ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ
ΤΜΗΜΑ ΙΑΤΡΙΚΗΣ

ΔΙΔΑΚΤΟΡΙΚΗ ΔΙΑΤΡΙΒΗ

Διερεύνηση της ευεξίας και της χρήσης υπηρεσιών υγείας των ηλικιωμένων ατόμων στην Ελλάδα και την Ευρώπη: Ο ρόλος των κοινωνικών παραγόντων

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Πανεπιστήμιο Κρήτης
Σχολή Επιστημών Υγείας
Τμήμα Ιατρικής - Τομέας Κοινωνικής Ιατρικής
ΠΜΣ «Δημόσια Υγεία και Διοίκηση Υπηρεσιών Υγείας»

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Ηράκλειο 2006-2018

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Ευχαριστίες

Η παρούσα διδακτορική διατριβή πραγματοποιήθηκε στο Πανεπιστήμιο Κρήτης, στο Τμήμα Ιατρικής υπό την επίβλεψη του Καθηγητή Κοινωνικής Ιατρικής κ. Αναστάσιου Φιλαλήθη, τον οποίο και θα ήθελα πρωτίστως να ευχαριστήσω για την αμέριστη εμπιστοσύνη του και τη συμπαράσταση του σε όλα τα στάδια της υλοποίησής της, αλλά κυρίως για την κατανόηση και την υπομονή του.

Η διδακτορική αυτή διατριβή συνιστά αποτέλεσμα πολλών χρόνων επίπονων προσπαθειών, συστηματικής προσωπικής και συλλογικής δουλειάς, αλλά και πολλών ματαιώσεων, απογοητεύσεων και εσωτερικών συγκρούσεων. Γι' αυτό θα ήθελα να εκφράσω τη βαθιά ευγνωμοσύνη και εκτίμησή μου στον πιστό συνοδοιπόρο μου σε όλο αυτό το μακρύ και δύσκολο ταξίδι, στον κ. Λιναρδάκη Μανόλη, ο οποίος ήταν πάντα δίπλα μου με ανιδιοτέλεια και αυταπάρνηση και χωρίς τη δική του πολύτιμη υποστήριξη και συνεχή καθοδήγηση είναι βέβαιο ότι δεν θα είχε καταστεί δυνατή η ολοκλήρωση της μελέτης αυτής.

Στις μικρές Ελένη και Κωνσταντίνα...

Όσο περνάν τα χρόνια θέλει κανείς να αποταμιεύσει περισσότερη αγάπη για να την πάρει μαζί του στο μεγάλο ταξίδι...

Είναι η μόνη αποσκευή που επιτρέπεται...

Ιωάννης Γεωργάκης (Καθηγητής)

Περιεχόμενα

Πρόλογος

Η παρούσα διδακτορική διατριβή εκπονήθηκε στο Τμήμα Ιατρικής του Πανεπιστημίου Κρήτης, υπό την επίβλεψη του Ομότιμου Καθηγητή Κοινωνικής Ιατρικής, κ. Αναστάσιου Φιλαλήθη, κατά το διάστημα 2006 έως 2018. Σημείο αναφοράς για την πραγματοποίηση της εν λόγω έρευνας αποτέλεσε η συμμετοχή μου στην ερευνητική ομάδα της Μελέτης για την Υγεία, τη Γήρανση και τη Συνταξιοδότηση στην Ευρώπη (Survey of Health, Ageing and Retirement in Europe-SHARE), που συγκροτήθηκε στον Τομέα Κοινωνικής Ιατρικής υπό την επίβλεψη του κ. Φιλαλήθη, ο οποίος και ορίστηκε υπεύθυνος της Ελληνικής Ερευνητικής Ομάδας SHARE για ζητήματα υγείας και υγειονομικής περίθαλψης, και η συνακόλουθη δυνατότητα αξιοποίησης των δεδομένων της μελέτης αυτής για την υλοποίηση της Μεταπτυχιακής Εργασίας με τίτλο «Ποιότητα ζωής και χρήση υπηρεσιών υγείας σε τυχαιοποιημένο δείγμα ατόμων άνω των πενήντα στην Ελλάδα», στα πλαίσια του Προγράμματος Μεταπτυχιακών Σπουδών «Δημόσια Υγεία και Διοίκηση Υπηρεσιών Υγείας», κατά την περίοδο 2004-2005.

Αντικείμενο της παρούσας μελέτης αποτέλεσε η εκτίμηση της συχνότητας εμφάνισης μεμονωμένων και πολλαπλών θετικών παραγόντων ευεξίας μεταξύ των ατόμων ηλικίας άνω των 65 ετών των έντεκα Ευρωπαϊκών χωρών, συμπεριλαμβανομένης και της Ελλάδας, που συμμετείχαν στη μελέτη SHARE κατά το χρονικό διάστημα 2004-2005 και η διερεύνηση της συσχέτισης τους, τόσο με τα κοινωνικο-δημογραφικά χαρακτηριστικά των συμμετεχόντων, όσο και με πολυσήμαντους παράγοντες που διέπουν ποικίλες πτυχές του κοινωνικού τους περιβάλλοντος, όπως η κοινωνική συμμετοχή, η κοινωνική απομόνωση και η μοναξιά. Επιπροσθέτως, μελετήθηκε η χρήση μιας ευρείας κλίμακας προληπτικών υπηρεσιών υγείας σε επίπεδο ατόμων και χωρών και εξετάστηκε η συσχέτιση του σκορ της χρήσης αυτών των υπηρεσιών με την μεμονωμένη και αθροιστική εμφάνιση παραγόντων κοινωνικής απομόνωσης. Τέλος, η έρευνα αυτή επικεντρώθηκε στη συγκριτική διερεύνηση της κατανομής των παραπάνω αποτελεσμάτων μεταξύ των διαφορετικών υπό μελέτη χωρών (Αυστρία, Βέλγιο, Γαλλία, Γερμανία, Δανία, Ελβετία, Ελλάδα, Ισπανία, Ιταλία, Ολλανδία και Σουηδία) και γεωγραφικών περιοχών (χώρες βόρειας, νότιας και κεντρικής Ευρώπης) για την ανίχνευση πιθανών χωρικών και γεωγραφικών διαφοροποιήσεων.

Η διδακτορική αυτή διατριβή διαρθρώνεται σε πέντε επιμέρους κεφάλαια στα οποία αποτυπώνονται η μεθοδολογία υλοποίησής της, τα ερευνητικά ερωτήματα, τα ερευνητικά εργαλεία και οι μεταβλητές, περιγράφονται τα κύρια ευρήματα και διατυπώνονται οι συνακόλουθες προτάσεις από τη σκοπιά της δημόσιας υγείας και των κοινωνικών και υγειονομικών πολιτικών εν γένει. Δυο από τα κεφάλαια της παρούσας διατριβής έχουν δημοσιευθεί σε διεθνή περιοδικά, ένα κεφάλαιο έχει γίνει δεκτό προς δημοσίευση και δυο κεφάλαια έχουν επίσης υποβληθεί σε διεθνή περιοδικά και επί του παρόντος βρίσκονται υπό κρίση. Συγκεκριμένα:

Στο ***Πρώτο Κεφάλαιο,*** παρουσιάζονται τα αποτελέσματα, που δημοσιεύτηκαν στο διεθνές περιοδικό ***"Social Indicators Research"***, τα οποία αφορούν στη διερεύνηση της ευεξίας σε σχέση με την κοινωνική και παραγωγική δραστηριοποίηση. Επίσης, στο κεφάλαιο αυτό εξετάζεται η συγκριτική κατανομή των θετικών παραγόντων ευεξίας και της πολλαπλής συγκέντρωσής τους, σε επίπεδο πληθυσμών και χωρών.

Στο ***Δεύτερο Κεφάλαιο*** διερευνάται η συσχέτιση των μεμονωμένων παραγόντων της ευεξίας και της πολλαπλής συγκέντρωσής τους με τους δείκτες της κοινωνικής απομόνωσης μεταξύ των ατόμων άνω των 65 ετών και τα παραπάνω αποτελέσματα έχουν γίνει δεκτά προς δημοσίευση στο περιοδικό ***"Archives of Hellenic Medicine".***

Στο ***Τρίτο Κεφάλαιο*** εξετάζεται ο επιπολασμός των δεικτών της ευεξίας, μεμονωμένων, αλλά και αθροιστικά, σε σχέση με τη συχνότητα εμφάνισης αισθημάτων μοναξιάς και παρουσιάζεται η συγκριτική κατανομή των παραπάνω αποτελεσμάτων μεταξύ των ηλικιωμένων ατόμων των έντεκα υπό μελέτη χωρών. Τα ευρήματα της παρούσας διερεύνησης έχουν υποβληθεί προς δημοσίευση και βρίσκονται υπό κρίση στο διεθνές περιοδικό ***"Journal of Population Ageing"***.

Στο ***Τέταρτο Κεφάλαιο*** περιγράφονται τα αποτελέσματα που έχουν υποβληθεί προς κρίση στο περιοδικό ***"Journal of Public Health"*** και τα οποία σχετίζονται με τη διερεύνηση της συχνότητας εμφάνισης αισθημάτων μοναξιάς σε σχέση με την ύπαρξη δυσμενών συνθηκών υγείας, στρεσσογόνων γεγονότων ζωής και συνθηκών κοινωνικής απομόνωσης.

Στο ***Πέμπτο Κεφάλαιο*** περιλαμβάνονται τα ευρήματα που δημοσιεύτηκαν στο διεθνές περιοδικό ***"Journal of Public Health"*** αναφορικά με τη χρήση προληπτικών υπηρεσιών υγείας σε σχέση με την κοινωνική απομόνωση των ατόμων άνω των 65 ετών και τις διαφοροποιήσεις στην κατανομή του σκορ της χρήσης προληπτικών υπηρεσιών μεταξύ των κοινωνικά απομονωμένων ατόμων στις έντεκα διαφορετικές Ευρωπαϊκές χώρες.

Περίληψη

Εισαγωγή Το γεγονός ότι ο σύγχρονος κόσμος γερνάει πολύ γρήγορα συνιστά μια από τις μεγαλύτερες προκλήσεις με τις οποίες βρίσκονται αντιμέτωπα τα συστήματα υγείας και κοινωνικής ασφάλισης στον 21^{ο} αιώνα. Η κοινωνική και γεροντολογική έρευνα που έχει πραγματοποιηθεί έως σήμερα, κυρίως σε εθνικό επίπεδο, έχει ασχοληθεί εκτεταμένα με την υγεία των ατόμων τρίτης και τέταρτης ηλικίας και έχει αναδείξει ποικίλους προσδιοριστικούς παράγοντες που σχετίζονται με το κοινωνικό τους περιβάλλον. Σ' αυτό το πλαίσιο, η ευεξία έχει αναχθεί σε δείκτης πρόβλεψης της επιβίωσης των ατόμων μεγαλύτερων ηλικιών, αλλά και της χρήσης υπηρεσιών υγείας. Ως εκ τούτου, η ευεξία θεωρείται ένας σημαντικός στόχος των δημόσιων πολιτικών υγείας και των κοινωνικών πολιτικών που σχετίζονται με τη γήρανση. Ωστόσο, η μελέτη της ευεξίας των ηλικιωμένων ατόμων και η περιεκτική εκτίμηση των παραγόντων που σχετίζονται με τη διαμόρφωσή της παραμένει σχετικά αδιερεύνητη, ενώ τα αντίστοιχα υπάρχοντα ευρήματα της διεθνικής συγκριτικής έρευνας είναι περιορισμένα.

Σκοπός Η παρούσα μελέτη αποσκοπούσε στην εκτίμηση του επιπολασμού έξι διαφορετικών διαστάσεων της ευεξίας, αλλά και της πολλαπλής συγκέντρωσής τους (4+), στα άτομα ηλικίας άνω των 65 ετών των έντεκα Ευρωπαϊκών χωρών που συμμετείχαν στο πρώτο κύμα της έρευνας SHARE (Έρευνα για την Υγεία, τη Γήρανση και τη Συνταξιοδότηση στην Ευρώπη), σύμφωνα με: **(i)** τα δημογραφικά και κοινωνικά τους χαρακτηριστικά, **(ii)** την κοινωνική συμμετοχή **(Κεφάλαιο 1^{ο})**, την κοινωνική απομόνωση **(Κεφάλαιο 2^{ο})** και τη μοναξιά **(Κεφάλαιο 3^{ο})**. Επιπροσθέτως, διερευνήθηκε η συχνότητα της εμφάνισης αισθημάτων μοναξιάς σε σχέση με τις δυσμενείς συνθήκες υγείας, τα στρεσσογόνα γεγονότα ζωής και την κοινωνική απομόνωση **(Κεφάλαιο 4^{ο}).** Τέλος, μετρήθηκε η χρήση προληπτικών υπηρεσιών υγείας και εξετάστηκε η κατανομή του σκορ χρήσης αυτών των υπηρεσιών αυτών σύμφωνα με την εμφάνιση παραγόντων κοινωνικής απομόνωσης και την πολλαπλή συγκέντρωσή τους **(Κεφάλαιο 5^{ο})**. Σε όλες τις παραπάνω διερευνήσεις μας ενδιέφερε να ανιχνεύσουμε ενδεχόμενες διαφοροποιήσεις στην κατανομή των επιμέρους δεικτών και αποτελεσμάτων της ευεξίας, της κοινωνικής συμμετοχής, της κοινωνικής απομόνωσης, της μοναξιάς και της χρήσης προληπτικών υπηρεσιών υγείας μεταξύ των διαφορετικών υπό μελέτη χωρών και γεωγραφικών περιοχών.

Πληθυσμός και μέθοδοι Τα δεδομένα της παρούσας εργασίας αφορούν σε ένα υπο-δείγμα ατόμων ηλικίας άνω των 65 ετών το οποίο αντλήθηκε από το πρώτο κύμα της διεθνούς διαχρονικής έρευνας SHARE που πραγματοποιήθηκε από το 2004 έως το 2005 σε έντεκα Ευρωπαϊκές χώρες (Αυστρία, Βέλγιο, Γαλλία, Γερμανία, Δανία,

Ελβετία, Ελλάδα, Ισπανία, Ιταλία, Ολλανδία και Σουηδία). Η έρευνα αυτή οργανώθηκε και συντονίστηκε κεντρικά από το Κέντρο Οικονομικών της Γήρανσης του Μονάχου (Munich Center for the Economics of Aging-MEA, Germany) υπό τη συνεργατική προσπάθεια περισσότερων από 150 ερευνητών παγκοσμίως και πάνω από 60 ερευνητικών ομάδων, στις οποίες συμπεριλαμβάνεται και η ερευνητική ομάδα που συγκροτήθηκε στον Τομέα Κοινωνικής Ιατρικής, του Τμήματος Ιατρικής του Πανεπιστημίου Κρήτης.

Ο πληθυσμός στόχος της μελέτης αφορούσε στα νοικοκυριά τα οποία αποτελούνταν από ένα τουλάχιστον άτομο ηλικίας άνω των 50 ετών, συμπεριλαμβανομένων και των ενδεχομένως νεότερων συντρόφων ή συζύγων τους, και επιλέχθηκε σύμφωνα με τις σταθμίσεις επιλογής αντιπροσωπευτικών εθνικών δειγμάτων που εφαρμόστηκαν ώστε ο πληθυσμός αυτός να είναι αντιπροσωπευτικός του Ευρωπαϊκού πληθυσμού ηλικίας 50 ετών και άνω. Σε ατομικό επίπεδο, ο μέσος σταθμισμένος ρυθμός ανταπόκρισης που επιτεύχθηκε κυμάνθηκε μεταξύ 73,7% (Ισπανία) έως 93,3% (Γερμανία), ενώ σε επίπεδο νοικοκυριού ο χαμηλότερος ρυθμός ανταπόκρισης διαπιστώθηκε στην Ελβετία (38,8%) και ο υψηλότερος στη Γαλλία (81,0%). Για τους σκοπούς της παρούσας διερεύνησης, οι αναλύσεις βασίστηκαν σε πληθυσμό μελέτης 7.025, 5.129 και 5.074 ατόμων ηλικίας άνω των 65 ετών.

Η ευεξία μελετήθηκε ως η συγκέντρωση έξι δεικτών: της ποιότητας ζωής, της καταθλιπτικής συμπτωματολογίας, της αυτο-αναφερόμενης υγείας, της ικανοποίησης από τη ζωή, των χρόνιων νοσημάτων και του δείκτη μάζας σώματος. Η βίωση υψηλού επιπέδου ευεξίας θεωρήθηκε ως ισοδύναμη της αναφοράς υψηλής ποιότητας ζωής, της απουσίας συμπτωμάτων κατάθλιψης, της εκτίμησης της υγείας ως πολύ καλής, της ικανοποίησης από τη ζωή, της εμφάνισης κανενός ή ενός χρόνιου νοσήματος και της ύπαρξης κανονικού δείκτη μάζας σώματος. Η συγκέντρωση περισσότερων των τεσσάρων δεικτών ευεξίας θεωρήθηκε ως ενδεικτική της πολλαπλής παρουσίας θετικών παραγόντων ευεξίας. Επιπροσθέτως, εκτιμήθηκαν τα κοινωνικο-δημογραφικά χαρακτηριστικά των συμμετεχόντων, η κοινωνική τους συμμετοχή, η κοινωνική απομόνωση, η μοναξιά, οι δυσμενείς συνθήκες υγείας, τα στρεσσογόνα γεγονότα ζωής και η χρήση προληπτικών υπηρεσιών υγείας.

Τα δεδομένα αναλύθηκαν χρησιμοποιώντας το πρόγραμμα IBM-SPSS v21.0. Προκειμένου να αντιμετωπιστούν ζητήματα ρυθμών ανταπόκρισης στη μελέτη εφαρμόστηκαν σταθμίσεις σύμφωνα με τον περίπλοκο σχεδιασμό της δειγματοληψίας. Εκτιμήθηκε ο επιπολασμός των παραγόντων ευεξίας με τα αντίστοιχα 95% Διαστήματα Εμπιστοσύνης και εφαρμόστηκαν αναλύσεις συνδιακύμανσης, καθώς και πολυμεταβλητά μοντέλα παλινδρόμησης για τον προσδιορισμό συσχετίσεων ή διαφορών στην ευεξία σύμφωνα με την κοινωνική συμμετοχή, την κοινωνική απομόνωση και τη μοναξιά. Επίσης μελετήθηκε ο

επιπολασμός της συχνότητας της μοναξιάς με τα αντίστοιχα p-values για τη διερεύνηση της συσχέτισης της συχνότητας της μοναξιάς με τις δυσμενείς συνθήκες υγείας, τα στρεσσογόνα γεγονότα ζωής και την κοινωνική απομόνωση. Η επίδραση των παραπάνω παραγόντων στη συχνότητα της μοναξιάς διερευνήθηκε στα πλαίσια τριών μοντέλων ανάλυσης πολλαπλής λογιστικής παλινδρόμησης και εκτιμήθηκαν τα αντίστοιχα Odds Ratios (ORs). Επίσης, μετρήθηκε η χρήση προληπτικών υπηρεσιών υγείας βάσει ενός σύνθετου σκορ δώδεκα παραμέτρων (12-item composite score) και μελετήθηκε η κατανομή του σκορ αυτού σε σχέση με την κοινωνική απομόνωση. Επιπροσθέτως, εξετάστηκε η πιθανή συσχέτιση των επιμέρους παραμέτρων της χρήσης προληπτικών υπηρεσιών υγείας με τους δείκτες της κοινωνικής απομόνωσης βάσει ανάλυσης πολλαπλής λογιστικής παλινδρόμησης.

Τέλος, προκειμένου να ανιχνευτούν πιθανές εθνικές διαφοροποιήσεις εκτιμήθηκε ο επιπολασμός και τα αντίστοιχα διαστήματα εμπιστοσύνης αναφορικά με τη συχνότητα έλλειψης παραγόντων ευεξίας και τη συχνότητα πολλαπλής εμφάνισης παραγόντων κοινωνικής απομόνωσης και αισθημάτων μοναξιάς στις έντεκα Ευρωπαϊκές χώρες της μελέτης SHARE, ενώ οι διαφορές σε επίπεδο χωρών όσον αφορά στη συσχέτιση μεταξύ της συχνής κοινωνικής συμμετοχής και της πολλαπλής παρουσίας παραγόντων ευεξίας εξετάστηκαν μέσω ανάλυσης απλής γραμμικής παλινδρόμησης.

Αποτελέσματα Η πολλαπλή συγκέντρωση θετικών παραγόντων ευεξίας διαπιστώθηκε για το 10,2% των ερευνώμενων, ενώ το 14,4% των συμμετεχόντων βρέθηκε χωρίς κανένα παράγοντα ευεξίας. Η πλειοψηφία του δείγματος παρουσίασε ένα ή δυο παράγοντες ευεξίας (28,9% και 27,9%, αντίστοιχα). Η πολλαπλή παρουσία παραγόντων ευεξίας ήταν σημαντικά υψηλότερη μεταξύ των ατόμων ηλικίας 65-74, σε σχέση με τα άτομα 75-84 ετών, ενώ δεν παρατηρήθηκαν σημαντικές διαφοροποιήσεις μεταξύ των ατόμων τέταρτης ηλικίας (85+) και αυτών της νεότερης τους ηλικιακής ομάδας 75-84 ετών.

Ο επιπολασμός περισσότερων των τεσσάρων παραγόντων ευεξίας ήταν δυο φορές υψηλότερος στις χώρες του Βορρά (23,2%; 95% CI 20,5-26,1), σε σχέση με τις χώρες της Κεντρικής Ευρώπης (11,2%; 95% CI 20,5-26,1) και τριπλάσιος σε σύγκριση με τις χώρες του Νότου (7,2%; 95% CI 5,8-9,0). Σημαντικά χαμηλότερο ήταν το ποσοστό των ερευνώμενων που δεν είχαν συμμετάσχει σε καμία παραγωγική ή/και κοινωνική δραστηριότητα κατά το διάστημα του τελευταίου μήνα για το οποίο διαπιστώθηκε υψηλή ποιότητα ζωής, σε σχέση με αυτούς που δήλωσαν κοινωνικά ενεργοί. Επίσης, σημαντικά υψηλότερη ήταν η συχνότητα απουσίας καταθλιπτικών συμπτωμάτων, αναφοράς πολύ καλής υγείας, ικανοποίησης από τη ζωή και εμφάνισης λιγότερων από δυο χρόνιων νοσημάτων μεταξύ των παραγωγικά ή/και κοινωνικά δραστήριων ατόμων.

Παρόμοιο πρότυπο όσον αφορά στην παραπάνω κατανομή των θετικών δεικτών της ευεξίας σύμφωνα με τη συμμετοχή σε παραγωγικές και κοινωνικές δραστηριότητες παρατηρήθηκε και σχετικά με την πολλαπλή συγκέντρωσή τους, η οποία ήταν σημαντικά μεγαλύτερη μεταξύ των ερευνώμενων με συχνή παραγωγική ή/και κοινωνική δραστηριοποίηση, σε σύγκριση με τα κοινωνικά αδρανή άτομα (15,0%; 95% CI 12,9-17,4 έναντι 7,2%; 95% CI 6,1-8,5). Επίσης, η συγκέντρωση των αποτελεσμάτων της ευεξίας βρέθηκε να σχετίζεται σημαντικά με τη συχνή συμμετοχή σε παραγωγικές (ORs=1,35, p=0,007) και κοινωνικές δραστηριότητες (ORs=1,57, p<0,001), αλλά και το σκορ των δεικτών ευεξίας διαπιστώθηκε ότι ήταν υψηλότερο μεταξύ των ατόμων που συμμετείχαν συχνότερα σε παραγωγικές ή/και κοινωνικές δραστηριότητες τον τελευταίο μήνα, σε σχέση με τα άτομα που δήλωσαν ότι δεν είχαν συμμετάσχει σε καμία δραστηριότητα (2,1 έναντι 1,7, αντίστοιχα, p<0,05). Η συσχέτιση μεταξύ της συχνής παραγωγικής ή/και κοινωνικής συμμετοχής και της πολλαπλής παρουσίας παραγόντων ευεξίας ήταν 0,050 (p=0,045).

Επιπροσθέτως, η ευεξία βρέθηκε να σχετίζεται σημαντικά με συγκεκριμένους δείκτες της κοινωνικής απομόνωσης. Συγκεκριμένα, τα άτομα που δήλωσαν ότι έρχονταν συχνά σε επαφή με τα παιδιά τους είχαν σημαντικά υψηλότερο σκορ ευεξίας (1,80), σε σχέση με εκείνα με λιγότερο συχνή επαφή (1,40) (p=0,028). Το ίδιο ίσχυσε και για τους ερευνώμενους που δήλωσαν ότι συμμετείχαν σε μια τουλάχιστον δραστηριότητα, σε σχέση με τους κοινωνικά μη δραστήριους συνομήλικους τους (1,93 έναντι 1,70, p=0,001). Υψηλότερο σκορ ευεξίας παρατηρήθηκε επίσης μεταξύ των ατόμων που ζούσαν με σύντροφο ή σύζυγο (1,90), σε σύγκριση με τους συμμετέχοντες που διαβιούσαν μόνοι (1,69), (p=0,007). Τα ηλικιωμένα άτομα που εμφάνισαν περισσότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης διαπιστώθηκε ότι είχαν χαμηλότερο μέσο σκορ ευεξίας (1,69), σε σχέση με τα λιγότερο απομονωμένα άτομα (1,94). Ωστόσο η παραπάνω διαφορά δεν ήταν στατιστικά σημαντική (p=0,200).

Όσον αφορά στην εκτίμηση της μοναξιάς, επίμονα αισθήματα μοναξιάς (τον περισσότερο καιρό) την τελευταία εβδομάδα παρατηρήθηκαν σε μεγαλύτερο ποσοστό μεταξύ των γυναικών (11,2%), σε σχέση με τους άνδρες (7,2%), ενώ και η συχνή αίσθηση της μοναξιάς βρέθηκε να είναι σημαντικά υψηλότερη στις γυναίκες (47,9%), σε σύγκριση με τους άνδρες (30,8%) (p<0,001). Επιπροσθέτως, η μοναξιά διαφάνηκε να είναι άνισα κατανεμημένη μεταξύ των διαφορετικών ηλικιακών ομάδων και μεταξύ των ατόμων διαφορετικού μορφωτικού επιπέδου και οικογενειακού εισοδήματος. Πιο συγκεκριμένα, τα άτομα ηλικίας άνω των 85 ετών δήλωσαν σε ποσοστό 12,4% ότι βίωναν μοναξιά τον περισσότερο καιρό, σε σχέση με το 7,7% των ατόμων ηλικίας 65-74 και το 11,9% των ατόμων 75-84 ετών (p<0,001). Επίσης, τα ηλικιωμένα άτομα που είχαν αποκτήσει περισσότερα χρόνια εκπαίδευσης

βρέθηκαν σε μικρότερο ποσοστό να υποφέρουν από μοναξιά, συγκρινόμενα με εκείνα με λιγότερα χρόνια (p<0,001). Παρομοίως, οι ερευνώμενοι με το χαμηλότερο οικογενειακό εισόδημα σε ποσοστό 13,6% δήλωσαν ότι βίωναν μοναξιά σε σχέση με το 7,3% εκείνων με το υψηλότερο εισόδημα.

Αναφορικά με την κατανομή των αποτελεσμάτων της ευεξίας σύμφωνα με τη συχνότητα βίωσης αισθημάτων μοναξιάς τον περισσότερο καιρό την προηγούμενη εβδομάδα διαπιστώθηκε ότι τα άτομα που ένιωθαν μοναξιά είχαν σημαντικά χαμηλότερο μέσο σκορ παραγόντων ευεξίας (1,07), σε σχέση με τους συνομήλικους τους που δεν είχαν πρόσφατα αισθανθεί καθόλου μόνοι (1,36) (p-trend=0,002). Επίσης, η αναλογία των ερευνώμενων με υψηλή ικανοποίηση από τη ζωή ήταν σημαντικά υψηλότερη μεταξύ αυτών που δεν εμφάνισαν καθόλου αισθήματα μοναξιάς (40,5%: 95% CI 38,1-42,9), σε σχέση με εκείνους με επίμονα αισθήματα μοναξιάς (10,5%: 95% CI 7,1-15,3). Κατ' αντιστοιχία, ο επιπολασμός της πολλαπλής εμφάνισης παραγόντων ευεξίας ήταν σημαντικά χαμηλότερος μεταξύ των ατόμων που αισθάνονταν μοναξιά τον περισσότερο καιρό (6,9%: 95% CI 3,7-12,4), σε σύγκριση με τα άτομα που δεν ένιωθαν ποτέ μοναξιά (15,5%: 95% CI 13,8-17,2).

Σχετικά με την επίδραση των δυσμενών συνθηκών υγείας, των στρεσσογόνων γεγονότων ζωής και της κοινωνικής απομόνωσης στην εμφάνιση μοναξιάς διαπιστώθηκαν, επίσης, σημαντικές διαφορές. Τα άτομα με περισσότερα από ένα χρόνια νοσήματα ανέφεραν πιο συχνά αισθήματα μοναξιάς, σε σύγκριση με εκείνα που δεν εμφάνισαν κανένα χρόνιο νόσημα (p=0,015). Το ίδιο βρέθηκε να ισχύει για τους ερευνώμενους με περισσότερους του ενός περιορισμούς στη λειτουργικότητα τους (p<0,001) ή με περισσότερα του ενός συμπτώματα νοσηρότητας (p=0,002), αλλά και γι' αυτούς που υπέφεραν από περισσότερα από τέσσερα καταθλιπτικά συμπτώματα (p<0,001). Επίσης, σημαντικές ήταν οι διαφορές στην κατανομή της συχνότητας της μοναξιάς μεταξύ των ατόμων που ζούσαν σε κοινωνική απομόνωση, βάσει των δεικτών της μοναχικής διαβίωσης, της μη συμμετοχής σε παραγωγικές και κοινωνικές δραστηριότητες και της ατεκνίας (p<0,001), ενώ και τα ηλικιωμένα άτομα σε κατάσταση χηρείας ανέφεραν σε σημαντικά μεγαλύτερο ποσοστό (p<0,001) ότι βίωναν μοναξιά τον περισσότερο καιρό (12,2%), σε σχέση με τους μη χήρους συμμετέχοντες (7,8%). Μάλιστα, σύμφωνα με τα αποτελέσματα των δυο μοντέλων ανάλυσης πολλαπλής λογιστικής παλινδρόμησης που εφαρμόστηκαν (ORs=2,08; 95% CI 1,24-3,48 και ORs=1,75; 95% CI 1,03-2,96, αντίστοιχα), τα άτομα των οποίων τα παιδιά είχαν πρόσφατα μετακομίσει από την οικογενειακή εστία είχαν σχεδόν διπλάσια πιθανότητα να αισθάνονται μοναξιά, σε σύγκριση με τα άτομα των οποίων τα παιδιά παρέμεναν υπό την ίδια στέγη. Τέλος, σημαντικά μεγαλύτερη ήταν η αναλογία των ηλικιωμένων ατόμων στην Ιταλία (27,8%) και την Ελλάδα (26,1%)

που εκδήλωσαν συχνά αισθήματα μοναξιάς, σε σύγκριση με την αντίστοιχη αναλογία των ερευνώμενων στη Δανία (6,0%) και την Ολλανδία (5,0%).

Όσον αφορά στη συσχέτιση μεταξύ της χρήσης προληπτικών φροντίδων υγείας και της κοινωνικής απομόνωσης, σημαντικά υψηλότερο ήταν το σκορ των προληπτικών υπηρεσιών μεταξύ των ατόμων που ζούσαν με σύντροφο ή σύζυγο (p=0,001), που ήταν παντρεμένα (p=0,004), που είχαν τουλάχιστον ένα παιδί (p=0,046), καθώς και εκείνων που διατηρούσαν οποιαδήποτε μορφή παραγωγικής ή κοινωνικής δραστηριοποίησης (p=0,023). Επιπροσθέτως, οι ερευνώμενοι που εμφάνισαν πολλαπλή παρουσία παραγόντων κοινωνικής απομόνωσης (4+) διαπιστώθηκε ότι έκαναν σημαντικά χαμηλότερη χρήση υπηρεσιών προληπτικής ιατρικής, σε σύγκριση με τα μη απομονωμένα άτομα (37,6 έναντι 41,8, p=0,046). Περαιτέρω, τα ηλικιωμένα άτομα που ζούσαν μόνα τους και εκείνα που δήλωσαν κοινωνικά ανενεργά είχαν σημαντικά μικρότερη πιθανότητα να έχουν επισκεφθεί οδοντίατρο (ORs=0,69; 95% CI 0,52-0,91 και ORs=0,70; 95% CI 0,54-0,89, αντίστοιχα). Επίσης, τα άτομα που δεν επέδειξαν κανενός είδους κοινωνική συμμετοχή εμφάνισαν χαμηλότερη πιθανότητα να έχουν πραγματοποιήσει σιγμοειδοσκόπηση ή κολονοσκόπηση (ORs=0,74; 95% CI 0,57-0,96). Σημαντικές διαφοροποιήσεις στην κατανομή του μέσου σκορ χρήσης προληπτικών υπηρεσιών ανιχνεύτηκαν μεταξύ των κοινωνικά απομονωμένων ατόμων στις έντεκα υπό εξέταση ευρωπαϊκές χώρες, με το σκορ αυτό να κυμαίνεται από 49,6 στη Γαλλία έως 26,0 στην Ελλάδα. Ο επιπολασμός της πολλαπλής παρουσίας παραγόντων κοινωνικής απομόνωσης ήταν περίπου 9,0–22,0% στις χώρες της Νότιας Ευρώπης, σε σχέση με το 13,0–25,0% μεταξύ των ηλικιωμένων ατόμων στη Βόρεια και Κεντρική Ευρώπη, ενώ η υψηλότερη αναλογία ερευνώμενων με περισσότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης παρατηρήθηκε στη Σουηδία (25,2%) και η χαμηλότερη στην Ελλάδα (8,8%).

Συμπεράσματα Σύμφωνα με τα ευρήματα της παρούσας διδακτορικής διατριβής οι κοινωνικοί παράγοντες που μελετήθηκαν βρέθηκαν να σχετίζονται σημαντικά με τους θετικούς δείκτες της ευεξίας, αλλά και με την πολλαπλή συγκέντρωσή τους. Επίσης, διαπιστώθηκε σημαντική συσχέτιση μεταξύ συγκεκριμένων εκφάνσεων της κοινωνικής απομόνωσης και της χρήσης προληπτικών υπηρεσιών υγείας. Τα κύρια συμπεράσματα που μπορούν να αντληθούν είναι τα εξής: **(i)** τα αποτελέσματα της ευεξίας παρουσιάζουν σημαντική κοινωνική κατανομή, με τα άτομα χαμηλού κοινωνικο-οικονομικού επιπέδου να χαρακτηρίζονται από σημαντικά χαμηλότερη πιθανότητα συγκέντρωσης θετικών παραγόντων ευεξίας, **(ii)** η κατανομή των αποτελεσμάτων της ευεξίας φαίνεται να διαφοροποιείται μεταξύ των διαφορετικών χωρών, εύρημα το οποίο βρίσκεται σε αντιστοιχία με το καλά τεκμηριωμένο "north-south pattern" στην ευεξία, με σημαντικά καλύτερα αποτελέσματα να απαντώνται

στις χώρες του Βορρά, **(iii)** η συχνή συμμετοχή σε κοινωνικές και παραγωγικές δραστηριότητες σχετίζεται σημαντικά με διαφορετικές διαστάσεις της ευεξίας των ατόμων τρίτης και τέταρτης ηλικίας, **(iv)** συγκεκριμένες πτυχές του κοινωνικού περιβάλλοντος των ηλικιωμένων ατόμων, οι οποίες προσιδιάζουν στην κοινωνική απομόνωση, σχετίζονται σημαντικά με συγκεκριμένα αποτελέσματα της ευεξίας τους, **(v)** η χρήση προληπτικών υπηρεσιών υγείας βρίσκεται σε συνάρτηση με τις κοινωνικές συνθήκες διαβίωσης των ατόμων και την κοινωνική απομόνωση, **(vi)** τα άτομα που δεν νιώθουν μοναξιά παρουσιάζουν καλύτερα αποτελέσματα ευεξίας και έχουν υψηλότερο μέσο σκορ θετικών παραγόντων ευεξίας, ενώ τα άτομα που βιώνουν συχνά αισθήματα μοναξιάς εμφανίζουν χαμηλότερη πιθανότητα πολλαπλής εμφάνισης παραγόντων ευεξίας, **(vii)** η συχνότητα βίωσης αισθημάτων μοναξιάς παρουσιάζει σημαντική συσχέτιση με επιμέρους παραμέτρους των δυσμενών συνθηκών υγείας, των στρεσσογόνων γεγονότων ζωής και της κοινωνικής απομόνωσης και, **(viii)** η πρόσφατη αποχώρηση του τελευταίου παιδιού από την οικογενειακή εστία φαίνεται να είναι ο πιο σημαντικός ανεξάρτητος δείκτης πρόβλεψης της εκδήλωσης συχνών αισθημάτων μοναξιάς.

Συμπερασματικά, καθίσταται αντιληπτό από τα προαναφερθέντα ευρήματα ότι συγκεκριμένοι παράγοντες του κοινωνικού και οικογενειακού περιβάλλοντος των ατόμων σχετίζονται σημαντικά με το επίπεδο της ευεξίας τους και μπορούν να επιφέρουν ευεργετικές επιδράσεις σε ποικίλες σκοπιές αυτής. Επιπροσθέτως, τα παρόντα ευρήματα παρέχουν σημαντικές ενδείξεις ως προς την αναγνώριση των παραγόντων εκείνων που πιθανώς επιδρούν στην κοινωνική δραστηριοποίηση, την κοινωνική απομόνωση και τη μοναξιά και επομένως θα μπορούσαν να διευρύνουν την υπάρχουσα γνώση σχετικά με τους προστατευτικούς ή τους επιβαρυντικούς παράγοντες της ευεξίας κατά την περίοδο της γήρανσης. Αρκετοί από αυτούς τους παράγοντες επιδέχονται τροποποίησης μέσω των κατάλληλων εκείνων παρεμβάσεων οι οποίες θα μπορούσαν να οδηγήσουν σε βελτιώσεις στην ευεξία των ατόμων καθώς αυτά γερνούν. Ιδιαίτερα, η ανάπτυξη και ενίσχυση των ευκαιριών ενεργούς συμμετοχής σε κοινωνικές δραστηριότητες και η ενθάρρυνση της υιοθέτησης ενός δραστήριου τρόπου ζωής μπορεί να επιφέρει σημαντικά οφέλη στο επίπεδο της ευεξίας των ηλικιωμένων ατόμων και οι αντίστοιχες στρατηγικές οφείλουν να είναι προσανατολισμένες προς την ικανοποίηση των αναγκών των ατόμων για κοινωνική ενσωμάτωση και ουσιώδεις κοινωνικές συναναστροφές. Επιπροσθέτως, οι κοινωνικές πολιτικές, αλλά και οι πολιτικές δημόσιας υγείας που αποσκοπούν στην προαγωγή της ευεξίας οφείλουν να εντάξουν στις προτεραιότητές τους και το στόχο της άμβλυνσης της ψυχο-κοινωνικής επιβάρυνσης και του ανθρώπινου πόνου, όπως αυτός αντανακλάται στην ύπαρξη αισθημάτων μοναξιάς, ως ένας σημαντικός παράγοντας κινδύνου για την εμφάνιση δυσμενών αποτελεσμάτων ευεξίας.

Abstract

Background The fact that the contemporary world has been ageing rapidly is one of the greatest challenges health care and social security systems have to deal with. Social and gerontological research that has been implemented up to date, mainly at the country level, has extensively addressed the health of people of third and fourth age and has thus indicated several determinants associated with their social environment. In this context, well-being has been denoted to predict longer survival among older people and higher utilization of health care services. Therefore, well-being has become an important objective of ageing-related public health and social policies. However, the study of older adults' well-being and the comprehensive evaluation of the factors related to its configuration remain relatively unexplored, whereas the respective existing findings of nationally comparative research have been limited.

Aim The current study aimed at assessing the prevalence of six different positive well-being outcomes and their accumulated presence (4+) as well, among adults aged 65 years of age and older of the eleven European countries who took part in the first wave of the SHARE survey (Survey of Health, Ageing and Retirement in Europe), according to: **(i)** their socio-demographic characteristics, **(ii)** social engagement (**1st Chapter**), social isolation (**2nd Chapter**) and loneliness **(3rd chapter**). Furthermore, frequency of feelings of loneliness was examined in relation to adverse health conditions, stressful life events and social isolation (**4rth Chapter**). In addition, the utilization of preventive health services was measured according to social isolation indicators and their multiple clustering (**5th Chapter**). Lastly, we were interested to study the potential differences in well-being, social engagement, social isolation, loneliness and preventive health services utilization among the different countries and geographical regions under scrutiny.

