicide, However, these findings must be seen through a gender lens that takes into account the social construction of motherhood, and parenthood in general, before asserting any effect of parenthood on mental health. Studies that focus or include men are, not surprisingly, scarce. Research on men who were childless or fathers, coupled or singles, and cohabitating or not with their children, suggest that childless men, irrespective of the other variables, might have a slightly greater risk of all-cause mortality, ischaemic heart disease, injuries and addictions (Ringbäck, Burström & Rosén, 2004) however, other studies found that the wellbeing of male older adults who are childless is not different that of older parents (Koropeckyj-Cox, 1998).

The third body of research deals with the relationships between parenthood or non-parenthood and the roles people occupy in social life. The focus has been to identify if it is harmful or beneficial to combine the roles of parent, spouse and paid worker. Once more, research has mainly looked at women, in part because for men the combination of these roles is socially expected. Basically, studies suggest that even though multiple roles might inflict greater stress and thus affect health –especially for women due to the unfair distribution of gender roles and responsibilities–, those women who play more roles seem to enjoy greater health (Artazcoz, Borrell, Benach, Cortès & Rohlfs, 2004). These findings support what is known as the role accumulation hypothesis (Klumb & Lampert, 2004; Weatherall, Joshi & Macran,

1994). One study has found greater risk of ischemic heart disease in women without children at home when compared to women who did have children at home (Hibbard & Pope, 1982); yet, these two groups are not necessarily childless women and mothers, so their results should be taken cautiously. Although still relevant for public health, one of the problems with these studies is that it combines into a same group those who are permanently childless, those who are temporarily childless and those who had children but are now empty nesters. The study of Weatherall et al. (1994) does make a difference between childless women and mothers and supports the association of greater mortality and childlessness in women.

The fourth tradition in the literature is that of social networks, stigma and heteronormativity. Social networks can provide older persons with support, allow them to provide care for others, facilitate social interaction, leisure and community engagement, enable social control mechanisms of health behaviours, provide access different resources or serves as pathways for the transmission of diseases (Kendig, et al., 2007). The role of children as connectors to social networks and to public and community resources has been pointed out (Gallagher & Gerstel, 2001). Research on childless older adults has therefore looked at the effect of having no children on the risk of social isolation and on community engagement, two important factors affecting health and risk mortality (Holt-Lunstad, Smith & Layton, 2010). Empirical studies have found no major differences in community engagement or social interaction and integration between childless older individuals and older parents (Koropeckyj-Cox, 1998; Vikström, Bladh, Hammar, Marcusson, Wressle & Sydsjö, 2011); except in settings or cultures where social norms around adulthood, sexuality and reproduction greatly penalize non-normative behaviours or identities such as childlessness (Huijts, Kraaykamp & Subramanian, 2013; Tanaka & Johnson, 2014). Other studies have looked at the potential protective role of children in parents' health behaviours (Dykstra & Hagestad, 2007a; Dykstra & Hagestad, 2007b); parents seem to refrain more frequently than childless individuals from unhealthful health behaviours such as alcohol drinking, inappropriate eating or unhealthy sleep habits (Graham, Hill, Shelley & Taket, 2011).

CONCLUSIONS

Research on childlessness and health in old age is abundant, but there are still some gaps and overlooked themes. The traditional disregard of men's childlessness calls for more theories and empirical findings to understand a very complex phenomenon in the midst of important demographic changes such as population ageing and increasing low fertility, and how they differently affect women and men. Fortunately, this is changing and more studies are either including men or focusing only on men's childlessness (Dykstra, & Keizer, 2009; Waren & Pals,

2013). Research on childlessness in middle- and low-income countries is much needed, as the vast majority of the evidence is supported on empirical studies and theories from high income countries. Gladly, this is gap is being filled (De Vos, 2012; De Vos, 2014; Rosero-Bixby, Castro-Martín & Martín-García, 2009) which will allow to increase the evidence base and allow further comparisons. Finally, more research is also needed on childlessness in individuals and groups that have been socially expected to be childless, such as lesbian, gay, transgender, bisexual and queer people. The traditional categories of childlessness do not apply to these social groups as their access into parenthood is precisely what has been expected not to happen. Importantly, this body of research is slowing growing (McDavitt, Iverson, Kubicek, Weiss, Wong & Kipke, 2008; Zamora, (forthcoming). This brief review contributes to broaden the scientific inquiries of gerontology and to call attention on the need to approach older individuals as diverse and with multiple life course paths.

