

Childless elderly: The influence of not having children on your mental health

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Abstract

This study looks into the effect of childlessness on the mental health of older adults in a European context. While the elderly population is growing in Europe, so is the amount of childless individuals. The elderly are vulnerable to loneliness, and depression as a result. Lack of social support from children could implicate that the childless elderly are a vulnerable group. This study uses a life course approach to researching the proposed relationship, and looks into different pathways into childlessness, the effects of parenthood on mental health, social networks of childless elderly, and cultural factors. Childless individuals have different social networks as a result of a different life course. Socio-economic and cultural context is relevant for the relation between childlessness and mental health among older adults. This study uses data from the 'Survey for Health, Ageing and Retirement in Europe' dataset, which has gathered data on 7 different topics in 28 European countries and Israel. A two-sample T-Test is conducted to look at how childlessness affects mental health among older adults, and a multiple linear regression is conducted to control for other important factors. The two sample T-Test shows us that childlessness is significantly related to mental health. However, the multiple linear regression does not show a significant relationship between the both, likely due to having controlled for marital status. Marital status is likely to influence mental health among the elderly, and childless elderly are more likely to be without a partner. Future research towards childlessness could focus more on the different pathways into childlessness.

Introduction

A growing elderly population in Europe is drawing increased attention to the problems facing this demographic group. Mental health problems and depression are part of the issues facing the elderly. Among the drivers of depression in the elderly are a lack of social contact, social support, and, as a result, loneliness. Loneliness is found to be among the main 3 factors leading to depression, and as individuals grow older, the chances of them becoming lonely grow (Singh & Misra, 2009). Decreased mobility can undermine the ability of this group to maintain an extensive network of social contacts, and friends being about the same age, face similar problems. Furthermore, increased mortality within this age group means that those close to them more often pass away as well, increasing social isolation and feelings of loneliness. Due to motivational depletion, depression as a result of perceived loneliness increases mortality risk among the elderly (Stek et al., 2005).

In the meanwhile, childlessness in Europe is rising steadily. Since a low point of a European average of 10% childlessness among women born in the 1940s was reached, childlessness rates have since increased up to about a 15% European average (Beaujouan et al., 2017). This increase in childlessness is more prevalent within some parts of society. Higher educated women are among the group with a higher level of childlessness. At the

same time, female workplace participation keeps rising in Europe (Cipollone et al., 2014). This trend might be linked to rising levels of childlessness. Another trend linked to that of the rise in childlessness is the rise of first age at marriage in Europe over the last 70 years. Hagestad & Call (2007) note that individuals that marry at a later age have an increased chance of staying childless, whereas Kneale & Joshi (2008) note that postponing parenthood often leads to abstaining from it. The rise of contraceptives and the general decline in fertility are also likely contributors to the general rise in childlessness. Another large driver of childlessness worldwide is infertility, contributing to over half the cases of childlessness worldwide (Inhorn & Partizio, 2015). In the meanwhile, sperm count in men has dropped by 50 to 60% in western countries over the last 50 years (Levine et al., 2017). If this trend continuous, we can expect the levels of childlessness to keep on rising within the coming years.

The needs for social support that older adults have are often facilitated by their children, thereby returning the care that they gained from their parents during their childhood. Being childless as an older adult means that you lack this option of receiving social support from your children. Furthermore, when in need of more substantial support as a result of physical health issues, children are likely to be the first persons in line to give this support. An absence of children might make the step to request this type of support more difficult, especially when there is a lack of trust in the health services provided by the government. The childless elderly is a group vulnerable to loneliness (Křenková, 2019), and therefore is likely to suffer more often from depression and mental health problems. Some studies looking into the effect of childlessness on the mental health of the elderly did find a relationship between the both (Chou & Chi, 2004), while others did not (Feng, 2017; Křenková, 2019). Other studies looking into childlessness among adults in general did find some clues towards a link with depression (Umberson et al., 2009), whereas others did not find a relationship between the both (Bures et al., 2009). However, most studies note the importance of context. For example, Chou & Chi (2004) note a difference in robustness of the relationship between childlessness and mental health between Chinese adults and American adults, whereas Umberson et al. (2009) found that childlessness mainly harms mental health for unmarried men. Overall, there is a clear interest in the topic, but a consensus on the issue is not yet reached.