Subjects and Methods The data of the present study pertains to a subsample of adults aged 65 and older which was retrieved from the first wave of the cross-national longitudinal SHARE survey which was conducted between 2004 and 2005 in eleven European countries (Austria, Belgium, France, Germany, Denmark, Switzerland, Greece, Spain, Italy, the Netherlands and Sweden). This survey was organized and coordinated centrally at the Mannheim Research Institute for the Economics of Ageing (MEA, Germany) under the collaborative effort of multidisciplinary national teams of more than 150 researchers worldwide and more than 60 working groups, including the research team of the Department of Social Medicine, in the Faculty of Medicine of University of Crete.

The target population of the study concerned households with at least one member aged 50 and over, including their probably younger partners or spouses, and it was selected according to the complex multistage stratification design that was implemented so that this population to be representative of the European population aged over 50 years. At the individual level, the average weighted response rate which was achieved ranged from 73.7% in Spain to 93.3% in Germany, whereas at the household level the lowest response rate was reached in Switzerland (38.8%) and the highest in France (81.0%). For the purposes of the current investigation, the analyses comprised individuals aged 65 years and older within the SHARE sample, which yielded a study population of 7,025, 5,129, 5,074 and 6,971 respondents.

Well-being was gauged as the clustering of six indicators: quality of life, depressive symptomatology, self-perceived health, life satisfaction, chronic conditions and Body Mass Index (BMI). High well-being was equated with reporting high quality of life, exhibiting absence of depressive symptomatology, perceiving health status as very good, being very satisfied with life, suffering from one or none chronic health condition and having normal BMI. The clustering of more than four well-being indicators (4+) was considered to be indicative of higher well-being and referred to as multiple presence of positive well-being outcomes. Additionally, we assessed the socio-demographic characteristics of the participants, their social engagement, social isolation, loneliness, adverse health conditions, stressful life events and preventive health services utilization.

Data were analyzed using the IBM-SPSS v21.0. Weights were applied according to the complex sampling design of the study, reflecting non-responses and stratification design. The prevalence of well-being indicators and the respective 95% confidence intervals (95% CIs) were estimated according to the complex sampling design. Furthermore, analysis of covariance and multivariate regression analysis were applied in order to search for potential differences and associations between well-being and social engagement, social isolation and loneliness. Furthermore, we estimated frequency of feelings of loneliness with the respective p-values and we examined frequency of loneliness according to adverse health conditions, stressful life events and social isolation. Multivariate regression models were calculated with the respective Odds Ratios (ORs) so as to study the effect of the above factors on frequency of loneliness. Lastly, preventive health services utilization was measured according to a composite score of twelve different items (12-item composite score) and the distribution of this score was investigated according to social isolation. In addition, the utilization of the distinct components of preventive care under study was also examined according to different indicators of social isolation through multiple logistic regression analysis.

Moreover, in order to detect possible national variations, we estimated the weighted prevalence and the corresponding confidence intervals of the frequency of lacking indicators of well-being and the occurrence of social isolation and loneliness across the eleven SHARE European countries. Lastly, country-specific differences in the association between the frequency of activity participation and well-being clustering were also addressed by means of simple linear regression analysis.

Results More than four indicators of well-being were observed for 10.2% of the respondents, whereas for 14.4% of the total sample no positive well-being outcomes were rendered. The majority of the sample was found with one or two well-being indicators (28.9 and 27.9%, respectively). The presence of 4+ wellbeing indicators was significantly more common among participants aged 65–74 years than among those of age 75–84 years, whereas the prevalence of accumulated well-being indicators among the oldest-old participants of the study did not differ significantly from the their younger counterparts aged 75-84 years old.

The prevalence of 4+ well-being indicators was shown to be more than twice as high (23.2%; 95% CI 20.5–26.1) in Northern countries compared to Central countries (11.2%, 95% CI 9.7–12.8) and more than three times as high compared to Southern ones (7.2%; 95% CI 5.8–9.0). A significantly lower proportion of the participants who had not participated in any productive or/and social activities were found with high quality of life, in relation to productively and socially active ones. Likewise, the proportion of adults who were attested with low depression score, rated their health as very good, were very satisfied with life and displayed less than two chronic diseases was significantly higher among those with frequent productive or/and social activity participation over the course of the previous month.

This pattern was consistent for most well-being indicators and remained after their clustering, with 4+ indicators of well-being being significantly more prevalent among frequent participants in productive or/and social activities, than infrequent ones (15.0%, 95% CI 12.9–17.4 vs. 7.2%; 95% CI 6.1–8.5). Clustering of well-being indicators was found to correlate at a significant level with frequent participation in productive (ORs=1.35, p=0.007) and social activities (ORs=1.57, p<0.001). Accordingly, a higher score of well-being indicators was evident among older adults participating frequently in productive or/and social activities, in relation to those who had not participated in any activities over the course of the previous month (2.1 vs. 1.7, respectively, p<0.05). The correlation between frequent productive or/and social activity participation and multiple presence of well-being indicators was 0.050 (p=0.045).

Additionally, well-being was found to be significantly associated with specific indicators of social isolation. More particularly, individuals contacting their offspring daily or at least once a month displayed a significantly higher mean well-being score (1.80), in relation to those reporting less frequent or no parent-child contact (1.40) (p=0.028). The above pattern was also ascertained regarding participants with at least one social activity, in relation to their socially inactive peers (1.93 vs. 1.70, p=0.001). A higher mean well-being score was thus observed among older adults living in partnered households (1.90), compared to their unpartnered counterparts (1.69) (p=0.007). Older individuals with an accumulation of social isolation indicators indicated a lower mean well-being score (1.69), in comparison to the least isolated individuals (1.94). However the above difference did not reach statistical significance (p=0.200).

Regarding the prevalence of well-being outcomes according to loneliness, it was found that individuals who declared feeling lonely most of the time over the course of the previous week had a significantly lower mean score of indicators of well-being (1.07), relative to their non lonely counterparts (1.36) (p-trend=0.002). Moreover, the proportion of the respondents being very satisfied with their life was significantly higher among those with no feelings of loneliness (40.5%; 95% CI 38.1-42.9), as compared to adults with very frequent endorsement of loneliness feelings (10.5%; 95% CI 7.1-15.3). Likewise, multiple clustering of well-being indicators was significantly more prevalent among non lonely individuals (15.5%; 95% CI 13.8-17.2), in relation to their lonely seniors (6.9%; 95% CI 3.7-12.4).

As far as the assessment of loneliness is concerned, persistent feelings of loneliness, endured most of the time, were mostly reported by females (11.2%), compared to males (7.2%), whereas frequent feelings of loneliness were reported by 30.8% of males and 47.9% of females (p<0.001). In addition, loneliness was indicated to be unequally distributed among different age groups and individuals of different educational and income status. Specifically, the proportion of individuals declaring to feel lonely most of the time was significantly higher among the oldest-old participants (85+) (12.4%), as compared to their younger counterparts, aged 65-74 (7.7%) and 75-84 years old (11.9%) (p<0.001). Moreover, older adults who had obtained more years of schooling were found to suffer from significantly less frequent feelings of loneliness, in comparison to adults with the least years of education (p<0.001). Likewise, 13.6% of the respondents with the lowest household income declared to feel lonely, in relation to 7.3% of those belonging to the highest income quartile.

As regards the association of loneliness with adverse health conditions, stressful life events and social isolation significant differences were shown to exist. More particularly, individuals with one or more chronic conditions reported more frequent

feelings of loneliness, in comparison to adults suffering from less than two chronic diseases (p=0.015). This pattern also held true for older people with more than one limitations in activities of daily living ((I)ADL) (p<0.001) or more than one disease symptoms (p=0.002) and more than four depressive symptoms (p<0.001). Furthermore, significant were the differences noted in the distribution of loneliness frequency between individuals living in social isolation, as indicated by solitary living, social disengagement and childlessness (p<0.001). In addition, for 12.2% of widowed older people frequent feelings of loneliness were endorsed, relative to 7.8% of those living in partnered households. In a similar vein, the likelihood of persistent endorsements of feelings of loneliness was twice as high among older adults whose offspring had recently moved out from parental nest, in relation to those whose child still shared the same house with them, in both models of multiple logistic regression analysis (ORs=2.08; 95% CI 1.24-3.48 and ORs=1.75; 95% CI 1.03-2.96, respectively). Lastly, 27.8% of Italian and 26.1% of Greek older individuals were categorized as severely lonely, which applied to 6.0% of the elderly in Denmark and 5.0% in the Netherlands.

With reference to the utilization of preventive care according to social isolation, the mean score of preventive health services was documented to be significantly higher among adults residing with a partner or spouse (p=0.001), being married (p=0.004), having at least one child (p=0.046) and being involved in any kind of productive or/and social activity (p=0.023). Additionally, respondents presenting multiple presence of social isolation indicators (4+) were found to have a significantly lower mean score of preventive health services utilization, as compared to their non isolated partners (37.6 vs. 41.8, p=0.046). Further, older adults living unpartnered, as well as those being socially disengaged, indicated a significantly lower likelihood to have visited a dentist (ORs=0.69; 95% CI 0.52-0.91 and ORs=0.70; 95% CI 0.54-0.89, respectively). Similarly, individuals with no activity participation had lower odds of having ever undertaken sigmoidoscopy or colonoscopy (ORs=0.74; 95% CI 0.57–0.96). Significant differences were discernible between the eleven European countries under investigation as regards the distribution of health services utilization score among socially isolated older people. Specifically, the mean score of preventive health services utilization among adults with 4+ social isolation indicators was 49.6 in France and 26.0 in Greece.

Furthermore, the rate of the multiple presence of social isolation indicators was approximately 9.0–22.0% in southern Europe, relative to 13.0–25.0% among older people in northern and central Europe. Moreover, the proportion of adults being identified with more than 4 indicators of social isolation was the highest in Sweden (25.2%) and the lowest in Greece (8.8%).

Conclusions According to the afore-mentioned cross-national empirical findings the social factors under study were found to be significantly associated with specific positive well-being outcomes and their multiple clustering, as well. In addition, preventive health services utilization was significantly related to different indicators of social isolation. The main conclusions that could be drawn are as follows: **(i)** well-being outcomes are socially distributed, with individuals with the least years of education and the lowest household income level being ascertained with the lowest likelihood of presenting multiple clustering of well-being indicators, **(ii)** well-being dimensions are differently distributed among the eleven European countries and the three geographical regions under investigation, which is in accordance with the well-established well-being "north-south pattern", with significantly better outcomes being consistently attested among Northern Europeans, **(iii)** frequent productive and social activity participation is significantly related to well-being, **(iv)** specific elements of people's social environment which pertain to social isolation are significantly related to well-being outcomes, **(v)** preventive health services utilization is associated with social living conditions and social isolation, **(vi)** non lonely older adults present better well-being outcomes and have a greater well-being mean score, whereas multiple clustering of well-being indicators seems to be less common among individuals declaring to feel lonely most of the time, **(vii)** frequency of reporting feelings of loneliness is significantly related to specific adverse health conditions, stressful life events and social isolation indicators and, **(viii)** recent departure of the last offspring from parental nest was the most significant independent predictor of loneliness.

It becomes evident from the above findings that there seem to be specific factors of older people's social and family context which are significantly associated with their level of well-being and can possibly hold beneficial implications for multiple well-being aspects. Several of these factors could be subjected to modification through to suitable interventions which could lead to the amelioration of individuals' well-being as they age. Particularly, the enhancement of chances for active engagement in social activities and the encouragement of an active lifestyle could be to the benefit of older people's well-being and respective strategies should therefore be oriented towards satisfying their needs for social integration and meaningful social connections. In addition, social and public health policies aiming at the improvement of later-life well-being ought to prioritize the mitigation of psycho-social distress and human pain which is reflected on the occurrence of loneliness as a key risk factor for health and well-being. Furthermore, the current results afford important empirical evidence on identifying factors which possibly bear upon social engagement, social isolation and loneliness and could thus extend current knowledge and understanding on well-being promoting factors and risk factors for poor well-being outcomes in old age.

Εισαγωγή

Ευεξία και Χρήση Υπηρεσιών Υγείας. Θεωρητικές και Ερευνητικές Προσεγγίσεις. Προσδιοριστικοί Παράγοντες

1. Εισαγωγή

1.1 Δημογραφική γήρανση, ευεξία και χρήση υπηρεσιών υγείας

Η δημογραφική και κοινωνική μετάβαση σ' ένα ολοένα αυξανόμενο γηράσκοντα πληθυσμό συνυφαίνεται με σημαντικές κοινωνικο-οικονομικές, αλλά και πολιτικές προκλήσεις για τα άτομα όλων των ηλικιών, οι οποίες απορρέουν κυρίως από το γεγονός ότι τα ηλικιωμένα άτομα δύνανται να πραγματοποιούν σημαντικές οικονομικές, κοινωνικές, αλλά και ψυχο-συναισθηματικές συνεισφορές από τις οποίες τα νεότερα άτομα αντλούν πολυσήμαντα οφέλη. Ως εκ τούτου, οι ίδιες προκλήσεις μπορούν να προσληφθούν ως ευκαιρίες τόσο σε ατομικό, όσο και κοινωνικό επίπεδο, μέσω κυρίως της ενίσχυσης, αλλά και της επέκτασης των παραπάνω ωφελειών και της διάχυσής τους στην κοινωνία. Ταυτόχρονα, το αυξημένο προσδόκιμο επιβίωσης δεν αποτελεί μόνο ένα θρίαμβο της κοινωνίας, αλλά και μια μεγάλη ευκαιρία ως προς την ανάδειξη των κοινωνικών δυσλειτουργιών και προβλημάτων υγείας των ηλικιωμένων ατόμων, αλλά και του σημαντικού ρόλου που καλούνται να διαδραματίσουν τα οικογενειακά και κοινωνικά δίκτυα ως προς τη στήριξη, την ενσωμάτωση και την ενθάρρυνση της κοινωνικής συμμετοχής των ατόμων τρίτης και τέταρτης ηλικίας.

Ως εκ τούτου, είναι εξέχουσας σημασίας οι σχεδιαστές πολιτικών υγείας και κοινωνικής πολιτικής, αλλά και οι επαγγελματίες υγείας να έχουν πλήρη γνώση των κοινών συμπτωμάτων ή νόσων που απαντώνται μεταξύ των ατόμων μεγαλύτερων ηλικιών που δύνανται να προληφθούν ή να μετατοπιστούν χρονικά, αλλά και των κοινωνικο-δημογραφικών και ψυχο-κοινωνικών εκείνων παραγόντων που προσδιορίζουν τα αποτελέσματα της υγείας και της ευεξίας τους. Στην πραγματικότητα, η διασφάλιση συνθηκών υγιούς γήρανσης και η εξάλειψη των παραγόντων κινδύνου για την εμφάνιση συνθηκών κακής υγείας και περιορισμένης ευεξίας μεταξύ των ηλικιωμένων ατόμων αποτελεί για τους σχεδιαστές κοινωνικής πολιτικής και στρατηγικών δημόσιας υγείας τον κύριο άξονα για τη διασφάλιση του δυναμικού των ηλικιωμένων ατόμων και τη μεγιστοποίηση των ωφελειών που προέρχονται από τις συνεισφορές που πραγματοποιούν.

Δεδομένου ότι οι συνθήκες γήρανσης είναι αποτέλεσμα σύνθετων αλληλεπιδράσεων μεταξύ βιολογικών, ψυχολογικών και κοινωνικο-οικονομικών παραγόντων και λαμβάνοντας υπόψη το γεγονός ότι η επέκταση της διάρκειας ζωής των ατόμων εγείρει το ζήτημα της προσφυγής σε πολιτικές, μέτρα και εργαλεία επίτευξης μιας «καλής» ή «ποιοτικής» ζωής, η ένταξη της παραμέτρου της ευεξίας στην έρευνα για τη γήρανση παρουσιάζει ιδιαίτερη σημαντικότητα. Ταυτόχρονα, τα ευρήματα της κοινωνικής και ιατρικής έρευνας που αναδεικνύουν τη γήρανση σε μια περισσότερο κοινωνικο-ψυχολογική, παρά βιολογική ή ηλικιακή κατασκευή καθιστούν αναγκαία

τη διερεύνηση των αλληλεπιδράσεων και των δυναμικών που αναπτύσσονται μεταξύ των ηλικιωμένων ατόμων σε οικογενειακό και προσωπικό επίπεδο.

Σ' αυτό το περιβάλλον το οποίο χαρακτηρίζεται από την αύξηση του προσδόκιμου επιβίωσης και τη βελτίωση της αποτελεσματικότητας των υπαρχουσών θεραπειών για την αντιμετώπιση της νοσηρότητας των ατόμων μεγαλύτερων ηλικιών, ο στόχος της διασφάλισης υψηλού επιπέδου ευεξίας αποτελεί προτεραιότητα των πολιτικών επιτυχούς γήρανσης. Μάλιστα, το επίπεδο της ευεξίας έχει βρεθεί να αποτελεί τον πιο σημαντικό ανεξάρτητο δείκτη εισαγωγών σε νοσοκομεία και επισκέψεων στα επείγοντα (Gandy et al. 2013), ενώ σημαντικές πτυχές της ευεξίας, όπως αυτές αντανακλώνται στην ψυχολογική ευεξία, έχουν αναχθεί σε δείκτες μεγαλύτερης επιβίωσης, καλύτερης γνωστικής λειτουργικότητας και αυξημένων προστατευτικών για την υγεία συμπεριφορών (Steptoe et al. 2012).

Ως εκ τούτου, η διατήρηση και προαγωγή της ευεξίας έχει περιγραφεί ακριβώς ως ένας από τους στόχους κλειδιά των δημόσιων πολιτικών που στοχεύουν στα ηλικιωμένα άτομα στα πλαίσια της υιοθέτησης μιας περισσότερο θετικής οπτικής όσον αφορά στις διαδικασίες της γήρανσης και της αντίληψης ότι η περίοδος της γήρανσης επιφυλάσσει σημαντικές ευκαιρίες και προκλήσεις για προσωπική ανάπτυξη και άντληση ρόλων κοινωνικότητας και παραγωγικότητας. Η αντίληψη αυτή σηματοδοτεί τη μετάβαση από την προσέγγιση της γήρανσης ως παθολογικής διαδικασίας συνυφασμένης με έντονα στοιχεία νοσηρότητας και αναπηρίας και τη μετατόπιση από το στόχο της μείωσης της θνησιμότητας και της αποτροπής του θανάτου προς την αναγκαιότητα βελτίωσης της ποιότητας ζωής και της ευεξίας και από το στόχο της προσθήκης χρόνων στη ζωή προς τη σπουδαιότητα προσθήκης ζωής στα χρόνια (Rechel 2009; Schalock 2004).

Ωστόσο, η βίωση συνθηκών επιτυχούς ή υγιούς γήρανσης, η οποία και αντανακλάται σε σημαντικό βαθμό στην ίδια την προσωπική κρίση των ηλικιωμένων ατόμων για τις συνθήκες της ζωής τους και στα προσωπικά τους συναισθήματα, συναρτάται άμεσα και με τις κοινωνικές συνθήκες διαβίωσής τους και τους διαθέσιμους ψυχο-κοινωνικούς τους πόρους (Gabriel and Bowling 2004). Για τα ίδια τα ηλικιωμένα άτομα η ένταξή τους σε ισχυρά οικογενειακά και κοινωνικά δίκτυα φαίνεται να προσδιορίζει σε σημαντικό βαθμό την προσωπική τους αντίληψη σχετικά με το τι συνιστά μια «καλή ποιότητα ζωής» (Hemingway and Jack 2013), ενώ σύμφωνα με τις αυτο-αξιολογήσεις τους η ευεξία προσιδιάζει κυρίως σε μια κατάσταση κατά την οποία τα άτομα αισθάνονται υγιή, είναι ελεύθερα από πόνο και είναι ικανά να διάγουν μια θετική ζωή (Hoban et al 2011).

Ταυτόχρονα, τα υπάρχοντα ευρήματα της κοινωνικής έρευνας συντείνουν προς τη διαπίστωση ότι τα άτομα χαμηλότερου κοινωνικο-οικονομικού επιπέδου

προσπορίζουν λιγότερες ευκαιρίες συμμετοχής σε κοινωνικές και παραγωγικές δραστηριότητες (Siegrist and Wahrendorf 2009), ενώ και η διαγενεακή κοινωνική στήριξη, όπως αυτή αντανακλάται στην ανταλλαγή διάφορων μορφών κοινωνικής στήριξης, εμφανίζεται να είναι χαμηλότερη μεταξύ των λιγότερο προνομιούχων κοινωνικών ομάδων ηλικιωμένων ατόμων (Weyers et al. 2008). Για παράδειγμα, τα άτομα υψηλότερου μορφωτικού επιπέδου εντάσσονται σε περισσότερο διευρυμένα κοινωνικά δίκτυα που διακρίνονται από μεγάλο αριθμό μελών και συχνές επαφές μεταξύ των μελών αυτών (Wilson and Musick 1998).

Από την άλλη πλευρά, η συχνή επαφή των ηλικιωμένων γονέων με τα παιδιά τους λειτουργεί ως παράγοντας που αντισταθμίζει τις δυσμενείς επιπτώσεις που επιφυλάσσει το χαμηλό κοινωνικο-οικονομικό επίπεδο στα αποτελέσματα της υγείας και της ευεξίας τους (Wu and Rudkin 2000). Περαιτέρω η διάθεση διευρυμένων κοινωνικών δικτύων και τα μέλη που τα αποτελούν δύνανται να διευκολύνουν την πρόσβαση στους υπάρχοντες πόρους και τις διαθέσιμες υγειονομικές υπηρεσίες, να λειτουργήσουν ως παράγοντες «κοινωνικής λογοδοσίας» για την ενίσχυση της υιοθέτησης θετικών συμπεριφορών υγείας και να συνεισφέρουν στην επίτευξη της απαραίτητης συμμόρφωσης με τις εκάστοτε ιατρικές οδηγίες και συστάσεις (Berkman et al. 2000).

Επιπροσθέτως, προστατευτικές για την υγεία των ηλικιωμένων ατόμων συμπεριφορές, όπως η χρήση προληπτικών υπηρεσιών υγείας, η οποία και θεωρείται ότι μπορεί να συμβάλει σημαντικά στη βελτίωση και προαγωγή της υγείας και της ευεξίας τους, φαίνεται και αυτή να κατανέμεται διαφορετικά μεταξύ διαφορετικών στρωμάτων της κοινωνίας (Hoeck et al. 2014). Συγκεκριμένα, τα άτομα που κατέχουν περιορισμένους κοινωνικο-οικονομικούς πόρους τείνουν να προσφεύγουν συχνότερα στη νοσοκομειακή και επείγουσα ιατρική φροντίδα και ταυτόχρονα να καταναλώνουν σημαντικά λιγότερες υπηρεσίες πρόληψης και προαγωγής της υγείας (Berkman et al. 2011).

Επομένως, είναι ιδιαιτέρως σημαντική η διερεύνηση και κατανόηση των παραγόντων εκείνων που σχετίζονται με την ευεξία των ηλικιωμένων ατόμων, αλλά και τη χρήση προληπτικών υπηρεσιών για το σχεδιασμό των κατάλληλων παρεμβάσεων βελτίωσης της ποιότητα της ζωής τους. Η περαιτέρω μελέτη της ευεξίας μπορεί να δώσει απαντήσεις σε σχέση με το πως τα καταφέρνουν τα ηλικιωμένα άτομα παρά τις δυσμενείς συνθήκες υγείας τους, ποιοι είναι οι μηχανισμοί εκείνοι που ενδεχομένως συμβάλουν στη διαμόρφωση της ευεξίας τους και ποιες παρεμβάσεις μπορούν να επιφέρουν πιθανές βελτιώσεις στην ευημερία των ατόμων τρίτης και τέταρτης ηλικίας.

1.2 Εννοιολογική και ερευνητική προσέγγιση της ευεξίας

Η ευεξία έχει αναδυθεί ως ένα ζήτημα εμπειρικού ενδιαφέροντος τα τελευταία χρόνια στα πλαίσια της θετικής ψυχολογίας και των συμπεριφορικών σπουδών και έχει αναγνωριστεί ως μια θετική πολυδιάστατη κατασκευή. Οι κυρίαρχες προσεγγίσεις στο πεδίο της ευεξίας έως σήμερα βασίζονται στις εκτιμήσεις της συναισθηματικής και γνωστικής κατάστασης των ατόμων στα πλαίσια της υποκειμενικής ευεξίας (Diener et al. 2003) και σε αξιολογήσεις υπό το πρίσμα του μοντέλου της ψυχολογικής ευεξίας (Ryff and Keyes 1995). Σ' αυτό το πλαίσιο, η μέτρηση της ευεξίας εδράζεται σε μοντέλα που διέπονται από την ευδαιμονιστική προσέγγιση (eudaimonic approach), η οποία εστιάζει στην κατοχή πόρων και τις δυνατότητες και ευκαιρίες που οι πόροι αυτοί προσπορίζουν σ' αυτούς που τους διαθέτουν, σε μοντέλα που βασίζονται στην ηδονιστική προσέγγιση (hedonic approach) και επικεντρώνονται στην αξιολόγηση των συναισθημάτων (ευτυχία και ευχαρίστηση) και συνάδουν με τη σύγχρονη θεωρία «Υγιούς Γήρανσης» και τέλος, σε μοντέλα που εδράζονται στην προσέγγιση της ικανοποίησης των ανθρώπινων αναγκών (needs satisfaction approach) και τη γνωστική εκτίμηση της ζωής των ατόμων (ικανοποίηση από τη ζωή και συγκεκριμένες σκοπιές της). Ένα σημαντικό τμήμα της σχετικής έρευνας έχει, επίσης, προτείνει για την ολιστική εκτίμηση της ευεξίας, την προσφυγή σε ποικίλες, υποκειμενικά ή αντικειμενικά προσδιορισμένες πτυχές της ανθρώπινης ζωής, βάσει σχετικών δεικτών ή κλιμάκων μέτρησης (Kahneman and Krueger 2006).

Επομένως, οι σύγχρονες προσεγγίσεις των ζητημάτων που άπτονται της ευεξίας αποτυπώνουν την προσπάθεια των περισσότερων θεωρητικών και εμπειρικών ερευνητών να προσδώσουν σ' αυτήν ένα ιδιαιτέρως ολιστικό περιεχόμενο, χωρίς όμως να προβαίνουν στην κατασκευή ενός ακριβούς ορισμού, επιστημονικά και κοινωνικά αποδεκτού. Οι Pollard και Davidson (2001) (σ.10) έχουν περιγράψει την ευεξία ως «μια κατάσταση επιτυχούς απόδοσης κατά τη διάρκεια ζωής η οποία ενσωματώνει τη σωματική, γνωστική και κοινωνικο-συναισθηματική λειτουργία». Σύμφωνα με την αντίληψη των Law και συν. (1998) (σ.3), η ευεξία προσιδιάζει στην «ενσωμάτωση των σωματικών, ψυχολογικών, συναισθηματικών, πνευματικών και κοινωνικών χαρακτηριστικών ενός ατόμου».

Ως εκ τούτου, παρόλο που δεν υπάρχει ένα σαφώς προσδιορισμένο εννοιολογικό και μεθοδολογικό πλαίσιο για τη διερεύνηση της ευεξίας, η πολυδιάστατη φύση της έχει αναγνωριστεί και έχει τονιστεί η αναγκαιότητα συμπερίληψης στην έρευνα για την ευεξία των ηλικιωμένων ατόμων δεικτών οι οποίοι να αντανακλούν τις σωματικές και ψυχο-συναισθηματικές διαστάσεις των συνθηκών διαβίωσής τους. Η υποκειμενική διάσταση της ευεξίας αναδεικνύεται κυρίαρχη στον προσδιορισμό της, καθώς οι προσωπικές αντιλήψεις και αξίες των ίδιων των ατόμων συνιστούν μια από τις

σημαντικότερες πτυχές της ανθρώπινης ανάπτυξης, τόσο από οικονομική, όσο και κοινωνικο-ψυχολογική σκοπιά.

Σύμφωνα με τα ευρήματα του προγράμματος "Shaping our Age", τα άτομα ηλικίας άνω των 65 ετών αποδίδουν ιδιαίτερη σημασία στην ικανότητά τους να έχουν μια θετική ζωή και να βιώνουν καλές συνθήκες υγείας και ευνοϊκές συναισθηματικές καταστάσεις (Hoban et al. 2011). Παρομοίως, η διάθεση και η επάρκεια κοινωνικών πόρων αξιολογήθηκαν από τους συμμετέχοντες του ίδιου προγράμματος ως σημαντικοί προσδιοριστικοί παράγοντες της ευεξίας τους. Επιπροσθέτως, εκφάνσεις της ευεξίας που έχουν αναδειχθεί ως ιδιαιτέρως σχετικές για τα άτομα μεγαλύτερων ηλικιών είναι εκείνες που προσιδιάζουν στην ποιότητα ζωής, την ικανοποίηση από τη ζωή και την αυτο-αναφερόμενη υγεία (Pinquart and Sörensen 2001).

Στη μελέτη των Herzog κ συν. (1998) ως δείκτες ευεξίας μελετήθηκαν η σωματική υγεία και η απουσία καταθλιπτικής συμπτωματολογίας. Ως δείκτες της ευεξίας στην έρευνα των Morrow-Howell κ συν. (2003) εξετάστηκαν η λειτουργική εξάρτηση, η κατάθλιψη και η αυτο-αναφερόμενη υγεία. Τέλος, οι Amit και Litwin (2010) και οι McMunn κ συν. (2009) εκτίμησαν την ευεξία ως αποτέλεσμα της ικανοποίησης από τη ζωή, της ποιότητας ζωής και του επιπέδου κατάθλιψης.

Υπό αυτό το πρίσμα, έχει προταθεί δείκτες της ευεξίας, όπως η ικανοποίηση από τη ζωή και η ευτυχία, να χρησιμοποιούνται ως μετρήσεις της προόδου της ανθρώπινης κοινωνίας, αντί για δείκτες αμιγώς οικονομικούς, όπως το ακαθάριστο εγχώριο προϊόν (Allen 2008). Ωστόσο, και παρόλο που οι σύγχρονες προσεγγίσεις τονίζουν την αναγκαιότητα ολιστικής αξιολόγησης της ευεξίας, οι περισσότερες προσπάθειες που απαντώνται σε εθνικό επίπεδο αφορούν σε εκτιμήσεις συγκεκριμένων πτυχών της ευεξίας, είτε αντικειμενικών, είτε υποκειμενικών. Επίσης, η υπάρχουσα συγκριτική κοινωνική και ιατρική έρευνα που αφορά στην ευεξία των ατόμων μεγαλύτερων ηλικιών παραμένει σχετικά περιορισμένη.

Στην παρούσα διδακτορική διατριβή η ευεξία μελετήθηκε ως το αποτέλεσμα πολυσήμαντων διαστάσεων της σωματικής και ψυχο-συναισθηματικής πραγματικότητας των ατόμων τρίτης και τέταρτης ηλικίας και επιχειρήθηκε η συγκριτική διερεύνηση, τόσο της συχνότητας εμφάνισης των επιμέρους παραμέτρων της ευεξίας, μεμονωμένων, αλλά και βάσει της άθροισης ή συγκέντρωσής τους (0, 1, 2, 3, 4+), όσο και της συσχέτισής τους με τα κοινωνικο-δημογραφικά χαρακτηριστικά και τους διαθέσιμους ψυχο-κοινωνικούς πόρους, όπως αυτοί εκτιμήθηκαν σύμφωνα με την κοινωνική συμμετοχή (παραγωγική και κοινωνική δραστηριοποίηση), την κοινωνικής απομόνωση και τη μοναξιά, μεταξύ των πληθυσμών των έντεκα διαφορετικών υπό μελέτη χωρών της μελέτης SHARE.

1.3 Προσδιοριστές της ευεξίας

Η στροφή από τη μέση προς την τρίτη ηλικία έχει θεωρηθεί ότι σχετίζεται σημαντικά με την κοινωνική γήρανση, καθώς σηματοδοτεί την εμφάνιση σημαντικών αλλαγών σε ατομικό και οικογενειακό επίπεδο. Πρώτον, το πέρασμα από την ύστερη ενηλικιότητα στην τρίτη ηλικία χαρακτηρίζεται από τις διαδικασίες της αλλαγής από την ενεργό εργασιακή ζωή προς την περίοδο της συνταξιοδότησης, η οποία και θεωρείται ότι ενδέχεται να συνοδεύεται από τη διασάλευση ή και την απώλεια προηγούμενων κοινωνικών ρόλων και σχέσεων (Kim and Moen 2002). Εξίσου σημαντική είναι και η μετάβαση από τη διαβίωση με τα παιδιά προς μια νέα μορφή οικογενειακής συμβίωσης, την οποία προσδιορίζει η μετακόμιση των παιδιών από την προγενέστερη εστία και η οποία συνυφαίνεται με το σύνδρομο της λεγόμενης «άδειας φωλιάς» και την ενδεχόμενη μείωση των αλληλεπιδράσεων και των συναναστροφών μεταξύ των γονέων και των παιδιών τους (Bouchard 2014).

Άλλες ουσιώδεις μεταβολές τις οποίες δύναται να εμπεριέχει η είσοδος στην περίοδο της τρίτης ηλικίας περιλαμβάνουν το συναισθηματικό πόνο και το άγχος που βιώνουν τα ηλικιωμένα άτομα ως αποτέλεσμα του θανάτου των αγαπημένων τους προσώπων και των συνεπαγόμενων απωλειών των προγενέστερων οικογενειακών και κοινωνικών τους δεσμών (Charles 2010; Li 2007). Σ' αυτό το πλαίσιο, εμφανίζεται ένα συγκεκριμένο σχετιζόμενο με την ηλικία πρότυπο όσον αφορά στην ανάπτυξη και επικράτηση συνθηκών που χαρακτηρίζονται από την έκπτωση του επιπέδου λειτουργικότητας και υγείας (Brody and Grant 2001).

Ωστόσο, ποικίλοι ψυχο-κοινωνικοί πόροι, όπως οι κοινωνικοί δεσμοί, τα υποστηρικτικά κοινωνικά δίκτυα και η κοινωνική ενσωμάτωση και συμμετοχή θεωρούνται ότι μπορεί να συμβάλουν στην αντιστάθμιση των παραπάνω δυσχερών συνθηκών που συνάδουν με τις διαδικασίες της γήρανσης και να καθορίσουν το πόσο επιτυχημένα κατορθώνουν τα άτομα να γεράσουν και να ευημερήσουν στο περιβάλλον της γεροντικής ηλικίας σε όρους υγείας και ευεξίας (Singh and Misra 2009). Είναι, επίσης, έχει διαπιστωθεί ότι τα κοινωνικά ενσωματωμένα άτομα και αυτά που συμμετέχουν σε ομάδες και οργανισμούς είναι πιο πιθανό να είναι υγιέστερα, να ζουν περισσότερα χρόνια (Umberson and Montez 2010) και να βιώνουν θετικά αποτελέσματα ευεξίας (Tiernan et al. 2013). Παρομοίως, οι κοινωνικές σχέσεις, όπως αυτές αντανακλώνται σε συγκεκριμένες εκφάνσεις της κοινωνικής στήριξης, έχουν βρεθεί να αντισταθμίζουν τις αρνητικές επιπτώσεις του κοινωνικο-οικονομικού επιπέδου στην υγεία των ατόμων μέσης και τρίτης ηλικίας (Vonneilich et al. 2012). Για παράδειγμα, η συναισθηματική στήριξη έχει βρεθεί ότι αποτελεί σημαντικό θετικό προγνωστικό παράγοντα μετά από συγκεκριμένες καταστάσεις νοσηρότητας (Berkman et al. 1992).

1.3.1 Κοινωνική συμμετοχή

Η κοινωνική συμμετοχή ή δραστηριοποίηση έχει οριστεί και μετρηθεί διαφορετικά στα πλαίσια διαφορετικών θεωρητικών και εμπειρικών πεδίων. Οι κυρίαρχες έννοιες που έχουν χρησιμοποιηθεί εναλλακτικά και έχουν συμβάλλει σημαντικά στη θεωρητική προσέγγιση της κοινωνικής συμμετοχής συνίστανται στην κοινωνική σύμπλεξη (social engagement), την ενεργή εμπλοκή στη ζωή (active engagement in with life), την κοινωνική συνδετικότητα (connectedness, connectivity) και τη σύμπλεξη με την κοινότητα (community engagement) και έχουν παραδοσιακά επικεντρωθεί στη μέτρηση της εκτέλεσης και διατήρησης σημαντικών ρόλων ως αναπόσπαστο τμήμα κοινωνικών και παραγωγικών δραστηριοτήτων που επιτρέπουν ακριβώς την ενεργοποίηση των ρόλων αυτών.

Η υπάρχουσα εμπειρική έρευνα έχει συντείνει προς την υπόθεση ότι η διατήρηση της κοινωνικής συμμετοχής και της κοινωνικότητας μπορεί να επιφέρει σημαντικά οφέλη ως προς την επίτευξη ενός υψηλού επιπέδου ευεξίας μεταξύ των ατόμων μεγαλύτερων ηλικιακών ομάδων. Ταυτόχρονα, προηγούμενες έρευνες έχουν συντείνει προς την υπόθεση ότι τα ενδεχόμενα οφέλη της κοινωνικής συμμετοχής και των υποστηρικτικών κοινωνικών δεσμών που διασφαλίζονται μέσω της ενεργούς εμπλοκής σε ποικίλες κοινωνικές και παραγωγικές δραστηριότητες στην υγεία και την ευεξία των ατόμων μεγαλύτερων ηλικιών διασφαλίζονται μέσω διαφορετικών αλληλοσχετιζόμενων ατραπών. Πρώτον, η κοινωνική συμμετοχή ενέχει την ανάληψη ραστηριοτήτων υψηλών γνωστικών απαιτήσεων που συνεισφέρουν σημαντικά στη διατήρηση της γνωστικής λειτουργικότητας και ικανότητας των ατόμων (Glymour et al. 2008). Επίσης, η κοινωνική στήριξη που παρέχεται ως αποτέλεσμα της κοινωνικής δραστηριοποίησης των ατόμων και της συμμετοχής τους σε αντίστοιχες ομάδες, οργανισμούς και δράσεις θεωρείται ότι μπορεί να συμβάλει στη μείωση των επιπτώσεων του άγχους καθώς εμπεριέχει σημαντικές ανταλλαγές φροντίδας, αγάπης και στοργής μεταξύ των μελών τους. Αυτές οι ανταλλαγές επηρεάζουν σε σημαντικό βαθμό την ικανότητα των ατόμων να προσαρμόζονται σε κρίσιμες αλλαγές σε σημαντικούς τομείς της ζωής τους και να διαχειρίζονται πιο αποτελεσματικά ενδεχόμενες στρεσσογόνες συνθήκες με τις οποίες έρχονται αντιμέτωπα και τη συνακόλουθη ψυχο-συναισθηματική επιβάρυνση που υφίστανται (Dykstra 2015).

Επιπροσθέτως, ο προστατευτικός για την υγεία ρόλος που επιτελεί η κοινωνική συμμετοχή και δραστηριοποίηση έγκειται στη διευκόλυνση της πρόσβασης σε συναισθηματικούς, λειτουργικούς και οικονομικούς πόρους σε κάθε στάδιο της ζωής και σωρευτικά κατά τις μεγαλύτερες ηλικίες (Hughes and Waite 2007). Επίσης, οι σχετιζόμενες με την υγεία αλληλεπιδράσεις κοινωνικού ελέγχου που επιτελούνται μεταξύ των μελών των ομάδων όπου τα ηλικιωμένα άτομα δραστηριοποιούνται συμβάλουν στην ενεργοποίηση και προαγωγή σημαντικών θετικών λειτουργιών αυτο-

ελέγχου και αυτο-ρύθμισης που δύνανται να επηρεάζουν τις συμπεριφορές υγείας των ατόμων. Πιο συγκεκριμένα, ο περιορισμός των επιβλαβών συμπεριφορών υγείας, η προαγωγή προστατευτικών για την υγεία στάσεων και η συμμόρφωση με τις συνιστώμενες ιατρικές θεραπείες έχουν θεωρηθεί ως μερικές από τις ευεργετικές επιδράσεις της κοινωνικής ενσωμάτωσης και συμμετοχής (Lewis and Rook 1999).

Σύμφωνα με τα αποτελέσματα της μετά-ανάλυσης 148 μελετών που πραγματοποιήθηκε από τους Holt-Lunstad κ συν. (2010) τα άτομα με ισχυρές κοινωνικές σχέσεις είχαν 50,0% αυξημένη πιθανότητα επιβίωσης μετά από παρακολούθηση 7,5 ετών, σε σύγκριση με τα κοινωνικά απομονωμένα άτομα. Μάλιστα, οι Holt-Lunstad κ συν. σε πιο πρόσφατη μετα-ανάλυση 70 μελετών διατύπωσαν την υπόθεση ότι η ευεργετική επίδραση της κοινωνικής δραστηριοποίησης στα αποτελέσματα υγείας και ευεξίας ίσως να είναι μεγαλύτερη από τις δυσμενείς επιπτώσεις της κοινωνικής απομόνωσης (Holt-Lunstad et al. 2015). Επιπροσθέτως, η αύξηση του σκορ της κοινωνικής συμμετοχής κατά μια μονάδα βρέθηκε να σχετίζεται με 47,0% μείωση του ρυθμού έκπτωσης της γνωστικής λειτουργίας μεταξύ των ατόμων ηλικίας άνω των 65 ετών του Προγράμματος Rush Memory and Aging Project, μετά από 12 χρόνια παρακολούθησης, ενώ μεταξύ των κοινωνικά δραστήριων ατόμων η γνωστική έκπτωση μειώθηκε κατά 70,0% σε σχέση με τους λιγότερο ενεργούς συνομηλίκους τους (James et al. 2011).