ACKNOWLEDGEMENT

We express our gratitude to Dra. Blanca Marin, Dr. Francisco Guillén-Grima and Dr. Inés Aguinaga Department of Health Sciences, Public University of Navarra, for its constant support.

REFERENCES

Aronson, P. (2008).The Markers and Meanings of Growing Up: Contemporary Young Women's Transition from Adolescence to Adulthood. *Gend Soc Off Publ Sociol Women Soc*. 22:56–82.

Artazcoz, L., Borrell, C., Benach, J., Cortès, I. & Rohlfs, I. (2004, Jul). Women, family demands and health: the importance of employment status and socio-economic position. *Soc Sci Med*. 59(2):263–74.

Benson, J. & Furstenberg Jr., F. (2006). Entry into Adulthood: Are Adult Role Transitions Meaningful Markers of Adult Identity? *Adv Life Course Res*. 11:199–224.

Blackstone, A. (2014). Doing Family Without Having Kids. *Sociol Compass*. 8(1):52–62.

Börsch-Supan, A., Hank, K. & Jürges, H. (2005, Dec). A new comprehensive and international view on ageing: introducing the Survey of Health, Ageing and Retirement in Europe. *Eur J Ageing*. 1;2(4):245–53.

De Vos, S. (2012). *Childlessness and Extended Family Living Among Elderly Women 60+ in Latin America*. Center for the Demography of Health and Aging. Department of Sociology. University of Wisconsin-Madison.

De Vos, S. (2014, Oct). Biologically Childless Women 60+ Often Live in Extended Family Households in Latin America. *J Cross-Cult Gerontol*. 17;29(4):467–80.

Dever, M. & Saugeres, L. (2004, Jan). Forgot to Have Children! Untangling Links Between Feminism, Careers and Voluntary Childlessness. *J Mother Initiat Res Community Involv*. 11;6(2).

Doblhammer, G. & Oeppen, J. (2003, Aug). Reproduction and longevity among the British peerage: the effect of frailty and health selection. *Proc R Soc B Biol Sci*. 7;270(1524):1541–7.

Dykstra, P. (2009). Childless Old Age. In: Uhlenberg P, editor. *International Handbook of Population Aging*. Dordrecht, The Netherlands: Springer. p. 671–90.

Dykstra, P. & Hagestad G. (2007a, Nov). Childlessness and Parenthood in Two Centuries Different Roads—Different Maps? *J Fam Issues*. 1;28(11):1518–32.

Dykstra, P. & Hagestad, G. (2007b). Roads Less Taken Developing a Nuanced View of Older Adults Without Children. *J Fam Issues*. Oct 1;28(10):1275–310.

Dykstra, P. & Keizer, R. (2009). The wellbeing of childless men and fathers in mid-life. *Ageing Soc*. 29(Special Issue 08):1227–42.

Dykstra, P. & Wagner, M. (2007, Nov). Pathways to Childlessness and Late-Life Outcomes. *J Fam Issues*. 1;28(11):1487–517.

Gallagher, S. & Gerstel, N. (2001, Feb). Connections and Constraints: The Effects of Children on Caregiving. *J Marriage Fam*. 1;63(1):265–75.

Giles, D., Shaw, R. & Morgan, W. (2009, Nov). Representations of voluntary childlessness in the UK press, 1990—2008. *J Health Psychol*. 1;14(8):1218–28.

Giwercman, A., Richiardi, L., Kaijser, M., Ekbom, A. & Akre, O. (2005, Jul). Reduced risk of prostate cancer in men who are childless as compared to those who have fathered a child: A population based case-control study. *Int J Cancer*. 20;115(6):994–7.

González, M. & Jurado-Guerrero, T. (2006). Remaining childless in affluent economies: a comparison of France, West Germany, Italy and Spain, 1994–2001. *Eur J Popul Rev Eur Démographie*. 22(4):317–52.

Graham, M., Hill, E., Shelley, J. & Taket, A. (2011, Nov). An examination of the health and wellbeing of childless women: A cross-sectional exploratory study in Victoria, Australia. *BMC Womens Health*. 10;11:47.