The relationship between childlessness among older adults and mental health issues has not yet been conducted within a European context. This study aims to add to the existing

literature by looking into this relationship within a European context through quantitative analysis and a review of existing literature. This study makes use of a life course approach towards the issue. By recognizing the sensitive periods during one's life course, more understanding can be gained on how mental health is affected in the process, and intervention towards tackling the issues can be applied more effectively. This study aims to take into account different factors such as marital status, social support, gender, cultural background, and job status. By combining the results with earlier findings within other research towards this topic, we aim to get a more clear insight into the nature of the relationship between childlessness and mental health within older adults.

Theoretical framework

Mental health issues are complex issues that have unique causes for anyone suffering from them, and the way that childlessness affects these processes are all unique too. Trying to understand how these processes are affected through a life course perspective helps to recognize similar patterns in these processes for different cases. A life-course perspective emphasizes the fact that an individual's mental health problems can have their origin in a different period in that individual life, and that events earlier in an individual's life may have their effects until that individual's death. Health changes are caused by risks over an individual's full life span, and this needs to be realized to have access to full knowledge on these risks and all possible interventions towards them (Gee et al., 2012). Childlessness does not only affect an individual's mental health at older age through missing out on children during that life stage. Rather, the childless elderly will have had different pathways through life than elderly parents, and those different pathways in return affects their mental health well into older age.

The different pathways that lead to childlessness are relevant when looking into mental health problems, whereas these pathways themselves may have implications for an individual's mental health themselves. Feng (2017) notes the importance to look into the distinction between voluntary and involuntary childlessness. Individuals that are voluntary childless have made a conscious decision to not have any children. Some of these individuals might even consider themselves childfree, rather than childless. Involuntary childlessness is characterized by an individual's unfulfilled wish to have children. This lack of fulfillment may be caused by male or female infertility or by a lack of finding a partner willing to have

children together. Both types of childlessness may be difficult to distinguish from each other, as there are often cases that fall somewhere in the middle. The preference of an individual on whether to have children or not can change over time, even in the moment when childbearing years have passed. Individuals might have adapted their conscious wishes to the wishes of their partner, to the reality of the situation, or to the fear of missing out. The preferences towards having children is coming from an individual's personality and life experiences, and these may have implications on an individual's mental health on their own. For example, bad childhood experiences in an individual life may have severe effects on one's mental health, and be the cause for that person abstaining from parenthood. The same holds for individuals that do not possess the ability to have children. Maximova & Quesnel-Vallée (2009) note a possible link between involuntary childlessness and a feeling of a lack of control, and Mcquillan et al. (2012) note that infertility in women leads to increased distress about having children. An example of a group that characterizes itself through its inability to find a partner is 'incel's', which is short for involuntary celibates. This group has been in the news recently due to violent acts committed by individuals that identify with this group (Cottee, 2020). Feng (2017) further mentions a hidden, third type of childlessness: parents that outlived their children. Feng notes that this type of childlessness is strongly correlated to depression among the elderly, but also notes that these children may have died early due to living in a vulnerable family in the first place.

To better understand what mental health implications are for not getting children, it is important to also focus on the influence of parenthood on an individual's mental health. As parenthood is widely regarded as the norm, it is easy to disregard all that comes along with it. Whereas parenthood is often seen as an ideal, we have to acknowledge that individuals that do not get into parenthood might be missing out on various bad influences on their mental and physical health as well. One group in which parenthood negatively affects well-being is women that become parent early in their lives (Umberson et al., 2009). Furthermore, Umberson et al. notes a consensus that early parenthood is predominantly a strain on wellbeing, whereas over time it becomes predominantly beneficial. This suggests that for young adults staying childless might be positive for mental health. Hansen (2011) even finds that within Europe, parenthood for adults is significantly negatively associated with life satisfaction. However, these effects seem to fade when individuals get older.