1.3.2 Κοινωνική απομόνωση

Η αντικειμενική κοινωνική δυσχέρεια κατά την οποία ένα άτομο υφίσταται την έλλειψη ή ανεπάρκεια ουσιωδών κοινωνικών σχέσεων, αναφέρεται ως κοινωνική απομόνωση (Wenger et al. 1996). Στο επίκεντρο των περισσότερων ορισμών που απαντώνται στην υπάρχουσα βιβλιογραφία βρίσκεται η αναγνώριση ότι η κοινωνική απομόνωση εμπεριέχει την ανεπάρκεια ή την απουσία ουσιωδών κοινωνικών σχέσεων, επαφών και αλληλεπιδράσεων.

Η κοινωνική απομόνωση προσεγγίζεται από το μεγαλύτερο μέρος της ψυχολογικής και κοινωνιολογικής έρευνας ως ένας ευδιάκριτος παράγοντας κινδύνου για την υγεία, αλλά και παράγοντας που σχετίζεται με τη θνησιμότητα (Steptoe et al. 2013). Έχει διαπιστωθεί ότι διάφορες πτυχές της κοινωνικής απομόνωσης εμπλέκονται στην άνιση κατανομή των αποτελεσμάτων υγείας και ευεξίας των ηλικιωμένων ατόμων (Brummett et al. 2001). Συγκεκριμένα, η μοναχική διαβίωση, τα περιορισμένα οικογενειακά δίκτυα, η έλλειψη κοινωνικής στήριξης και η κοινωνική απεμπλοκή συνιστούν επιβαρυντικούς παράγοντες ως προς την εμφάνιση στεφανιαίας νόσου (Bunker et al. 2003), την ανάπτυξη γνωστικής αναπηρίας (Shankar et al. 2013), την αύξηση της καταθλιπτικής συμπτωματολογίας (Glass et al. 2006) και τη χαμηλή

υποκειμενική ευεξία (Shankar et al. 2015). Οι αρνητικές επιπτώσεις της κοινωνικής απομόνωσης θεωρούνται ταυτόσημες με αυτές που προκαλούνται από καλά τεκμηριωμένες επιβλαβείς για την υγεία συμπεριφορές, όπως το κάπνισμα και η κατανάλωση αλκοόλ (House 2001). Έχει, επίσης, προταθεί ότι ο κίνδυνος που ενέχει η κοινωνική απομόνωση για την υγεία υπερβαίνει την επίδραση που επιφέρουν στα αποτελέσματα υγείας άλλοι παράγοντες κινδύνου, όπως η σωματική αδράνεια και η παχυσαρκία (Holt-Lunstad et al. 2010). Στην Αγγλική Διαχρονική Μελέτη για τη Γήρανση (ELSA) ο κίνδυνος θανάτου ήταν 1,50 και 1,26 στα περισσότερο κοινωνικά απομονωμένα άτομα (Steptoe et al. 2012). Επιπροσθέτως, σύμφωνα με τα ευρήματα ανάλυσης των δεδομένων του Αμερικάνικου Προγράμματος National Social Life, Health, and Aging Project (NSHAP) τα κοινωνικά απομονωμένα άτομα 57-85 ετών είχαν 25,0% πιθανότητα να αναφέρουν πολύ καλή ή άριστη ψυχική υγεία και 40,0% πολύ καλή ή άριστη σωματική υγεία έναντι των μη απομονωμένων ατόμων που είχαν 85,0% και 70,0% πιθανότητα, αντίστοιχα (Cornwell and Waite 2009). Επίσης, Σύμφωνα με δυο μετα-αναλύσεις, 148 και 70 μελετών, ο κοινωνικός αποκλεισμός και η μοναξιά σχετίζονται με 29,0% και 26,0% αυξημένη πιθανότητα θανάτου αντίστοιχα.

Ένα μεγάλο μέρος της υπάρχουσας έρευνας έχει αναδείξει ενδεχόμενους μηχανισμούς μέσω των οποίων η κοινωνική απομόνωση λειτουργεί ως μια κατάσταση χρόνιου άγχους, η οποία προκαλεί μακροχρόνιες βιολογικές, ψυχολογικές και συμπεριφορικές αντιδράσεις και αυξάνει τον κίνδυνο κακής υγείας και πρόωρου θανάτου. Συγκεκριμένα, τα κοινωνικά απομονωμένα άτομα συμμετέχουν λιγότερο σε δραστηριότητες φυσικής άσκησης και παρουσιάζουν υψηλότερα ποσοστά καπνίσματος και πολλαπλών καταστροφικών για την υγεία συμπεριφορών (Shankar et al. 2011). Επίσης, τα λιγότερο κοινωνικά απομονωμένα άτομα ηλικίας άνω των 65 ετών εμφανίζουν μεγαλύτερη πιθανότητα συμμόρφωσης με τις ιατρικές συστάσεις ως προς τη λήψη προληπτικών υπηρεσιών υγείας (Lau and Kirby 2009; Katapodi et al. 2002).

Ωστόσο, οι θεωρητικές και ερευνητικές προσεγγίσεις της κοινωνικής απομόνωσης που έχουν εγείρει το ενδιαφέρον της προγενέστερης σχετικής έρευνας, διέπονται κυρίως από την εστίαση σε ένα ή δυο δείκτες (Cornwell et al. 2009), γεγονός που δεν έχει επιτρέψει την περιεκτική εκτίμηση της κοινωνικής απομόνωσης μεταξύ των ηλικιωμένων ατόμων. Επιπροσθέτως, είναι εμφανές ότι παρόλο που η κοινωνική απομόνωση παραμένει ένας «ελάχιστα κατανοήσιμος παράγοντας κινδύνου θνησιμότητας και νοσηρότητας» (Cacioppo and Hawkley 2003), το αντίστοιχο ερευνητικό ενδιαφέρον έχει κυρίως επικεντρωθεί στις επιπτώσεις της κοινωνικής απομόνωσης στην υγεία, ενώ πολύ μικρότερο καταγράφεται το ενδιαφέρον για το πως η κοινωνική απομόνωση επιδρά στις διαφορετικές παραμέτρους της ευεξίας.

Επομένως, περιορισμένα φαίνεται να είναι τα υπάρχοντα ευρήματα αναφορικά με το πώς η απουσία κοινωνικών και οικογενειακών πόρων που προσιδιάζουν στην κοινωνική απομόνωση σχετίζονται με τη διαμόρφωση συγκεκριμένων διαστάσεων της ευεξίας που είναι περισσότερο σχετικές στις μεγαλύτερες ηλικίες. Ταυτόχρονα, το μεγαλύτερο μέρος των υπαρχόντων ερευνητικών αποτελεσμάτων έχουν βασιστεί σε δεδομένα που αφορούν σε συγκεκριμένους πληθυσμούς ή χώρες με αποτέλεσμα να εντοπίζεται έλλειψη ή και απουσία ερευνητικού ενδιαφέροντος από τη σκοπιά της διεθνικής συγκριτικής έρευνας. Επίσης, τα διαθέσιμα στοιχεία όσον αφορά στη σχέση μεταξύ κοινωνικής απομόνωσης και ευεξίας εδράζονται σε δείκτες που αξιολογούν συγκεκριμένες παραμέτρους τους και δεν επιτρέπουν την ολιστική τους διερεύνηση.

Τέλος, σύμφωνα με τους Perissinotto κ συν. (2012), είναι σημαντικό οι ποσοτικές διαστάσεις της κοινωνικής απομόνωσης, όπως οι μορφές συμβίωσης, η οικογενειακή κατάσταση και η κοινωνική συμμετοχή, να μελετώνται ταυτόχρονα με την υποκειμενική τους σκοπιά, η οποία και αντανακλάται στη βίωση αισθημάτων μοναξιάς, ως ένας δείκτης ανθρώπινου πόνου και δυσφορίας που είναι δύσκολο να εξεταστεί και να διαγνωστεί βάσει αντικειμενικών μετρήσεων.

1.3.3 Μοναξιά

Τα ηλικιωμένα άτομα είναι περισσότερο πιθανό να αντιμετωπίσουν αισθήματα μοναξιάς λόγω του γεγονότος ότι έρχονται αντιμέτωπα με σημαντικά δυσμενή γεγονότα και περιορισμούς που δεν είχαν βιώσει προηγουμένως τα οποία σχετίζονται με τις διαδικασίες της γήρανσης. Ο επιπολασμός της μοναξιάς έχει διαπιστωθεί ότι κυμαίνεται από 7,0% και 9,0% έως 14,5% στη Μεγάλη Βρετανία (Thomas 2015; Victor and Bowling 2012; Victor and Yang 2012) και 10,0% έως 25,0% στις Ηνωμένες Πολιτείες (AARP 2010; Kuwert et al. 2014). Στην κεντρική και ανατολική Ευρώπη η αντίστοιχη αναλογία βρέθηκε να κυμαίνεται από 30,0% έως και 55,0% και στη Βορειο-δυτική Ευρώπη από 10,0% έως 20,0% (Hansen and Slagsvold 2016). Είναι, επομένως, εμφανές ότι το ερευνητικό ενδιαφέρον για τις επιδράσεις της μοναξιάς στην ευεξία των ατόμων τρίτης και τέταρτης ηλικίας είναι ιδιαίτερης σπουδαιότητας από τη σκοπιά της δημόσιας υγείας.

Η μοναξιά έχει περιγραφεί ως η υποκειμενική διάσταση της κοινωνικής απομόνωσης και ως η αγχογόνα και δυσάρεστη εκείνη συναισθηματική κατάσταση κατά την οποία ένα άτομο υφίσταται τη στέρηση των κοινωνικών πόρων που σχετίζονται με τις διαπροσωπικές σχέσεις, τη συντροφικότητα και την κοινωνική ένταξη (Baarsen et al. 2001) και επομένως βιώνει «μια αντίφαση ανάμεσα στα επιθυμητά και τα επιτεύξιμα επίπεδα των κοινωνικών του σχέσεων» (Perlman and Peplau 1981, σ. 32). Πρόσφατα

προτάθηκε από τους Zavaleta και συν. (2014) ότι του De Jong Gierveld και συν. (2006, σ.485) ο καθορισμός του «επιτεύξιμου δικτύου κοινωνικών σχέσεων» ως η αντικειμενική κοινωνική απομόνωση θα πρέπει να αναφέρεται ως «η εξωτερική απομόνωση», ενώ ο προσδιορισμός του «επιθυμητού δικτύου», που βασίζεται στη μέτρηση της μοναξιάς ως η υποκειμενική βίωση της κοινωνικής απομόνωσης, θα πρέπει να ορίζεται ως «η εσωτερική κοινωνική απομόνωση».

Η μοναξιά έχει αναδειχθεί σε ένα παράγοντα που συμβάλει στην αύξηση της νοσηρότητας και της θνησιμότητας (Holt-Lunstad and Smith 2015) και έχει αναγνωριστεί ότι επιφέρει ένα σημαντικό βάρος για την υγεία ισάξιο με κοινές συμπεριφορές επιζήμιες για την υγεία, όπως το κάπνισμα, η κατανάλωση αλκοόλ και η έλλειψη φυσικής δραστηριότητας (Valtora and Hanratty 2012). Οι μηχανισμοί που εμπλέκονται στη διαμόρφωση της επίδρασης της μοναξιάς στη θνησιμότητα και τη νοσηρότητα είναι κυρίως παθοφυσιολογικοί, ενώ οι υπάρχουσες μελέτες συντείνουν προς το συμπέρασμα ότι η μοναξιά και η κοινωνική απομόνωση επενεργούν τουλάχιστον σε τρία βιολογικά συστήματα, το νευρο-ενδοκρινολογικό, το ανοσοποιητικό και το αυτόνομο νευρικό κεντρικό σύστημα (Friedler et al. 2015).

Συγκεκριμένα, η μοναξιά «ως παράγοντας άγχους η ίδια» ενοχοποιείται για περιορισμένη συναισθηματική ρύθμιση (Cacioppo et al. 2003) και υψηλότερο επιπολασμό κατάθλιψης (Singh et al. 2009). Επίσης, έχει διαπιστωθεί ότι η μοναξιά σχετίζεται σημαντικά με την αύξηση της αρτηριακής πίεσης και των επιπέδων κορτιζόλης και τη διατάραξη του ύπνου (Hawkley and Cacioppo 2010; Cacioppo et al. 2002) και τη λειτουργική έκπτωση μεταξύ των ηλικιωμένων ατόμων (Perissinotto et al. 2012). Στη μελέτη των Hawkley κ συν. (2006) τα άτομα 50-68 ετών με μεγαλύτερο σκορ στην κλίμακα της μοναξιάς βρέθηκαν να έχουν υψηλότερη συστολική πίεση. Τα ευρήματα αυτά επιβεβαιώθηκαν όταν τα ίδια άτομα μελετηθήκαν εκ νέου μετά από τέσσερα χρόνια, με την ύπαρξη αισθημάτων μοναξιάς στην αρχή της μελέτης να αναδεικνύεται σε προγνωστικό παράγοντα αύξησης της συστολικής πίεσης, ενώ η βίωση υψηλότερων επιπέδων μοναξιάς βρέθηκε να σχετίζεται με μεγαλύτερες αυξήσεις της συστολικής πίεσης (Hawkley et al. 2010). Επίσης, τα μοναχικά άτομα της Αμερικανικής Μελέτης για την Υγεία και τη Συνταξιοδότηση (HRS) άνω των 60 ετών βρέθηκαν μετά από έξι χρόνια παρακολούθησης να έχουν 1,56 κίνδυνο έκπτωσης στις δραστηριότητες της καθημερινής ζωής, 1,18 κίνδυνο μείωσης της κινητικότητας και 1,45 αυξημένο κίνδυνο θανάτου (Perissinotto et al. 2012). Παρομοίως, στη διαχρονική Γαλλική Μελέτη PASQUID (Personnes Âgées QUID) διαπιστώθηκε ότι τα ηλικιωμένα άτομα που ανέφεραν αισθήματα μοναξιάς είχαν αυξημένο κίνδυνο θανάτου κατά 1,20 μετά από 22 χρόνια παρακολούθησης (Tabue Teguo et al. 2016). Τέλος, τα άτομα ηλικίας άνω των 60 ετών με συχνά αισθήματα μοναξιάς έχουν βρεθεί να κάνουν περισσότερες επισκέψεις σε γιατρούς στις ΗΠΑ

(Gerst-Emerson and Jayawardhana 2015) και να προσφεύγουν συχνότερα στα τμήματα επειγόντων στη Σουηδία (Taube et al. 2014). Επίσης, σε δείγμα Καναδών άνω των 45 ετών η μοναξιά σχετίστηκε με αυξημένη πιθανότητα ιατρικών επισκέψεων, εισαγωγών και επαν-εισαγωγών σε νοσοκομεία (Newall et al. 2015).

Ως εκ τούτου, η μοναξιά θεωρείται ένα σημαντικό ζήτημα δημόσιας υγείας, αλλά και κοινωνικό ζήτημα, το οποίο φαίνεται να πλήττει μια σημαντική αναλογία ατόμων καθώς αυτά γερνούν (Bernard 2013) και να ενέχει ποικίλες δυσμενείς επιπτώσεις για τη σωματική, συναισθηματική και ψυχολογική τους υγεία και ευεξία (Allen 2008).

1.4 Χρήση προληπτικών υπηρεσιών υγείας

Οι άνθρωποι έρχονται αντιμέτωποι με σημαντικές προκλήσεις καθώς περνούν το κατώφλι της τρίτης ηλικίας οι οποίες συνάδουν πρωτίστως με έντονες συνθήκες νοσηρότητας και απώλειας της λειτουργικότητας και σωματικής, πνευματικής και κοινωνικής έκπτωσης. Ιδιαίτερα όσον αφορά στη νοσηρότητα αυτή θεωρείται ότι λειτουργεί ως ένας χρόνιος παράγοντας άγχους που επιβαρύνει την κοινωνική δραστηριοποίηση των ηλικιωμένων ατόμων και συμβάλει στην αύξηση της κοινωνικής απομόνωσης και στην εμφάνιση αισθημάτων μοναξιάς. Η επιβάρυνση της υγείας και της λειτουργικότητας συνιστούν από τα σημαντικότερα γεγονότα ζωής που συνοδεύουν τη γήρανση και τα οποία επιφέρουν αύξηση του στρες στα άτομα μεγαλύτερης ηλικίας, επηρεάζουν σημαντικές σκοπιές της κοινωνικής τους ζωής και εκτιμώνται από τα ίδια τα ηλικιωμένα άτομα ως κρίσιμα στη διαμόρφωση της ποιότητας της ζωής τους (Gabriel et al. 2004).

Σ’ αυτό το πλαίσιο, η χρήση υπηρεσιών προληπτικής ιατρικής θεωρείται καίριας σημασίας στα πλαίσια της στρατηγικής της υγιούς γήρανσης λόγω των σημαντικών ωφελειών που συνάδουν μ’ αυτήν κυρίως ως προς την προστασία της υγείας και της ευεξίας και τη μείωση του βάρους που επιφέρουν τα χρόνια νοσήματα στη λειτουργικότητα των ατόμων (Ogden et al. 2012). Παρόλο που οι χρόνιες νόσοι αυξάνονται καθώς τα άτομα γηράσκουν, υπάρχουν συγκεκριμένα νοσήματα τα οποία θα μπορούσαν να προληφθούν μέσω της συστηματικής λήψης προληπτικών υπηρεσιών (Peng and Jensen 2016).

Η ενίσχυση της χρήσης προληπτικών υπηρεσιών υγείας έχει αναδειχθεί ακριβώς ως μια στρατηγική κλειδί προς την επίτευξη του στόχου της υγιούς ή ενεργούς γήρανσης, εξαιτίας της συμβολής της στη διατήρηση της υγείας και της ευεξίας και στην ανακούφιση του βάρους που υφίστανται τα ηλικιωμένα άτομα λόγω της επικράτησης νοσημάτων χρόνιου χαρακτήρα (Ogden et al. 2012). Η λήψη επαρκών προληπτικών υπηρεσιών ενέχει ακριβώς τη δυνατότητα πρόληψης, αλλά και θεραπείας των χρόνιων νοσημάτων μέσω της παροχής της κατάλληλης καθοδήγησης και

συμβουλευτικής και συνάδει με τη μείωση της αναγκαιότητας προσφυγής σε πολυδάπανες και εξειδικευμένες μορφές ιατρικής και νοσοκομειακής φροντίδας (Kolstad and Kowalski 2012).

Ως εκ τούτου, η διερεύνηση και κατανόηση των παραγόντων εκείνων του κοινωνικού περιβάλλοντος των ατόμων που ενδεχομένως ασκούν σημαντική επίδραση στη λήψη προληπτικών υπηρεσιών υγείας μπορεί να παρέχει σημαντική πληροφόρηση προς την κατεύθυνση των πολιτικών ανάπτυξης, ενθάρρυνσης και ενίσχυσης της προσφυγής στην προληπτική ιατρική και υπερκέρασης των παραγόντων που συνιστούν εμπόδια πρόσβασης σ' αυτήν.

2. Σκοπός και στόχοι

Σκοπός της παρούσας διδακτορικής διατριβής ήταν να διερευνήσει: i) τη συχνότητα εμφάνισης των έξι επιμέρους διαστάσεων της ευεξίας, αλλά και της πολλαπλής συγκέντρωσης των παραγόντων ευεξίας (4+), στα άτομα ηλικίας άνω των 65 ετών των έντεκα Ευρωπαϊκών χωρών που συμμετείχαν στην έρευνα SHARE, ii) τη συσχέτιση μεταξύ αυτών των διαστάσεων μεμονωμένα, αλλά και βάσει της πολλαπλής εμφάνισής τους με τα κοινωνικο-δημογραφικά χαρακτηριστικά των ατόμων, την κοινωνική συμμετοχή (**Κεφάλαιο 1ο**), την κοινωνική απομόνωση (**Κεφάλαιο 2ο**) και τη μοναξιά (**Κεφάλαιο 3ο**). Επιπροσθέτως, εκτιμήθηκε ο επιπολασμός της μοναξιάς, εξετάστηκε η συγκριτική κατανομή του επιπολασμού της μοναξιάς στις έντεκα υπό μελέτη χώρες και μελετήθηκε η κατανομή της συχνότητας εμφάνισης της μοναξιάς σε σχέση με τα χαρακτηριστικά των ατόμων, τις δυσχερείς συνθήκες υγείας, τα στρεσσογόνα γεγονότα ζωής και την κοινωνική απομόνωση (**Κεφάλαιο 4ο**). Τέλος, διερευνήθηκε η συχνότητα χρήσης προληπτικών υπηρεσιών υγείας και μελετήθηκε η σχέση της με τους δείκτες της κοινωνικής απομόνωσης (**Κεφάλαιο 5ο**).

Σε όλες τις παραπάνω διερευνήσεις πραγματοποιήθηκε συγκριτική αξιολόγηση των αποτελεσμάτων της ευεξίας, της χρήσης προληπτικών υπηρεσιών υγείας, της κοινωνικής συμμετοχής, της κοινωνικής απομόνωσης και της μοναξιάς, είτε μεταξύ των έντεκα χωρών ξεχωριστά, είτε βάσει της γεωγραφικής τους ταξινόμησης σε Βόρειες (Δανία και Σουηδία), Νότιες (Ελλάδα, Ιταλία και Ισπανία) και Κεντρικές (Αυστρία, Βέλγιο, Γαλλία, Γερμανία, Ολλανδία και Ελβετία) χώρες, ώστε να διαπιστωθούν ενδεχόμενες διαφοροποιήσεις στην κατανομή των υπό εξέταση δεικτών μεταξύ των διαφορετικών πληθυσμών και γεωγραφικών περιοχών της έρευνας SHARE.

3. Μεθοδολογία

3.1 Πληθυσμός μελέτης και ερωτηματολόγια

Τα δεδομένα της παρούσας διατριβής αντλήθηκαν από το πρώτο κύμα της διεθνούς διαχρονικής και διεπιστημονικής έρευνας για την Υγεία, τη Γήρανση και τη Συνταξιοδότηση στην Ευρώπη (SHARE, 2004/2005). Στην Ελλάδα η συλλογή των δεδομένων που αφορούσαν στο πρώτο κύμα πραγματοποιήθηκε μεταξύ Μαΐου του 2004 και Απριλίου του 2005. Στην έρευνα αυτή, η οποία συντονίστηκε από το Ερευνητικό Ίδρυμα του Πανεπιστημίου του Μανχάιμ για τα Οικονομικά της Γήρανσης (Mannheim Research Institute for the Economics of Aging–MEA), συμμετείχαν 11 Ευρωπαϊκές χώρες (Αυστρία, Βέλγιο, Γαλλία, Γερμανία, Δανία, Ελβετία, Ελλάδα, Ισπανία, Ιταλία, Ολλανδία και Σουηδία). Ο πληθυσμός στόχος της μελέτης αφορούσε στα νοικοκυριά τα οποία αποτελούνταν από ένα τουλάχιστον άτομο ηλικίας άνω των 50 ετών, συμπεριλαμβανομένων και των ενδεχομένως νεότερων συντρόφων τους (Borsch-Supan and Jurges 2005).

Η συλλογή των δεδομένων της μελέτης SHARE βασίστηκε κατά κύριο λόγο στη χρηματοδότηση της Ευρωπαϊκής Επιτροπής διαμέσου των Προγραμμάτων Πλαισίων ($5^{ο}$ και $6^{ο}$ Προγραμματικό Πλαίσιο) και στην άντληση συμπληρωματικών πόρων του Εθνικού Ινστιτούτου για την Γήρανση των ΗΠΑ (National Institute on Aging-NIA), καθώς και εθνικών πόρων στις διαφορετικές χώρες (Αυστρία, Βέλγιο, Γαλλία, Ελβετία).

Η κύρια συλλογή των δεδομένων κατέστη δυνατή βάσει ενός κεντρικά προγραμματισμένου ερωτηματολογίου το οποίο εφαρμόστηκε σύμφωνα με την τεχνική CAPI (computer-assisted personal interviewing technique), η οποία διέπεται από τη λειτουργία ενός αυτόματα παραγόμενου συνόλου ερωτήσεων στα πλαίσια 21 ευδιάκριτων ενοτήτων, με τη χρήση φορητού ηλεκτρονικού υπολογιστή. Επίσης, η συλλογή δεδομένων συμπληρώθηκε από ένα σύντομο paper-and-pencil “drop-off” ερωτηματολόγιο με επιπρόσθετες ερωτήσεις, οι οποίες αφορούσαν σε προσωπικά δεδομένα των συμμετεχόντων, όπως οι θρησκευτικές και πολιτικές τους πεποιθήσεις, το οποίο και παραδόθηκε προς αυτο-συμπλήρωση στους συμμετέχοντες μετά την ολοκλήρωση της κύριας συνέντευξης του βασικού ερωτηματολογίου.

Η έρευνα SHARE σχεδιάστηκε έτσι ώστε να δώσει απαντήσεις σε σημαντικά ζητήματα που αφορούν στις διαδικασίες γήρανσης των Ευρωπαίων πολιτών διερευνώντας το πώς οι διαδικασίες αυτές επηρεάζουν την υγεία, την ποιότητα ζωής, τα κοινωνικά και οικογενειακά δίκτυα, το εισόδημα, την οικονομική κατάσταση, την ευημερία, την κοινωνική ασφάλιση και τη συνταξιοδότηση τους σε τρεις κρίσιμες και διαφορετικές περιόδους της ζωής τους. Συγκεκριμένα, η έρευνα αυτή εστιάζοντας στα άτομα άνω των 50 ετών εξετάζει πρώτον τη φάση της ζωής τους που προηγείται

της συνταξιοδότησης, οπότε τα άτομα συνεχίσουν να εργάζονται και πιθανότατα να ζουν μαζί με τα παιδιά τους, δεύτερον την περίοδο που σηματοδοτεί την έξοδο από την αγορά εργασίας, την αποστέρηση προηγούμενων εργασιακών και κοινωνικών ρόλων και την αλλαγή του οικογενειακού πλαισίου λόγω της αποχώρησης των ενήλικων παιδιών από την οικογενειακή εστία και τέλος τη φάση της ώριμης τρίτης ηλικίας που συνάδει με αυξημένες ανάγκες υγείας και κοινωνικής στήριξης για τη διατήρηση ενός ανεκτού επιπέδου λειτουργικότητας και ποιότητας ζωής.

Ως εκ τούτου, η έρευνα SHARE επιδιώκει να ενισχύσει την επιστημονική γνώση και κατανόηση σε σχέση με εξέχοντα χαρακτηριστικά των διαδικασιών γήρανσης και των προκλήσεων που συνυφαίνονται με αυτές, αντλώντας πολυσήμαντες πληροφορίες αναφορικά με τις συνθήκες διαβίωσής των ατόμων, την κατάσταση της υγείας τους και τις ανάγκες τους για υγειονομική περίθαλψη και φροντίδα, την ευεξία και την ποιότητα ζωής, τις κοινωνικές και υλικές συνθήκες ευημερίας, τη χρήση υπηρεσιών υγείας, τις κοινωνικές σχέσεις και την κοινωνική στήριξη. Η καινοτομία της μελέτης αυτής έγκειται ακριβώς στο γεγονός ότι η διεπιστημονική και διεθνική της φύση διευκολύνει τη συγκριτική έρευνα σε Ευρωπαϊκό επίπεδο υπό μια ευρεία κοινωνική, οικονομική και υγειονομική οπτική και επιτρέπει τη διεξαγωγή συμπερασμάτων σε σχέση με το πώς τα άτομα γερνούν σε διαφορετικά γεωγραφικά και κοινωνικά περιβάλλοντα.

3.2 Μέθοδοι συλλογής δείγματος

Οι επικεφαλής των ερευνητικών ομάδων σε κάθε υπό μελέτη χώρα ανέλαβαν το σχεδιασμό της κατάλληλης μεθοδολογίας άντλησης του δείγματος, η οποία επιλέχθηκε έτσι ώστε να είναι συμβατή με τις υπόλοιπες χώρες. Η συνακόλουθη διαδικασία συλλογής του δείγματος εγκρίθηκε από την ομάδα συντονισμού του όλου προγράμματος και την ομάδα εργασίας διεθνικού σχεδιασμού της μελέτης. Βασική υποχρέωση του δειγματοληπτικού σχεδιασμού κάθε ερευνητικής ομάδας στις συμμετέχουσες χώρες ήταν η παραγωγή δειγμάτων πιθανότητας.

Ο πληθυσμός στόχος επιλέχθηκε τυχαία ώστε να είναι αντιπροσωπευτικός του Ευρωπαϊκού πληθυσμού ατόμων ηλικίας άνω των 50 που ζούσαν στην κοινότητα και συγκεκριμένα των ατόμων που είχαν γεννηθεί το 1954 ή νωρίτερα και ήταν ικανά να ομιλούν την επίσημη γλώσσα της καθεμίας από τις υπό μελέτη χώρες. Οι διευθύνσεις των ατόμων που αποτέλεσαν τελικά το δείγμα της μελέτης διατηρήθηκαν ώστε να καταστεί εφικτή η διαχρονική παρακολούθηση (follow-up) του ίδιου πληθυσμού, καθώς η έρευνα είχε εξαρχής σχεδιαστεί ώστε να αποτελέσει μια διαχρονική μελέτη (panel study). Οι μέθοδοι συλλογής δεδομένων συμπεριέλαβαν την τυχαία επιλογή

νοικοκυριών από τους διαθέσιμους τηλεφωνικούς καταλόγους, με τελική δειγματοληπτική μονάδα τα νοικοκυριά στην Αυστρία, την Ελβετία και την Ελλάδα και τη στρωμάτωση κατά ηλικία βάσει διαθέσιμων αρχείων ατόμων σε τοπικό και εθνικό επίπεδο, με τελική δειγματοληπτική μονάδα τα νοικοκυριά στο Βέλγιο, τη Γαλλία, τη Γερμανία, τη Δανία, την Ισπανία, την Ιταλία, την Ολλανδία. Ο συνολικός σταθμισμένος μέσος ρυθμός ανταπόκρισης σε επίπεδο ατόμων και νοικοκυριών έφτασε στο 61,8%, ήταν 55,4% σε επίπεδο ατόμων και 86,3% σε επίπεδο νοικοκυριών. Σε επίπεδο χωρών ο σταθμισμένος ρυθμός ανταπόκρισης κυμάνθηκε από 73,3% στην Ισπανία έως 93,3% στη Γερμανία σε επίπεδο ατόμων και από 38,8% στην Ελβετία έως 81,0% στη Γαλλία, σε επίπεδο νοικοκυριών.

Όσον αφορά στην Ελλάδα η κύρια συλλογή των δεδομένων πραγματοποιήθηκε από την εταιρεία ερευνών Kappa Research στους πενήντα-δύο νομούς της χώρας. Ο νομός Αττικής, για τη διευκόλυνση της συλλογής των δεδομένων, χωρίσθηκε σε τέσσερα μέρη, στην Αθήνα, τη Δυτική Αττική, την Ανατολική Αττική και τον Πειραιά. Το συνολικό δείγμα που αντλήθηκε από τους 52 νομούς της χώρας ανήλθε σε 1502 νοικοκυριά και 3255 άτομα, 2142 από τα οποία και αποτέλεσαν το τελικό δείγμα του Ελληνικού πληθυσμού της μελέτης SHARE.

3.3 Εργαλεία, κλίμακες και δείκτες μέτρησης (Παράρτημα)

3.3.1 Ευεξία

Η ευεξία προσδιορίστηκε και μελετήθηκε ως το αποτέλεσμα της άθροισης ή συγκέντρωσης (clustering) έξι επιμέρους παραγόντων (0,1,2,3, 4+): της ικανοποίησης από τη ζωή, της ποιότητας ζωής, της αυτο-αναφερόμενης υγείας, της καταθλιπτικής συμπτωματολογίας, των χρόνιων νοσημάτων και του δείκτη μάζας σώματος. Ως πολλαπλή παρουσία παραγόντων ευεξίας καθορίστηκε η συγκέντρωση περισσοτέρων των τεσσάρων δεικτών (4+ well-being indicators), η οποία και θεωρήθηκε ως ενδεικτική της ύπαρξης καλύτερου επιπέδου ευεξίας. Επίσης, εκτιμήθηκε ο επιπολασμός των παραγόντων ευεξίας με τα αντίστοιχα 95% Διαστήματα Εμπιστοσύνης, εφαρμόστηκαν πολυμεταβλητά μοντέλα παλινδρόμησης για τον προσδιορισμό συσχετίσεων ή διαφορών και χρησιμοποιήθηκαν σταθμίσεις για την αντιμετώπιση ζητημάτων ρυθμών ανταπόκρισης.

Η ικανοποίηση από τη ζωή εκτιμήθηκε μέσω ενός δείκτη ο οποίος έχει ευρέως εφαρμοστεί (Amit and Litwin 2010; Davern et al. 2007) και έχει διαπιστωθεί ότι παρουσιάζει αποδεκτά επίπεδα αξιοπιστίας και εγκυρότητας (Pavot and Diener 1993). Η κλίμακα διαβάθμισης της ερώτησης «Πόσο ικανοποιημένος είστε από τη ζωή σας γενικά» κυμαίνεται από 1 (πολύ ικανοποιημένος) έως 4 (πολύ μη ικανοποιημένος). Αναφορικά με τη χρήση αυτής της μέτρησης της ικανοποίησης από τη ζωή,

υιοθετήθηκε η αντίληψη που εκφράστηκε από τους Cummins κ. συν. (2003) ότι αυτή η γενική ερώτηση παράγει σταθερές ερμηνείες του γενικού επιπέδου ευεξίας ενός ατόμου στο πέρασμα του χρόνου.

Η ποιότητα ζωής μετρήθηκε με την κλίμακα CASP-12, μια συντομότερη έκδοση της αυθεντικής κλίμακας 19-item scale (CASP-19) (Blane et al. 2004; Wiggins et al. 2007), η οποία ενσωματώθηκε για πρώτη φορά στο αυτο-συμπληρούμενο ερωτηματολόγιο της μελέτης SHARE και βρέθηκε να σχετίζεται σημαντικά με την αρχική της έκδοση και να επιδεικνύει επαρκείς ψυχομετρικές ιδιότητες (Cronbach's alpha=0.83) (Knesebeck et al. 2007). Η κλίμακα αυτή, η οποία και παρέχει μια περιεκτική εικόνα της άποψης του ίδιου του ερευνώμενου για την ποιότητα της ζωής του, εδράζεται στη μέτρηση της ικανοποίησης τεσσάρων σημαντικών διαστάσεων των ανθρώπινων αναγκών: του ελέγχου (control), της αυτονομίας (autonomy), της αυτο-πραγμάτωσης (self-realization) και της ευχαρίστησης (pleasure). Οι κατηγορίες απαντήσεων βαθμολογούνται στη βάση μιας τετραβάθμιας κλίμακας (συχνά, μερικές φορές, σπάνια και ποτέ). Οι απαντήσεις αθροίζονται και παράγεται ένα συνολικό σκορ με τιμές που κυμαίνονται από 12 έως 48, με τα υψηλότερα σκορ να αντιπροσωπεύουν την ύπαρξη καλύτερου επιπέδου ποιότητας ζωής (Cronbach's alpha=0.89). Ως κατηγορία αναφοράς ελήφθη το cut-off των 39, το οποίο και θεωρείται ως ενδεικτικό του γεγονότος ότι τα άτομα βιώνουν υψηλά επίπεδα ποιότητας ζωής.

Για την εκτίμηση της απουσίας καταθλιπτικών συμπτωμάτων χρησιμοποιήθηκε μια συντομότερη έκδοση της κλίμακας της κατάθλιψης του Κέντρου Επιδημιολογικών Ερευνών (The Center for Epidemiological Studies Depression scale, CES-D). Η συντομότερη αυτή έκδοση CES-D 11, όπως εισήχθη στο ερωτηματολόγιο SHARE, περιλαμβάνει 11 πανομοιότυπες ερωτήσεις από την αρχική κλίμακα των 20 ερωτήσεων, η οποία εφαρμόστηκε για πρώτη φορά από τον Radloff (1977) και έχει ευρέως χρησιμοποιηθεί για την εκτίμηση της καταθλιπτικής συμπτωματολογίας μεταξύ διαφορετικών πληθυσμών (Smith 2006), καθώς και μεταξύ των ηλικιωμένων (Barry et al. 2008). Η κλίμακα αυτή έχει βρεθεί ότι παράγει αξιόπιστες και έγκυρες εκτιμήσεις της ύπαρξης συμπτωμάτων κατάθλιψης (Gellis 2010). Οι συμμετέχοντες ερωτήθηκαν σχετικά με τη συχνότητα με την οποία είχαν βιώσει συγκεκριμένα καταθλιπτικά συμπτώματα κατά τη διάρκεια της τελευταίας εβδομάδας (0: 'Σχεδόν ποτέ', 1: 'Μερικές φορές', 2: 'Τον περισσότερο καιρό', 3: 'Σχεδόν όλο τον καιρό'). Οι απαντήσεις προστέθηκαν και παρήχθη ένα συνολικό σκορ, με εύρος 0-33, με τις υψηλότερες τιμές να σημαίνουν ότι οι ερευνώμενοι είχαν βιώσει εντονότερη ψυχολογική δυσχέρεια την τελευταία εβδομάδα (Cronbach's alpha=0.79), ενώ ελήφθη ως cut-off point η ύπαρξη εννιά και περισσότερων συμπτωμάτων ως

ενδεικτικό της εμφάνισης κλινικά σημαντικής καταθλιπτικής συμπτωματολογίας (Steffick 2000).

Το επίπεδο της αυτο-αναφερόμενης υγείας και η ύπαρξη χρόνιων νοσημάτων αξιοποιήθηκαν για την εκτίμηση του γενικού επιπέδου υγείας των συμμετεχόντων. Η αυτο-εκτιμούμενη υγεία μετρήθηκε μέσω μιας ερώτησης που διατυπώθηκε ως εξής: «*Θα λέγατε ότι η υγεία σας είναι…*», με πιθανές απαντήσεις που κυμαίνονται από «πολύ καλή» έως «πολύ κακή». Ο δείκτης αυτός έχει χρησιμοποιηθεί εκτεταμένα στη βιβλιογραφία για να αποτυπώσει την αυτο-αναφερόμενη νοσηρότητα μεταξύ των ηλικιωμένων ατόμων (Breeze et al. 2001) και έχει διαπιστωθεί ότι αποδίδει έγκυρες μετρήσεις του γενικού επιπέδου υγείας (Schnittker and Bacak 2014). Για τους σκοπούς της παρούσας ανάλυσης η «πολύ καλή» αυτο-εκτίμηση της υγείας προσδιορίστηκε ως κατηγορία αναφοράς. Τα υπάρχοντα χρόνια νοσήματα διερευνήθηκαν βάσει των αναφορών των ερευνώμενων σχετικά με τη διάγνωση έντεκα καταστάσεων (« *Σας έχει ποτέ πει ο γιατρός σας ότι έχετε οποιοδήποτε από τα παρακάτω νοσήματα*;»), στις οποίες συμπεριλαμβάνονται: έμφραγμα του μυοκαρδίου, υψηλή αρτηριακή πίεση αίματος ή υπέρταση, υψηλά επίπεδα χοληστερόλης αίματος, εγκεφαλικό επεισόδιο, σακχαρώδης διαβήτης, χρόνια πνευμονική νόσος, άσθμα, αρθρίτιδα, οστεοπόρωση, καρκίνος και έλκος στομάχου ή δωδεκαδάχτυλου ή πεπτικό έλκος. Σύμφωνα με τις καταφατικές απαντήσεις των ατόμων σε σχέση με την ύπαρξη των παραπάνω νοσημάτων, ένας δείκτης «0-1» δημιουργήθηκε και θεωρήθηκε ως κατηγορία αναφοράς στην ανάλυση.