Gunderson, E., Chiang, V., Pletcher, M., Jacobs, D., Quesenberry, C., Sidney, S. et al. (2014, Apr). History of Gestational Diabetes Mellitus and Future Risk of Atherosclerosis in Mid- life: The Coronary Artery Risk Development in Young Adults Study. *J Am Heart Assoc Cardiovasc Cerebrovasc Dis*. 25;3(2).

Heaton, T. & Jacobson, C. & Holland, K. (1999, May). Persistence and Change in Decisions to Remain Childless. *J Marriage Fam*. 1;61(2):531–9.

Hibbard, J. & Pope, C. (1982). Effect of domestic and occupational roles on morbidity and mortality. *Soc Sci Med*. 32(7):805–11.

Holt-Lunstad, J., Smith, T. & Layton, J. (2010, Jul). Social Relationships and Mortality Risk: A Meta-analytic Review. *PLoS Med*. 27;7(7):e1000316.

Høyer, G. & Lund, E. (1993, Feb). Suicide among women related to number of children in marriage. *Arch Gen Psychiatry*.50(2):134–7.

Huijts, T., Kraaykamp, G. & Subramanian, S. (2013, Feb). Childlessness and Psychological Well-Being in Context: A Multilevel Study on 24 European Countries. *Eur Sociol Rev*. 1;29(1):32–47.

Hurt, L., Ronsmans, C. &Thomas, S. (2006, Mar). The effect of number of births on women's mortality: systematic review of the evidence for women who have completed their childbearing. *Popul Stud*. 60(1):55–71.

Kendig, H., Dykstra, P., Gaalen, R. & Melkas, T. (2007, Nov). Health of Aging Parents and Childless Individuals. *J Fam Issues*. 1;28(11):1457–86.

Klumb, P. & Lampert, T. (2004, Mar). Women, work, and well-being 1950–2000:: a review and methodological critique. *Soc Sci Med*. 58(6):1007–24.

Kohli, M. & Albertini, M. (2009). Childlessness and intergenerational transfers: what is at stake? *Ageing Soc*. 29(Special Issue 08):1171–83.

Koropeckyj-Cox, T. (1998, Nov). Loneliness and Depression in Middle and Old Age: Are the Childless More Vulnerable? *J Gerontol B Psychol Sci Soc Sci*. 1;53B(6):S303–S312.

Koropeckyj-Cox, T. & Call, V. (2007, Oct). Characteristics of Older Childless Persons and Parents Cross-National Comparisons. *J Fam Issues*. 1;28(10):1362–414.

Koropeckyj-Cox, T. & Pendell, G. (2007, Aug). Attitudes About Childlessness in the United States Correlates of Positive, Neutral, and Negative Responses. *J Fam Issues*. 1;28(8):1054–82.

Koski-Rahikkala, H., Pouta, A., Pietiläinen, K. & Hartikainen, A. (2006, Nov). Does parity affect mortality among parous women? *J Epidemiol Community Health*. 60(11):968–73.

Lampman, C. & Dowling-Guyer, S. (1995, Aug). Attitudes Toward Voluntary and Involuntary Childlessness. *Basic Appl Soc Psychol*. 17(1-2):213–22.

Le Bourg, E. (2007, Aug). Does reproduction decrease longevity in human beings? *Ageing Res Rev*. 6(2):141–9.

Lund, E., Arnesen, E. & Borgan, J. (1990, Sep). Pattern of childbearing and mortality in married women--a national prospective study from Norway. *J Epidemiol Community Health*. 44(3):237–40.

McDavitt, B., Iverson, E., Kubicek, K., Weiss, G., Wong, C. & Kipke, M. (2008, Oct) Strategies Used by Gay and Bisexual Young Men to Cope with Heterosexism. *J Gay Lesbian Soc Serv*. 1;20(4):354–80.

Moreno, L. (2006, Dec). The Model of Social Protection in Southern Europe. *Rev Fr Aff Soc*. 2;5(5):073–95.

Nagle, C., Bain, C., Green, A. & Webb, P. (2008, Jun). The influence of reproductive and hormonal factors on ovarian cancer survival. *Int J Gynecol Cancer Off J Int Gynecol Cancer Soc*. 18(3):407–13.