An important moment in parenthood is the moment when the children move out of the house, signaling the transition away from their role as caregivers. However, parents of adult

children do not immediately lose their role. Parents of adult children are still more often caregivers than care receivers, and that contact with adult children remains important throughout the rest of the parents' lives (Umberson et al., 2009). According to Umberson et al. (2009), emotionally close contact with adult children increases well-being for parents, but straining contacts decrease well-being, and straining contacts have stronger negative effects than close contacts have positive effects. Chen & Feeley (2014) on the other hand note that emotionally close contact has a larger effect than straining contact. More often the contact that parents have with their adult children is emotionally close. When divorced, fathers have more often straining contacts with their children than divorced moms (Umberson et al., 2009). Adult children from the age of 20-50 living in the home of their parents in Nordic European countries were having a positive effect on the life satisfaction of their parents. (Hansen, 2011). Contact with adult children often relatively even becomes increasingly important for their parents, as contact with relatives becomes increasingly important with age, whereas contact with friends is valued less over time, especially among men (Kalmijn, 2011). This process might help explain why children become more beneficial for mental health over time, as they become the main source of social support over time. This might be problematic for childless individuals of old age relying on friends that do have children. As these friends invest less time in their friendship, it is harder for childless individuals to maintain these friendships which they might rely on. However, childlessness influences individuals into approaching social contacts differently as well. Křenková (2019) finds that childless elderly have different networks than elderly parents. They have less contact with family, but increasingly so with friends and neighbors. The lack of children provides more freedom to social networks for the childless elderly. The childless elderly do not lack more general support, according to Křenková (2019), but the people within their social network are not able to provide the same support as adult children. Whereas adult children can provide intensive support, the networks of childless elderly might not be able to assist them in the same way. Also, Křenková (2019) notes a difference in sociability between gender, as elderly childless women are better at receiving support than childless men. This suggests that men might be more vulnerable to a lack of social support when childless, and that gender is relevant when looking at the influence of childlessness on mental health issues at old age. However, a lack of social support does not automatically increase loneliness. Social support from family has no significant effect on well-being among older adults (Chen & Feeley, 2014). Singh & Misra (2009) find no relationship between sociability and depression, and Chen & Feeley (2014) note that 'it is possible that loneliness experienced in later life is not due to a low frequency of