3.3.2 Κοινωνική συμμετοχή

Για την εκτίμηση της κοινωνικής δραστηριοποίησης αντλήθηκαν οι παραγωγικές και κοινωνικές δραστηριότητες στις οποίες δήλωσαν οι ερευνώμενοι ότι είχαν συμμετάσχει κατά τη διάρκεια του τελευταίου μήνα, γεγονός που επέτρεψε τη μελέτη δυο ευδιάκριτων παραμέτρων της συμμετοχής σε δραστηριότητες, την παραγωγική συμμετοχή (productive activity participation) και την κοινωνική συμμετοχή (social activity participation). Ως παραγωγική συμμετοχή ορίστηκε το άθροισμα των παρακάτω δραστηριοτήτων: «εθελοντική ή φιλανθρωπική εργασία», «φροντίδα άρρωστου ή ανάπηρου ατόμου» και «παροχή βοήθειας σε μέλη της οικογένειας, φίλους ή γείτονες». Η κοινωνική συμμετοχή μετρήθηκε βάσει του αθροίσματος των παρακάτω δραστηριοτήτων: «Παρακολούθηση εκπαιδευτικού προγράμματος ή προγράμματος κατάρτισης», «συμμετοχή σε αθλητική ή κοινωνική ή οποιαδήποτε άλλη ομάδα», «συμμετοχή σε θρησκευτικό οργανισμό (εκκλησία, συναγωγή, τζαμί κλπ» και «συμμετοχή σε πολιτικό οργανισμό ή άλλο οργανισμό στην κοινότητα». Για τους σκοπούς της παρούσας ανάλυσης, οι κατηγορίες απαντήσεων όσον αφορά στη συχνότητα συμμετοχής στις παραπάνω δραστηριότητες ταξινομήθηκαν ως «συχνή συμμετοχή», για τους ερευνώμενους που δήλωσαν ότι λάμβαναν μέρος σχεδόν

καθημερινά ή σχεδόν κάθε εβδομάδα και ως «λιγότερο συχνή», για εκείνους που συμμετείχαν λιγότερο συχνά από καθημερινά ή λιγότερο συχνά από σχεδόν κάθε εβδομάδα, με αποτέλεσμα να διαμορφωθούν οι κατηγορίες, «συχνά», «λιγότερο συχνά» και «ποτέ».

3.3.3 Κοινωνική απομόνωση

Η μέτρηση της κοινωνικής απομόνωσης βασίστηκε σε δείκτες που θεωρούνται ότι αποδίδουν περιεκτικά, τόσο τα δομικά, όσο και τα λειτουργικά χαρακτηριστικά των αντικειμενικών οικογενειακών και κοινωνικών συνθηκών διαβίωσης των ηλικιωμένων ατόμων. Ως αποτέλεσμα, κατασκευάστηκε ένας δείκτης βάσει των αυτο-αναφορών των ατόμων, στα πλαίσια επτά διαφορετικών παραμέτρων, μέσω της απόδοσης της τιμής ένα στους ερευνώμενους που δήλωσαν ότι ζούσαν μόνοι, χωρίς σύντροφο ή σύζυγο, ότι ήταν ανύπαντροι, δεν συγκατοικούσαν με τα παιδιά τους, επιδείκνυαν σπάνια επαφή με τα παιδιά τους, δεν είχαν συμμετάσχει σε καμία παραγωγική ή κοινωνική δραστηριότητα τον τελευταίο μήνα και είχαν σπάνιες ή καθόλου κοινωνικές ανταλλαγές. Το συνολικό σκορ του δείκτη εκτίμησης της κοινωνικής απομόνωσης εκτείνεται από 0 έως 7, με τα άτομα που εμφανίζουν περισσότερους των τεσσάρων παραγόντων να θεωρούνται ότι διαβιούν σε συνθήκες κοινωνικής απομόνωσης.

3.3.4 Μοναξιά

Για τη διερεύνηση της συχνότητας της εμφάνισης αισθημάτων μοναξιάς χρησιμοποιήθηκε η ερώτηση «*Πόσο συχνά έχετε βιώσει τα ακόλουθα συναισθήματα κατά τη διάρκεια της τελευταίας εβδομάδας*;»: «*Αισθάνθηκα μόνος*», η οποία αντλήθηκε από την Κλίμακα Κατάθλιψης του Κέντρου Επιδημιολογικών Μελετών (CES-D). Οι απαντήσεις ταξινομήθηκαν βάση μιας τετραβάθμιας κλίμακας που εκτείνεται από «σχεδόν όλη την ώρα» (1), έως «σχεδόν ποτέ» (4). Αυτή η αυτο-αναφερόμενη ερώτηση έχει χρησιμοποιηθεί εκτεταμένα για την εκτίμηση της έντασης της μοναξιάς μεταξύ των ηλικιωμένων ατόμων και έχει θεωρηθεί ως μια μέτρηση που γίνεται εύκολα κατανοητή και εφαρμόζεται απλά σ' αυτή την ομάδα του πληθυσμού, ενώ έχει βρεθεί να αποδίδει μετρήσεις που συμβαδίζουν με εκείνες άλλων πολυδιάστατων κλιμάκων. Τα αποτελέσματα της ευεξίας μελετήθηκαν σε σχέση με τη συχνότητα βίωσης αισθημάτων μοναξιάς. Επίσης, η συχνότητα της μοναξιάς εξετάστηκε σε σχέση με τα κοινωνικο-δημογραφικά χαρακτηριστικά των συμμετεχόντων, τις δυσμενείς συνθήκες υγείας, τα στρεσσογόνα γεγονότα ζωής και την κοινωνική απομόνωση.

3.3.5 Χρήση προληπτικών υπηρεσιών υγείας

Στην παρούσα εργασία η χρήση προληπτικών υπηρεσιών υγείας μελετήθηκε βάσει των αυτο-αναφορών των ίδιων των ερευνώμενων σχετικά με τη συχνότητα της προσφυγής τους σε ένα ευρύ σύνολο υπηρεσιών στις οποίες και περιλαμβάνονται επισκέψεις σε γενικούς γιατρούς και οδοντιάτρους, εμβολιασμοί και διαγνωστικές εξετάσεις. Πιο συγκεκριμένα, ζητήθηκε από τους συμμετέχοντες να υποδείξουν εάν: (1) είχαν επαφή με οδοντίατρο για έλεγχο ρουτίνας ή για προληπτικούς λόγους τον προηγούμενο χρόνο, (2) είχαν επισκεφθεί γενικό γιατρό για συμβουλές ή πρόληψη, (3) είχαν ερωτηθεί από γενικό γιατρό σχετικά με τη φυσική τους δραστηριότητα, (4) είχαν λάβει συμβουλή από το γενικό τους γιατρό να ασκούνται τακτικά, (5) ο γενικός γιατρός είχε ελέγξει το σωματικό τους βάρος, (6) είχαν ερωτηθεί από το γενικό γιατρό σχετικά με τα φάρμακα που έχουν αγοράσει οι ίδιοι ή που τους έχει συνταγογραφήσει άλλος γιατρός, (7) είχαν κάνει αντιγριπικό εμβολιασμό τον προηγούμενο χρόνο, (8) είχαν κάνει μαστογραφία τα προηγούμενα δύο χρόνια, (9) είχαν ποτέ κάνει σιγμοειδοσκόπηση ή κολονοσκόπηση, (10) είχαν εξεταστεί για λανθάνουσα αιμορραγία στα κόπρανά τους τα προηγούμενα δέκα χρόνια, (11) ο γιατρός τους είχε ποτέ παραπέμψει σε φυσιοθεραπευτή ή πρόγραμμα γυμναστικής για πόνο στις αρθρώσεις, (12) ο γιατρός τους είχε ποτέ παραπέμψει σε ένα ορθοπεδικό χειρούργο για πόνο στις αρθρώσεις.

Οι αρχικές απαντήσεις των συμμετεχόντων κωδικοποιήθηκαν σε μια διχοτόμο μεταβλητή, όπου το μηδέν ισοδυναμούσε με την απάντηση όχι ή ποτέ και το ένα με την απάντηση ναι, κάποιες φορές ή κάθε φορά. Μετέπειτα, όλες οι απαντήσεις προστέθηκαν και προέκυψε ένα αθροιστικό σκορ (composite or cumulative score) με εύρος 0-12, το οποίο αναφέρεται ως σκορ χρήσης προληπτικών υπηρεσιών υγείας (Preventive Health Services Utilization score-PHSUs). Εν συνεχεία, το σκορ αυτό μετασχηματίστηκε σε μια κλίμακα 0-100 η οποία είναι συγκρίσιμη με άλλες παρόμοιες κλίμακες, με το υψηλότερο σκορ να ισοδυναμεί με τη χρήση ενός μεγαλύτερου αριθμού προληπτικών υπηρεσιών υγείας (Linardakis et al. 2015).

3.3.6 Δυσμενείς συνθήκες υγείας

Οι δυσμενείς σχετιζόμενες με την υγεία συνθήκες ζωής που αξιολογήθηκαν στην παρούσα μελέτη περιλαμβάνουν την παρουσία ενός ή περισσοτέρων χρόνιων νοσημάτων, λειτουργικών περιορισμών στις δραστηριότητες της καθημερινής ζωής και συμπτωμάτων ασθενειών και τεσσάρων ή περισσοτέρων συμπτωμάτων κατάθλιψης, τα οποία μετρήθηκαν σύμφωνα με την Ευρωπαϊκή Κλίμακα Κατάθλιψης (European Depression (Euro-D) scale). Για την εκτίμηση των χρόνιων νοσημάτων,

όπως αναφέρθηκε και προηγουμένως, οι ερευνώμενοι ερωτήθηκαν εάν είχαν ποτέ διαγνωσθεί με οποιοδήποτε από έντεκα διαφορετικά νοσήματα, μεταξύ των οποίων συμπεριλαμβάνονται έμφραγμα του μυοκαρδίου, υψηλή αρτηριακή πίεση αίματος ή υπέρταση, υψηλά επίπεδα χοληστερόλης αίματος, εγκεφαλικό επεισόδιο, σακχαρώδης διαβήτης, χρόνια πνευμονική νόσος, άσθμα, αρθρίτιδα, οστεοπόρωση, καρκίνος και έλκος στομάχου ή δωδεκαδάχτυλου ή πεπτικό έλκος. Όσον αφορά στη μέτρηση των λειτουργικών περιορισμών στις δραστηριότητες της καθημερινής ζωής αυτή βασίστηκε στην αξιολόγηση της αντιμετώπισης δυσκολιών από την πλευρά των ερευνώμενων στο να ντύνονται, να περπατάνε σε ένα δωμάτιο, να κάνουν μπάνιο ή ντους, να τρώνε, να κόβουν το φαγητό, να ξαπλώνουν και να σηκώνονται από το κρεβάτι, να χρησιμοποιούν την τουαλέτα, να χρησιμοποιούν χάρτη, να ετοιμάζουν ζεστό γεύμα, να ψωνίζουν από ένα μπακάλικο, να τηλεφωνούν, να παίρνουν φάρμακα, να κάνουν δουλειές στο σπίτι ή στον κήπο και να χειρίζονται χρήματα. Τα συμπτώματα νοσημάτων μετρήθηκαν σύμφωνα με μια ερώτηση σχετικά με το εάν κατά τη διάρκεια των προηγούμενων τουλάχιστον έξι μηνών οι συμμετέχοντες είχαν βιώσει πόνο στη μέση, στα γόνατα, στα ισχία ή σε οποιαδήποτε άλλη άρθρωση, καρδιακό πρόβλημα ή στηθάγχη ή θωρακικό πόνο κατά την άσκηση, δύσπνοια ή πρόβλημα στην αναπνοή, επίμονο βήχα, πρησμένα πόδια, προβλήματα ύπνου, πτώσεις ή πεσίματα, φόβο για πτώση, ζάλη, λιποθυμίες ή σκοτοδίνη, προβλήματα στομάχου ή εντέρου και ακράτεια ούρων ή ακούσια απώλεια ούρων. Σχετικά με την εκτίμηση της ύπαρξης συμπτωμάτων κατάθλιψης χρησιμοποιήθηκε η κλίμακα Euro-D, η οποία επιτρέπει τη μέτρηση ποικίλων διαφορετικών καταστάσεων που έχουν βιώσει οι ηλικιωμένοι: εάν έχουν αισθανθεί λυπημένοι ή καταθλιπτικοί τον τελευταίο μήνα, εάν έχουν ελπίδες για το μέλλον, εάν αισθάνονται ότι θα ήταν καλύτερα να είχαν πεθάνει, εάν νιώθουν ενοχικοί, εάν κατηγορούν τον εαυτό τους, εάν αντιμετωπίζουν προβλήματα με τον ύπνο, εάν έχουν μειωμένο ή το ίδιο ενδιαφέρον για τα πράγματα, εάν διατηρούν το ενδιαφέρον τους, εάν είναι οξύθυμοι, εάν έχουν όρεξη, εάν τρώνε περισσότερο ή λιγότερο, εάν αισθάνονται κουρασμένοι, εάν έχουν ενδιαφέρον για διασκέδαση, εάν έχουν ενδιαφέρον για διάβασμα, εάν νιώθουν χαρά, εάν έχουν τάση να κλαίνε, εάν είχαν ποτέ κατάθλιψη, εάν είχαν ποτέ λάβει θεραπεία για κατάθλιψη και εάν είχαν ποτέ νοσηλευτεί σε ψυχιατρική κλινική.

3.3.7 Στρεσσογόνα γεγονότα ζωής

Παρόλο που το 65% των αρνητικών γεγονότων ζωής που δηλώνουν τα ίδια τα ηλικιωμένα άτομα ότι βιώνουν έχουν βρεθεί να περιλαμβάνουν ιατρικές καταστάσεις, όπως η επιβάρυνση της υγείας τους, αλλά και οι ασθένειες και η απώλεια μελών του οικογενειακού και ευρύτερου κοινωνικού τους περιβάλλοντος, συντρόφων/συζύγων και φίλων λόγω θανάτου, μη ιατρικές καταστάσεις με τις οποίες έρχονται αντιμέτωπα

τα άτομα κατά τη διάρκεια της τρίτης και τέταρτης ηλικίας τους έχει επίσης διαπιστωθεί ότι αξιολογούνται ως ιδιαίτερα δυσάρεστες και θεωρούνται ότι επιφέρουν σημαντικές δυσμενείς επιπτώσεις στη ζωή τους (Hardy et al. 2002). Σ' αυτά τα γεγονότα που συνάδουν με τον ερχομό της γεροντικής ηλικίας και ενέχουν σημαντικό κίνδυνο για την ψυχική υγεία και ευημερία των ατόμων συγκαταλέγονται αλλαγές στην οικογενειακή και κοινωνική τους ζωή, όπως η χηρεία και η συνταξιοδότηση, τα οποία και συνυφαίνονται με απότομες μεταβολές σε σημαντικές πτυχές της ζωής τους. Τα στρεσσογόνα γεγονότα ζωής που αξιολογήθηκαν στην παρούσα διδακτορική διατριβή περιλαμβάνουν τη συνταξιοδότηση λόγω προβλημάτων υγείας, τη χειροτέρευση της τρέχουσας οικονομικής κατάστασης σε σχέση με την προηγούμενη χρονιά, τη χηρεία και την αλλαγή της οικογενειακής δομής λόγω της μετακόμισης του τελευταίου παιδιού της οικογένειας από τη γονική εστία.

3.3.8 Κοινωνικο-δημογραφικά χαρακτηριστικά

Τα δημογραφικά χαρακτηριστικά των ατόμων που εκτιμήθηκαν ήταν το φύλο (άρρεν/ θήλυ), η ηλικία (65-74, 75-84 και 85+) και οι μορφές συμβίωσης (ζώντας με σύντροφο ή σύζυγο και ζώντας μόνος). Επιπροσθέτως, ως μεταβλητές αντιπροσωπευτικές του κοινωνικού υπόβαθρου των συμμετεχόντων αντλήθηκαν το εκπαιδευτικό επίπεδο, βάσει των χρόνων παραμονής στο σχολείο (0-7 χρόνια, 8-12, 13+), σύμφωνα με τη Διεθνή Πρότυπη Ταξινόμηση της Εκπαίδευσης (International Standard Classification of Education-ISCED), όπως αναπτύχθηκε από την UNESCO (1997), το καθεστώς συνταξιοδότησης (συνταξιούχος/μη συνταξιούχος) και το αυτο-αναφερόμενο οικογενειακό εισόδημα που είχαν αποκτήσει τα άτομα τον προηγούμενο χρόνο από διάφορες πιθανές πηγές και το οποίο και προσδιορίστηκε σύμφωνα με τα συγκεκριμένα για κάθε χώρα τεταρτημόρια (χαμηλό εισόδημα <25%, κανονικό εισόδημα μεταξύ 25 και 75% και υψηλό >75%) (Borsch-Supan and Jurges 2005).

Παράρτημα: Εργαλεία, Κλίμακες και Δείκτες Μέτρησης

Well-being Indicators		
Satisfaction with Life	*"How satisfied are you with your life in general?"*	1 =*Very satisfied,* 2=*Somewhat satisfied,* 3=*Somewhat dissatisfied,* 4=*Very dissatisfied* (Reference Category=Very satisfied)
Quality of Life	**CASP-12** (*items 1,2,3,5,6 are*	1=*Often,* 2= *Sometimes,* 3= *Rarely,* 4=*Never*

	reverse-coded) **Control (C):** **1**. My age prevents me from doing the things I would like to do **2.** I feel that what happens to me is out of my control **3.** I feel left out of things **Autonomy (A):** **4**. I can do the things I want to do **5.** Family responsibilities prevent me from doing the things I want to do **6**. Shortage of money stops me from doing things I want to do. **Self-realization (S):** **7.** I feel full of energy these days **8**. I feel that life is full of opportunities **9.** I feel that the future looks good for me. **Pleasure (P):** **10**. I look forward to each day **11**. I feel that my life has meaning **12**. On balance, I look back on my life with a sense of happiness	Total score range 12-48 (Reference Category =Cut-off point of > 39 points, high quality of life)
Psychological Distress	**CES-D 11** *(items 4, 7 are reverse-coded)* **1.**I felt depressed **2.**I felt that everything I did was an effort **3.**My sleep was restless **4.**I was happy **5.**I felt lonely **6.**I felt people were unfriendly **7.**I enjoyed life **8**.I didn't feel like eating; my appetite was poor **9.** I felt sad **10.** I felt that people disliked me **11.** I couldn't get going	0= *Almost all of the time,* 1= *Most of the time,* 2= *Some of the time,* 3= *Almost none of the time* Total score range 0-33 (Reference Category=Cut-off point of score <9 points, absence of depressive symptoms)
Self-rated Health	*"Would you say your health is …"*	*1. Very good*, 2. *Good*, 3. *Fair*, 4. *Bad*, 5. *Very bad* (Reference Category=Very good)
Chronic Diseases	*"Has a doctor ever told you that you had any of the conditions…" (myocardial infarction, high blood pressure, or hypertension, high blood cholesterol, stroke, diabetes or high blood glucose, chronic lung disease, asthma, arthritis, osteoporosis, cancer, stomach or duodenal/peptic ulcer)*	Number of conditions (Reference Category= None or one condition)

Body Mass Index (BMI)	*"Approximately how much do you weigh?", "How tall are you?"*	WHO cut-off points (weight in kilograms divided by the square the square of the height in meters: *1.under-weight (<18.5 kg/m2), 2. normal (18.5–24.9 kg/m2), 3. overweight (25.0–29.9 kg/m2), 4. obese (≥30.0 kg/m2)* (Reference Category=Normal)
Social Isolation Indicators		
Partnership Status	*"Do you live with…?" (a partner; a spouse; alone)*	1 =*Living with a partner or spouse,* 2=*Living without a partner or spouse,* 3= *Living alone* (Reference Category=Living without a partner or spouse or living alone)
Marital Status	*"What is your marital status?"*	1=*Married and living together with spouse,* 2=*Registered partnership*, 3= *Married, living separated from spouse*, 4= *Never married*, 5= *Divorced*, 6= *Widowed* (Reference Category=Never married)
Number of Children	*"How many children do you have that are still alive? Please count all natural children, fostered, adopted and stepchildren"*	1= *0-20 children* 2= *no children* (Reference Category=Being childless)
Parent-child Contact	*"During the past twelve months, how often did you or your husband/wife/partner have contact with your child either personally, by phone or mail?"*	*1= Daily, 2= Several times a week, 3= About once a week, 4= About every two weeks, 5=About once a month, 6= Less than once a month, 7= Never* (Reference Category=Less than once a month or never parent-child contact)
Parent-child Geographical Proximity	*"Where does your child live?"*	1=*In the same household*, 2= *In the same building*, 3= *Less than 1 kilometre away*, 4=*Between 1 and 5 kilometres away*, 5=*Between 5 and 25 kilometres away*, 6=*Between 25 and 100 kilometres away*, 7=*Between 100 and 500 kilometres away*, 8= *More than 500 kilometres away*, 9=*More than 500 kilometres away in another country* (Reference Category= All children living >1 km)
Activity Participation	*"Have you done any of these activities in the last month?"*	1=*Having done voluntary or charity work,* 2=*Cared for a sick or disabled adult,* 3=*Provided help to family, friends or neighbors*, 4=*Attended an educational or training course*, 5=*Gone to a sport, social or other kind of club*, 6=*Taken part in a religious organization*, 7=*Taken part in a political or community-related organization in the last month*, 8=*None of these* (Reference Category=No activity participation)

Social Exchanges	"*Have you given or/and received any kind of social support in the last twelve months…?"* (*personal care, e.g. dressing, bathing or showering, eating, getting in or out of bed, using the toilet*; *practical household help, e.g. with home repairs, gardening, transportation, shopping, household chores; help with paperwork, such as filling out forms, settling financial or legal matters)*	1=*Almost daily*, 2=*Almost every week*, 3= *Almost every month*, 4=*Less often* (Reference Category=less often)
Loneliness		
Frequency of feelings of loneliness	*"How often have you experienced the following feelings over the last week?", "I felt lonely"*	0= *Almost all of the time*, 1= *Most of the time*, 2= *Some of the time*, 3= *Almost none of the time*
Adverse Health Conditions		
Chronic Diseases	*"Has a doctor ever told you that you had any of the conditions…" (myocardial infarction; high blood pressure, or hypertension; high blood cholesterol; stroke; diabetes or high blood glucose; chronic lung disease; asthma; arthritis; osteoporosis; cancer; stomach or duodenal/peptic ulcer)*	Number of conditions (Reference Category= One or more conditions)
I(ADL) Limitations	*"Tell me if you have any difficulty with these everyday activities because of a physical, mental, emotional or memory problem…?" (*Dressing, including putting on shoes and socks; walking across a room; bathing or showering; eating, such as cutting up your food; Getting in or out of bed; using the toilet, including getting up or down; using a map to figure out how to get around in a strange place; preparing a hot meal; shopping for groceries; making telephone calls; taking medications; doing work around the house or garden; managing money, such as paying bills and keeping track of expenses)	*Number of limitations* (Reference Category= One or more limitations)
Disease Symptoms	"*For the past six months at least, have you been bothered by any of the following health conditions…*?" (pain in back, knees, hips or other joints; heart trouble; breathlessness; persistent cough; swollen legs; sleeping problems; falls; fear of falling down; dizziness; faints or blackouts; stomach or intestine problems; incontinence)	*Number of disease symptoms* (Reference Category= One or more symptoms)

Depressive Symptoms	**European Depression Scale (Euro-D scale):** **1.** In the last month I have been sad or depressed **2.** No hopes for the future **3.** Suicidal feelings or wishing to be dead **4.** Obvious excessive guilt or self-blame **5.** Example(s) given which constitute obvious excessive guilt or self-blame **6.** Trouble with sleep or recent change in patter **7.** Less interest than usual mentioned **8.** Does not keep up interests **9.** Have been irritable recently **10.** Diminution in desire for food **11.** Have been eating more or less than usual **12.** Have had too little energy to do the things they wanted to do **13.** Difficulty in concentrating on entertainment **14.** Difficulty in concentrating on reading **15.** Fails to mention any enjoyable activity **16.** Have cried in the last month **17.** Ever suffered from symptoms of depression which lasted at least two weeks **18.** Treated for depression by a family doctor or a psychiatrist? **19.** Ever admitted to a mental hospital or psychiatric ward	Number of depression symptoms (Reference Category= More than four symptoms)
Stressful Life Events		
Stop working due to health problems	"*For which reasons did you retire….*?"	1=Became eligible for public pension; became eligible for private occupational pension, 2=Became eligible for a private pension , 3=Was offered an early retirement option/window (with special incentives or bonus), 4=Made redundant (for example pre-retirement), 5=Own ill health, 6= Ill health of relative or friend, 7=To retire at same time as spouse or partner, 8=To spend more time with family, 9=To enjoy life (Reference Category=Own ill health)
Financial Situation Greatly Deteriorated	"Thinking back to one year ago, would you say your household's financial situation today has…"	1= Greatly improved , 2= Somewhat improve, 3=Remained the same, 4= Somewhat deteriorated, 5= Greatly deteriorated

Widowhood	"What is your marital status?"	1=*Married and living together with spouse*, 2=*Registered partnership*, 3= *Married, living separated from spouse*, 4= *Never married*, 5= *Divorced*, 6= *Widowed* (Reference Category=Widowed)
Child Move out of Parental Nest	"In which year did your child move from the parental household?"	Reference category=Having recently moved from parental household (the current or the previous year)
Preventive Health Services		
Preventive Health Services Utilization	**1.** During the last twelve months, have you seen a dentist or a dental hygienist? **2.** Do you have a "GP" (i.e. a doctor you usually turn to for your common health problems)? **3.** How often does your GP ask how much physical activity you do? **4.** How often does your GP tell you that you should get regular exercise?' **5.** How often does your GP check your weight?') **6.** How often does your GP ask you about any drugs you take, either over-the-counter or prescribed by another doctor?' **7.** In the last year, have you had a flu vaccination?' **8.** In the last two years, have you had a mammogram? **9.** In the last ten years, have you had a test that detects hidden blood in your stool?' **10.** Have you ever been sent to physiotherapy or an exercise program for joint pain? **11.** Have you ever been sent by a doctor to an orthopeadic surgeon for the joint pain that you presently have?.	0=no/never, 1=yes/at some time/every visit, (range of 0-12, 0-100 scale)

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Κεφάλαιο 1ο

Activity Participation and Well-Being Among European Adults Aged 65 years and Older

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Abstract

Increasing evidence suggests that different patterns of activity participation confer several positive well-being outcomes through the later years of life. The aim of the present study is to examine the likelihood of higher well-being linked with a socially engaged lifestyle with a view to extending prior research. Data on a nationally representative sample of adults aged 65 and older from eleven European countries (n = 7025) was drawn from the first Wave of the Survey of Health, Aging and Retirement in Europe (SHARE, 2004/5). Socially and productively oriented activities were administered as salient aspects of activity participation and were rated on frequency of involvement. Wellbeing was defined by the clustering of six indicators including life satisfaction, quality of life, self-rated health, psychological distress, chronic diseases and Body Mass Index (BMI). The effect of activity participation on the clustering of well-being indicators was estimated according to complex samples ordinal regression models. The overall pattern was that of a significantly increased likelihood for frequently active participants to present multiple presence of positive well-being outcomes (p\0.05). This held true not only at the individual level but also across most SHARE countries. Although the findings of the current analysis cannot identify the direction of causality of the observed effects, they still lend some support to the reasonable conjecture that old-age activity engagement matters for individuals' wellbeing and testify to the suggestion that public health and social care.

Introduction

The rising proportion of people thriving into old age over the last several years and the subsequent policy and practice implications for health and social care systems as concerns a population expected to present an increasingly older-age structure have brought the identification of factors which may bear on late-life welfare to the consideration of the existing research and policy framework of old age (Rechel et al. 2013). Hence, the call for directing policy concern toward reinforcing activity engagement as a key element of strategies pointing to the amelioration of older adults' lives and thus as an additional perspective on potential fields for well-being initiatives in old age has been dominant.

The main focus of the current study was on elaborating on well-being and activity engagement among the elderly from eleven European countries by providing a detailed descriptive account of the respective measures and their socio-demographic and regional distribution and examining if there is evidence of positive well-being outcomes associated with different patterns of activity involvement. Specifically, we were concerned with examining the potential benefits afforded by the frequency of activity performance for elders' well-being operationalized as the clustering of six distinct indicators: quality of life, depressive symptomatology, self-rated health, life

satisfaction, chronic diseases and Body Mass Index (BMI). Social involvement was conceptualized along two dimensions, productive activity participation and social activity participation, each encompassing activities which have been denoted to lie at the core of older people's activity engagement according to related research evidence. Well-being has been delineated as the key objective of public policies targeting older people drawing on the gain view of aging and the belief that late-life holds far-reaching opportunities for personal growth and meaningful social engagement. Even though, there is not an all-embracing conceptual and methodological framework explicitly referring to well-being and hence the difficulties in defining and measuring it, its multifaceted nature has been commonly acknowledged and key elements of well-being at older ages to be assessed have been posited across social gerontology research. According to older adults' self-evaluations well-being refers essentially to a state of 'feeling healthy, free from pain and able to lead a positive life' (Hoban et al. 2011) (p.5). In this regard, indicators featuring the physical, mental and emotional aspects of well-being are substantially relevant for research on elderly well-being. However and despite the fact that the inclusion of indicators referring to various elements of older adults' well-being in the empirical analysis might afford additional insights on those domains of old life that should be mostly aimed at by activity engagement interventions, the main strand of research so far has been restricted to the employment of specific well-being measures not allowing for a comprehensive assessment. In addition, previous evidence in the field has mainly displayed a single country interest with the possible effects of activity participation on well-being on a cross-country perspective being still relatively unexplored.

Previous research on activity participation and well-being

The field of social, mental and behavioral sciences that examines old-age well-being endeavors to add to the explication of the processes of growing old, with the emphasis lying on the comprehension and assessment of the different factors and conditions that account for advanced later-life well-being. Productively and socially oriented activities as a salient component of successful aging whereby valued outcomes and mutual contributions with salutary effects are furnished have been corroborated by empirical inquiry as aspects of everyday later-life that hold an essential role to the maintenance and enhancement of well-being. The outlined premise that older people contemplate their well-being more positively when they occupy activity roles within their social settings has been variously addressed. For instance, McMunn et al. (2009) on their analysis based upon the second wave of the English Longitudinal Study of Aging (ELSA) investigated the association between participation in activities and well-being as measured by the indicators of quality of life, life satisfaction and depression. In another study (Wahrendorf and Siegrist 2010) (p.60) quality of life was addressed as

'a theoretically grounded indicator of well-being' and the link between changes in productive activities and changes in quality of life was assessed on data derived from the Survey of Health, Ageing and Retirement in Europe (SHARE). More recently, Gilmour (2012) employed self-perceived health, loneliness and life satisfaction on his examination of the health and well-being benefits of the number of frequently undertaken activities for people aged 65 and older who participated in the Canadian Community Health Survey-Healthy Aging.

On the other hand, old-age activity participation has been variously defined and measured across diverse theoretical and empirical approaches. Overarching and interchangeably constructs which have been given substance in the conceptual advancement of activity involvement, namely social engagement, active engagement with life, connectedness, connectivity and embeddedness, have traditionally focused on the measurement of the performance and retention of purposeful roles integral to activities through which older people's access to important flows of psycho-social resources is facilitated. Baum et al. (2000), drawing data from the Health Development and Social Capital Project detected a specific participation profile for people aged 70 and over as compared to younger participants pertaining to higher levels of community group participation in terms of church attendance, volunteering and participation in service clubs. In the same study, this pattern appeared to be cumulative and remain relatively stable among older people over a 4-year period. Mendes de Leon et al. (2003) assessed social engagement on a summary measure reflecting the aggregation of a wide range of social and productive activities common at older populations. Older adults' activity performance was measured on both overall frequency of participation in 17 different activities and number of activities by distinguishing six separate domains (family and social, church and charity, home and garden, reflection and learning, music and drama and sports) by Warr et al. (2004). As well, in Bennett's (2005) study, late-life social engagement was determined by the respondents' involvement in 20 distinct activity domains entailing either actual social involvement or limited social interaction. More recently, resting on SHARE data Sirven and Debrand (2012) evaluated social capital according to participation in five social activities (voluntary/charity work, training course, sport/social club, religious organization, and political/community organization).

A lack of definition and measurement consistency, as well as an overlap of concepts is therefore apparent, rendering it difficult to compare extant research findings on activity participation and well-being outcomes. However, the still-emerging evidence base holds that activity involvement at older ages, measured either on overall activity level or on divergent respects of particular activity domains, effects a significant contribution to several aspects of older adults' well-being lending plausibility to activity theory and its postulation that people who remain engaged in

activities through which social roles are enacted are afforded with positive outcomes (Rowe and Kahn 1997). In particular, there is evidence to feature familial and non-familial attachment, religious and group attendance and participation in volunteer, recreational and leisure pursuits in older adults population as important indicators of quality of life (Bowling 1995), determinants of life satisfaction and self-perceived health status (Van Willigen 2000) and predictors of cognitive functioning and physical and mental health and well-being (Everard et al. 2000; Hao 2008; Morrow-Howell et al. 2003).

The potential mechanisms underlying the age-associated well-being protective prospect of active engagement with life have been mainly expounded upon physiological, behavioral and psychosocial pathways through which direct and indirect effects are exerted. The *main effects* model suggests that through the social support and social integration functions of social engagement behavioral and physiological benefits are gained regarding the inducement of salutary health-related behaviors and the enhancement of neuroendocrine and immune systems functioning (Cohen 2004). Furthermore, several investigations have consistently supported the *stress-buffering* hypothesis allowing for the contention that later-life well-being is positively impacted by social interactions and supportive transactions which reinforce adaptation to stressful events and coping with major life transitions and thus moderate plausible adverse effects (Musick and Wilson 2003; Unger et al. 1997). To this vein, another model proposed by Herzog et al. (1998) is supportive of the contention that it is the activation and the maintenance of the agentic self prompted through social involvement that constitutes the main mechanism via which palpable favorable implications for well-being are held.

With the above end in view, in our conceptualization of activity involvement both productive social participation referred to as productive activity participation and collective and political participation referred to as social activity participation were considered so that to encompass domains of diverse activity patterns that are prevalent in older people's social context and particularly relevant for their well-being. Following Klumb's (2004) (p.121) proposition that productive activities are defined by their 'outcome utility rather than the pleasure they afford' and the position maintained by Baker et al. (2005) that productive activities serve for the welfare of others, hold a common social element and are meaningful to individuals undertaking them, the respondents' contribution to the production of societal and personal services and goods in the current study was gauged both in terms of being occupied in voluntary and charity activities, as well as in family and social bonds involving informal assistance and caregiving. Thus, according to the definition of social engagement stated by Glass et al. (2006) (p.606) as the 'performance of meaningful social roles for either leisure or productive activity', social participation as a salient

domain of activity involvement was measured on four items corresponding to the respondents' frequency of embeddedness in education and training related groups and religious or other political and civic associations.

The present Study

Even though previous research has attested to variations in well-being by socio-economic characteristics, differences among older people have not yet been fully investigated as concerns diverse aspects of well-being and distinct domains of activity participation. In this regard, based on a large and nationally representative sample of the 65 and over European population the current paper sets out firstly to present descriptive data on well-being and activity participation at an individual and regional level and secondly to address the well-being benefits presumably conferred by activity participation in order to replicate prior findings and furnish new cross-nationally comparative evidence to the existing literature by employing indicators which capture several elements of old-age well-being. In particular, the specific queries under focus were as follows:

1) Is productive and social activity participation equally distributed across socio-structural variables and regional groups?
2) Is well-being differently determined among genders, age groups and regional settings?
3) Do older adults experience positive outcomes across different dimensions of well-being associated with frequency of engagement in productive and social activities?
4) Is a similar association pattern held between the two different activity participation domains and well-being measures?
5) Are regional variations evidenced in regard to the association of frequent activity participation and the prevalence of multiple well-being indicators?

Methods

Study sample

This study employed data from the first wave of the Cross-European Survey of Health, Ageing and Retirement in Europe (SHARE, http:www.share-project.org) conducted between 2004/5 in eleven European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden and Switzerland) and coordinated by the Munich Center for the Economics of Aging (MEA). SHARE seeks to gain insight into key features of the ageing process and its challenges addressing multifaceted questions with reference to quality of life, health and well-being, care needs, health-care use, social and family networks, social support, wealth and assets. The novelty of this survey lies at the fact that its multidisciplinary and multinational

design facilitates comparative cross-national research in the European context from a social, economic and health perspective.

The target population of the survey included households which consisted of at least one person 50 years of age or older, that is people who were born in 1954 or earlier as far as the first wave of the survey is concerned. Furthermore, the possibly younger counterparts of the age-eligible respondents were also interviewed. People were excluded if they were not residing at the sampled address at the time of the survey, were unable to respond to the procedures owing to physical and mental difficulties or could not speak the respective national questionnaire language.

The target SHARE population was randomly selected to be nationally representative of the European community-dwelling middle-aged and over population. Full probability sampling was achieved by employing sampling frames pertaining to country-specific resources resting both on registers administered at a national and regional level, as well as telephone directories. The respective sampling designs undertaken varied from a simple selection of households to rather complex multistage procedures, which resulted in an average weighted response rate ranging from 73.7% in Spain to 93.3% in Germany at the individual level and 38.8% in Switzerland to 81.0% in France at the household level. A more thorough delineation of study design, procedure guidelines and released data has been published elsewhere (Borsch-Supan et al. 2013).

For the purposes of the current investigation and in order to address activity participation and its relationship to well-being in the later-life context, the analysis comprised individuals aged 65 years and older within the SHARE sample, which yielded a study population of 7,025 respondents (3,308 males and 3,717 females), divided into three age groups: 65-74, 75-84 and 85+.

Data collection

The main survey data collection was implemented by means of a centrally-programmed, computer-assisted personal interviewing technique (CAPI) based on an automatically generated questionnaire consisting of 21 modules. Data collection was further supplemented by a brief self-administered paper-and-pencil questionnaire (‘drop-off’) which was handed to the respondents after the completion of the baseline interview.

Measures

Well-being indicators

In the current study six distinct indicators were administered to represent different physical, mental and emotional aspects of older adults’ well-being: quality of life, psychological distress, self-rated health, life satisfaction, chronic diseases and BMI.

High well-being was equated with reporting high quality of life, indicating absence of depressive symptomatology, perceiving health status as very good, being very satisfied with life, suffering from none or one chronic health condition and exhibiting normal BMI.

Satisfaction with life was determined by featuring a single-question indicator which has been widely applied (Amit and Litwin 2010; Davern et al. 2007) and has been shown to have acceptable levels of reliability and validity (Pavot and Diener 1993). The rating of life satisfaction was obtained by querying 'How satisfied are you with your life in general?' on a 1 (very satisfied) to 4 (very dissatisfied) response scale. As regards the usefulness of this global measure of life satisfaction, the notion posited by Cummins et al. (2003) was adopted taking into account that the question 'How satisfied are you with your life as a whole?' yields stable interpretations of one's personal general state of well-being over time.

Quality of life was measured on CASP-12, which is a shorter version of the original 19-item scale (CASP-19) (Blane et al. 2004; Wiggins et al. 2007), first included in the self-completion questionnaire of SHARE and found to correlate highly with the original version and thus display adequate psychometric properties (Cronbach's alpha=0.83) (Knesebeck et al. 2007). CASP-12 has been acknowledged and utilized as a measure of assessing quality of life in older people as the result of the fulfilment of four substantial dimensions of human needs: control (C), autonomy (A), self-realization (S) and pleasure (P). Response categories were scored on a four-point scale (often, sometimes, rarely and never) and the negatively worded items were reversely coded so that the above four conceptual domains could be drawn. Responses were summed and a total score ranging from 12 to 48 was generated, with higher scores pointing to the existence of better quality of life (Cronbach's alpha=0.89). A cut-off point of ≥39, being indicative of high quality of life, was defined as the reference category.

An abbreviated version of the Center for Epidemiological Studies Depression scale (CES-D) was administered in order to identify the absence of depressive symptomatology. The 11-item abridged version of CES-D, as administered in the SHARE questionnaire which encompasses 11 identical items from the original 20-item index first introduced by Radloff (1977), has been widely addressed among different populations (Everson-Rose et al. 2004; Smith 2006) and the elderly (Barry et al. 2008; Kohout et al. 1993). CES-D 11 has also been demonstrated to produce valid and reliable assessments of decreased positive affect and to correlate at a high level with the 20-item original version of CES-D, with a Cronbach's alpha ranging from 0.81 to 0.83 (Gellis 2010; Kohout et al. 1993). Participants were queried as regards the frequency they had experienced specific depressive symptoms during the course of the previous seven days according to four-category response options to which a

value of zero, one, two or three was assigned (0: 'Almost none of the time', 1: 'Some of the time', 2: 'Most of the time', 3: 'Almost all of the time'). Responses on the items were summed after reversely coding the four positively stated items which produced an overall score of depressive symptomatology, ranging from 0 to 33, with higher values signifying a greater degree of psychological distress sustained by the respondents over the past one-week period (Cronbach's alpha=0.79). A cut-off of 9 or higher was applied as a threshold indicative of the occurrence of clinically significant depressive symptomatology, as proposed by Steffick (2000) and recently administered to correspond to the original cut-off point score of 16 in the 20-item measure (Kroemeke and Gruszczyńska 2014). In the current analysis a score less than 9 points denoting the absence of depressive symptomatology served as the reference category.

Self-assessed health status and chronic health conditions were administered for the assessment of the respondents' overall health drawing on relating research evidence suggesting that they have some role to play in the link between different domains of social engagement and various well-being outcomes at older ages (Crimmins et al. 2002; Glass et al. 2006; Lampinen et al. 2006).