OECD (2010). Childlessnes. Paris: Organisation for Economic Co-operation and Development; p. 5. *Report No.*: SF2.5.

Park, K. (2005). Choosing Childlessness: Weber's Typology of Action and Motives of the Voluntarily Childless. *Sociol Inq*. 75(3):372–402.

Riesco, M. (2007). *A New Developmental Welfare State in the Making?* Palgrave Macmillan. 448 p.

Rijken, A. & Merz, E. (2014, May). Double Standards: Differences in Norms on Voluntary Childlessness for Men and Women. *Eur Sociol Rev*. 26;jcu051.

Ringbäck, G., Burström, B. & Rosén, M. (2004, Oct). Premature mortality among lone fathers and childless men. *Soc Sci Med* 1982.59(7):1449–59.

Rosero-Bixby, L., Castro-Martín, T. & Martín-García, T. (2009, Feb). Is Latin America starting to retreat from early and universal childbearing? *Demogr Res*. 20;20(9):169–94.

Rowland, D. (2007, Oct). Historical Trends in Childlessness. *J Fam Issues*. 1;28(10):1311–37.

Silka, L. & Kiesler, S. (1977, Jan). Couples Who Choose to Remain Childless. *Fam Plann Perspect*. 1;9(1):16–25.

Silverstein, M. & Giarrusso, R. (2010). Aging and Family Life: A Decade Review. *J Marriage Fam*. 72(5):1039–58.

Simons, L., Simons, J., Friedlander, Y. & McCallum, J. (2012, Jul). Childbearing history and late-life mortality: the Dubbo study of Australian elderly. *Age Ageing*. 41(4):523–8.

Stuber, J., Meyer, I. & Link, B. (2008, Aug). Stigma, prejudice, discrimination and health. *Soc Sci Med*. 1982. 67(3):351–7.

Tamakoshi, A., Tamakoshi, K., Lin, Y., Mikami, H., Inaba, Y., Yagyu, K., et al. (2011, Dec). Number of children and all-cause mortality risk: results from the Japan Collaborative Cohort Study. *Eur J Public Health*. 1;21(6):732–7.

Tanaka, K. & Johnson, N. (2014, Mar). Childlessness and Mental Well-Being in a Global Context. *J Fam Issues*. 18;0192513X14526393.

Tanturri, M. & Mencarini, L. (2008). Childless or Childfree? Paths to Voluntary Childlessness in Italy. *Popul Dev Rev*. 34(1):51–77.

Vikström, J., Bladh, M., Hammar, M., Marcusson, J., Wressle, E. & Sydsjö, G. (2011, Nov). The influences of childlessness on the psychological well-being and social network of the oldest old. *BMC Geriatr*. 23;11(1):78.

Waren, W. & Pals, H. (2013, Jun). Comparing characteristics of voluntarily childless men and women. *J Popul Res*. 1;30(2):151–70.

Warren, C. (2010, Sep). Pride, shame and stigma in private spaces. *Ethnography*. 1;11(3):425–42.

Weatherall, R., Joshi, H. & Macran, S. (1994, Jan). Double burden or double blessing? Employment, motherhood and mortality in the longitudinal study of England and Wales. *Soc Sci Med*. 38(2):285–97.

Westendorp, R. & Kirkwood, T. (1998, Dec). Human longevity at the cost of reproductive success. *Nature*. 24;396(6713):743–6.

Whelpton, P., Campbell, A. & Patterson, J. (1966). *Fertility and family planning in the United States*. Princeton, N.J: Princeton University Press. 443 p.

Yang, C. (2010, Apr). Association between parity and risk of suicide among parous women. *CMAJ Can Med Assoc J J Assoc Medicale Can*. 6;182(6):569–72.

Yates, W., Meller, W., Lund, B., Thurber, S. & Grambsch, P. (2010, Jul). Early-onset Major Depressive Disorder in men is associated with childlessness. *J Affect Disord*. 124(1-2):187–90.

Zamora, G. (forthcoming). Childlessness, aging and LGB sexualities: commonalities and critique. In: King A, Santos AC, Crowhurst I, editors. Sexualities Research: Critical Interjections, *Diverse Methodologies and Practical Applications*. Basingstoke: Palgrave MacMillan.

Correspondence: Gerardo Zamora - g.zamora.monge@gmail.com