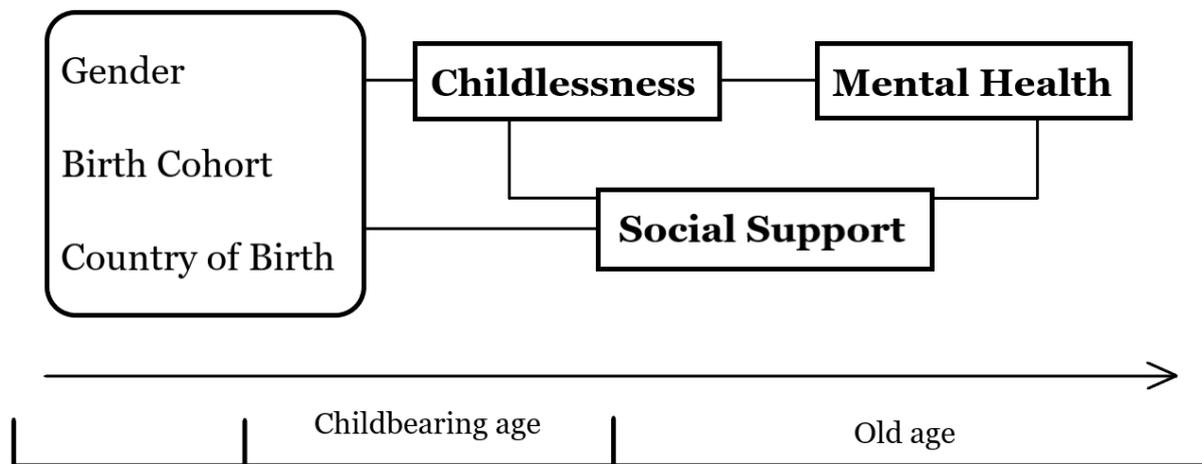
social contact but due to perceived lack of interpersonal intimacy or low quality of social relationships' (2014, p. 143). The importance of the quality of the relationship can be found back when we look at the importance of marital status. An individual's marital status is an important predictor for depressive symptoms (Bures et al., 2009; Křenková, 2019). The importance of an individual's marital status suggests that social support at old age is important, but that the support provided by an individual's spouse may be sufficient. This suggests that the childless elderly that remained childless involuntarily due to a lack of a partner might be especially in a vulnerable position. Partnership seems important to take into account when looking into the relationship between childlessness and mental health issues.

The different studies mentioned in this research are from various regions around the world. Some research is conducted in a European context, a few are done in an American context and a couple is conducted in a Chinese context. This geographical context might play an important role in the outcome of the different studies. Chou & Chi (2004) note a difference in the relationship between childlessness and mental health among Chinese and American old adults. The relationship between the both seem to be more robust among Chinese old adults than it is among American old adults. Geographical context shapes the socio-economic and cultural backgrounds that play a role in the relationship between childlessness and mental health issues among the elderly. Feng (2017) notes the importance of social security put in place by a government. Depending on the institutions, the elderly can either be well supported during old age or be neglected. Both might have considerable effects on well-being. On the other hand, governments may also emphasize support for parenthood, increasing the wellbeing of parents as opposed to the childless. Different types of welfare regimes in Europe can be distinct from each other based on the welfare state typology by Esping-Andersen (1990). Based on these typologies by Esping-Andersen, Fenger (2007) clusters European countries in several groups, among which the social-democratic type in Scandinavian countries, the conservative type in Western and southern Europe, and several central and Eastern European types. The social-democratic welfare state type is characterized by a high amount of benefits independently from contributions, whereas the conservative type the state provides more minimal amounts of benefits. The relevant central and Eastern European types combine characteristics from both conservative and social-democratic types (Esping-Andersen, 1990). These differences in welfare state type might influence how individuals experience childlessness. Cultural background, on the other hand, might determine whether it is desirable to have children or to not have children (Feng, 2017). Individuals might receive

subliminal messages to have children and may feel a sense of failure when they do not live up to these expectations. Parenthood experiences differ between different cultures as well. The well-being of grandparents acting as parents for their grand-children differs strongly between different cultural backgrounds (Umberson et al., 2009). A difference of culture is often based on geographical location but can be determined by time as well. Also the cultural meaning of childlessness changes over time (Umberson et al., 2009). The demographic transition has radically changed fertility rates throughout Europe and is likely to have changed fertility expectations along with it. However, as biological systems do not change as fast as cultural ones, individuals may own subconscious expectations have not fully adjusted to the new reality. Just like cultural meanings change over time, so do governmental institutions and systems. Newly constructed support systems or the demolition of state support might affect the different parenthood experiences over time, as well as childlessness experiences. This realization makes it worthwhile to take cohort effects into account when looking at the relationship between childlessness and mental health among the elderly.