Self-perceived health was ascertained through a single question phrased in the following manner: 'Would you say your health is...' which comprised a response scale of four options ranging from *'very good'* to *'very bad'*. This item has been typically incorporated in the literature to gauge self-reported morbidity among older adults (Breeze et al. 2001) and has been found to be a valid indicator of general health status (Schnittker and Bacak 2014). For the purposes of the current analysis *'very good'* self-perceived health status was defined as the reference category.

.Prevalent chronic diseases were estimated on older adults' self-report on their medical diagnosis of 11 health conditions ('Has a doctor ever told you that you had any of the conditions...'), including myocardial infarction, high blood pressure, or hypertension, high blood cholesterol, stroke, diabetes or high blood glucose, chronic lung disease, asthma, arthritis, osteoporosis, cancer, stomach or duodenal/peptic ulcer and portrayed on a show-card. According to the respondents' affirmative responses on the presence of chronic health conditions an indicator of *'0 or 1'* chronic disease was generated and regarded as the reference category in the analysis.

BMI was defined in terms of self-reported current height and weight (weight in kilograms divided by the square of the height in meters). Participants were categorized as under-weight (<18.5 kg/m^2), normal (18.5-24.9kg/m^2), overweight (25.0–29.9kg/m^2) or obese (≥30.0 kg/m^2) correspondingly to the cut-off points indicated by the respective WHO definitions (WHO 2011). The category of *'normal weight'* BMI was selected as the reference category.

The prevalence of the clustering of the above well-being indicators was estimated by assigning a score of 0 (absence) and 1 (presence) for each individual well-being

indicator, according to their reference categories. A total clustering score was subsequently obtained by adding up the resulted binary variables, standing for the number of the indicators that were present for each respondent and ranging from 0 to 6, with 0 connoting the absence of any of the aforementioned well-being indicators and 6 representing the presence of all well-being indicators. The clustering of 4+ well-being indicators was considered to be indicative of higher well-being and referred to as multiple presence of well-being indicators.

Measures of activity participation

Activity participation within the last month was determined as productive and social on the basis of the expected utility outcome, either for the social context or for the individual, which allowed for the construction of two distinctive activity domains: (a) Productive activity participation assessed by summing the items: 'Done voluntary or charity work', 'Cared for a sick or disabled adult' and 'Provided help to family, friends or neighbours' and (b) Social activity participation captured from the aggregation of the following items: 'Attended an educational or training course', 'Gone to a sport, social or other kind of club', 'Taken part in a religious organization (church, synagogue, mosque etc.)' and 'Taken part in a political or community-related organization'. For each of the above activities participants were firstly queried as regards their engagement during the course of the previous month and then were asked to demonstrate the respective frequency of their performance on a three point scale (1: 'almost daily', 2: 'almost every week', 3: 'less often'). For the purposes of the present analysis, response categories on the above query were further classified as 'frequent', combining respondents stating to participate almost daily or almost every week and as 'less frequent', encompassing participants declaring to participate less often than almost daily or less often than almost every week. Further, participants who responded that they were not engaged in any of the activities addressed in the first question were represented by the category 'never'. Therefore, frequency of participation in each activity domain was assessed as follows: 'frequent', 'less frequent' and 'never'.

Additional Measures

Demographic and socio-structural characteristics that have been found to matter for well-being were taken into account in the analysis in order to define possible relevant covariates. Demographic information included age, sex and living status. Respondents were classified into three age groups (65-74, 75-84 and 85+ years old), whereas their living status was determined according to a categorical variable to differentiate those residing alone from those living with a partner or spouse. Social background resources were assessed on educational attainment defined by total years of schooling as

indicated by the International Standard Classification of Education (ISCED) developed by UNESCO (1997) and wealth measured on self-reported income estimated by reference to an imputed variable reflecting the total earnings accrued in the preceding year on the household level from a host of possible sources, including salaries, pensions, benefits, rents, dividends from shares and stocks etc. (Borsch-Supan et al. 2005). Country-specific quartiles of household income were computed and utilized to reflect cross-national differences. Countries were also included in the analysis and were geographically grouped into Southern (Greece, Italy and Spain), Northern (Denmark and Sweden), and Central (Austria, Belgium, France, Germany, The Netherlands and Switzerland) to detect possible variations in the prevalence of well-being indicators and activity involvement and further examine if the hypothesized effect of activity participation on well-being is consistent among different European regions.

Statistical analysis

Data were analyzed using the SPSS software (IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp) and Stata/MP 3.1. Weights were applied reflecting non-responses and stratification design according to the complex sampling design of the study. Firstly, the well-being and activity participation indicators utilized in the analysis were analyzed by means of descriptive statistics. More precisely, frequency distributions of the respondents' personal characteristics were estimated. Secondly, the prevalence of productive and social activity participation and individual well-being indicators and their clustering were estimated with the corresponding 95% confidence intervals (95% CIs). In addition, the indicators of well-being and their clustering were addressed from an age, gender and regional perspective. Thirdly, the association between different aspects of well-being and productive and social activity participation was sought for by employing ordinal regression analysis controlling for age, gender, living status, income and country regions which were regarded as covariates. Three ordinal regression models were conducted to compute adjusted Odds Ratios (ORs) so that to estimate separately the effects of productive activities, social activities and productive or/and social activities on clustering indicators of well-being (as none, 1, 2, 3 and 4+). In the first ordered logit model, we predicted the effect of productive activities on the clustering of well-being indicators defining as possible covariates age, gender, education, living status, income and country regions. In the second model social activities were added, whereas in the third model the interaction between the aggregation of productive and social activities and well-being measures was estimated. For regression analysis frequency of activities was used as factor with 'never' serving as the reference category. Test of parallel lines was computed by 2 log-likelihood function and logit

was applied as a link function. McKelvey-Zavoina pseudo R^2 estimators were 0.078, 0.082 and 0.078 in the three models, respectively. Weighted means and 95% CIs of well-being indicators were estimated for each level of productive and social activity participation frequency by employing analysis of covariance according to the complex sample general linear model procedure. The aforementioned variables facilitated as covariates. The association between frequent productive or/and social activity participation and prevalence of 4+ well-being indicators in the eleven participating European countries, as well as the frequency of lacking clustering well-being indicators across European regions were graphically illustrated. Moreover and according to simple linear regression analysis, the prevalence of the accumulation of well-being indicators in each country was associated with frequent productive or/and social activity participation.

Results

The descriptive data for socio-demographic variables and activity participation domains are summarized in Table 1**.** The average age of the study population was 73.1 years (s.d.= 6.3) and the age distribution was such that 63.0 % of the sample was 65-74 years, 31.5% was 75-84 years and 5.4% was 85+ years old, with males representing the 47.1% of the respondents. The participants' mean time in formal education was 9 years (s.d.= 4.5) and the majority of the sample (67.0%) reported living with a partner or spouse. As for frequency distributions of the two distinct activity domains, social activity participation was most engaged in by the respondents, since it concerned 32.6% of the sample declaring to have participate frequently or less frequently in social activities during the course of the month preceding the study, as compared to the respective proportion of respondents regarding productive activity participation (28.1%). Additionally, respondents exhibited higher prevalence on frequent involvement (almost daily or almost every week) both in productive (19.9%) and social (23.8%) activities, as compared to the proportion with regard to the less frequent participation (less often than almost daily or less often than every week) (8.2% and 8.8%, respectively). When activity level was measured on the aggregation of the two distinct engagement dimensions, more than one-third of the respondents (36.4%) indicated being frequent active participants (on a weekly or daily basis) in at least one of the above mentioned productive and social activities.

Table 1. Descriptive characteristics of 7,025 adults, aged 65+ years in the SHARE study (2004/05).

		N	%
Gender	*Males*	3,308	47.1
	Females	3,717	52.9
Age, *years*	*65-74*	4,429	63.0
	75-84	2,214	31.5
	85+	382	5.4
	total	7,025	73.1±6.3 [a]
Education, *years*	0-7	6,975	9.0±4.5 (0, 21)
Living status	*Alone*	2,312	33.0
Income	*Low*	2,205	31.4
European regions	*Northern*	1,237	17.6
	Central	3,711	52.8
	Southern	2,077	29.6
Productive activity participation, *in the previous month*	*Frequent*	1,392	19.9
	Less frequent	572	8.2
	Never	5,037	71.9
Social activity participation, *in the previous month*	*Frequent*	1,664	23.8
	Less frequent	615	8.8
	Never	4,724	67.5
Productive or/and social activity participation, *in the previous month*	*Frequent*	2,552	36.4
	Less frequent	795	11.4
	Never	3,656	52.2

[a] Values are mean ± stand. deviation (minimum, maximun).

Level of productive and social activity participation, measured on frequency, according to socio-demographic characteristics and European regions is displayed in Table 2. Prevalence of productive and social activity participation varied significantly according to age group, with respondents participating the most between the ages of 65-74 both in productive (19.6%; 95% CI 17.8-21.4) and social activities (21.1%; 95% CI 19.3-23.1), compared to their older counterparts aged 75-84 (12.1%; 95% CI 10.0-14.6 and 17.2%; 95% CI 14.8-20.0, respectively). Frequent productive and social activity participation was more prevalent among males (17.7%; 95% CI 15.0-19.1 and

19.1%; 95% CI 17.1-21.3, respectively) than females (15.4%; 95% CI 13.7-17.4 and 18.9%; 95% CI 16.9-21.1, respectively), albeit not to a significant level. Moreover, a higher prevalence of frequent participation in productive or/and social activities was also observed among respondents of higher educational attainment (36.2%; 95% CI 32.7-39.9), as compared to those with less years of education (27.6%; 95% CI 24.6-30.9 and 25.1%; 95% CI 22.8-27.6) and among respondents of higher income (35.9%; 95% CI 31.1-41.0), as compared to those with average (30.8%; 95% CI 28.4-33.2) and low income (25.3%; 95% CI 22.4-28.4).

Participation rates also varied significantly across country groups, with the prevalence of frequent productive and social activity participation being reasonably higher among older adults in the Northern European region (26.7%; 95% CI 23.9-29.7 and 27.6%; 95% CI 24.7-30.8, respectively) as compared to the other two regions. The above pattern was retained when activities were considered on the aggregate level, as well. A similar picture was also drawn when cross-national differences were further examined, with productive activity participation rates ranging from 29.4% in France and 28.1% in Sweden to 5.9% in Spain and social activity participation rates ranging from 42.0% in Greece and 31.6% in Denmark to 8.1% in Italy, revealing a North-South European gradient, the exception being Greece due to the remarkably high share of the elderly appearing to be socially active (42.0%) and France on account of the high share of productively active participants (results not shown). In general, almost half of respondents surveyed in Northern European region (43.9%), one-third in Central European region (33.5%) and one-fifth in Southern European region (22.6%) reported being frequently engaged in at least one productive or/and social activity during the month preceding the survey.

Table 2. Productive and social activity participation according to socio-demographics and European regions in 7,025 adults, aged 65+ years.

		Frequent Activity participation *(Almost daily or almost every week)*		
		Productive	**Social**	**Productive or/ and social**
		weight % (95%CIs)		
Socio-demographics				
Gender	*Males*	17.7 (15.0-19.1)	19.1 (17.1-21.3)	29.5 (27.0-32.0)
	Females	15.4 (13.7-17.4)	18.9 (16.9-21.1)	29.8 (27.4-32.3)
Age, *years*	*65-74*	19.6 (17.8-21.4)	21.1 (19.3-23.1)	33.6 (31.4-35.9)
	75-84	12.1 (10.0-14.6)	17.2 (14.8-20.0)	25.8 (22.8-29.0)
	85+	6.2 (3.1-11.9)	9.2 (6.0-13.8)	13.9 (9.4-20.1)
Education, *years*	*0-7*	12.4 (10.7-14.3)	15.9 (14.1-17.9)	25.1 (22.8-27.6)
	8-12	15.7 (13.4-18.3)	17.3 (14.8-20.0)	27.6 (24.6-30.9)
	13+	20.5 (17.8-23.5)	23.8 (20.8-27.1)	36.2 (32.7-39.9)
Living Status	*Alone*	12.4 (10.3-14.8)	18.0 (15.6-20.7)	23.6 (23.4-29.5)
	With partner/spouse	18.7 (17.1-20.5)	19.7 (18.0-21.5)	32.0 (30.0-34.1)
Household income	*Low*	11.5 (9.6-13.7)	17.7 (15.3-20.5)	25.3 (22.4-28.4)
	Average	17.3 (15.5-19.3)	19.3 (17.4-21.4)	30.8 (28.4-33.2)
	High	22.6 (18.6-27.2)	20.9 (16.9-25.4)	35.9 (31.1-41.0)
European regions				
	Northern	26.7 (23.9-29.7)	27.6 (24.7-30.8)	43.9 (40.5-47.7)
	Central	20.1 (18.1-22.2)	24.0 (18.9-23.3)	33.5 (31.0-36.1)
	Southern	9.5 (7.8-11.4)	15.2 (13.2-17.3)	22.6 (20.2-25.3)

CIs, confidence intervals.Weight percentages and 95% confidence intervals were estimated according to the complex sampling design of the study.

The percentage distribution of the outcome variables of well-being by age, gender and European region are shown in Table 3. High quality of life (score ≥39) was detected for 5.7% of the respondents as estimated on CASP-12, whereas a low depression score deploying the <9 cut-off point on CES-D was ascertained for the majority of the sample (59.7%). The proportion of the participants rating their general health as '*very good*' was 8.0%. More than one-quarter of the sample (28.7%) stated to be '*very satisfied*' with their life, approximately half of the respondents (43.8%) were diagnosed with none or one chronic health condition and 37.4% were normal weight. Further, comparisons of well-being indicators disclosed significant differences by gender, with the overall well-being pattern pertaining to better outcomes for males. More specifically, 69.0% (95% CI 66.2-71.7) of males and 52.4% (95% CI 31.6-41.8) of females had experienced depressive symptoms during the previous month below the threshold of <9. Further, males demonstrated a significantly higher prevalence in terms of their appraisal of their general health as *'very good'* (10.0%; 95% CI 8.6-

11.6) and suffering from none or one chronic disease (48.4%; 95% CI 45.6-51.3), as compared to females (6.4%; 95% CI 5.3-7.7 and 40.3%; 95% CI 37.5-43.1, respectively). Significant differences were also traced in view of female and male reporting of life satisfaction, with males showing greater prevalence of being very satisfied (32.1%; 95% CI 29.6-34.7) than females (26.2%; 95% CI 23.9-28.6). Normal BMI was significantly more common among older females (41.2%) than older males (32.6%) and a slightly higher, albeit not statistically significant, proportion of females (6.0%) than males (5.4%) indicated high quality of life.

Clustering of well-being indicators was less marked at both ends of the spectrum, with 14.4% of the total sample rendering no positive well-being outcomes, whereas multiple indicators of well-being (4+) were observed for 10.2% of the respondents. For the majority of the sample one or two well-being indicators were present (28.9% and 27.9%, respectively). Between genders, according to 95% CIs, significant differences were uncovered on the prevalence of no well-being indicators, with females (17.1%) being more likely to be lacking in well-being indicators than males (11.0%). Nonetheless, the prevalence of multiple well-being indicators was not found to differ significantly by gender, albeit it was more evident among males, with the weighted mean score of indicators of well-being being significantly greater for males (2.0%; 95% CI 1.9-2.1) than females (1.7%; 95% CI 1.6-1.8) (results not shown in table).

Significant differences were detected concerning the prevalence of well-being indicators by age group, with an overall clustering pattern being evident across all age groups. More precisely, the proportion of older people indicating high well-being decreased consistently with age, yet the differences were more marked between the young-old age group of participants (65-74 years) and the old-age group (75-84 years). It is noteworthy though that the proportion of the respondents with positive well-being outcomes remained almost stable between the 75-84 and the 85+ age group or even increased for the oldest-old participants of the study (85+). In particular, a higher proportion of the oldest-old reported high quality of life (5.0%) and evaluated their health status in the highest category (very good) (6.0%) compared to their younger counterparts aged 75-84 years (4.7% and 4.5%, respectively), whereas the prevalence of the individuals declaring to be very satisfied with their life was only slightly higher for the 75-84 age group (28.0%), when compared to the 85+ years of age group (27.4%). Reverse was the pattern as regards CES-D implying a curvilinear relationship between depressive symptomatology and age, with the prevalence of lower depressive score peaking at the youngest age group and decreasing significantly in the other two older age groups of participants. Further, although the presence of 4+ well-being indicators was significantly more common among participants aged 65-74 years than among those of age 75-84 years, the prevalence of accumulated well-being indicators

among the oldest-old participants of the study did not significantly differ from the younger age group.

Prevalence estimates of positive well-being varied considerably across regions, with the Northern European region ranking significantly the highest in all the indicators reflecting high well-being, as well as in their clustering. Particularly, the prevalence of 4+ well-being indicators was shown to be more than twice as high (23.2%; 95% CI 20.5-26.1) in Northern countries compared to Central countries (11.2%, 95% CI 9.7-12.8) and more than three times as high compared to Southern ones (7.2%; 95% CI 5.8-9.0). Conversely, as illustrated in Table 3, the Southern European region displayed a significantly higher prevalence of not presenting any well-being indicators relative to the other regions. Further, a specific pattern concerning the prevalence of lacking clustering indicators of well-being was present among European regions, which exceeded 15% among older adults in Southern countries, ranged between 5% and 15% in Central countries and was less than 5% in Northern European countries (Fig 1). According to a more detailed examination as regards the absence of any well-being indicators among the eleven participating countries, the highest prevalence was detected for Spain (20.9%), Italy (18.8%) and Greece (17.7%), whereas for a small proportion of residents in Switzerland (3.2%), Denmark (4.4%) and Sweden (6.7%) no well-being indicators were present (results not shown). Converse was the pattern for the clustering of 4+ well-being indicators whereby approximately one-third of respondents from Denmark (30%) displayed multiple well-being indicators followed by their counterparts in Switzerland (28%), whereas the lowest prevalence of 4+ well-being indicators was evidenced in Italy (5.0%) and France (8.5%) (results not shown). It is noteworthy though that despite the above referred regional differences in the prevalence of well-being outcomes a high proportion of European older adults stated to be very satisfied with their life and displayed a low depressive symptomatology score. More specifically, nearly half (45.3%) of older adults in Northern countries were very satisfied with their life, followed by Central and Southern countries, whereby more than one-quarter of older individuals were highly satisfied with their life (29.6% and 25.6%, respectively). Further, a low depression score was detected for 79.3% of Northern older adults, followed closely by 63.6% of Central and 52.0% of Southern European elders.

Table 4 features the prevalence of well-being indicators according to frequency of participation in productive and social activities. A significantly lower percentage of the respondents who had not participated in any productive or/and social activities during the last month reported high quality of life (4.9%; 95% CI 3.9-6.0) compared to those who were frequently involved in activities (7.6%; 95% CI 6.0-9.6). Similarly to this finding, a significantly higher proportion of the individuals who displayed frequent participation in any productive or/and social activities displayed a low

depressive score (69.2%; 95% CI 65.9-72.4), compared to their inactive counterparts (53.8%; 95% CI 51.0-56.5). This pattern was consistent for most well-being indicators and remained after their clustering, with 4+ indicators of well-being being significantly more prevalent among frequent participants than infrequent ones (15.0%, 95% CI 12.9-17.4 vs. 7.2%; 95% CI 6.1-8.5). Likewise, a higher proportion of the respondents who indicated suffering from less than two chronic health conditions was observed among active individuals (47.6%; 95% CI 44.2-50.9), compared to those reporting to be inactive (41.8%; 95% CI 39.1-44.5). However, it is notable that the opposite was the case with reference to productive activity participation when considered separately, with the proportion of individuals demonstrating self-assessed very good health being higher among older adults engaged in productive activities less frequently (19.0%; 95% CI 13.1-26.7), compared to those being frequently involved (11.9%; 95% CI 9.7-14.5). In addition, a higher proportion of older people being infrequently productive participants reported being very satisfied with their life (38.7%) compared to those with frequent participation (32.9%). The above picture was also outlined for psychological distress and chronic diseases and was consistent among older people displaying an accumulation of ell-being indicators.

Finally, the association between social engagement and the clustering indicators of well-being was estimated through ordinal regression analysis. Results presented in Table 5 demonstrate that the effects of productive (1st model) and social activities (2nd model) on the clustering of well-being indicators, as well as of productive or/and social activities (3rd model) were significant. In all three models, respondents of higher age and residing in Central and Southern European countries had significantly lower odds of indicating accumulated indicators of well-being, by contrast to highly educated and living with partner individuals who were more likely to present a greater number of well-being indicators ($p<0.05$). The clustering of well-being indicators (none, 1, 2, 3 and 4+) was found to correlate at a significant level with frequent participation in productive (ORs = 1.35, $p=0.007$) and social activities (ORs = 1.57, $p<0.001$), as well as in productive or/and social activities (ORs = 1.47, $p<0.001$). Further, a higher score of well-being indicators was evident among older adults participating frequently in productive or/and social activities in relation to those having not participated in any activities over the course of the previous month (2.1 vs. 1.7, respectively, $p<0.05$) (Fig 2). The above pattern also emerged when country-specific differences were considered, with frequency of activity engagement bearing a significant association with well-being. In particular, a higher prevalence of 4+ well-being indicators was apparent in countries with a greater percentage of older adults participating in any productive or/and social activities on a daily or weekly basis (Fig 3). This was most striking the case for Denmark and Switzerland, but not in other countries, such as Greece. The correlation between frequent productive or/and social

activity participation and the percentage of respondents displaying multiple presence of well-being indicators was 0.050 (p=0.045).

Discussion

The present study considered the potential well-being benefits conferred by leading a productively and socially engaged lifestyle in the context of later life deriving data from the first wave of SHARE study and focusing on a representative sample of people aged 65 and over residing in 11 European countries. For our articulation of the concept of activity involvement and its respective domains, a conceptual model was applied distinguishing between productive and social activity participation. A comprehensive range of involvements that have been documented to be highly prevalent at older ages and are among those most frequently investigated by disciplinary lenses directed at diverse populations of older people (Gagliardi et al. 2010; Hilleras et al. 1999) were incorporated in our analysis. To address the association between frequency of involvement in productive and social activities and well-being outcomes a holistic appraisal of well-being was modelled by viewing life satisfaction, quality of life, psychological distress, self-rated health, chronic diseases and BMI, as indicators that are assumed to tap into different facets of well-being.

Determinants of activity participation

Despite the fact that activity participation is presumed to impede following manifold later-life transitions and declining individual physical capacities (Bukov et al. 2002), of note is the finding of the current results that one-third of the respondents aged 65 and older (36.4%) participating in the SHARE survey maintained frequent activity participation as reflected on their almost daily or almost every week embeddedness in at least one type of the activities quoted previously. Further, the prevalence of the two separate activity domains differed by age group, unveiling a discernible participation pattern with some decline occurring with increasing age. Even though a considerable proportion of the oldest-old participants of the study aged over 85 years (13.9%) declared to be active on a weekly or daily basis, social engagement was attenuated with age, with the youngest age group of participants (65-74 years) participating more frequently in productive and social activities, compared to their older counterparts, aged 75-84 and over age 85 years. This finding is in accordance with Mendes de Leon et al. (2003) who also detected evidence for an attenuation in social engagement with age on their analysis of a representative sample of older people aged 65 and older sourced from the New Haven EPESE study. On the contrary, Warr et al. (2004) examining a sample of Community-living British adults aged 50 and 74 years, did not observe an age-related decrease in the mean level of activity measured on frequency. Relatedly, although McMunn et al. (2009) afforded empirical evidence for the notion

that social engagement decreases with age, it thus appeared that this only held true for the age group of participants in their late seventies or eighties.

Further, no significant differences were observed between genders as regards both activity domains undertaken in the present study, albeit males ranked slightly higher. Although, productive activity participation was less frequent than social activity participation, engagement in both productive and social involvements was socially patterned, with most frequently active older adults being males, with 65-74 years of age, owning higher socio-structural resources regarding their income and educational attainment, living with a partner or spouse, indicating positive well-being outcomes and residing in Northern European countries.

Additionally, although one-third of the sample aged 65 and older declared that they were frequently engaged in activities, comparing activity involvement rates across SHARE countries divulged that a regional grouping of the eleven participating countries was apparent, with the proportion of productively and socially embedded older people being significantly higher in Northern countries. Further, according to a joint consideration of productive and social activities approximately half of Northern European adults were frequently active in at least one type of the respective activities, with this proportion being twice as low in Southern countries. The above evidence converges in asserting Sirven and Debrand's (2012) (p. 1289) conclusion that 'living in a northern country significantly strengthens the chances of taking part in social activities'. It has also been suggested that high activity participation rates in Northern European region might reflect the substitution of important roles inherent in familial networks by activity participation, compared to Southern countries where family networks appear to be stronger (Croezen et al. 2015).

Well-being by socio-demographic characteristics

The findings of the current study also seem to point to another age-associated finding, the so-called "well-being paradox" which holds that there is a positive relationship between advancing age and older adults' well-being determined by different relevant indicators (Ehrlich and Isaacowitz 2002; Gana et al. 2012). More precisely, the prevalence of positive well-being indicators among participants above the age of 85 years remained comparable to levels among the old-old individuals aged 75-84 years or even increased for specific outcomes, such as quality of life, life satisfaction and self-rated health. It might be that, as earlier research has concluded (Birditt et al. 2005), both daily stressors and reactivity to them are lessened through the later years of life which might allow for enhanced well-being.

As for the prevalence of well-being indicators, gender differences were thus essential with a significantly higher proportion of males yielding positive outcomes on psychological distress, self-rated health, life satisfaction and chronic diseases and a

slightly higher percentage of females displaying better outcomes regarding their quality of life and BMI. The above findings are in conjunction with existing research dealing with akin outcomes, wherein a consistent finding seems to prevail highlighting an overall pattern of a negative relationship between female gender and later life well-being (Pinquart and Sorensen 2001). For instance, an earlier study by Barry et al. (2008), drawing upon data from a longitudinal survey (Precipitating Events Project-PEP) of people aged 70 or older, indicated that during a six-year follow-up assessment of depressive symptomatology on the 11-item CES-D scale depressive symptoms were more prevalent among females compared to males. Generally, extant epidemiological studies attending to variations in health outcomes by gender across different nations and populations have evidenced that females are more likely than males to suffer from a higher level of functional limitations (Arber and Cooper 1999) and greater physical disability (Murtagh and Hubert 2004), to live longer albeit with more chronic conditions (Crimmins et al. 2002) and indicate higher rates of poor self-ratings of health (Benyamini et al. 2003).

Lastly, substantial regional differences on all indicators of well-being emerged reinforcing further the well-documented South-North gradient. More specifically, a significantly higher proportion of older Northern European adults demonstrated positive well-being outcomes and thus multiple presence of well-being indicators was considerably more prevalent in Northern countries compared to Central and Southern European countries. Towards the same direction, the proportion of older individuals who were found to present no clustering indicators of well-being was the lowest in the Northern European region and the highest in the Southern European region followed by the Central region. The above outcomes could be exemplified by current gerontological literature illustrating the existence of a specific well-being pattern among European countries, being more favorable for the Northern European older population (Fagerström et al. 2007; Komp and Aartsen 2013). Earlier research has inferred that this relationship is mostly driven by consistent discrepancies in material and social resources which also seem to persist in old age (Huisman et al. 2003), whereas there is recent evidence supporting that lifestyle related risk factors for older people's health are more prevalent in Southern countries compared to Northern ones (Linardakis et al. 2014).

Activity participation and well-being

A higher level of well-being, as reflected on positive self-reports on life satisfaction, quality of life, depressive symptomatology, self-perceived health status and BMI, appeared to be prevalent among those respondents embedded more frequently in both activity participation domains addressed in the current study. Similarly, the prevalence of multiple well-being indicators was found to be higher among frequent productively

or/and socially active participants. Further, the estimated ORs for the clustering of the well-being indicators were akin to results on both activity engagement domains. In particular, the respondents' frequent involvement in productive or/and social activities was linked with a significantly higher likelihood of displaying an accumulation or greater number of positive well-being outcomes. This finding is supportive of the notion that well-being in old age is significantly accounted for by activity participation and accord well with earlier evidence on social engagement. Indeed, the positive relationship between activity involvement and well-being has been emphasized by empirical literature documenting that older people who exhibit a higher level of activity participation are more likely to perceive themselves in better health (Bennett 2005), report enhanced quality of life and life satisfaction (McMunn et al. 2009; Warr et al. 2004), experience reduced psychological distress (Glass et al. 2006) and demonstrate a lower likelihood of obesity (Kamiya et al. 2010). Further, the likelihood of multiple clustering of well-being indicators was ascertained to be slightly higher for social (ORs = 1.57) compared to productive activity participation (ORs = 1.35), whereas the prevalence of respondents exhibiting a clustering of 4+ well-being indicators was higher among those being less frequently engaged in productive activities (20.5%; 95% CI 14.6-28.1) compared to their more frequently active counterparts (16.7%; 95% CI 13.7-20.2). In line with the above findings, evidence across earlier research lends plausibility to the role strain and role enhancement hypotheses reinforcing that productive and social activities may bear distinct implications attributed to the different role experience they involve (Rozario et al. 2004). Moreover, it has been connoted that engagement in productive activities might exert a curvilinear effect on subjective well-being denoting that through moderate levels of participation more salutary effects might be conferred in contrary to low and high levels (Klumb 2004). It might also be that the contribution of specific types of productive activity involvement on well-being outcomes is not equivalent. More specifically, participation in voluntary or charity work is likely to be the most advantageous aspect of productive involvement since it embodies social bonds that capture the most salutary effects of leading an active societal life by virtue of amplifying the chances for multiple roles, connectedness and companionship. On the contrary, the dimension of productive engagement concerning the provision of informal help and caregiving is mainly afforded in the context of compulsory family and kindred ties and thus may entail the assumption of burdensome, stressful and undesirable roles which bear adverse effects on health and well-being.

Moreover, the prevalence of multiple positive indicators of well-being was significantly and positively correlated to frequent activity participation among different European countries, with the clustering of 4+ well-being indicators being more apparent among most countries displaying high frequent activity participation

rates. The above pattern was drawn for Denmark, Switzerland, Sweden and the Netherlands, which across the eleven participating countries demonstrated the highest participation rates and the highest prevalence of 4+ well-being indicators simultaneously. Conversely, in Spain and Italy where frequent activity participation was particularly low the percentage of older individuals traced with an accumulation of well-being indicators was also among the lowest. The above pattern concerning the well-being benefits of activity participation did not emerge for Greece, which might be explained by the high prevalence of social activities detected for this country due to a respective remarkably high religious attendance rate of Greek older people, contrary to other forms of social activities. However, further plausible explanations on the observed difference across European countries could in principle be facilitated through a more detailed analysis considering each different type of activities which comprised the two distinct domains of productive and social activity participation and their respective well-being potential.

Limitations and future directions

The findings of the present study should be viewed upon consideration of a few limitations which are cited hereinafter. Firstly, inferences about the causal directionality of the linkage between activity involvement and well-being are difficult to be drawn due to the cross-sectional nature of the current research. Despite the fact that previous studies prospectively addressing well-being outcomes and different aspects of social engagement identify a consistent pattern favoring participation in activities as the predictor (Baker et al. 2005; Glass et al. 2006), the effort to untangle the causality of the above relationship raises matters which merit to be further regarded. It could be fairly surmised that the salutary effects of activity involvement might be due to inverse causality, in that well-being is also a prerequisite for late-life active engagement. It could also be equally possible that being in poor health constitutes a deterrent to maintaining activities and social interactions, thereby incurring additional well-being constraints. Such a relationship held true in Richard et *al.'s* (2008) study of the determinants of social participation among people aged 58 years and older indicating health as an independent predictor of social participation. However, Li and Ferraro (2006) documented reciprocal effects between volunteering and mental and physical health for the older group of participants by uncovering both a salutary and compensatory relationship, whereas for the middle-aged group a social selection mechanism was more prevalent, with less depressed individuals exhibiting higher levels of volunteering. These findings are confirmed by a most recent study by Johnson et al. (2014) who pointed out that cognitively impaired older adults in comparison to their cognitively intact counterparts were involved in fewer activities, although socio-demographic variables might also explicate this association. However,

in the same study more active individuals were more likely to report higher quality of life irrespective of their level of cognitive impairment. Similarly, Adams et al. (2011) in their critical review of gerontological literature on activity participation and well-being concluded that longitudinal and cross-sectional evidence converge to the existence of an association between engagement and well-being amenable to explanation both in terms of social selection and social causation processes, whereas Putnam (2000) (p.326) on his review of the relevant literature acknowledged that 'in none is the importance of social connectedness so well established as in the case of health and well-being'. Since SHARE is a longitudinal study, it bears a significant potential for future research and thus comparisons between waves might yield evidence on the causal association between social engagement and well-being, identify the effects of changes in activity participation on corresponding changes in well-being outcomes and unravel the magnitude of these effects over time.

An additional limitation to the present study lies in the fact that roles integral to each subtype of productive and social activity participation may exert multifaceted heterogeneous influences on different well-being outcomes which might be detected if separately addressed. Moreover and despite the fact that social engagement was measured in terms of the frequency of participation drawing on the explanatory framework of activity theory and the notion that positive experiences are accrued by activity participation contingent upon frequency of commitment, features intrinsic to activities, such as the quality ascribed to the them might also be of importance to well-being. A further shortcoming should be acknowledged regarding the potential bias held by self-reported accounts of well-being, which is however inherent in most studies utilizing measures based on the respondents' subjective assessments. Lastly, it should be noted that SHARE population is comprised of community dwellers, signifying that institutionalized people who may have less opportunities for social engagement were not targeted. This is one of the constraints that may have led to the underestimation of the real size of the positive impact of activity participation on well-being outcomes.

Conclusions

In summary, the above limitations pertaining to conceptual and methodological issues notwithstanding, corresponding to prior research in the context of later-life well-being the results of the present study offer evidence in support of the hypothesis that well-being is positively associated with social engagement, adding to the gerontological literature to date and holding several implications for active aging policies. Those findings could be useful to inform social and health public planning about the necessity of investing in resources that make for better well-being and age-specific involvements the elderly can reap benefits from.

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Table 3. Prevalence of indicators of well-being, according to gender, age and European regions in 7,025 adults, aged 65+ years.

			Gender		Age, *years*			European regions		
		Total	**Males**	**Females**	**65-74**	**75-84**	**85+**	**Northern**	**Central**	**Southern**
Indicators of well-being	n	weight % (95%CIs)								
CASP-12, *score ≥39*	487	5.7 (4.9, 6.6)	5.4 (4.3, 6.7)	6.0 (4.9, 7.3)	6.3 (5.3, 7.5)	4.7 (3.5, 6.4)	5.0 (2.5, 9.7)	9.5 (7.7-11.7)	5.7 (4.6-7.0)	5.2 (4.1-6.7)
CES-D 11, *score <9*	4,604	59.7 (57.6, 61.7)	69.0 (66.2, 71.7)	52.4 (49.5, 55.3)	64.4 (62.0, 66.8)	54.8 (51.0, 58.6)	42.3 (33.6, 51.5)	79.3 (76.4-81.9)	63.6 (60.7-66.3)	52.0 (48.6-55.3)
SRH, *very good*	884	8.0 (7.1, 9.0)	10.0 (8.6, 11.6)	6.4 (5.3, 7.7)	10.2 (8.9, 11.7)	4.5 (3.5, 5.8)	6.0 (3.0, 11.6)	20.8 (18.2-23.6)	7.6 (6.5-8.8)	6.9 (5.5-8.8)
Life satisfaction, *very satisfied*	2,629	28.7 (27.1, 30.5)	32.1 (29.6, 34.7)	26.2 (23.9, 28.6)	29.6 (27.5, 31.7)	27.4 (24.4, 30.7)	28.0 (20.7, 36.7)	45.3 (42.1-48.5)	29.6 (27.2-32.0)	25.6 (23.0-28.4)
Chronic diseases, *0 or 1*	3,243	43.8 (41.8, 45.9)	48.4 (45.6, 51.3)	40.3 (37.5, 43.1)	48.9 (46.5, 51.4)	36.2 (32.8, 39.8)	37.7 (29.1, 47.2)	43.7 (40.4-47.0)	46.0 (43.2-48.7)	43.8 (41.8-45.9)
BMI, *normal*	2,688	37.4 (35.4, 39.4)	32.6 (30.0, 35.3)	41.2 (38.4, 44.0)	35.2 (32.8, 37.6)	38.8 (35.2, 42.5)	50.0 (40.7, 59.4)	46.3 (43.0-49.7)	39.6 (36.9-42.3)	33.4 (30.3-36.7)
Clustering indicators *none*	796	14.4 (13.0, 16.1)	11.0 (9.1, 13.3)	17.1 (15.0, 19.4)	12.2 (10.7, 14.0)	17.9 (14.9, 21.3)	16.3 (10.5, 24.4)	5.9 (4.5-7.8)	11.5 (9.7-13.7)	19.4 (16.9-22.3)
1	1,762	28.9 (27.1, 30.9)	26.9 (24.3, 29.6)	30.5 (27.9, 33.3)	27.4 (25.2, 29.7)	30.6 (27.3, 34.2)	33.8 (25.0, 43.8)	20.8 (18.1-23.7)	28.6 (26.1-31.2)	30.4 (27.4-33.7)
2	1,942	27.9 (26.1, 29.8)	30.1 (27.5, 32.8)	26.2 (23.8, 28.8)	28.7 (26.5, 31.0)	27.4 (24.2, 30.9)	23.4 (16.7, 31.9)	26.0 (23.1-29.1)	29.7 (27.2-32.3)	25.7 (23.0-28.7)
3	1,482	18.5 (17.0, 20.1)	20.5 (18.4, 22.8)	17.0 (15.0, 19.2)	19.4 (17.6, 21.4)	16.7 (14.2, 19.6)	20.2 (13.8, 28.2)	24.1 (21.4-27.1)	19.0 (17.0-21.2)	17.2 (14.8-19.8)
4+	1,043	10.2 (9.2, 11.3)	11.5 (10.0, 13.2)	9.2 (7.8, 10.7)	12.3 (10.8, 13.9)	7.3 (5.9, 9.1)	6.4 (3.8, 10.8)	23.2 (20.5-26.1)	11.2 (9.7-12.8)	7.2 (5.8-9.0)

CIs, confidence intervals; CASP-12, *C*ontrol, *A*utonomy, *S*elf-realization and *P*leasure questionnaire; CES-D 11, Center for Epidemiological Studies of Depression questionnaire; SRH, Self- Rated Health status; BMI, Body Mass Index.
Weight percentages and 95% confidence intervals were estimated according to the complex sampling design of the study.

Table 4. Prevalence of indicators of well-being according to productive and social activity participation in 7,025 adults, aged 65+ years.

		Indicators of well-being						
		CASP-12, *score ≥39*	**CES-D 11**, *score <9*	**SRH**, *very good*	**Life satisfaction,** *very satisfied*	**Chronic diseases,** *0 or 1*	**BMI,** *normal*	**4+** Clustering indicators
Activity participation *in the previous month*		weight % (95%CIs)						
Productive or/and social	*Frequent*	7.6 (6.0-9.6)	69.2 (65.9-72.4)	11.7 (10.0-13.6)	34.7 (31.6-37.9)	47.6 (44.2-50.9)	38.1 (34.9-41.4)	15.0 (12.9-17.4)
	Less frequent	5.1 (3.4-7.8)	67.5 (61.2-73.2)	12.1 (8.3-17.2)	34.8 (29.0-41.1)	45.7 (39.3-52.2)	35.7 (29.8-42.1)	14.2 (10.3-19.4)
	Never	4.9 (3.9-6.0)	53.8 (51.0-56.5)	5.5 (4.6-6.7)	24.8 (22.7-27.1)	41.8 (39.1-44.5)	37.2 (34.6-40.0)	7.2 (6.1-8.5)
Productive	*Frequent*	8.5 (6.2-11.5)	70.6 (66.2-74.7)	11.9 (9.7-14.5)	32.9 (28.9-37.2)	48.0 (43.5-52.6)	41.4 (37.0-45.9)	16.7 (13.7-20.2)
	Less frequent	5.8 (3.5-9.4)	74.5 (67.4-80.6)	19.0 (13.1-26.7)	38.7 (31.3-46.6)	50.6 (42.8-58.4)	35.2 (28.1-42.9)	20.5 (14.6-28.1)
	Never	5.1 (4.3-6.1)	56.2 (53.8-58.6)	6.3 (5.4-7.3)	27.1 (25.2-29.0)	42.5 (40.1-44.8)	36.7 (34.4-39.0)	8.0 (7.0-9.1)
Social	*Frequent*	7.8 (5.8-10.4)	70.6 (66.5-74.4)	12.5 (10.4-15.0)	38.2 (34.3-42.4)	48.7 (44.5-52.9)	37.3 (33.3-41.4)	16.4 (13.6-19.5)
	Less frequent	6.0 (3.9-9.1)	68.2 (61.2-74.5)	11.7 (7.4-17.9)	32.3 (26.4-38.7)	46.0 (39.0-53.1)	39.6 (32.8-46.8)	14.4 (9.8-20.7)
	Never	5.2 (4.3-6.2)	56.0 (53.5-58.5)	6.5 (5.5-7.5)	25.9 (24.0-28.0)	42.4 (40.0-44.9)	37.1 (34.8-39.6)	8.2 (7.2-9.4)

CIs, confidence intervals; CASP-12, *C*ontrol, *A*utonomy, *S*elf-realization and *P*leasure questionnaire; CES-D 11, Center for Epidemiological Studies of Depression questionnaire; SRH, Self- Rated Health status; BMI, Body Mass Index.
Weight percentages and 95%CIs were estimated according to the complex sampling design of the study.