Based on the findings from previous literature, the conceptual model in figure 1 has been proposed. The model shows the various processes that play a role in the relationship between childlessness and mental health. Part of the context is determined at birth, such as an individual's gender, the cohort to which the individual belongs and the country the individual is born in. These play a role in determining the chance of someone ending up childless but also influences the amount of social support a person enjoys during old age. Childlessness may directly influence mental health, but it is expected that the biggest effect that childlessness has on mental health is indirectly through the influence it has on the amount of social support a person receives. Social support in itself is influenced by marital status and age as well. The different concepts are placed relative to the life course. We hypothesize that childlessness harms mental health.

Figure 1 – Conceptual model



Methodology

This study looks into whether childlessness influences mental health at old age. Further focus is given to the role of other factors in this relationship. These factors are gender, age, birth cohort, country of birth, social support, and marital status. Through statistical analysis, we might get further insights into the processes going on in the relationship between childlessness and mental health at old age, and into the role of these other factors within this process.

For this statistical analysis, we make use of the SHARE dataset, which is short for Survey for Health, Ageing, and Retirement in Europe (Börsch-Supan & Gruber, 2020). The SHARE project has gathered data from 28 European countries and Israel. The target group of SHARE consists of individuals 50 years and older. In total, over 360000 interviews have been conducted. Each interview covers the seven topics of demographics, household composition, social support & network, childhood conditions, health and health behavior, functional limitation indices, and work & money. The data has been gathered over seven different waves, from 2004 until 2017. This research specifically uses the easySHARE dataset which is a simplified version of the dataset meant for students.

Whereas we suspect that the relationship between childlessness and mental health is increasingly important, for this research a minimum age of 65 has been chosen for the respondents. This specific age is chosen to make sure that overall the childless older adults are compared to parents with adult children. Another consideration for this number is the age at

which individuals stop working. We want to diminish the effect of this specific life event on age as a variable. Furthermore, as we want our results to be as relevant as possible, we have chosen to include only those respondents which have participated in the 7th wave.

The SHARE dataset includes questions regarding mental health constructed according to the Euro-D depression scale. This depression scale includes 12 questions that can be answered with a yes or no answer. Each yes adds one point to the scale, and out of these 12 questions, a scale from 0 to 12 is formed. A lower value indicates that an individual is less depressed, whereas a higher value indicates that an individual is more depressed. Determining whether an individual is childless or not is done based on the variable 'number of children alive'. This variable has been computed into a dummy variable with a yes or no outcome on the question if an individual is childless. One thing that cannot be measured through the SHARE dataset is whether someone has lost their children over time. Childlessness due to the death of a child or children is hidden. This has to be taken into account when analyzing the results.

To test whether a relationship between childlessness and mental health exists, we will conduct two types of tests. First, we will conduct a two sample T-test to compare the means in the Euro-D depression scale between parents and childless individuals. Furthermore, we will conduct a multiple linear regression, to check what the influence of childlessness is on mental health when several other variables have been controlled for. The variables that are being controlled for are based on the findings in the literature and on the conceptual model (figure 1). These variables are age, year of birth, gender, welfare state type, living with partner, and help received. The variables age and year of birth helps to give us insight into the effects of aging and birth cohorts on mental health, and they are both scale variables. Other control variables used were originally nominal type variables and had to be transformed into dummy variables to be used in a linear regression. The first of these variables is gender (0=male, 1=female). The variable welfare state type is based on the typology provided by Esping-Andersen (1990). For this variable, we have chosen two welfare state types that were further away from each other in their type and added the corresponding countries to these categories. The countries have been selected based on where the interview was conducted. As the welfare state type describes socio-economic circumstances rather than cultural background, the country where the respondent was living seemed more relevant. The Social-Democratic welfare state type includes Denmark, Sweden, and Finland, whereas the Conservative welfare state type includes Austria, Germany, The Netherlands, France, and Belgium (0=Social-

Democratic, 1=Conservative). Cases from other countries are included in the linear regression, but not controlled for the country in which the interview has been conducted. To control for marital status, a dummy has been created from the variable 'living together with spouse'. This variable has been chosen over actual marital status to exclude cases in which respondents are separated and living apart from each other, but that are officially married. By excluding these cases, we can measure the effect of being married and having access to the advantages to be living with someone emotionally close to you. The variable is divided based on a yes or no answer (0=not living together with partner, 1=living together with partner). Finally, to check whether an individual is receiving social support, we control for using the variable 'help received'. This variable gives information on whether an individual has received any help from family, friends, or neighbors with personal care or practical household help, and has been categorized based on whether this was the case or not (0=no help received, 1=help received). All the variables have been tested for multicollinearity, but no signs of multicollinearity was found.

Results

All the descriptive results can be found in tables 1 to 7. Our sample size exists of 177427 respondents in total. In table 3 we can see that a majority of the respondents did not receive help from outside the household. This gives us some notice that getting help is something special among respondents, and the help being received may be a substantial form of help. Furthermore, in table 6 we can see that the percentage of individuals without children is below 10% among the valid cases. This percentage below the European average, which has not been below a 10% of childlessness in the last century (Beaujouan et al., 2017).

Table 1 – Valid cases in dummy variables

		Welfare regime type	Help received	Living with partner	Gender	Childlessness
N	Valid	76547	124192	177427	177427	123870
	Missing	100880	53235	0	0	53557

Table 2 - Welfare state type: frequency table

		Frequency	Percent
Valid	Social-democratic	23495	13,2
	Conservative	53052	29,9
	Total	76547	43,1
Missing	System	100880	56,9
Total		177427	100,0

Table 3 - Help received: frequency table

		Frequency	Percent
Valid	No help received	99284	56,0
	Help received	24908	14,0
	Total	124192	70,0
Missing	System	53235	30,0
Total		177427	100,0

Table 4 - Living with partner: frequency table

		Frequency	Percent
Valid	Not living with partner	48395	27,3
	Living with partner	129032	72,7
Total		177427	100,0

Table 5 – Gender: frequency table

		Frequency	Percent
Valid	Male	75634	42,6
	Female	101793	57,4
Total		177427	100,0

Table 6 – Childlessness: frequency table

		Frequency	Percent
Valid	Parent	112451	63,4
	Childless	11419	6,4
	Total	123870	69,8
Missing	System	53557	30,2
Total		177427	100,0

Table 7 – Euro-D depression scale; Age at interview; Year of birth: descriptives

	N	Mean	Std. Deviation	Variance
Euro-D depression scale	121377	2,31	2,156	4,648
Age at interview (in years)	177427	66,88	9,779	95,631
Year of birth	177427	1946,69	9,643	92,988
Valid N (listwise)	121377			

Table 8 - Independent samples T-Test: Compare means and std. deviation

	Childless	N	Mean	Std. Deviation	Std. Error Mean
Euro-D depression scale	Parents	109774	2,30	2,149	,006
	Childless	11124	2,40	2,218	,021

Table 9 - Independent samples T-Test: significance

		df	Sig. (2-tailed)	Mean Difference
Euro-D depression scale	Equal variances assumed	120896	,000	-,100
	Equal variances not assumed	13329,162	,000	-,100

In Tables 8 and 9 we see the result of the independent samples T-Test. There is a 0.10 difference in mean score on the Euro-D depression scale between parents and childless individuals. Based on this test, we may assume that childless elderly are significantly more depressed than elderly parents. This is in line with the expectations we had regarding the effect of childlessness on mental health. However, the results do not yet say anything about the nature of the relationship. The relationship between both may be caused by another hidden characteristic to childless individuals, such as marital status. Based on the multiple linear regression we can say more about the nature of the relationship.

Tables 10 to 12 show us the results for the multiple linear regression. Table 10 shows us the explanatory power of our model as the adjusted R square. The explanatory power of our model is not that great, but this is not that surprising. Mental health issues and depression are complex issues that have a variety of causes of which many are still unknown, so explaining variances in depression in detail within a multiple linear regression would be too optimistic.