Table 5. Effects of characteristics and productive (model 1), social (model 2) or productive or/and social activities (model 3) on clustering indicators [a] of well-being, according to complex samples ordinal regression, in 7,025 adults, aged 65+ years.

	model 1				**model 2**				**model 3**			
	OR	95%CIs	Wald (χ^2)	p-value	OR	95%CIs	Wald (χ^2)	p-value	OR	95%CIs	Wald (χ^2)	p-value
Gender	0.87	0.74, 1.03	3.58	0.088	0.87	0.74, 1.02	3.76	0.081	0.86	0.73, 1.02	4.08	0.071
Age	0.98	0.97, 0.99	5.48	0.041	0.99	0.97, 0.99	7.28	0.022	0.98	0.97, 0.99	5.57	0.040
Education	1.05	1.03, 1.07	30.48	<0.001	1.04	1.02, 1.06	26.29	<0.001	1.04	1.03, 1.06	27.18	<0.001
Living status	1.43	1.20, 1.72	19.34	0.001	1.43	1.19, 1.72	19.58	0.001	1.43	1.19, 1.72	19.32	0.001
Income	1.12	0.99, 1.27	4.43	0.062	1.15	1.01, 1.30	6.08	0.033	1.13	1.00, 1.28	4.96	0.050
Countries	0.77	0.67, 0.88	17.87	0.002	0.75	0.65, 0.85	24.00	0.001	0.76	0.67, 0.87	19.99	0.001
Activity participation												
Frequent	1.35	1.11, 1.64	17.31	0.007	1.57	1.32, 1.89	32.99	<0.001	1.47	1.26, 1.72	30.02	<0.001
Less frequent	1.58	1.11, 2.27		0.017	1.27	0.96, 1.68		0.084	1.27	0.97, 1.67		0.078
Never (ref. category)	1.00				1.00				1.00			

OR, Odds Ratio; CIs, confidence intervals.

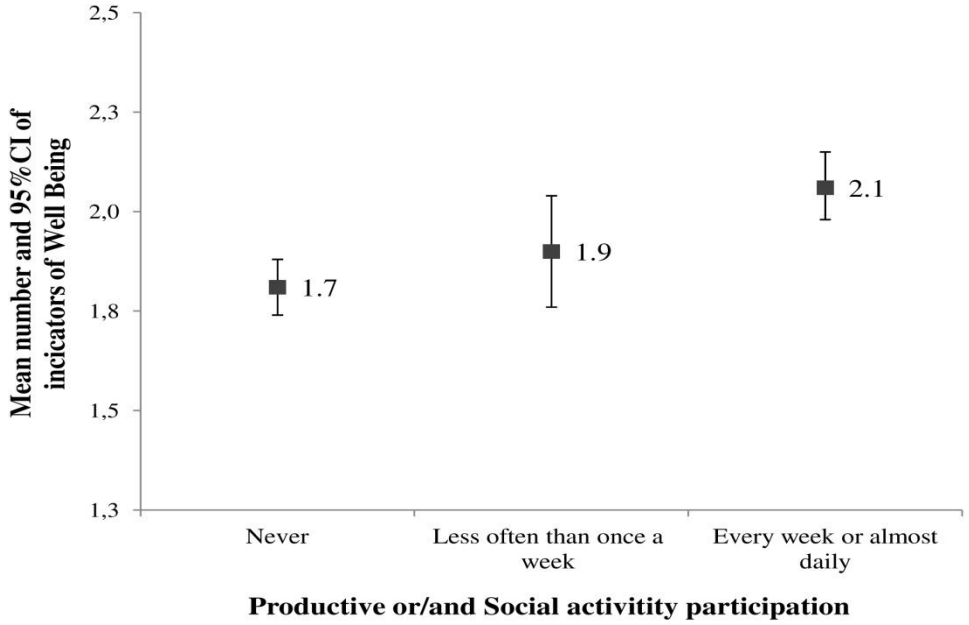
[a] As clustering indicators were defined as none, 1, 2, 3 and 4+.

Ordinal regression analysis (using logit as a link function). Frequency of activity was used as factor ("never" was applied as the reference category).Gender (males, females), living status (living alone, with partner/spouse), income (defined as low <25%, as average between 25-75%, and as high >75% according to country-specific quartile classification for adults aged 50+ of SHARE Survey; it) and European regions (Northern, Central, Southern), were used as covariates. Test of parallel lines was done by -2 log-likelihood function. Testing for interaction effects significantly higher odds were found in all combinations of productive & social activities.

Fig 1. Frequency of lacking indicators of well-being across eleven European countries of SHARE study.

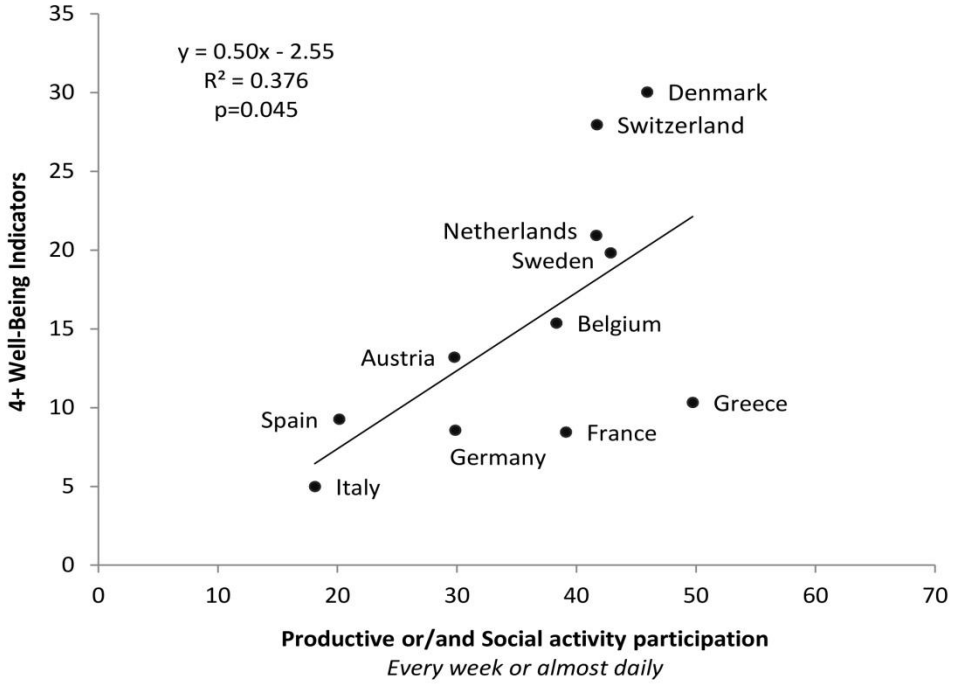
Footnote:
Percentage frequencies and 95% confidence intervals were estimated according to the complex sampling design of the study.

Fig 2. Mean number (score) of well-being indicators according to productive or/and social activity participation in 7,025 adults, aged 65+ years.



Footnote:
Complex Samples General Linear Model – Analysis of covariance (gender, age, living status, education, income and regions were used as covariates).

Fig 3. Multiple presence (4+) of well-being indicators according to productive or/and social activity participation in 7,025 adults, aged 65+ years.



Footnote:
Linear regression analysis of prevalence of multiple presence (4+) of well-being indicators in each country according to productive or/and social activity participation.

Κεφάλαιο 2ο

Social Isolation and well-being among older adults in Europe

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ABSTRACT

OBJECTIVE The present study aimed to examine the distribution of different elements of social isolation according to the respondents' background characteristics at the individual and country level and investigate whether social isolation is associated to well-being outcomes among European adults. **MATERIALS-METHODS** This was a secondary data analysis of participants, aged ≥65 years (n= 5,129), who took part in the first Wave of SHARE (Survey of Health, Aging and Retirement in Europe, 2004/5). Well-being was determined by the clustering of six indicators comprising life satisfaction, quality of life, self-rated health, depressive symptomatology, chronic diseases and body mass index. Social isolation was determined using seven distinct aspects of older people's living conditions. **RESULTS** Analysis of covariance showed that a significantly greater mean score of well-being was attested among adults with frequent parent-child contact (p=0.028) and at least one social or productive involvement (p=0.001). Multiple logistic regression analyses indicated a significantly lower likelihood of displaying ≥4 well-being outcomes among the oldest-old, the retired and socially disengaged and a higher likelihood for the most educated respondents and those involved in rare or no social support exchanges. Northern Europeans were more likely to indicate more well-being outcomes and less social isolation indicators, relative to their southern counterparts. **CONCLUSIONS** These cross-sectional findings offer empirical support to the social structure of social isolation and its potentially adverse role upon specific well-being outcomes in old age. Public health and social policies are needed to address the potential well-being implications of social isolation among European older adults more thoroughly.

Keywords Older adults; Social isolation; Well-being; SHARE study

ΠΕΡΙΛΗΨΗ

Κοινωνική απομόνωση και ευεξία μεταξύ των ηλικιωμένων ατόμων στην Ευρώπη

ΣΚΟΠΟΣ Εξέταση της κατανομής των διαφορετικών παραμέτρων της κοινωνικής απομόνωσης σύμφωνα με τα κοινωνικο-δημογραφικά χαρακτηριστικά των συμμετεχόντων σε ατομικό επίπεδο, αλλά και σε επίπεδο χωρών και διερεύνηση της συσχέτισης μεταξύ κοινωνικής απομόνωσης και διαφορετικών αποτελεσμάτων ευεξίας μεταξύ των ηλικιωμένων στην Ευρώπη. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** Το παρόν

δείγμα, το οποίο αποτελείτο από άτομα ηλικίας ≥65 ετών (ν=5.129), αντλήθηκε από το πρώτο Κύμα της Μελέτης SHARE (Μελέτη για την Υγεία, τη Γήρανση και τη Συνταξιοδότηση στην Ευρώπη, 2004/5). Η ευεξία προσδιορίστηκε ως η συγκέντρωση έξι δεικτών που περιλαμβάνουν την ικανοποίηση από τη ζωή, την ποιότητα ζωής, την αυτο-αναφερόμενη υγεία, την καταθλιπτική συμπτωματολογία, τα χρόνια νοσήματα και το Δείκτη Μάζας Σώματος. Η κοινωνική απομόνωση μελετήθηκε σε όρους επτά συγκεκριμένων εκφάνσεων των συνθηκών διαβίωσης των ηλικιωμένων ατόμων. **ΑΠΟΤΕΛΕΣΜΑΤΑ** Σύμφωνα με την ανάλυση συνδιακύμανσης βρέθηκε ένα σημαντικά υψηλότερο σκορ ευεξίας μεταξύ των ατόμων με συχνή επαφή με τα παιδιά τους (p=0,028) και αυτών που συμμετείχαν τουλάχιστον σε μια κοινωνική ή παραγωγική δραστηριότητα (p=0,001). Επιπροσθέτως, η ανάλυση πολλαπλής λογιστικής παλινδρόμησης έδειξε σημαντικά χαμηλότερη πιθανότητα να εμφανίσουν 4+ αποτελέσματα ευεξίας τα πιο ηλικιωμένα άτομα, οι συνταξιούχοι και τα κοινωνικά ανενεργά άτομα και υψηλότερη πιθανότητα για τα περισσότερο μορφωμένα άτομα και εκείνα με σπάνιες ή καθόλου ανταλλαγές κοινωνικής υποστήριξης. Τέλος, οι βόρειο Ευρωπαίοι ήταν πιο πιθανό να έχουν περισσότερους παράγοντες ευεξίας και λιγότερους δείκτες κοινωνικής απομόνωσης, σε σχέση με τους συνομηλίκους τους στη Νότια Ευρώπη. **ΣΥΜΠΕΡΑΣΜΑΤΑ** Τα παραπάνω ευρήματα, παρόλο που θα πρέπει να ερμηνευτούν με προσοχή εξαιτίας της συγχρονικής τους φύσης, ωστόσο παρέχουν εμπειρική υποστήριξη στην κοινωνική κατανομή της κοινωνικής απομόνωσης και τη δυσμενή επίδραση της κοινωνικής απομόνωσης σε συγκεκριμένα αποτελέσματα της ευεξίας στη γεροντική ηλικία. Ως εκ τούτου, είναι ανάγκη οι δημόσιες πολιτικές υγείας και οι κοινωνικές πολιτικές να αντιμετωπίσουν περισσότερο ενδελεχώς τις ενδεχόμενες επιπτώσεις της κοινωνικής απομόνωσης στην ευεξία των ατόμων τρίτης και τέταρτης ηλικίας.

Λέξεις ευρετηρίου: Ηλικιωμένα άτομα, Κοινωνική απομόνωση, Ευεξία, Μελέτη SHARE

Introduction

The transition from middle-age to older age has been closely related to social aging due to the occurrence of several changes in both the individual and family level. Firstly, the transition from late adulthood to older age is marked by the process of changing from labour force participation to retirement and it is thus possibly accompanied by the disruption or relinquishment of previous work and social roles.[1]

Equally important is the trajectory from parenthood to the 'empty nest' phase, involving the potential attenuation of kinship interactions and connections.[2] Other profound age-associated challenges involve emotional pain and stress as a result of the death of beloved ones and the subsequent losses in identities and attachments inherent in enduring family and friendship ties.[3,4] A specific age-related pattern with regards to the onset and progression of conditions relevant to health decline and compromised physical functioning is typical of old age and has been consistently ascertained across gerontology research.[5] In this regard, various psycho-social resources, such as social bonds, supportive social networks and social engagement, are thought to make up for the aforementioned unfavourable states and have thus been denoted to determine how successfully people manage to age and thrive in the later-life setting with respect to health and well-being.[6,7] For example, it is well established that individuals who are socially integrated and strongly attached to groups and affiliations are more likely to be healthier, live longer[8] and experience positive well-being outcomes.[9] In a similar manner, social relations, captured by distinct elements of social support, have been denoted to mediate the adverse effect of socio-economic status on subjective health in middle and older age.[10] Family and social connectedness have also been found to hold a central role in older people's perception of what a "good quality of life" actually constitutes.[11]

The objective predicament whereby a person undergoes a dearth or deficiency of meaningful social relationships, being referred to as social isolation[12], has been dealt by most psychological and sociological research as a discrete health and mortality risk factor. Several aspects of social isolation have been shown to account for the unequally patterned distribution of health and well-being outcomes in older adults.[13,14] In particular, solitary living, limited family networks, lack of social support, social disengagement and loneliness have been suggested to be potential risk factors of coronary heart disease,[15] cognitive impairment,[16] functional decline,[17] depressive symptomatology[18] and low subjective well-being[19], in older age. However, less is known about how the absence of social and family resources pertaining to social isolation is implicated in the configuration of different domains of well-being in older age. Furthermore, most research to date has focused on single countries or regions[20,21] instead of examining social isolation and well-being using cross-nationally comparable data. Additionally, relevant earlier gerontological and social studies have measured well-being using single measures or indicators, such as life satisfaction[22] or

quality of life[23]. There is therefore a lack of a robust evidence base on the role of social isolation in older adults' welfare.

Drawing on internationally comparative data on older community-dwelling adults in eleven European countries, the present study aimed to: (a) conduct a cross-national appraisal of social isolation in older adults; (b) examine the association of social isolation and several well-being outcomes and; (c) determine if the above hypothesized associations differ by country of residence. To overcome earlier barriers on measuring the constructs of interest[24], social isolation was operationalized as an index comprising both structural and functional features, whereas well-being was operationalized as a multifaceted outcome, integrating distinct physical, emotional and psychological components of older adults' welfare.

MATERIAL AND METHOD

Participants and questionnaires

The present study utilized data from the first wave of the cross-national Survey of Health, Ageing and Retirement in Europe (SHARE, http://www.share-project.org), initially conducted between 2004–2006 in eleven European countries (Denmark, Sweden, Austria, France, Germany, Switzerland, Belgium, the Netherlands, Spain, Italy and Greece). Participants comprised adults ≥50 years of age, residing in the community and including their counterparts irrespective of their age. The multidisciplinary approach of SHARE allowed for the delivery of a thorough account of health, socio-economic, familial and other domains of European middle-aged and older adults' living conditions.[25]

Nationally representative probability samples were achieved resting upon country-specific sampling resources. The respective sampling designs varied from stratified-simple random sampling or multistage sampling (in countries where national population or regional/local registers were available), to single or multistage sampling (in countries where telephone directories were obtained). Sample weights were also estimated and provided to account for the complex sample design and counterbalance non-response. The majority of data collection was carried out by means of computer assisted personal interviews (CAPI), further supplemented by "drop-off" self-completed paper and pencil questionnaires. Details on sampling procedures, response rates, data collection and questionnaires are provided elsewhere.[26] For the purposes of

the current study, analyses focused on individuals aged ≥65 years, comprising a sample of 2,366 males and 2,763 females (n=5,129).

Measures

A major premise for detecting older people who endure a state of social isolation pertains to inquiring into social disconnectedness and deprivation of social support networks.[27] Following a widely-held definition of social isolation[28] as "*an objective measurable state of having minimal contact with other people, such as family, friends or the wider community*", essential structural and functional attributes, inherent in older people's objective familial and social settings, were administered. In particular, the structural aspect of social isolation was construed along living arrangements, marital status, number of children and family-related interactions, defined in terms of parent-child contacts and respondents' geographical proximity to their offspring. The functional facet of social isolation was determined by considering social disconnectedness, gauged by the absence of any kind of social and productive activity involvement, and lack of social exchanges, measured as the occurrence of rare or no transfers of any form of functional assistance or support between older parents and their adult offspring.

An index of social isolation was then constructed, with participants being assigned one point if they lived unpartnered (*not residing with a partner or spouse*), were unmarried, had no children, did not cohabitate with their offspring (*all children residing in a separate household/building or at a distance more than 1 km away*), declared infrequent parent-child contact (*having any kind of contact either personally, by phone or mail, less than once a month or never during the past twelve months*), exhibited social disengagement (*not having done voluntary or charity work, cared for a sick or disabled adult, provided help to family, friends or neighbors, attended an educational or training course, gone to a sport, social or other kind of club, taken part in a religious organization, taken part in a political or community-related organization in the last month*) and were involved in infrequent or no social support exchanges (*given or/and received any kind of social support less than once a month or never the last twelve months*). The final, total clustering index ranged from 0 to 7, with older people presenting with 4+ indicators being considered to experience a higher level of social isolation.

Well-being was operationalized drawing upon the current conceptual and methodological understanding of well-being, as outlined above, and building on the idea that "*wellbeing constitutes an area of research and practice that has objective and subjective components, and that social scientists cannot make rational evaluations of wellbeing as a state unless both are taken into account*".[29] Thus, well-being was construed along six related, yet distinct, indicators, comprising: life satisfaction (determined by a four-rating single question; quality of life, measured on CASP-12 scale - Control, Autonomy, Self-realization, Pleasure), psychological distress (using the CES-D 11, Center for Epidemiological Studies of Depression, questionnaire), self-rated health (defined by a four-item question), presence of chronic diseases (11 health conditions), and body mass index (BMI, estimated according to the World Health Organization criteria).[30] Advanced well-being was equated with high quality of life (CASP-12 score of ≥39 points), absence of psychological distress (CES-D 11 score of <9 points), very good self-rated health, high satisfaction with life, none or one chronic health condition and normal BMI (18.5–24.9 kg/m^2).[9] The accumulation of multiple well-being indicators, as indicated by a clustering score of 4+, was regarded to suggest the presence of high well-being.

The demographic characteristics of gender and age (*years*) and the socio-structural resources of educational attainment (*total years of schooling*), household income (*gross income in the last year*) and retirement status (*not retired/retired*) were assessed as potential determinants of social isolation and well-being. Possible regional variations in the role of social isolation in the accumulation of well-being outcomes were examined by geographically classifying European regions into northern (*Denmark, Sweden*), central (*Austria, Belgium, France, Germany, the Netherlands, Switzerland*) and southern (*Greece, Italy, Spain*).

Statistical analysis

Data were analyzed using the SPSS software (IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp). Weights were applied, adjusted for non-response and according to the complex sampling design of the survey. The prevalence (weighted %) of social isolation indicators and their clustering (0, 1, 2, 3 or 4+) was examined according to participants' socio-demographic characteristics (*gender, age, education status, household income, retirement status*), with the corresponding 95% confidence intervals (95% CIs), as well as by country, with the significance of

differences evaluated by Chi-square tests of independence (p-values determined based on the adjusted-F statistic). The mean well-being score was estimated according to the presence and clustering of social isolation indicators (as none, 1, 2, 3 and 4+) using analysis of covariance, following the complex multistage stratification sampling design procedures of the study, with gender, age (years), education status (years), household income, retirement status and European region (northern, central, southern) as covariates. Further, the weighted prevalence (and 95% CIs) of each well-being variable for respondents with 4+ social isolation indicators was estimated at the country level. Multiple logistic regression analysis was also applied for older adults displaying multiple well-being outcomes (4+), compared to those with none, 1, 2 or 3 indicators. Two models were performed to compute adjusted Odds Ratios (ORs) in order to estimate (i) the role of socio-demographic characteristics and European regions and (ii) the aggregate association between socio-demographics, European regions and social isolation indicators and the accumulation of well-being outcomes. The test of parallel lines was computed by the 2 log-likelihood function and logit was applied as a link function. Nagelkerke pseudo R estimators were 0.076 and 0.101 in the two models, respectively. Simple linear regression analysis was used to graphically illustrate the well-being and social isolation ratios (WB:SI ratios) in each European country. This ratio illustrates the rational relation between well-being and social isolation indicators, with a ratio of 1.00 or almost 1.00 indicating similar prevalent levels of well-being and social isolation, and a ratio greater than 1.00 denoting a higher occurrence of well-being outcomes relative to social isolation indicators.

RESULTS

Socio-demographic characteristics

Participants' socio-demographic characteristics are presented in Table 1. Females made up more than half of the participants (53.9%). The mean age was 73.6 years (SD 6.6, age range 65 to 99 years). The majority of participants (75.2%) had received 0-7 years of education or had attended high school. The vast majority of participants (82.4%) were in retirement, whereas over one third (35.3%) were classified as low-income individuals. Central European region represented the majority (52.1%) of the surveyed SHARE population.

Social isolation according to socio-demographic characteristics and country

Table 2 demonstrates the prevalence of social isolation indicators, and their clustering, according to socio-demographic characteristics. The majority of participants (53.5%) lived unpartnered, a characteristic considerably higher in females, compared to males (54.1 vs. 27.4%, $p<0.001$) and in the oldest age group (86.8%, $p<0.001$), compared to the younger age groups (86.8 vs. 41.8 vs. 64.6%, $p<0.001$). The prevalence of older adults living unpartnered was greater among those with the fewest years of education and the lowest household income ($p=0.001$). Being unmarried and childless was more evident among highly educated individuals and the lowest-income group ($p=0.001$). Parent-child geographic distance was more common among females and retired participants and less prevalent in the highest household income group. Social disengagement (no activity participation) was prevalent for the majority of participants (60.9%), with higher prevalence among the oldest age group ($p=0.002$), participants with the least educational attainment and household income ($p<0.001$) and retired participants ($p=0.045$). Infrequently or never being involved in any kind of supportive exchange was more prevalent in males, participants in the youngest age group and those with the fewest years of education. Social isolation, as measured by the clustering of 4+ indicators, was significantly more prevalent in females, compared to males (17.5% vs. 13.4%, p=0.003), those in the oldest age group, those with the lowest educational attainment and household income, as well as participants who were retired.

The prevalence of social isolation indicators, and their clustering, by European country, are presented in Table 3. Austria presented the highest prevalence of single-person households. The highest prevalence of adults who declared never having married was observed in Sweden (16.8%), and the lowest in southern Europe (3.3% in Spain and Italy and 5.7% in Greece). Germany exhibited the greatest proportion of adults being childless (18.6%) and maintaining infrequent or no contact with their offspring (3.7%), while the lowest prevalence of having no offspring contact was observed in Greece (0.5%). Geographical distance between participants and their adult children varied between countries but was generally lower in Southern Europe, and highest in Denmark (72.3%). In contrast, activity disengagement was more prevalent in two Southern European countries, namely Spain (70.5%) and Italy (68.6%) and lowest in Switzerland (31.3%). Prevalence of lack of support and social exchange was also highest in Spain (78.3%). was highest in Austria (19.4%) and

generally more prevalent in adults from northern and central European countries (except for Switzerland, the Netherlands and Belgium). Greece was the only country where prevalence of social isolation (4+ indicators) was lower than 10%.

Well-being outcomes according to social isolation indicators

The mean well-being scores according to different social isolation indicators and their clustering are presented in Table 4. Participants who lived with a partner and those who contacted their offspring daily or almost once a month had significantly higher total well-being scores, compared to those who lived without a partner (1.90 vs. 1.69, p=0.007) and those who reported less frequent or no parent-child contact (1.80 vs. 1.40, p=0.028), respectively. Social engagement was also significantly related to well-being, with active participants, participating in any kind of social or productive involvement, displaying a considerably higher mean well-being score than their socially disengaged counterparts (1.93 vs. 1.70, p=0.001). In contrast, those who exhibited frequent social exchanges had a lower mean score of well-being, compared to participants who lacked social support (1.66 vs. 1.85, p=0.007). Socially isolated participants, as measured by the clustering of 4+ indicators, had the lowest mean well-being score, compared to less isolated individuals, but the evidence to support this association was weak.

Ancillary analyses of the association between individual well-being outcomes and social indicators revealed that the proportion of participants with a low depression score (69.2%) (p<0.001), self-perceived very good health (9.9%) (p<0.001), satisfaction with life (33.2%) (p=0.012), less than two chronic conditions (46.1%) and normal BMI (35.2%) (p<0.001) was substantially greater among those living with a partner, compared to those living without a partner or spouse. Lastly, a significantly higher proportion of participants who were infrequently or almost never involved in supportive exchanges (59.8%), compared to those reporting to have provided or/and received any kind of social support at least once a month over the last year (52.5%), did not report having psychological distress. A greater proportion of participants who had frequent exchanges of social support, compared to those with rare or no support provision or receipt, stated to be very satisfied with their life and to have less than two chronic diseases (29.7% vs. 24.1%, p=0.002 and 44.6% vs. 38.7%, p<0.001, respectively).

The associations between socio-demographic variables, social isolation indicators and the presence of 4+ well-being outcomes, examined via multiple regression analysis, are presented in Table 5. Gender, age, educational attainment, retirement status and European region were independent predictors of well-being clustering in both regression models, with participants of female gender, higher age, retired and living in the central and southern Europe being less likely to demonstrate multiple indicators of well-being, relative to males, younger respondents, non-retired and northern Europeans, respectively. Adults with more years of schooling had higher odds of presenting 4+ well-being indicators in both the first (1.79; 95% CI 1.18-2.72) and second (1.74; 95% CI 1.15-2.64) models. Activity involvement and social engagement were also predictors of well-being clustering in the second model, with the likelihood of exhibiting accumulated well-being outcomes being lower among participants with no activity involvement (0.51; 95% CI 0.38-0.68) and higher among those who reported being involved in rare or no exchanges of social support (1.49; 95% CI 1.07-2.08).

Social isolation and well-being at regional and country level

The prevalence of positive well-being outcomes among participants with 4+ social isolation indicators was highest in northern Europe, compared to the other two European regions (Fig.1). In particular, Switzerland and Denmark exhibited the highest proportion of socially isolated individuals assessing their health as being very good, declaring to be very satisfied with their life and displaying a low score of depression. The greatest prevalence of respondents with high quality of life was observed among Swiss socially isolated participants, whereas having less than two chronic conditions and normal BMI were more prevalent in Switzerland and Sweden, respectively. The mean ratio of well-being to social isolation indicators (WB:SI ratio) was higher in Switzerland (1.19) and Denmark (1.11) (Fig.2). In contrast, participants in southern countries, such as Italy (0.77) and Spain (0.78), displayed the lowest ratios, indicating that social isolation was more prevalent than well-being. The exception was Greece, where the corresponding WB:SI ratio was 0.97, suggesting an almost equal occurrence of well-being and social isolation indicators in the Greek elderly population.

DISCUSSION

This study aimed to examine the association between social isolation and well-being, by taking into account personal characteristics and country of residence, among nationally representative samples of European older adults residing in 11 countries and participating in the SHARE study. Our study makes an important contribution to the evidence base by examining these constructs and their interaction cross-nationally and by operationalizing the constructs' assessment by considering a variety of factors pertaining to social isolation and well-being, including social and family resources, and physical, mental and emotional indicators, respectively, instead of using single measures or indicators of these constructs.

The prevailing premise that social isolation may be triggered as people grow older through diverse personal life-course trajectories, which further compound the socio-economic and emotional disadvantages pertinent in later-life,[20,31] was also supported by the present analysis. Similar to a recent empirical investigation[32], where the oldest participants were the most socially isolated age group, the current study showed that social isolation increased consistently with age. The clustering of social isolation indicators differed markedly amongst the three different age groups, with these variations being more pronounced between the two ends of the age spectrum, the young-old aged and the oldest-old individuals. Further, the group aged >85 years displayed a significantly lower likelihood of having a greater number of positive well-being outcomes in both models. Given the fact that living without a partner or spouse and social disconnectedness were significantly more likely to occur among respondents of higher age, this suggests that multiple social and well-being disadvantages accumulate in the later years of life. It is, however, difficult to assess if the positive link between social isolation and age is the result of a "true age-effect" or whether other conditions inherent in old age are possibly involved in this association.[33]

Significant gender differences were also observed concerning the prevalence of most social isolation indicators and their accumulation, with males generally faring better than females. Most prominent were the gender differences in partnership status, with almost twice as many females living unpartnered than males. This is possibly because women tend to live longer and thus outlive their partners,[12] despite them generally displaying fewer financial and educational resources and more ill-health

conditions.[34] Recent evidence shows that social isolation is significantly greater among women than men as a result of them not or no longer being married and living without a spouse or partner[35]. Childlessness, which has been associated with the existence of smaller family networks and fewer ties of kinship[36], was found in the present study to be higher in males, though non-significantly. This finding is in agreement with the contention that, due to life-course social identity roles tied to gender, parenthood is highly valued by women, while representing a social goal mostly expected to be accomplished by them.[37] Important gender-linked variations were also observed in the social isolation indicator of lack of social support exchanges. In agreement with the present findings, earlier studies have shown that receipt of social support is much less evident among men[35] and integration in wider confidant networks is more prevalent among women.[38] These gender differences should be considered when forming policies related to social isolation in older age.

In concordance to earlier literature,[39,40] low-literacy and limited financial resources were risk factors for social isolation in the current study. We operationalized social isolation as a composite social disengagement index, based on the number of social ties or contacts, and we found that older adults with fewer years of education and income resources had a higher likelihood of becoming socially isolated. Similarly, low education and income status, representing social disadvantage, among adults aged 45-75 years has been positively associated with social isolation, as estimated by social participation, partnership status and number of close ties.[41]

Congruent with earlier research showing mixed results on the association between social isolation and well-being, which is due to the different definitions and measurement methods of these constructs, the pattern of the association in the present analysis also varied along the different construct measures. For example, living status was significantly associated with most indicators of social isolation and their clustering, with the absence of clinically relevant depression, very good self-perceived health status, satisfaction with life and the occurrence of none or one chronic condition being more prevalent among individuals sharing a partnered arrangement, relative to their unpartnered counterparts. Living alone was recently demonstrated to be significantly associated with poor quality of life and serious psychological distress among adults aged 65 and older.[42] Parental status was also associated with lower psychological distress and higher life satisfaction, which is in support of the previously suggested psychological benefits of parenting in late life.[43] The strength of

evidence for the role of childlessness in the accumulation of well-being indicators was however weak. As previously suggested,[44] it could be that childless people come to successfully adjust to their status through their life course and thus seek to engage in wider social supportive networks, whilst childlessness might also have some benefits to confer, such as fewer responsibilities, conflicts and concerns and hence less psychological and financial strain.

There was some evidence, albeit, weak, that older adults afflicted mostly by social isolation (as indicated by the presence of 4+ isolation indicators) experienced lower levels of well-being, compared to those with no social isolation indicators. According to the regression analysis however, socially and productively active older adults were considerably more likely to present a greater number of well-being outcomes, as compared to socially inactive individuals. This finding confirms the notion that social engagement matters for older adults' well-being, as demonstrated by the Established Populations for Epidemiologic Studies of the Elderly (EPESE) project[18], which also suggested that socially disengaged older adults have higher likelihood of presenting with depressive symptoms.

Our finding that social support was negatively associated with well-being is in contrast to earlier research supporting the positive role of social support upon several health and well-being outcomes in older people.[45,46] However, the experience of being cared for might also entail stressful emotions for older adults with related health-associated needs for social support.[47] The negative association observed in the current study might therefore be due to the extent of the exchange of the specific types of social support assessed, which could also be driven by participants' health status. Another study[48] also showed that the receipt of instrumental support was associated with a greater likelihood of exhibiting poor health self-ratings. It could thus be possible that the social exchange process might lack reciprocity in cases whereby, due to health conditions, older adults are rendered recipients of assistance and support while at the same time they are unable to compensate for it.[49] Subsequently, this kind of unrequited social exchange, in so far that it is negatively appraised by older adults, may embody feelings of dependency and incompetence[50] and thus trigger psychological distress.[51]

Considerable differences were observed in the distribution of indicators of social isolation and their clustering across countries. Despite the country variations with regards to individual social isolation indicators, such as frequency of contact with, and

proximity to offspring, activity participation and social exchanges, relative consistency was observed at the regional level. For example, fewer residents in southern Europe, as compared to both their central and northern counterparts, reported contacting their offspring less than once a month or never. This finding agrees with earlier research showing that frequent parent-child contact is much less likely to occur among northern Europeans, compared to their southern peers.[52] This could be due to the stronger family contexts which seem to prevail in southern European countries, where proximate later intergenerational ties are predominant and highly appreciated by the elderly.[53] Adult offspring in southern societies are thus subjected to wide cultural expectations with regards to the maintenance of intimate life-course bonds and interactions with their parents.[54] The current study also showed that proximity to offspring was significantly lower in northern European countries, as compared to Spain, Italy and Greece, which agrees with earlier findings that older adults from southern Europe are more likely to co-reside with their adult children, compared to northern Europeans.[55] Co-habitation, which is a common living arrangement for intergenerational familial care in northern Europe, apart from being culturally preferable, has also been attributed to "*measurable economic and policy factors*"[56], in that older people's comparatively worse financial situation in the south of Europe and the inadequacy of formal welfare system services partially necessitate parent-child co-residence. The opposite seems to apply in the north of Europe, where solitary living in the later years of life means more autonomy and independence and seems to be the most preferred living arrangement for older people.

Even though lack of social support exchanges among European older parents and their children was relatively high, it was least often observed in Belgium, Denmark and the Netherlands, whereas, notably, Spain, Italy and Greece ranked among the highest. This contradicts previous research which has suggested that older people's living arrangements determine their intergenerational supportive exchanges[57], implying that support and care transfers among older parents and their offspring are most likely to occur in southern Europe, where cohabitation is more common. Furthermore, northern Europeans were less likely to be socially and productively inactive, in comparison to participants in southern Europe, with the exception of Greece. Similar conclusions have been drawn by previous research, which has indicated that participation rates in a wide range of social and productive activities tend to be much higher in northern Europe.[58]

Another cross-national differentiation was observed in the well-being and social isolation ratios estimated in each European country, with the highest ratios detected in Switzerland and Denmark and the lowest in Spain and Italy. This finding suggests that the occurrence of positive well-being outcomes is more pronounced in Switzerland and Denmark, relative to the prevalence of social isolation indicators. The opposite was observed for Spain and Italy, where the indicators of social isolation were more prevalent than positive well-being outcomes. Similar results were observed regarding the accumulation of well-being outcomes, with the likelihood to achieve high well-being being significantly higher in northern European countries, as compared to southern ones. This further reinforces the consistently depicted north-south gradient in health and well-being[59], which has been considered to be contingent on potential differences in the distribution of socio-economic and health care resources both within and between European countries.[60]

The current research findings are liable to some limitations which warrant discussion. Firstly, although the present paper is indicative of specific possible associations between the measures under scrutiny, causal inferences cannot be drawn due to the cross-sectional nature of the study. Reverse causation cannot thus be excluded, since it could be fairly assumed that older adult's well-being might also affect the amount of their family and social resources. Secondly, the study is also rather biased towards healthier and more socially integrated non-institutionalized elderly, whereas frail, not community-residing, older people were not investigated. This might have led to the underestimation of the real magnitude of the association between social isolation and well-being. Lastly, the self-reported nature of social isolation and well-being constructs should be considered when interpreting the results of the present inquiry. Studies that rely mostly on self-assessment are thought to suffer from recall errors and reporting bias due to social desirability drawbacks, to which social and health research based on self-reported data is inherently subjected.

Despite the aforementioned methodological and conceptual limitations, our study provides important evidence of the role of underlying adverse domains of social environment which pertain to social isolation in European older adults' well-being. Our findings also provide further evidence on the salient role the country context plays in elderly people's well-being, substantiating the previously demonstrated north-south gradient in the distribution of health and well-being outcomes. These findings should be considered by policy makers and stakeholders involved in the

development of policies to reduce social isolation with an aim to improve well-being in older life. Results from this study can also inform the development of interventions that could lead to improvements in late-life wellbeing through the mitigation of social isolation and the amelioration of distinct facets of older adults' objective family and social conditions.

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Table 1. Descriptive characteristics of 5,129 adults, aged ≥65 years in the SHARE study (2004/05).

		n	%
Gender	*males*	2,366	46.1
	females	2,763	53.9
Age, *years*	*65-74*	3,097	60.3
	75-84	1,701	33.2
	≥85	331	6.5
	mean ± standard deviation (min-max)	73.6±6.6 (65-99)	
Education, *years*	*0-7*	2,202	43.2
	8-12	1,629	32.0
	≥13	1,262	24.8
	mean ± standard deviation (min-max)	9.0±4.5 (0-21)	
Retirement status	*retired*	4,228	82.4
Income[a]	*lower quartile*	1,808	35.3
European regions	*Northern*	874	17.1
	Central	2,674	52.1
	Southern	1,581	30.8

[a] Income was classified using country-specific quartiles for all participants in the SHARE survey in 2004/05.

Table 2. Prevalence of social isolation indicators according to socio-demographic characteristics in 5,129 adults, aged ≥65 years.

		Total		**Gender**		**Age,** *years*			**Education Status**, *years*			**Household Income**			**Retirement Status**	
				males	females	65-74	75-84	≥85	0-7	8-12	≥13	*Low*	*Average*	*High*	*Not-retired*	*Retired*
Social Isolation Indicators		n	weight % (95%CIs)	weighted %												
Living without partner or spouse		2,296	53.5 (51.1-55.8)	27.4	54.1*	41.8	64.6	86.8*	48.2	39.8	38.1*	68.5	36.7	17.8*	36.3	46.9*
Being unmarried		280	5.5 (4.4-6.8)	7.8	9.2	6.9	4.2	1.0	3.3	9.7	11.7*	12.5	8.2	4.4*	10.2	7.0*
Childless		659	15.0 (13.3-16.9)	17.2	14.7	14.0	15.9	18.6	13.8	14.1	18.5*	21.1	15.1	10.7*	15.2	16.5
Parent-child contact: less than once a month or never		92	2.3 (1.6-3.3)	3.0	2.0	2.7	1.9	1.3	1.9	2.2	3.0	3.0	2.2	2.4	2.4	2.6
All children living >1 km		3.435	59.7 (57.3-62.0)	47.5	51.2*	60.0	60.8	52.6	48.0	48.6	51.3	51.2	51.8	42.6*	41.0	57.7*
No activity participation		2.633	60.9 (58.6-63.1)	53.0	55.5	55.3	65.8	78.9*	67.0	54.5	44.6*	63.6	53.5	44.3*	49.6	58.9*
Social exchange: almost never		3.381	66.3 (63.9-68.6)	69.9	62.5*	71.3	62.3	48.6*	70.9	64.5	63.2*	65.5	65.6	67.0	65.3	66.5
Clustering of Social Isolation Indicators	*none*	71	1.7 (1.2-2.4)	5.8	3.8	2.4	0.7	1.0	2.0	5.5	6.2	1.2	4.4	9.8	7.4	2.2
	1	725	11.3 (10.1-12.7)	19.3	14.4	13.9	8.7	5.0	12.7	17.7	19.0	7.9	17.4	26.4	20.0	13.5
	2	1775	31.2 (29.1-33.4)	35.0	31.2	34.2	28.1	24.2	34.1	31.9	32.9	27.8	34.5	36.4	33.8	32.2
	3	1792	36.8 (34.4-39.2)	26.6	33.1	32.5	41.6	45.4	34.2	30.7	26.4	36.8	30.3	21.1	25.8	34.3
	4+	752	19.0 (16.9-21.2)	13.4	17.5*	17.0	20.9	24.4*	17.0	14.2	15.5*	26.3	13.4	6.4*	13.1	17.9*

Weight percentages were estimated according to the complex sampling design of the study.
Chi-square tests (of independence based on the adjusted F): * $p<0.05$.