Table 11 shows us that the multiple linear regression is significant and that a relationship between the different variables and the Euro-D depression scale exists. In table 12 we see the multiple linear regression. In contrast to our expectations and the two-sample T-Test, the multiple linear regression shows us that there is no relationship between childlessness and mental health among the elderly. Interestingly, the control variables considerably changed the outcome of the relationship between them both. Based on these two tests we can assume that childless elderly increasingly possess characteristics that are related to depression, but that childlessness itself does not directly influence an individual's mental health.

Table 10 – Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics	
					R Square Change	F Change
1	,267 ^a	,071	,071	1,934	,071	618,526

Model	Change Statistics		
	df1	df2	Sig. F Change
1	7	56532	,000

a. Predictors: (Constant), Welfare regime, Gender, Year of birth, Childlessness, Help received from others, Age at interview (in years), Living with partner

Table 11 – Anova^a overview

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	16189,610	7	2312,801	618,526	,000 ^b
	Residual	211385,160	56532	3,739		
	Total	227574,770	56539			

a. Dependent Variable: Euro D depression scale

b. Predictors: (Constant), Welfare regime type, Gender, Year of birth, Childlessness, Help received, Age at interview (in years), Living with partner

Table 12 – Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	Sig.
		B	Std. Error	Beta	
1	(Constant)	-10,782	2,208		,000
	Childlessness	,003	,028	,000	,928
	Age at interview (in years)	,005	,001	,092	,000
	Year of birth	,006	,001	,030	,000
	Gender	,688	,017	,170	,000
	Living with partner	-,714	,103	-,159	,000
	Help received from others	,577	,020	,117	,000
	Welfare regime type	,524	,018	,119	,000

a. Dependent Variable: Euro D depression scale without missing cases

Further, in table 12, we can see that an individual's age is positively associated with depression scores on the Euro-D depression scale. Based on this, we can assume that as individuals get older, they get increasingly depressed. This might be caused by the process of individuals growing more lonely with age, as described by Singh & Misra (2009). However, the perceived relationship is small compared to the effect that most other variables have on mental health. A slightly bigger association can be perceived when we look at the year of birth. A higher birth cohort is negatively associated with mental health. This is not in line with the expectations. We would expect that individuals born in lower birth cohorts have enjoyed less governmental support.

A strong association can be found between gender and depression scores in table 12. Contrary to our expectations, being female increases mental health issues. Women on average have a 0,688 increase on the depression scale on a mean of 2,31. This does not help us in explaining the difference between the outcome in the T-Test and our linear regression model. Umberson (2009) found that childlessness mainly harms mental health for unmarried men, whereas Křenková (2019) notes that childless women are better at receiving support than childless men. If mental health issues among childless men are the driver for mental health issues among the childless elderly in general, we would expect to find that being male is negatively associated with being childless, and this would partly explain the difference between the outcomes of both models.

Whether an individual is living with their partner or not is strongly associated with depression scores (Table 12). As we expected, living together with a partner is positively associated with mental health. This confirms the finding that an individual's marital status is an important predictor for depressive symptoms (Bures et al., 2009; Křenková, 2019). On average, living together with a partner lowers the outcome on the Euro-D depression scale with 0,714 on a mean of 2,31. This relationship between variables may help us explain the difference between the outcome of the T-Test and the linear regression for the relationship between childlessness and mental health. As lack of having a partner is a possible course into childlessness, childless individuals are expected to be more often without a partner. The relationship between the both measured by the T-Test could have found the negative influence of lack of having a partner on mental health. This finding shows us the importance of marital status for depression rates among the elderly and might also point to the need for strong qualitative relationships for the elderly as noted by Chen & Feeley (2014). The elderly living

alone should therefore get full attention when looking at mental health issues within this demographic group.

Receiving help from others is a negative predictor for depression scores (Table 12). This was not mentioned in previous literature and a surprising outcome. However, this outcome likely has to do with limitations within the model. The model does not take physical health into account. Individuals that receive help, receive this help because they need it in the first place. The reason why they need help might be due to existing problems with their physical or mental health. What is being measured here might not be the effect of receiving help on mental health, but indirectly the effect of physical and mental health issues on mental health outcomes. Because of this limitation, it is impossible to take any further conclusions from this outcome.

There is a significant difference between both welfare regime types in their depression score outcomes (Table 12). On average, individuals living in countries with a social-democratic welfare regime score 0,524 lower on the depression scale compared to individuals living in countries with a conservative welfare regime, on an average of score 2,31. This is in line with expectations based on the importance of social security. Social-democratic regime types offer more social security than conservative regime types (Esping-Andersen, 1990), so this finding suggests that a higher amount of social security from the government leads to a decrease in mental health issues. However, it has to be taken into account that it is possible that rather than a socio-economic cause, the difference between both groups is caused by cultural differences.

Discussion

In this study, we looked into childlessness among older adults and its influence on mental health issues within a European context. With the help of the SHARE dataset (Börsch-Supan & Gruber, 2020), various statistical tests have been conducted to look into the nature of this relationship.

The elderly as a demographic group is growing and loneliness within this group is leading to mental health problems (Singh & Misra, 2009). In the meanwhile, the amount of people that are without children in Europe continues to grow (Beaujouan et al., 2017). Previous research is divided on the relationship between childlessness and mental health issues (Chou & Chi, 2004; Umberson et al., 2009; Bures et al., 2009; Chen & Feeley, 2014; Feng, 2017; Křenková, 2019).

A life-course framework has been applied to look into the effects of childlessness among older adults on mental health issues. The different pathways of individuals into childlessness are important to consider when looking into these effects. Childlessness itself may not affect mental health issues, as social support from family has no significant effect on well-being among older adults (Chen & Feeley, 2014). It should also be considered that parenthood does not necessarily have positive effects on mental health, as some even find negative effects on mental health (Hansen, 2011). However, the different pathways leading to childlessness may cause mental health issues after all.

This study finds that childlessness among older adults and mental health issues are related to each other. However, we did not find evidence that childlessness directly influences mental health. Rather, we expect that childless older adults are more likely to be living without a partner, and we have found that this is directly related to mental health problems. These findings are in line with the suggestions from previous literature that an individual's marital status is an important predictor for depressive symptoms (Bures et al., 2009; Křenková, 2019). Based on differences between gender in sociability and ability to attract help (Křenková, 2019; Kalmijn, 2011), we expected women to be able to better handle childlessness at old age. Within this study, we did not find any evidence of a difference between gender in the effect of childlessness in older adults on mental health.

The study that has been conducted contains several limitations and flaws. The limitation of the dataset on this topic was that the dataset did not contain any information on different pathways into childlessness. These different pathways might play an important role in the effect that childlessness has on mental health among older adults. Future research should look in further detail into the role of these pathways. The statistical analysis used in this research has limited use in providing knowledge on the research problem. One of the limitations was a missing variable that measured physical health. Physical health could be a good indicator of mental health problems. Variables on this are available within the SHARE dataset, so in future research using this dataset, this should be taken into consideration. Furthermore, the variable 'help received' probably does not represent the amount that an individual receives social support very well. For future research, another method of measuring social support should be considered. Another flaw within the statistical research design is created by a lack of possibility to link the control variables back to the issue of childlessness. The control variables describe the variance in mental health outcomes, but they do not explain the effect it has on the relationship between childlessness and mental health among the elderly

directly. In future research, descriptive data on the distribution of childlessness among control variables should be included.

Based on the findings of this study, future policy within Europe should focus on the mental health issues of the growing group of elderly, especially those without a partner. A strong welfare state can play an important role in increasing the mental health of this population group within countries.

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