Table 3. Prevalence of social isolation indicators according to European country in 5,129 adults, aged ≥65 years.

		European Countries										
		Austria	**Belgium**	**Denmark**	**France**	**Germany**	**Greece**	**Italy**	**Netherlands**	**Spain**	**Sweden**	**Switzerland**
Social Isolation Indicators		weight % (95%CIs)										
Living without partner or spouse		**47.8 (44.4-51.2)**	35.6 (32.8-38.5)	40.2 (36.0-44.4)	39.5 (35.3-43.9)	43.2 (39.6-46.9)	44.8 (41.5-48.1)	41.2 (36.7-45.8)	38.7 (35.2-42.3)	41.9 (38.0-45.9)	42.5 (39.1-45.9)	35.8 (30.7-41.2)
Being unmarried		11.1 (9.2-13.4)	9.5 (7.9-11.4)	14.8 (12.0-18.0)	11.7 (9.1-14.9)	12.2 (9.9-15.0)	5.7 (4.3-7.4)	3.3 (1.9-5.7)	8.2 (6.3-10.5)	3.3 (2.0-5.5)	**16.8 (14.2-19.7)**	10.5 (7.6-14.4)
Having no children		16.7 (14.3-19.4)	12.1 (14.2-10.3)	12.3 (9.7-15.5)	13.2 (10.5-16.4)	**18.6 (15.8-21.7)**	12.9 (10.9-15.3)	15.2 (12.0-18.9)	14.2 (11.8-17.0)	16.6 (13.8-20.0)	11.3 (9.2-13.7)	15.8 (12.2-20.2)
Parent-child contact: less than once a month or never		3.3 (2.3-4.8)	2.3 (1.5-3.4)	1.4 (0.7-2.8)	2.4 (1.4-4.1)	**3.7 (2.6-5.5)**	0.5 (0.2-1.3)	1.7 (0.8-3.9)	1.9 (1.1-3.3)	1.9 (1.0-3.6)	1.3 (0.7-2.4)	2.9 (1.6-5.3)
All children living >1 km		52.7 (49.3-56.0)	63.5 (60.6-66.3)	**72.3 (68.2-76.0)**	64.4 (60.1-68.4)	53.3 (35.5--42.0)	49.7 (56.9-38.7)	36.1 (31.9-40.5)	64.6 (61.2-67.8)	34.9 (31.3-38.6)	71.4 (68.2-74.4)	55.8 (50.2-61.2)
No activity participation		48.4 (45.0-51.7)	39.2 (36.3-42.2)	34.7 (30.7-38.9)	45.4 (41.1-49.9)	52.6 (49.0-56.1)	42.4 (39.2-45.7)	68.6 (64.4-72.4)	36.1 (32.9-39.4)	**70.5 (66.8-73.9)**	34.7 (31.6-37.9)	31.3 (26.4-36.6)
Social exchange: almost never		66.3 (63.0-69.4)	52.6 (49.6-55.6)	58.1 (53.8-62.3)	65.4 (61.1-69.5)	60.6 (57.0-64.1)	68.8 (65.7-71.8)	70.2 (65.9-74.2)	58.6 (55.2-61.9)	**78.3 (74.9-81.5)**	61.7 (58.4-64.8)	62.4 (56.9-67.6)
Clustering of Social Isolation Indicators	*none*	4.3 (3.1-5.9)	7.0 (5.7-8.7)	3.6 (2.2-5.7)	3.2 (2.0-5.1)	5.5 (4.2-7.1)	4.6 (3.5-6.2)	4.9 (3.6-6.7)	5.7 (4.3-7.6)	3.4 (2.3-5.1)	3.9 (2.8-5.3)	5.1 (3.1-8.2)
	1	17.8 (15.3-20.6)	22.8 (20.4-25.3)	20.0 (16.8-23.7)	19.0 (15.8-22.7)	16.1 (13.8-18.6)	19.9 (17.4-22.7)	15.5 (12.9-18.6)	20.6 (18.2-23.2)	11.7 (9.6-14.3)	19.5 (17.2-22.0)	23.6 (19.2-28.7)
	2	29.0 (26.0-32.1)	31.7 (29.0-34.5)	33.8 (29.9-37.9)	29.7 (25.8-33.9)	30.9 (27.8-34.2)	43.0 (39.8-46.3)	33.8 (30.0-37.9)	32.2 (29.2-35.4)	36.6 (33.0-40.3)	31.0 (28.1-34.0)	34.6 (29.6-40.0)
	3	29.6 (26.6-32.7)	27.3 (24.7-30.1)	27.6 (23.9-31.6)	32.1 (28.1-36.3)	29.5 (26.3-33.0)	23.3 (20.6-26.2)	31.5 (27.5-35.9)	30.8 (27.7-34.1)	31.9 (28.3-35.6)	28.5 (25.5-31.6)	26.4 (21.9-31.5)
	4+	**19.4 (16.8-22.2)**	11.1 (9.4-13.2)	15.0 (12.2-18.3)	16.0 (13.0-19.5)	18.0 (15.2-21.2)	9.1 (7.4-11.1)	14.2 (11.0-18.2)	10.7 (8.5-13.4)	16.4 (13.5-19.8)	17.2 (14.6-20.1)	10.3 (7.4-14.1)

Weight percentages were estimated according to the complex sampling design of the study.
Bold percentage indicates the highest prevalence and grays the lowest in each indicator in level of p<0.05.

Table 4. Mean number of well-being outcomes, according to the presence and clustering of social isolation indicators.

			Well-being Outcom		
Social Isolation Indicators			**weight %**	**Mean (standard error)**	***p*-value**
Living arrangements	*living with partner or spouse*		46.5	1.90 (0.04)	0.007
	living without partner or spouse		53.5	1.69 (0.04)	
Marital Status	*married, widowed etc*		94.5	1.79 (0.03)	0.962
	being unmarried		5.5	1.78 (0.12)	
Number of Children	*at least one child*		85.0	1.79 (0.03)	0.981
	no children		15.0	1.79 (0.07)	
Contact with children	*daily to about once a month*		97.6	1.80 (0.03)	0.028
	less than once a month or never		2.4	1.40 (0.15)	
Proximity to children	*at least one child living in the same house/building*		40.3	1.82 (0.04)	0.329
	all children living >1 km		59.7	1.77 (0.03)	
Activity participation	*at least one*		39.0	1.93 (0.04)	0.001
	no activity		61.0	1.70 (0.03)	
Social exchange	*given or/and received support at least once a month*		33.7	1.66 (0.05)	0.007
	almost never		66.3	1.85 (0.03)	
Clustering of Social Isolation Indicators		*None*	1.7	1.94 (0.21)	0.200*
		1	11.3	1.89 (0.06)	
		2	31.3	1.83 (0.04)	
		3	36.7	1.77 (0.04)	
		4+	19.0	1.69 (0.07)	

[a] Well-being outcomes: Life satisfaction, *CASP-12* Control, Autonomy, Self-realization and Pleasure questionnaire, *CES-D 11* Center for Epidemiological Studies of Depression questionnaire, Self-rated health, Chronic diseases, *BMI* Body Mass Index.

Comparisons were examined using analysis of covariance (according to the complex sample design procedure), with gender, age (years), education status (years), household income, retirement status and European regions (northern, central, southern), as covariates.

* Polynomial (linear) trend

Table 5. Adjusted odds ratios for presenting 4+ well-being outcomes in relation to socio-demographics and social isolation indicators in 5,129 adults, aged 65+ years.

		4+ Clustering Indicators of Well-being	
		Adjusted Odds Ratios (95%CIs)	
Prognostic factors		*1st model*	*2nd model*
Gender *(females vs. males)*		0.63 (0.46-0.88)	0.66 (0.47-0.93)
Age	*65-74 years*	1.00	1.00
	75-84	0.54 (0.39-0.75)	0.60 (0.42-0.85)
	≥85	0.51 (0.27-0.99)	0.71 (0.35-1.44)
Education Status	*0-7 years*	1.00	1.00
	8-12	1.39 (0.90-2.14)	1.43 (0.93-2.19)
	≥13	1.79 (1.18-2.72)	1.74 (1.15-2.64)
Retirement status *(retired vs. not retired)*		0.56 (0.38-0.85)	0.60 (0.40-0.90)
Household Income	*Low*	1.00	1.00
	Average	1.36 (0.96-1.92)	1.26 (0.88-1.81)
	High	1.46 (0.94-2.28)	1.27 (0.81-2.01)
European regions	*Northern*	1.00	1.00
	Central	0.33 (0.25-0.44)	0.37 (0.28-0.50)
	Southern	0.24 (0.16-0.35)	0.29 (0.19-0.44)
Living arrangements *(Living without partner or spouse vs. Living with partner or spouse)*		-	0.88 (0.60-1.30)
Marital Status *(Being unmarried vs. Being married, widowed etc)*		-	1.51 (0.73-3.14)
Number of Children *(Having no children vs. Having at least one child)*		-	0.83 (0.48-1.44)
Parent-child contact *(Less than once a month or never vs. Daily to about once a month)*		-	0.46 (0.15-1.41)
Proximity to children *(All children living >1 km vs. At least one child living in the same house/building)*		-	0.95 (0.65-1.40)
Activity participation *(No activity vs. At least one)*		-	0.51 (0.38-0.68)
Social exchange *(Almost never vs. Given or/and received support at least once a month)*		-	1.49 (1.07-2.08)
	Pseudo $R_{Nagelkerke}$	0.076	0.101

95%CIs, 95% confidence intervals.
Multiple logistic regression analysis (estimations according to the complex sampling design of the study).

Figure 1. Prevalence of 4+ social isolation indicators in 5,129 adults, aged 65+ years, in relation to the presence of well-being outcomes.

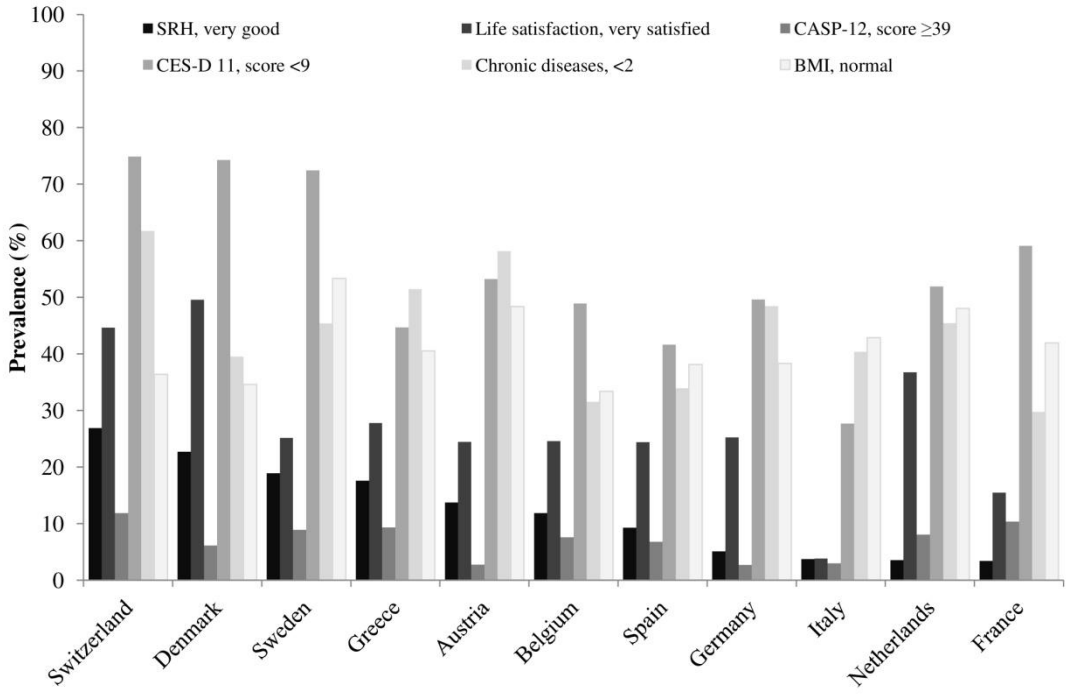
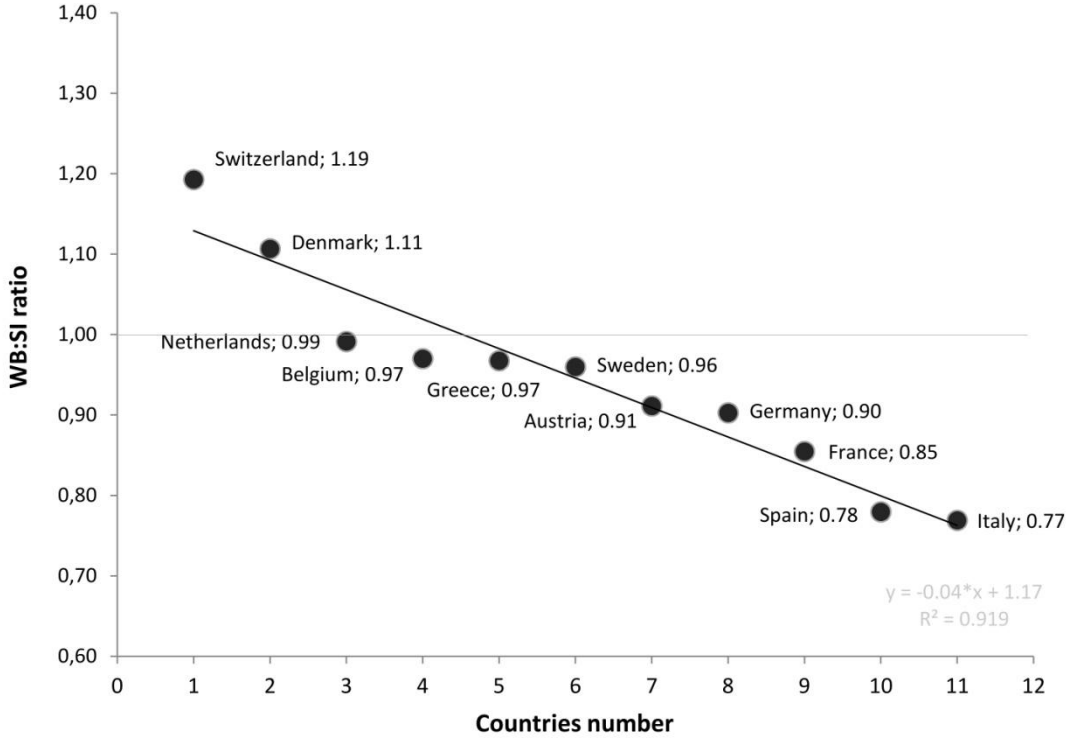


Figure 2. Well-Being to Social Isolation ratio (WB:SI ratio) in 5,129 adults, aged 65+ years, in eleven European countries.



Κεφάλαιο 3ο

Loneliness and well-being in older European adults: Results from the SHARE study

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Abstract

Social connectedness and maintenance of social interactions have been consistently identified across social gerontology literature as key determinants of late-life well-being. However, the well-being implications of loneliness in older ages, as the subjective aspect of diminished social integration, on a cross-country perspective remain yet to be explored. The current study, drawing cross-national data on a representative sample of adults over the age of 65 of the first wave of Survey of Health, Ageing and Retirement in Europe examined the prevalence of loneliness and explored its possible association to well-being, at the individual and country level. A significant cross-national association was observed between loneliness and life satisfaction. The mean score of well-being indicators was significantly higher among non lonely older adults. Accordingly, multiple clustering of well-being indicators was less pronounced among adults with very frequent endorsements of feelings of loneliness. This was the pattern that emerged, albeit with significant variations, when differences among the eleven European countries were considered. The present findings afford evidence supportive of the hypothesis that loneliness is significantly and negatively associated with well-being and therefore, underscore the fact that attention should be paid to the alleviation of loneliness as an important means of health and social policy relevance as regards the amelioration of well-being in the old age context.

Keywords: older individuals, loneliness, well-being, SHARE study

Later-life well-being, as a means of bringing about several gains at both the personal and societal level, has been considered a major aging-related public issue lain at the core of policy initiatives coping with the implications of getting older (Allen 2008). Thus, comprehending the variables integral to the processes that are involved in the negative dimensions of late-life well-being bears important implications for the identification of the needs to be satisfied and the admirable ends to be achieved to foster well-being. The emerging evidence base in the late-life context research, though "the perspective of the older person is often missing in discussions of well-being"(Stanley and Cheek 2003), has pointed out the public health and social policy prospect of well-being. Relevant empirical evidence has also converged to the conjecture that distinct dimensions of well-being predict greater survival, better cognitive functioning and more health-protective behaviours (Steptoe et al. 2012). Following the findings of the project "Shaping our Age", intended to underline older people's perception of what well-being actually means, individuals 65 years and older seem to lay great emphasis on their ability to lead a positive life, flourish in good health and experience pleasant emotional states (Hoban et al. 2011). According to the afore-stated research, the availability and adequacy of social resources, such as social support and social relationships and contacts, were also appraised by older people as highly influential to their level of well-being.

Empirical interest on the social patterning of well-being has thus uncovered the benefits associated with the existence of protective psychosocial factors, such as adequate networks of friends and relatives, social support exchanges and social integration and the damaging effects related to the dearth of these resources (Forsman et al. 2011). Loneliness has been consistently viewed as the result of experiencing a deprivation of social connections and inadequacy of intimate bonds and has been suggested to hold salient adverse health-related effects for the general population and older adults in particular (Bernard 2013; Cacioppo and Patrick 2008). In addition, personal resources, such as gender, age, partnership status, health, material living conditions and social networks have been suggested to account for the occurrence of loneliness and thus, have been seen as "opportunities and constraints" that bear upon loneliness (de Jong Gierveld et al. 2015).

Lack of adequate social relationships has been acknowledged as a common mortality risk factor equivalent to common unwholesome health behaviours (Holt-Lunstad et al. 2010), whereas loneliness has been documented to be a negative

predictor of health and well-being, measured on several relevant outcomes (Beaumont 2013; Chen and Feeley 2013). To this vein, prevention of loneliness has been suggested to be one of the most cost-effective ways to contain the increasing health and care needs through the later years of life (Valtorta and Hanratty 2012).

Older adults are arguably considered more vulnerable to loneliness due to the fact that old age is often marked by several unpleasant social and health conditions which lead to the disruption of prior family and social relationships and deteriorate chances for social participation and interaction (Singh and Misra 2009). People of advanced age are thus, more prone to the negative health risks associated with feeling lonely, which comprise distressful emotional states (Coyle and Dugan 2012), depression (Stickley et al. 2017) and physical inactivity (Hawkley et al. 2009).

Though promising from a public health standpoint, "loneliness and other indicators of social embeddedness have received less attention" (Dykstra 2009). Moreover, the relevant empirical interest so far is mainly driven by a focus on the health-related consequences of loneliness in the older population, whereas the respective research on the potentially adverse impact of being lonely on later-life well-being outcomes has been under-estimated. In addition, the association between loneliness and well-being is relatively unexplored in large-scale studies, whereas the current state of the literature has mainly exhibited a single-country interest and hence, there is little known in respect of potential regional differences.

The current study aims to contribute to the current state of research interest by examining how frequency of loneliness is associated with well-being. We are thus interested to examine whether there is evidence linking loneliness to distinct well-being outcomes, and their multiple clustering as well, on a sample of European adults aged 65 and older, and search for variations at the country level, as well, by hypothesizing that frequent feelings of loneliness would be significantly and negatively related to well-being. Well-being was measured on specific domains of older people's physical and emotional welfare and was defined by the clustering of five relevant indicators (0, 1, 2, 3+). Loneliness, as the subjective counterpart of social isolation, was ascertained according to the participants' self-reports on how frequently they had been feeling lonely over the course of the previous week.

Methods and Data

Study population and data collection

The current study analyzes data from the first wave of the nationally representative Study of Health, Ageing and Retirement in Europe (SHARE, http://www.share-project.org), which was fielded in 2004/05 among eleven European countries, comprising Austria, Belgium, Denmark, France, Germany, Greece, Italy, The Netherlands, Spain, Sweden and Switzerland. SHARE population rests upon national probability household samples of community-dwellers, over the age of 50, including their partners or spouses, irrespective of their age.

National population or regional/local registers and telephone directories were available in SHARE countries. Correspondingly, full probability samplings were acquired through relevant frames, which varied from stratified-simple random sampling or multi-stage sampling to single or multi-stage sampling. At the individual level, the average weighted response rate achieved ranged from 73.7% (Spain) to 93.3% (Germany), whereas the highest response rate at household level was found in Switzerland (38.8%) and the lowest in France (81.0%).

The collection of the main survey data was implemented through a face-to-face questionnaire, which rested upon a centrally-programmed, computer-assisted personal interviewing technique (CAPI). The main questionnaire included 21 different modules on health and well-being outcomes, social conditions, welfare, health and social care services, employment and retirement, social networks, social support, living arrangements and health behaviors and was, further, supplemented by a brief self-completed paper-and-pencil questionnaire (‘drop-off’).

Measures

Loneliness

Notwithstanding the explicit diversity as regards the conceptualization and measurement approaches of loneliness, research on aging has either utilized single-item measures of self-assessment or has turned to related composite scales or indexes and has identified its unfavorable physical and mental health implications in older adulthood. In the present study, in order to identify the extent of loneliness, respondents were asked to report the frequency they had currently endorsed feelings of lonely through a general question incorporated in the abbreviated version of the Center for Epidemiological Studies Depression scale (CES-D) (“How often have you experienced the following feelings over the last week?”: “you felt lonely”) and gauged

on a four-rating response scale (1: 'all the time', 2: 'most of the time', 3: 'some of the time' and 4: 'none of the time'). The above self-reported single-item query on loneliness has been widely used and has been identified as a measure simple to use and comprehend and easy to administer to directly assess feelings of loneliness among the older population (Tilvis et al. 2011; Victor et al. 2009).

Well-being

Despite the well-acknowledged variation in well-being definitions specific components particularly relevant at older ages have been yielded by different research discipline lenses up to date driven by the presumption that older-age well-being mainly refers to quality of life, satisfaction with life and self-perceived general health (M. Pinquart and S. Sorensen 2001; Vanhoutte and Nazroo 2016). In this regard, well-being was considered as being contingent on quality of life, self-reported health status, life satisfaction, prevalence of chronic diseases and Body Mass Index (BMI). High well-being was equated with experiencing enhanced quality of life, appraising general health as very good, being very satisfied with life, suffering from one or none chronic health condition and exhibiting normal BMI. Quality of life was examined by employing the CASP-12 scale (C=Control, A=Autonomy, S=Self-realization, P=Pleasure), self-rated health was defined by the respondents' evaluation of their health status as very good, good, bad or very bad, satisfaction with life was measured on the single question "How satisfied are you with your life in general?" (very satisfied, satisfied, dissatisfied, very dissatisfied), prevalent chronic diseases were estimated on the participants' self-reports as regards the occurrence of 11 medical conditions and BMI was determined according to current height and weight (weight in kilograms divided by the square of the height in meters). The presence of more than three of the above indicators of well-being was regarded as multiple clustering or accumulation of well-being outcomes and thus, as high well-being status.

Statistical Analysis

Data were analyzed using the SPSS software (IBM SPSS Statistics for Windows, Version 24.0, Armonk, NY: IBM Corp) and Stata/MP 3.1. The weighted prevalence and 95% confidence intervals (95% CIs) of frequent feelings of loneliness (most or some of the time) according to age and gender were estimated in the eleven European countries. The weighted prevalence of well-being indicators and their clustering (0, 1,

2 or 3+) was examined in relation to loneliness frequency (none of the time, some of the time, most of the time), with the corresponding 95% CIs at the individual and country level. Weighted means and 95% CIs of well-being indicators were also estimated for each level of loneliness feelings based on analysis of covariance and according to the complex sample general linear model procedure. Gender, age, educational attainment, living arrangements, widowhood, retirement status, income and European regions facilitated as covariates. Lastly, the weighted mean numbers of the five well-being indicators and the corresponding 95% CIs were estimated in each country.

Results

The respondents' descriptive characteristics are provided in table 1. The mean age of the participants was 73.1 and two-thirds (62.9%) were 65-74 years of age. Over half of the sample were women (52.9%) and the majority had received less than high school education (0-7 years) (42.8%) and was retired (81.8%). One-third of the respondents (31.4%) were within the lowest household income quartile. High quality of life (score ≥39) and very good self-assessed health status were ascertained for only a small proportion of older individuals (5.7% and 8.0%, respectively), whereas about one-third of them declared to be very satisfied with their life (28.8%). A little less than half of the participants reported feeling lonely most or some of the time over the course of the previous week (45.7%), whereas the majority of them declared that had not experienced any feelings of loneliness in the same period (54.3%).

→TABLE 1

Frequent feelings of loneliness were significantly more prevalent among women (54.4%; 95% CI 51.6- 57.3), than men (34.4%; 95% CI 31.6-37.4). The same pattern was observed when differences by age and gender were examined at the country level (table 2). Level of loneliness was higher among the oldest-age groups of participants, compared to respondents of the younger-age groups and among women, in relation to men, in most countries under study. Further, prevalence of frequent loneliness was the highest among the oldest-old women and that was the pattern observed in the large majority of countries. More particularly, the proportion of women over age 85 declaring to feel lonely most or some of the time during the previous week ranged from 100.0% in Italy and 80.0% in France to 38.7% in Spain and 40.9% in Denmark.

The smallest proportion of the participants who felt lonely most or some of the time was found in Denmark among men aged 74-85 (9.4%). The percentage of frequent feelings of loneliness was almost twice as high among women aged 65-74 (45.7%) and 75-84 (60.3%) in Belgium, compared to their male peers of the same age groups (26.0% and 32.6%, respectively). Level of loneliness was also higher among the two groups of participants of higher age in both genders and this was the picture for most countries, with the exceptions being women in Austria, whereby loneliness was found to be slightly smaller among those aged 85+ (56.0%), compared to their younger counterparts 75-84 years of age (59.3%) and women in Spain, where loneliness was twice as high among those aged 75-84 (64.8%), as compared to the oldest-age group (38.7%). Greece was documented to be the country with the highest proportion of both men and women reporting frequent feelings of loneliness in all age groups, except for women over the age of 85. Differences in the level of loneliness by gender were maintained in all age groups of participants, but were diminished among respondents aged 85 years and over in almost all counties. The proportion of the oldest-age group of men with frequent feelings of loneliness was significantly higher (66.6%; 95% CI 37.5- 86.9), compared to women (38.7%; 95% CI 21.3- 59.5) in Spain.

→TABLE 2

Prevalence of indicators of well-being and their clustering according to frequent feelings of loneliness is shown in table 3. A lower level of well-being, as measured by the participants' life satisfaction (10.5%; 95% CI 7.1-15.3), was found to be prevalent among those endorsing frequent feelings of loneliness, as compared to those with no feelings of loneliness over the course of the previous week (40.5%; 95% CI 38.1-42.9). The accumulation of well-being indicators was significantly more prevalent among respondents feeling lonely none of the time (15.5%; 95% CI 13.8-17.2), as compared to those declaring to feel lonely most of the time (6.9%; 95% CI 3.7-12.4). Similarly, controlling for gender, age, educational attainment, living arrangements, widowhood, retirement status, income and European regions, a significantly higher mean score of well-being indicators was documented among older adults who had not experienced any feelings of loneliness over the course of the previous week (1.36), compared to their lonely counterparts having been burdened by severe feelings of loneliness most of the time (1.07) (p-trend=0.002) (Table 4).

→TABLES 3, 4

The mean well-being score was found to differ significantly among the eleven European countries, with Denmark and Switzerland presenting the highest mean number of well-being indicators (1.90). The significantly lowest mean score of indicators of well-being was evidenced in Italy (1.05) (Fig. 1). In addition, as depicted in table 4, participants declaring to feel lonely most or some of the time in Spain displayed significantly the lowest proportion of multiple well-being indicators (5.0%; 95% CI 2.5-9.5), as compared to the rest of the countries under analysis. The significantly lowest proportion of the participants suffering from less than two chronic conditions (29.9%; 95% CI 23.6-37.1) and indicating normal BMI (30.8%; 95% CI 24.5-37.9) was also detected in Spain, whereas, the prevalence of older individuals reporting high quality of life (2.9% 95% CI 1.3-6.4), evaluating their health status as very good (2.6% 95% CI (0.7-8.7) and being very satisfied with their life (9.3% 95% CI 5.4-15.4) was significantly the lowest in Italy, as compared to the rest of the European countries. The accumulation of indicators of well-being was thus, significantly greater in Switzerland (24.6%; 95% CI 14.6-38.3), which also displayed a significantly higher prevalence of respondents with high quality of life, very good self-assessed health, satisfaction with life and less than two chronic diseases.

→Table 5, Fig. 1

Discussion

Owning to considerable age-specific negative life events and constraints that heretofore had not been experienced, the elderly are presumably more inclined to encounter several adverse conditions which compromise their level of social connectedness and render them more susceptible to loneliness and poorer health and well-being outcomes. The present study based upon a sub-sample of older adults over the age of 65 who took part in the first wave of the SHARE study examined the importance of feelings of loneliness to later-life well-being at the individual and country level. We were also interested to determine if frequent loneliness varies according to demographic variables in the eleven SHARE countries and look for possible regional differences in the distribution of positive well-being outcomes among the elderly endorsing frequent feelings of loneliness.

Loneliness and well-being

The most salient finding of the current research regards the significant and negative association between very frequent feelings of loneliness (most of the time) and the multiple clustering of well-being outcomes in the old age population. More particularly, the prevalence of more than three well-being indicators was almost twice as high amongst older adults with no feelings of loneliness, as compared to their counterparts having experienced severe loneliness over the course of the previous week. Relatedly, life satisfaction was found to differ significantly by level of loneliness, with the proportion of the respondents declaring to be very satisfied with their life being almost four times as high in older adults feeling with no feelings of loneliness (40.5%; 95% CI 38.1-42.9), in relation to those for whom very frequent feelings of loneliness were ascertained (10.5%; 95% CI 7.1-15.3). The above finding is in accordance with previous empirical evidence which has suggested that loneliness is a predictor of health and well-being among older adult population (Cornwell and Waite 2009; Rodriguez-Blazquez et al. 2012) and hence, it is supportive of the widely-held contention that keeping meaningful social and family relationships and interactions is an important means of protection against the onset of social isolation and loneliness (Biordi and Nicholson 2008). Accordingly, Chen et al. (2013) on their analysis of a sample of adults 50 years old and over of Health and Retirement Study (HRS) indicated that those who exhibited adequate support receipt from their spouses/partners and friends experienced lower levels of loneliness and higher well-being. More recently, social isolation and poor quality of social relationships were related to higher level of loneliness, which in turn was shown to hold a higher risk for depression among adults 50 years and older participants of the Irish Longitudinal Study on Ageing (TILDA) (Santini et al. 2016).

Loneliness according to age and gender

As regards the distribution of loneliness by gender and age, a comparable pattern was discerned in most countries, which was more favorable with regard to males and the youngest-old participants. More particularly, frequent feelings of loneliness (most or some of the time) were more common among females, as compared to males, and increased consistently with age, with endorsements of most or some of the time feelings of loneliness being less prevalent among the youngest-age group of respondents, compared to their older counterparts. The afore-mentioned evidence

further supports relevant research suggesting that women and people of advanced age are more vulnerable to loneliness (Demakakos et al. 2006; Steptoe et al. 2013) and lends plausibility to the hypothesis that loneliness is an emotional state inherently related to the experience of growing older which accompanies age-related losses and transitions (Singh and Misra 2009). The observed gender differentials in loneliness might be partially explained on living arrangements and widowhood, in that due to women's tendency to outlive their partners or spouses, it is thus more likely that they spend a greater period of their older life in solitude and bereavement, which inevitably renders them more prone to feelings of loneliness (Aartsen and Jylha 2011). In contrast to the above observation, in the study of Fokkema and Naderi (2013), older women were found to be less lonely, than their male peers and this was attributed to partnership status and socioeconomic position. There is also evidence to support the hypothesis that men are less likely to admit to experiencing unpleasant emotional states, such as loneliness. For instance, according to Nicolaisen and Thorsen's findings (2014), loneliness was more pronounced among males when measured through an indirect measure, whereas prevalence of loneliness was higher among females when a direct single-item question was utilized. Similarly, the results of Pinquart and Sorensen's (2001) meta-analysis showed that levels of loneliness were higher among women in studies whereby it was gauged on single-item measurements, relative to studies using larger questionnaires.

Regional Differences in loneliness and well-being

As far as regional differences are considered, the highest mean well-being score was observed in Denmark and Switzerland and the lowest in Italy, which is in line with previous research which has acknowledged the existence of a specific north-south patterning, with older adults in the south of Europe exhibiting consistently poorer outcomes in an array of health and well-being indices, relative to their northern counterparts (Grundy and Murphy 2017; Thøgersen-Ntoumani et al. 2011). Level of loneliness was also documented to be higher among the elderly in Greece and Spain, with the proportion of Greek women aged 65-74 and 75-84 declaring to feel lonely most or some of time during the previous week being the highest among the eleven populations under scrutiny. More particularly, two-thirds of elderly women in Greece were found to suffer from loneliness. The percentage of Greek older men feeling lonely most of the same was significantly lower for the first two age groups, compared

to women, but did not differ significantly for the oldest-age group of men. Greek older men in all age groups also displayed the highest prevalence of loneliness, as compared to their male counterparts in the rest of the European countries. The elderly in northern European countries exhibited the lowest prevalence of frequent feelings of loneliness and this was the pattern which generally applied to both genders in all age groups of respondents, which further highlights previous evidence which have indicated that a north-south divide for loneliness is prevalent (Yang and Victor 2011). The observed differences in the prevalence of loneliness by age among different nations could in part reflect the unequal distribution of objective living conditions and welfare resources at the country level (Hansen and Slagsvold 2016). Similarly, with reference to multiple clustering of well-being indicators according to level of loneliness in the different SHARE countries, the general picture leads to the conclusion that the accumulation of well-being indicators (3+) is more pronounced among lonely older adults in the North of Europe, whereas, to the opposite, fewer positive well-being outcomes were present among the elderly feeling lonely in Southern European countries.

Therefore, it could be presumed that level of loneliness might bring about a greater effect on southern Europeans' well-being, than it does regarding their peers in the north of Europe. This may be due to the fact that loneliness risk factors, such as material deprivation, poverty, poor health and social disengagement, are differently distributed among different nations, with northern European older adults found consistently to be in a significantly more advantageous position by virtue of access to socio-economic and societal resources (Hansen and Slagsvold 2016). It could also be possible that factors which bear upon loneliness might differently amongst older populations from various cultural contexts (Dykstra 2009). More particularly, contextual and cultural factors could also be of relevance to older people's expectations for social interaction and connectedness and might impact upon their interpretation of their actual state leading to feelings of sadness, disappointment and loneliness. Despite the fact that in cultural contexts where cohabitation or nearness of parents to their children is highly appreciated and expected loneliness is assumed to be lower, the opposite seems to be the picture when it comes to measuring cross-national variations in the level of loneliness, as also indicated by the current findings. For instance, though, geographical proximity of older adults to their offspring, which has been viewed to be a core aspect of intergenerational solidarity, is particularly common

in the south of Europe whereby it has been evidenced that "the apple doesn't live far from the tree" (Isengard 2013), a "confusing discrepancy" is also apparent (Sundström et al. 2009). More particularly, feelings of loneliness have been found to be more prevalent in the south of Europe (Yang and Victor 2011), despite the fact that intimate family bonds, intergenerational cohabitation and interactions are thought to be more socially preferred in southern European societies The above findings have been explained in terms of living arrangements, drawing on the hypothesis that living alone might provoke feelings of loneliness in countries where this state is not culturally accepted, whereas in other countries might not, which according to Zavaleta et al. (2014) connotes that one's personal belief of the extent of family relationships and their quality is congruent with societal and cultural values. To this vein, questions have also been raised as to whether older adults in southern Europe are less self-dependent and thus are more affected by age-related social losses which exacerbate feelings of loneliness, whereas their northern counterparts invest more on personal agency and privacy and are less emotionally affected by changes in their social connections through to ageing trajectories (Dykstra 2009).

Limitations and strengths

The above findings ought to be cautiously interpreted due to some limitations, mentioned hereafter. Firstly, evidence up to date is rather inconsistent as regards the direction of the association between loneliness and health and the current results should also be viewed upon consideration on account of their cross-sectional nature. It might also be likely that frequent feelings of loneliness adversely impact upon health and well-being outcomes through several possible physiological and behavioural pathways (Christiansen et al. 2016). It could, therefore, be fairly assumed that constraints that follow the ageing process, such as deteriorated physical, cognitive and mental functioning, sensory deficits and social losses, actually deter older people from maintaining previously held social connections and interactions and thus render them more vulnerable to loneliness (Charles and Carstensen 2010). The longitudinal nature of SHARE data, though, offer the possibility to make observations over time which could help discern possible causal directions as regards the observed association between loneliness and well-being. Secondly, the fact that SHARE lies on older people living in the community could have led to the underestimation of the real magnitude of the effect of loneliness on well-being since institutionalized and thus

rather socially isolated people were not investigated. However, according to previous studies, though community-dwelling older adults tend to be healthier and suffer from less functional limitations, compared to their peers living in institutions, when age is controlled for differences in self-perceived health status and number of medical conditions are attenuated to non significant, implying that age might be a moderator of the effect of institutionalization on health and well-being outcomes (Rodriguez-Blazquez et al. 2012). Another shortcoming that merits to be referred to is the fact that data rest on self-reported measures which in the case of loneliness have been suggested to hold social desirability biases (Koropeckyj-Cox 1998). According to Victor et al. (2000), social stigma attached to loneliness makes people less willing to identify themselves as lonely, which might mean that the true estimates of loneliness are higher than the ones drawn by self-reported measurements. In addition, it has been stated that observed variations in self-reported accounts of health and well-being among different countries might also be attributed to different cultural beliefs and divergence in the way symptoms are reported (Thøgersen-Ntoumani et al. 2011). However, the above methodological shortcomings seem to be prevalent in large-scale surveys involving data resting upon the respondents' self-reports.

Despite the above limitations, the current results furnish additional cross-national evidence which replicates previous documentation along relevant research literature and converges to the reasonable conjecture that well-being in old-age is negatively impacted on by frequency of loneliness. Considering the well-being potential as a predictor of greater survival, better cognitive functioning and enhanced health-protective behaviours (Steptoe et al. 2012), addressing the factors that bear upon the well-being of older individuals holds important implications for public health and social policies aiming at successful ageing. Greater emphasis should, therefore, be laid to implementing interventions that could lead to improvements in late-life well-being through addressing the possible adverse consequences of loneliness and prioritize its alleviation in the old-age context, especially in countries where levels of loneliness are higher.

Disclosure of potential conflicts of interest

The authors declare that they have no conflict of interest.

Compliance with Ethical Standards

Research involving Human Participants.

Ethical approval: All procedures performed in studies involving human participants were in accordance with the ethical standards of the Ethics Committee of the University of Mannheim and with 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed consent: Informed consent was obtained from all individual participants included in the study.

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Table 1. Descriptive characteristics of 6,971 adults, aged 65+ years in the SHARE study (2004/05).

		n	%
Gender	*males*	3,285	47.1
	females	3,686	52.9
Age, *years*	*65-74*	4,386	62.9
	75-84	2,203	31.6
	85+	38	5.5
	mean ± standard deviation (min-max)	73.1±6.4 (65-99)	
Educational attainment, *years*	*0-7*	2,963	42.8
	8-12	2,186	31.6
	13+	1,771	25.6
	mean ± standard deviation (min-max)	9,0±4.5 (0-21)	
Living arrangements			
Widowhood			
Retirement status	*retired*	5,702	81.8
Income[a]	*lower quartile*	2,192	31.4
European regions	*northern*	1,234	17.7
	central	3,666	52.6
	southern	2,071	29.7
CASP-12	*score ≥39*	482	5.7
Self-rated health	*very good*	873	8.0
Life satisfaction	*very satisfied*	2,607	28.8
Chronic diseases	*<2*	3,217	43.8
BMI	*normal*	2,665	37.4
Loneliness	*none of the time*	4,185	54.3
	some of the time	2,329	37.3
	most of the time	457	8.4

[a] Income was classified using country-specific quartiles for all participants in the 2004/05 SHARE study.

Table 2. Prevalence of loneliness according to age in 3,285 men and 3,686 women in eleven European countries.

		Loneliness ***(most or some of the time*** *in the previous week[1])*	
		Men	**Women**
Countries	*Age, years*	weight % (95% CIs)	
Total	65-74	30.0 (26.8, 33.4)	49.0 (45.5, 52.6)
	75-84	38.9 (33.5, 44.6)	59.5 (54.6, 64.3)
	85+	64.8 (49.2, 77.7)	67.9 (57.2, 77.0)
Austria	65-74	30.0 (23.1, 37.9)	50.2 (42.6, 57.8)
	75-84	37.3 (26.4, 49.6)	59.3 (49.8, 68.2)
	85+	45.5 (17.8, 76.3)	56.0 (34.1, 75.8)
Belgium	65-74	26.0 (20.5, 32.4)	45.7 (39.1, 52.4)
	75-84	32.6 (24.3, 42.2)	60.3 (50.7, 69.2)
	85+	52.2 (23.7, 79.3)	61.7 (35.2, 82.6)
Denmark	65-74	20.6 (13.3, 30.4)	24.2 (16.2, 34.5)
	75-84	9.4 (3.4, 23.2)	32.3 (21.5, 45.4)
	85+	52.8 (21.1, 82.4)	40.9 (17.1, 69.9)
France	65-74	28.2 (19.3, 39.2)	45.8 (35.7, 56.3)
	75-84	40.2 (26.6, 55.4)	54.7(41.4, 67.3)
	85+	71.4 (27.9, 94.2)	80.0 (40.7, 95.9)
Germany	65-74	26.8 (20.5, 34.1)	42.3 (34.8, 50.2)
	75-84	26.8 (20.5, 34.1)	60.2 (49.8, 69.8)
	85+	70.2 (32.6, 91.9)	76.6 (52.1, 90.8)
Greece	65-74	44.1(36.6, 51.9)	70.7 (63.9, 76.6)
	75-84	49.9 (38.7, 61.0)	72.1 (62.7, 79.9)
	85+	73.8 (47.0, 89.9)	77.8 (59.7, 89.3)
Italy	65-74	38.6 (30.3, 47.7)	60.3 (51.3, 68.6)
	75-84	54.0 (38.1, 69.0)	61.4 (46.7, 74.3)
	85+	66.1 (19.2, 94.1)	100.0
Netherlands	65-74	24.3 (18.0, 32.0)	46.0 (38.1, 54.1)
	75-84	36.6 (26.1, 48.7)	53.7 (42.8, 64.2)
	85+	46.1 (15.0, 80.6)	72.7 (49.6, 87.8)
Spain	65-74	28.0 (20.7, 36.7)	50.0 (41.6, 58.3)
	75-84	32.2 (21.7, 44.9)	64.8 (55.0, 73.4)
	85+	66.6 (37.5, 86.9)	38.7 (21.3, 59.5)
Sweden	65-74	20.8 (15.4, 27.4)	33.2 (26.3, 40.8)
	75-84	20.8 (15.4, 27.4)	33.2 (26.3, 40.8)
	85+	49.5 (27.5, 71.7)	66.2 (44.5, 82.8)
Switzerland	65-74	19.0 (11.2, 30.5)	27.3 (14.0, 46.5)
	75-84	33.0 (23.8, 43.7)	47.3 (36.7, 58.1)
	85+	49.5 (27.5, 71.7)	66.2 (44.5, 82.8)

CIs, confidence intervals.
Weight percentages and 95% confidence intervals were estimated according to the complex sampling design of the study.
[1] n=2,786 or 45.7% (95%CIs: 43.6, 47.8) [988 men or 34.4% (95%CI: 31.6, 37.4); 1,798 women or 54.4% (95%CI: 51.6, 57.3)].

Table 3. Prevalence of well-being indicators according to frequency of loneliness, in 6,791 adults aged 65+ years.

		Loneliness *in the previous week*					
		None of the time		**Some of the time**		**Most of the time**	
Indicators of well-being		weight % (95% CIs)					
CASP-12	*score ≥39*	5.9	(4.9-7.1)	5.7	(4.4-7.4)	4.3	(2.2-8.4)
SRH	*very good*	10.7	(9.4-12.2)	4.6	(3.5-6.1)	5.0	(2.5-9.9)
Life satisfaction	*very satisfied*	40.5	(38.1-42.9)	15.9	(13.5-18.5)	10.5	(7.1-15.3)
Chronic diseases	*<2*	47.0	(44.5-49.6)	39.2	(35.8-42.8)	44.0	(36.1-52.1)
BMI	*normal*	35.0	(32.6-37.5)	40.9	(37.4-44.5)	37.6	(30.0-45.8)
Clustering indicators	*None*	21.7	(19.6-23.9)	31.4	(28.1-35.0)	34.9	(27.7-42.9)
	1	36.4	(3.9-38.9)	39.6	(36.1-43.3)	35.8	(28.5-43.8)
	2	26.5	(24.3-28.8)	21.5	(18.7-24.5)	22.4	(16.3-29.9)
	3+	15.5	(13.8-17.2)	7.5	(5.9-9.4)	6.9	(3.7-12.4)

CIs, confidence intervals; CASP-12, *C*ontrol, *A*utonomy, *S*elf-realization and *P*leasure questionnaire, SRH, Self- Rated Health status; BMI, Body Mass Index.
Weight percentages and 95% confidence intervals were estimated according to the complex sampling design of the study.

Table 4. Prevalence of well-being indicators according to loneliness (feeling lonely most or some of the time, n=2,786), among the eleven European countries.

	Indicators of well-being								
	CASP-12, *score ≥39*	**SRH**, *very good*	**Life satisfaction,** *very satisfied*	**Chronic diseases,** <2	**BMI,** *normal*	**Clustering indicators**			
						None	**1**	**2**	**3+**
Countries	weight % (95% CIs)								
Spain	5.0 (2.5, 9.5)	4.6 (2.5, 8.4)	17.9 (13.0, 24.2)	29.9 (23.6, 37.1)	30.8 (24.5, 37.9)	42.7 (35.7, 50.0)	34.2 (27.7, 41.3)	18.1 (13.1, 24.6)	5.0 (2.5, 9.5)
Italy	2.9 (1.3, 6.4)	2.6 (0.7, 8.7)	9.3 (5.4, 15.4)	40.6 (32.9, 48.8)	42.8 (34.9, 51.1)	31.9 (24.7, 40.0)	43.9 (35.9, 52.2)	18.7 (13.2, 25.7)	5.5 (2.7, 11.1)
France	5.8 (2.1, 14.8)	2.3 (0.8, 6.9)	7.3 (3.1, 15.8)	40.6 (32.2, 49.6)	47.0 (38.5, 55.8)	29.5 (22.3, 38.0)	44.1 (35.7, 52.9)	20.2 (14.2, 28.0)	6.2 (2.4, 15.0)
Germany	6.2 (3.8, 10.1)	3.0 (1.3, 6.7)	12.5 (8.5, 18.1)	41.2 (34.2, 48.5)	40.5 (33.5, 48.0)	32.5 (25.9, 39.9)	38.0 (31.2, 45.3)	23.3 (17.6, 30.1)	6.2 (3.5, 10.7)
Belgium	8.4 (5.5, 12.6)	10.0 (6.9, 14.2)	20.6 (16.1, 26.0)	37.8 (32.1, 43.9)	33.9 (28.3, 40.0)	35.4 (29.7, 41.5)	30.4 (25.0, 36.3)	24.4 (19.5, 30.0)	9.9 (6.8, 14.2)
Greece	5.0 (3.2, 7.8)	8.2 (5.7, 11.7)	24.0 (20.0, 28.6)	39.9 (35.0, 45.1)	35.8 (31.0, 40.8)	31.2 (26.6, 36.2)	36.4 (31.6, 41.5)	22.5 (18.4, 27.1)	9.9 (7.3, 13.5)
Austria	5.0 (2.8, 8.8)	7.4 (4.7, 11.5)	18.1 (13.6, 23.6)	57.8 (51.3, 64.1)	43.5 (37.2, 50.1)	19.8 (15.1, 25.5)	41.9 (35.6, 48.4)	27.2 (21.8, 33.4)	11.1 (7.6, 15.9)
Sweden	10.1 (6.4, 15.6)	14.7 (9.9, 21.3)	17.4 (12.2, 24.3)	36.4 (29.3, 44.1)	51.6 (43.9, 59.3)	25.5 (19.4, 32.7)	35.8 (28.7, 43.5)	25.3 (19.2, 32.7)	13.4 (8.9, 19.8)
Netherlands	9.1 (5.6, 14.7)	8.6 (5.1, 14.1)	34.2 (27.3, 41.7)	49.9 (42.2, 57.5)	43.9 (36.4, 51.6)	18.2 (12.9, 25.1)	36.2 (29.2, 43.9)	29.7 (23.3, 37.0)	15.9 (11.0, 22.4)
Denmark	7.8 (3.2, 17.7)	16.0 (8.9, 27.1)	41.2 (30.2, 53.1)	37.7 (26.9, 49.8)	40.0 (29.0, 52.0)	23.4 (14.6, 35.4)	34.8 (24.4, 46.9)	19.2 (11.1, 31.0)	22.6 (14.4, 33.5)
Switzerland	13.4 (6.4, 26.0)	22.0 (12.6, 35.6)	34.8 (22.8, 49.0)	55.0 (41.1, 68.2)	45.9 (32.6, 59.7)	15.2 (7.7, 27.7)	30.2 (19.1, 44.3)	30.0 (18.9, 44.3)	24.6 (14.6, 38.3)

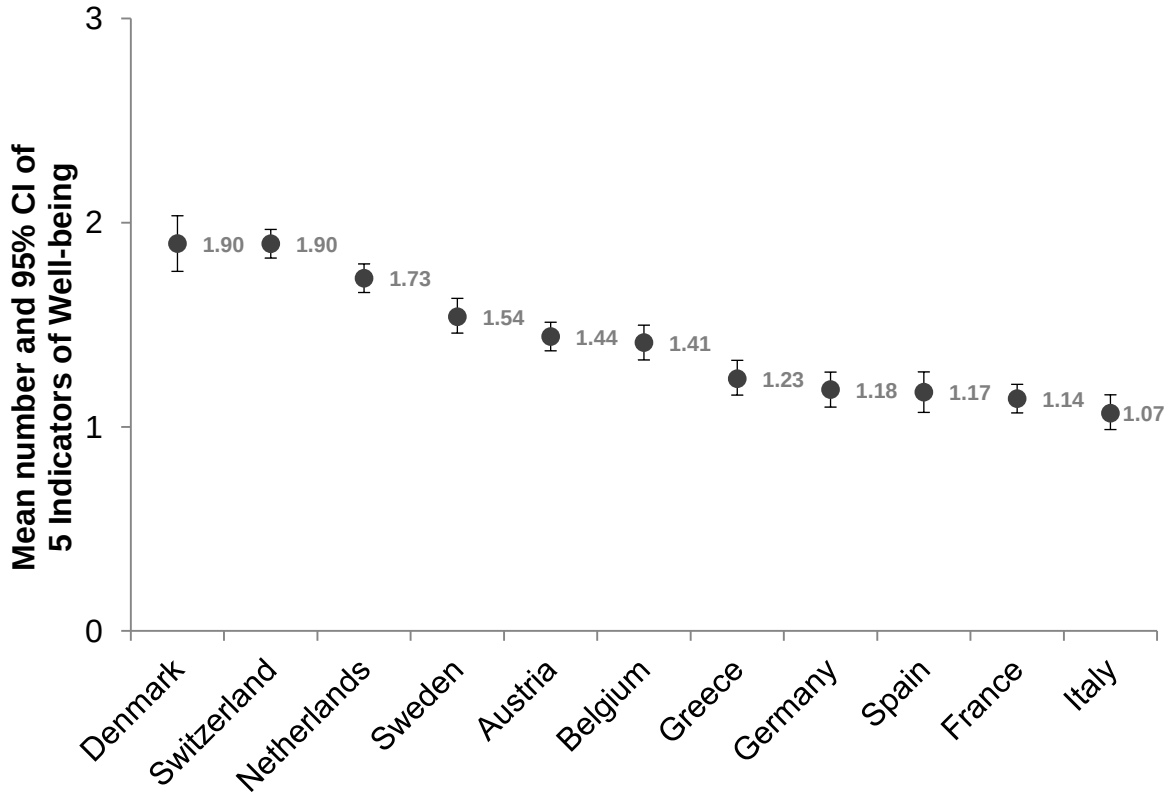
CIs, confidence intervals.
Weight percentages and 95% confidence intervals were estimated according to the complex sampling design of the study.

Table 5. Mean number of five WB factors (WBs) according to loneliness of n=6,907.

		Mean number of WBs	**95% CI**	***P*-trend**	**Estimated population**
Total		1.17	1.12-1.23	-	26,592,583
Loneliness *in the previous week*	*none of the time*	1.36	1.31-1.42		14,413,797
	some of the time	1.09	1.03-1.16	0.002	9,959,029
	most of the time	1.07	0.92-1.22		2,219,757

Analysis of covariance – polynomial trend (using complex sample design procedure). Gender, age, education, living arrangements, widowhood, retirement status, income and European regions were used as covariates.

Figure 1. Mean well-being scores among the eleven European countries.
Footnote: 95% confidence intervals (95% CIs) were estimated according to the complex sampling design of the study.



Κεφάλαιο 4ο

Loneliness among older European adults: Results from the Survey of Health, Ageing and Retirement in Europe

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ABSTRACT

Previous research has suggested that individuals are mostly prone to loneliness in their later years of life due to being exposed to several risk factors typical of old age. Although the health consequences of loneliness have long been the focus of gerontological research, there seems to be a lack of evidence on possible determinants of loneliness. In the current study loneliness was examined according to adverse health conditions, stressful life events and social isolation indicators among older adults. Data on a nationally representative sample of 5,074 Europeans aged ≥65 years were drawn from the first wave of the Survey of Health, Aging and Retirement in Europe (SHARE, 2004/2005). Female gender, older age, lower socio-economic status, living unpartnered, being childless and having no activity involvement were significantly associated with frequent feelings of loneliness ($p<0.001$). The proportion of the respondents who declared to endure loneliness most of the time, compared to none of the time, was significantly higher among Southern Europeans, relative to their Northern counterparts ($p<0.001$). Recent departure of offspring from the parental nest was a significant predictor of loneliness in both the second (ORs=2.08; 95% CI 1.24-3.48) and the third (ORs=1.75; 95% CI 1.03-2.96) multiple regression models. In this sample of older Europeans, several demographic characteristics, specific adverse health conditions, stressful life events and social isolation indicators were associated with feelings of loneliness. Policy initiatives for the alleviation of loneliness in older age should therefore aim at improving psychosocial and health-related difficulties faced by this population.

Key words: Older adults, Loneliness, Health, Social isolation, SHARE study

Introduction

Loneliness is an unpleasant and distressful emotional state whereby a person undergoes a deprivation of social resources, pertaining to interpersonal relations, connectedness, companionship and support (van Baarsen et al. 2001), and thus perceives a discrepancy between the desired amount of social relationships and contacts and the ones they have managed to obtain (Perlman and Peplau 1981). Loneliness is usually appraised subjectively, by the extent an individual is integrated in social networks, or the degree of their social alienation (Wenger et al. 1996). Although a universal definition does not exist, loneliness has mainly been conceptualised as a self-identified painful experience, characterized by a cognitive

evaluation of the divergence between real relationships and those anticipated by individuals (Cacioppo and Hawkley 2009). Therefore, loneliness refers to the social deficiency arising from an imbalance between the social interactions a person holds and the ones they would wish for (Peplau and Perlman 1982), which is thus intertwined with self-perceptions of isolation, negligence and abandonment (Singh and Kiran 2013).

Previous psychological and sociological research has portrayed loneliness as a major health, well-being and mortality risk factor (Holt-Lunstad et al. 2015), which can pose a health burden equivalent to common risky health behaviors, such as smoking, alcohol consumption and physical inactivity, particularly in older adults (Valtorta and Hanratty 2012). Potential mechanisms underlying the health implications of loneliness in this population include the inducement of physiological, behavioral and psychological changes, such as increased stress-related responses (Steptoe et al. 2004), elevated blood pressure, cardiovascular activation, sleep disturbance (Cacioppo et al. 2002; Hawkley and Cacioppo 2010) and functional decline (Perissinotto et al. 2012). Loneliness, 'as a stressor itself', accounts for higher negative affect and less emotional regulation (Cacioppo and Hawkley 2003) and thus greater depression (Singh and Misra 2009). There is also empirical evidence to relate the higher incidence of loneliness with the arousal of feelings of rejection, interpersonal mistrust and lack of self-confidence (Masi et al. 2011), whereas chronic loneliness has been linked to unpleasant emotional states, such as anger, anxiety, pessimism and low self-esteem (Cacioppo et al. 2006). In addition, the likelihood of being physically inactive, smoking and indicating multiple health-detrimental behaviours has been shown to be greater among lonely individuals of advanced age (Shankar et al. 2011). Loneliness has thus been associated with increased healthcare services utilization (Gerst-Emerson and Jayawardhana 2015) and frequent nursing home admission, potentially increasing health care costs (Russell et al. 1997).

The onset of loneliness in the later-life context has been attributed to the occurrence of considerable changes in life circumstances which are particularly related to older age. Old age itself constitutes a transition which is accompanied by several adverse social and health conditions with salient implications for loneliness. Life-course trajectories accompanying aging, such as the deterioration of family and social networks due to adult offspring leaving the parental home, death of a spouse, a parent or friend, and age-related health decline and impairment, can particularly subject older

people to loneliness (Yang and Victor 2011). Old age has thus been considered as a life period where intimate attachment figures are more likely to be lacking due to loss of contemporaries and shrinkage of prior family and social bonds (van Baarsen et al. 2001).

Evidence to date has suggested that the prevalence of loneliness in older people ranges from around 7% and 9% to 14.5% in Great Britain (Thomas 2015; Victor and Bowling 2012; Victor and Yang 2012) and 10% to 25% in the United States (AARP 2010; Kuwert et al. 2014). According to recent findings of the Generations and Gender Survey, loneliness was common among 30% to 55% of older people in Central and Eastern Europe and 10% to 20% in North-Western Europe (Hansen and Slagsvold 2016). Therefore, loneliness in older age has been regarded a major public health and social issue, which seems to affect a considerable proportion of older adults (Bernard 2013) and to bear important implications for their emotional and psychological well-being (Allen 2008).

Susceptibility to loneliness among older people could be alleviated through active involvement in social activities and engagement with extensive family networks and supportive marital relations (Gierveld Jde et al. 2009). Moreover, studies examining the predictors of loneliness in old age have suggested the protective role of living within a partnered arrangement (Gierveld Jde et al. 2012), being socially engaged and having a confidant, friends, relatives and children (Steed et al. 2007), in loneliness prevention.

However, evidence on the demographic, health and social patterns of loneliness remains limited. In addition, the determinants of loneliness from a cross-national perspective have not been fully investigated. In this respect, identifying factors related to loneliness is essential for recognizing individuals who are at increased risk of feeling lonely and developing appropriate intervention strategies to tackle and alleviate loneliness. The aim of the current study was thus to examine the prevalence of loneliness in a nationally representative sample of European older adults and consider various health, psychological and social variables possibly associated with the experience of loneliness.

METHODS

Subjects and data collection

The current study is based on data of a subsample of 5,129 adults, 65 years of age and older, of the total sample of 27,444 individuals who took part in the first wave of the Survey of Health, Ageing and Retirement in Europe (SHARE, http://www.share-project.org), which was conducted between 2004 and 2005 in eleven European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland).

A centrally-programmed, computer-assisted personal interviewing technique (CAPI) was administered for the collection of the main survey data by means of an automatically generated questionnaire which comprised 21 modules on a wide range of research domains. Interviews conducted through CAPIs were further supplemented by a brief, self-completed paper-and-pencil questionnaire with additional queries on social networks, health care, medical examinations and physical and mental health.

Measures

Loneliness

To assess feelings of loneliness, respondents were asked to demonstrate how frequently they had recently been feeling lonely through a general question retrieved from the abbreviated version of the Center for Epidemiological Studies Depression scale (CES-D) and phrased as follows: “How often have you experienced the following feelings over the last week?”: “I felt lonely”. Responses were classified according to a four-point scale (’almost all of the time’; ‘most of the time’; ‘some of the time’, and ’almost none of the time’). Participants who reported feeling lonely ‘almost all of the time’ and ‘most of the time’ were considered to be severely lonely. This self-reported measure has been commonly applied to determine levels of loneliness among older individuals, as it is easily comprehended (Victor et al. 2009) and concurs with the results of other multi-item scales (Pinquart and Sorensen 2001b).

Determinants of loneliness

Possible factors related to loneliness were addressed along three domains, namely adverse health conditions, stressful life events, and social isolation. Adverse health conditions, which have also been incorporated in recent research as components of physical and mental health status (Linardakis et al. 2015), were assessed by the presence of one or more chronic diseases (*heart attack, high blood pressure, high blood cholesterol, stroke, diabetes or high blood glucose, chronic lung cancer,*

asthma, arthritis, osteoporosis, cancer, and stomach or duodenal/peptic ulcer), functional limitations in activities and instrumental activities of daily living ([I]ADLs) (*dressing, walking across a room, bathing or showering, eating, cutting up food, getting in or out of bed, using the toilet, using a map in a strange place, preparing a hot meal, shopping for groceries, making telephone calls, taking medications, doing work around the house or garden, and managing money*), and disease symptoms (*pain in back, knees hips or other joints, heart trouble, breathlessness, persistent cough, swollen legs, sleeping problems, falls, fear of falling down, dizziness, faints or blackouts, stomach or intestine problems, and incontinence*) and four or more clinically depressive symptoms, according to the 12-item European Depression (Euro-D) scale (Guerra et al. 2015). Stressful life events were measured on the occurrence of four unpleasant circumstances, comprising quitting work on account of health problems, undergoing a greatly deteriorated financial situation as compared to the previous year, being a widower and enduring an 'empty nest' due to adult children having recently left the parental home. Social isolation was defined as: (1) small network size, assessed by living unpartnered, being unmarried and having no children and (2) social disengagement, assessed by means of infrequent contact with offspring, separate residence to children, infrequent social involvement and rare or no social support exchanges.

Demographic and socio-economic characteristics

Demographic characteristics included gender (male/female) and years of age (65-74, 75-84 and 85+). The social background variables of educational attainment, measured as years of schooling obtained (0-7, 8-12, 13+), retirement status (retired/not retired) and self-reported household income, defined by country-specific quartiles (low <25%, average between 25 and 75% and high >75%), were incorporated in the analysis. Additionally, the eleven European countries were geographically classified into northern (Denmark, Sweden), central (Austria, Belgium, France, Germany, the Netherlands, Switzerland) and southern (Greece, Italy, Spain).

Statistical analysis

Data analyses were performed using SPSS (IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp). Sampling design weights, adjusted for non-response, were employed according to the complex multi-stage stratification sampling

design of the study. First, prevalence of loneliness was assessed and chi-square tests were used to compare this variable according to demographic characteristics. Odds Ratios (ORs, adjusted) were estimated with socio-demographic characteristics as covariates, using multiple logistic regression analysis. Prevalence of loneliness was also examined according to adverse health conditions, stressful life events and social isolation indicators using similar methods as previously described. Secondly, multiple logistic regression analysis was applied for adults endorsing feelings of loneliness most of the time, compared to none of the time. Three models were fitted to compute adjusted ORs in order to examine the effect of adverse health conditions, stressful life events and social isolation indicators on feeling lonely most of the time compared to none of the time. In the first model, we estimated the effect of adverse health conditions on feeling lonely most of the time, adjusting for age, gender, education, retirement status, household income and country regions. In the second model stressful life events were added, whereas the effect of social isolation indicators was examined in the final model. Nagelkerke pseudo R estimators were also assessed for the evaluation of goodness-of- fit in the three models.

RESULTS

The distribution of loneliness by demographic and socio-structural variables is depicted in Table 1. Enduring severe (‘almost most of the time’ and ‘most of the time’) and frequent (‘some of the time’) feelings of loneliness was mostly reported by females, relative to males (59.1 vs. 38%, $p<0.001$) and females had higher odds of considering themselves lonely most of the time (OR= 2.08; 95% CI 1.35-3.19). Prevalence of feeling lonely most of the time was higher among the oldest-old participants (85+) (12.4%), compared to participants aged 65-74 (7.7%) and 75-84 years old (11.9%) ($p<0.001$). Individuals aged 75-84 years were more likely to feel lonely most of the time, compared to their younger and older counterparts (OR= 1.72; 95% CI 1.14-2.59). Higher prevalence of persistent feelings of loneliness was also observed among the respondents with the lowest educational attainment (12.4 vs. 7.3%, $p<0.001$), those who were not retired (11.3 vs. 9.2%, $p=0.009$) and those with the lowest household income (13.6 vs. 7.3%, $p<0.001$). Respondents of lower household income had higher odds of reporting frequent feelings of loneliness, compared to those of greater income (OR= 2.88; 95% CI 1.49-5.58). A higher proportion of southern older adults (12.6%) declared to feel lonely most of the time,

compared to central (7.5%) and northern (5.0%) Europeans. Participants of Central and Southern European countries had higher odds of feeling lonely most of the time (OR= 2.63; 95% CI 1.54-5.51 and OR= 4.62; 95% CI 2.63-8.10, respectively), compared to their Northern counterparts. Significant differences were also observed at the country level (Figure 1), with the greatest prevalence of loneliness found among the Italian (27.8%) and the lowest among the Swiss older population (5.0%). In addition, the percentage of the participants feeling lonely most of the time was significantly higher among those living alone in Italy (20.4%) and Greece (16.6%) and it was almost three times as high compared to older individuals in Switzerland (5.5%) and Denmark (7.6%) (Figure 2). Overall, 40.9% of the study sample endorsed feelings of loneliness some of the time and 9.6% most of the time (results not shown in table).

→ TABLE 1, FIGURE 1, FIGURE 2

The prevalence of loneliness according to adverse health conditions, stressful life events and social isolation indicators is presented in Table 2. Participants with one or more chronic diseases, (I)ADL limitations, disease symptoms and adverse health events, as well as those with four or more depressive symptoms, were significantly more likely to report persistent or frequent feelings of loneliness, in comparison to those with none of these conditions or less than four depressive symptoms. As far as stressful life events are concerned, the percentage of widowers who reported feeling lonely most of the time was significantly higher, compared to their non-widowed counterparts (12.2 vs. 7.8%, $p<0.001$), while being a widow(er) was associated with higher odds of frequent feelings of loneliness (OR= 1.87; 95% CI 1.16-3.02). Additionally, more participants whose offspring had recently moved out of the parental home felt lonely most or some of the time, compared to those who still lived with their children (52.4% vs. 44.7%, $p=0.032$) and were thus significantly more likely to feel lonely most of the time (OR= 1.75; 95% CI 1.06-2.89). Loneliness was also significantly more frequently reported by socially isolated adults, as indicated by their living status, number of children and activity participation ($p<0.001$). Living without a partner or spouse (OR= 3.96; 95% CI 2.52-6.22) and being childless (OR= 2.27; 95% CI 1.35-3.83) equated with a higher likelihood of feeling lonely most of the time. A greater proportion of participants reporting more than four social isolation indicators felt lonely most or some of the time, compared to those with less than four indicators

(69.7 vs. 46.0%, p<0.001) and these participants had higher odds of persistent loneliness (OR= 2.65; 95% CI 1.57-4.64).

➔ **TABLE 2**

Finally, the association between adverse health conditions, stressful life events and social isolation and feeling lonely most of the time, compared to none of the time, was examined by means of multiple regression analysis (Table 3). Adults with four or more depressive symptoms had higher odds of persistent loneliness, in both the first (OR= 2.89; 95% CI 1.89-4.44) and the second (OR= 2.84; 95% CI 1.83-4.39) models. Widowhood in the second model (OR=2.00; 95% CI 1.21-3.31) and having a child recently moved away from the parental home (second and third models, OR=2.08; 95% CI 1.24-3.48 and OR=1.75; 95% CI 1.03-2.96, respectively) were significant predictors of persistent feelings of loneliness.

➔ **TABLE 3**

DISCUSSION

Loneliness in old age has mainly been portrayed as a subjective counterpart of being socially isolated and a debilitating emotional response to social isolation (Wenger et al. 1996) and has thus been determined according to the occurrence of adverse feelings related to social disengagement and dissatisfaction with available social ties (Victor et al. 2000). This study aimed to examine the prevalence of loneliness among a nationally representative sample of older individuals residing in 11 European countries and participating in the first wave of SHARE study, and determine its possible association with socio-demographic characteristics, adverse health conditions, stressful life events and social isolation. To our knowledge, this is the first study to afford a comprehensive assessment of loneliness by utilizing multiple health, psychological and social variables which are particularly relevant in the context of later-life, resting upon cross-country data.

In line with the previous findings as regards the prevalence of loneliness, (Savikko et al. 2005; Victor et al. 2015), the proportion of older adults in our sample who declared feeling lonely most or some of the time was 50.5%. This was found to be particularly the case for older women, whereby the rate of frequent loneliness was 59.1%, compared to 38.0% of men. These findings are in agreement with relevant investigations, which have reported differences in loneliness among European adults associated with being of female gender and older age (Fokkema et al. 2012; Tobiasz-

Adamczyk et al. 2017). Gender and age related variations in loneliness have been widely considered, concomitant with health decline, widowhood, bereavement and solitary living to be mostly prominent among females, adults of advanced age and disadvantaged older people (Fokkema et al. 2012; Pinquart and Sorensen 2001a). It is thus well-established that women tend to live longer than their spouses and partners and hence they are more likely to go through widowhood and get older in solitude, conditions which potentially constitute them more prone to psychological distress and loneliness due to subsequent losses in previous supportive exchanges which are meaningful for later-life health and well-being (Hall and Havens 2001). The above gender-linked differences might also be in part due to men's unwillingness to admit to feeling lonely, whereas it seems more socially accepted for women to express their emotional states (Borys and Perlman 1985).

Not surprisingly, frequent feelings of loneliness were more prevalent among southern European seniors ($p<0.001$). Earlier studies have affirmed the existence of a North-South gradient in loneliness, suggesting a higher prevalence among southern Europeans, as compared to their northern counterparts (Trivedi et al. 2009). According to Dykstra's (2009) review of empirical literature on loneliness, there seems to be an overall pattern regarding the regional distribution of loneliness, with the older population in the South of Europe, whereby societies are considered more "family-oriented", contrary to the individualistic Northern European countries, indicating greater levels of loneliness. In the present study, the highest percentage of severe loneliness among the eleven European countries under study was spotted in Greece and Italy. More particularly, 27.8% of Italian and 26.1% of Greek participants reported experiencing loneliness most of the time, compared to only 5.0% of Swiss and 6.0% of Danish older people. It was also demonstrated that among older adults living alone the proportion of those who declared feeling lonely most of the time was significantly higher in Italy and Greece, compared to the other European countries. These findings might be due to the "cultural expectation" which facilitates a "loneliness-provoking factor" assumed to be mostly prevalent among older individuals living alone in these countries, whereby co-residence or nearness of parents to their offspring is highly appreciated as a core aspect of intergenerational solidarity (Zavaleta et al. 2014). The observed divide in the proportion of elders enduring loneliness from south to north has also been explained in terms of social integration implying that although Southern Europeans tend to indicate higher levels of parent-child cohabitation, they also seem to

be engaged in smaller networks of neighbours and friends and thus they lack socially interactive involvements and supportive exchanges (Dykstra 2009). It is also worth noting that, as previously denoted (Jylhä and Jokela 1990), the observed variations in loneliness among European regions, could be attributable to Southern older adults' high expectations of close familial bonds which might cause more frequent feelings of disappointment and thus raise levels of loneliness especially among those less well-off in terms of social connectedness.

The prevalence of loneliness differed significantly by educational attainment and household income level, with less educated and less affluent participants being more likely to report frequent feelings of loneliness, compared to their counterparts of higher socio-economic status. This further corroborates the previously ascertained social patterning of loneliness. For instance, Hawkley et al (2008) used data from the Chicago Health, Aging, and Social Relations Study and showed that loneliness among adults 50 to 68 years of age was significantly explained by socioeconomic status, as assessed by education and income. In addition, Theeke (2010) found educational level and household income to be associated with the frequency of feeling lonely among adults 50+ years old from the Health and Retirement Study (HRS). A more recent analysis of older adults aged 65 years and over (Dahlberg and McKee 2014) also supported that loneliness is related to socio-economic resources, by showing that older adults who perceived their income to be inadequate having higher levels of social and emotional loneliness.

To date, most studies have examined loneliness as a risk factor for a wide range of health-related physical and mental outcomes (Richard et al. 2017; Singh and Misra 2009). Even though few studies have assessed feelings of loneliness as a potential outcome of unfavourable health-related circumstances drawing mainly on single-country data, higher levels of loneliness have been consistently associated with poor health and well-being in middle-aged and older individuals (Koropeckyj-Cox 1998; Theeke 2009; Victor et al. 2005). In the current study, we also found that the proportion of older adults who reported experiencing frequent loneliness was significantly greater among those suffering from more than one adverse health conditions, relative to their healthy counterparts. It could be possible, as also previously suggested (Paul 2015), that morbidity worsens older individuals' ability to preserve their social contacts and impedes them from maintaining their social

involvements due to their difficulties in communication or unwillingness to share their ill-health conditions, which might trigger feelings of loneliness.

In concordance with prior evidence suggesting that the loss of a spouse or partner constitutes a risk factor for loneliness (Dahlberg et al. 2015; Pinquart 2003), the proportion of widowed older adults reporting frequent feelings of loneliness in our sample was significantly higher, compared to their non-widowed counterparts. It has been suggested that age-related losses, such as widowhood, affect the quality and quantity of social ties and thus provoke feelings of loneliness (Pinquart 2003). Furthermore, a significantly higher percentage of participants whose offspring had recently moved out from parental home declared feeling lonely most or some of the time, compared to participants who still shared their household with their children. This pattern also held true in both regression models, with the odds of feeling lonely most of the time, compared to none of the time, being significantly higher among adults whose children had recently left parental household. It could be fairly assumed that loneliness is triggered by the lack of adequate family networks which determine supportive transactions and contribute to maintaining a sense of belonging.

Lastly, being socially isolated, as indicated by living unpartnered, having no children and being socially inactive over the course of the previous month, was significantly associated with the occurrence of frequent loneliness. The likelihood of feeling lonely most of the time was approximately four times as high among adults living without a partner, compared to those living within a partnered arrangement Moreover, participants presenting more than four social isolation indicators were more likely to feel lonely most of the time, compared to non-isolated seniors. Similarly, spouseless older participants of the English Longitudinal Study of Ageing (ELSA) were found to be lacking companionship and displayed low levels of life satisfaction (Demakakos et al. 2006). Higher levels of loneliness have also been confirmed among childless older individuals (Koropeckyj-Cox 1998) and the least socially integrated (Jylhä 2004).

The above findings should be interpreted upon consideration due to the limitations described below. Firstly, the cross-sectional nature of the current analyses which renders it difficult for the direction of the association between loneliness and the factors under study to be determined. It might also well be that feeling lonely leads to several adverse health and social outcomes in old age. The prospective examination of determinants of loneliness could allow for causal inferences to be drawn between

loneliness and adverse health conditions, stressful life events and social isolation. Secondly, the relatively low proportion of participants found to encounter severe feelings of loneliness might be attributed to the measure employed to assess loneliness, which corresponded to current feelings of loneliness, as opposed to other studies examining persistent loneliness. It has also been suggested that a single-item question asking respondents to directly indicate how lonely they feel, even though frequently used in the literature, might lead to the underestimation of the true levels of loneliness, as people seem to be reluctant to admit to experiencing loneliness dζχue to unfavorable perceptions attached to loneliness as a socially undesirable state (Victor et al. 2000). However, one of the main advantages of this global measure lies at the fact that it is able to capture the understanding of the experience of loneliness from the perspective of the respondent and the importance attached to it by them (Jylhä and Saarenheimo 2010).

Despite the above limitations, the present findings suggest that loneliness amongst European older adults is associated with age-related specific adverse health conditions, stressful life events and social isolation indicators. Identifying loneliness should therefore be an integral part of psychological and health assessment by health and social professionals in this population. Health and social policy makers involved in the development of interventions to reduce levels of loneliness with an aim to improve well-being and quality of life in older life should direct particular attention to the implications of those aspects of older adults' social and health resources that are mostly relevant to loneliness and the challenges they confront to remaining socially engaged.

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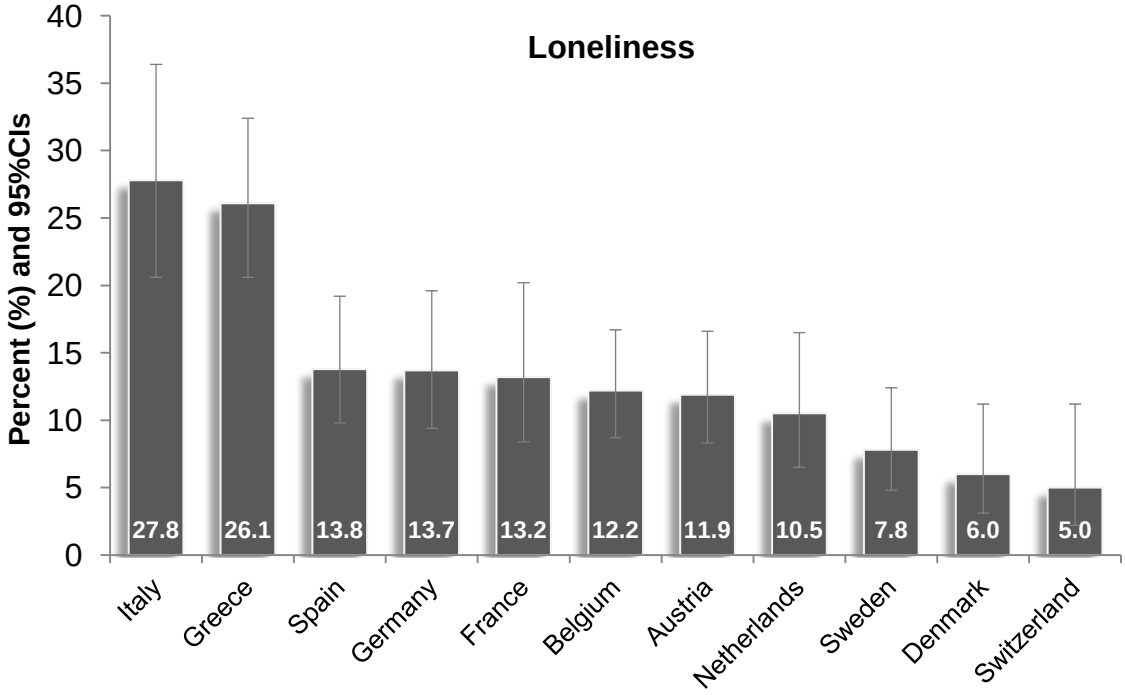
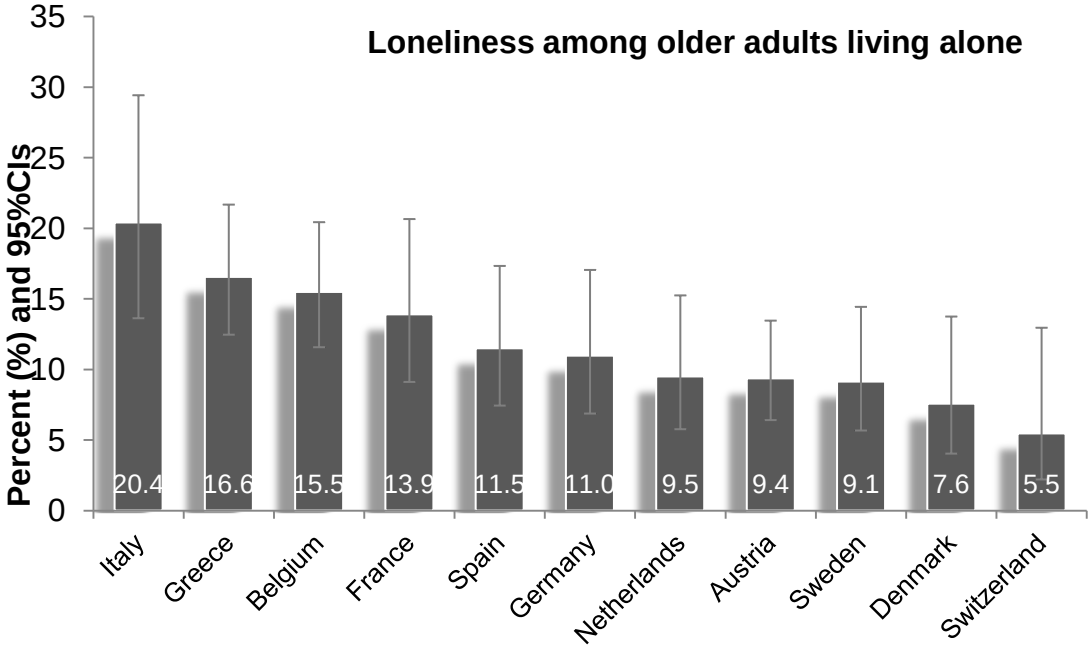
Figure legends

Fig 1. Prevalence of loneliness (feeling lonely 'most of the time') among eleven European countries (adults aged 65+, the SHARE study).



Footnote to Fig. 1:
95%CIs, 95% confidence intervals; SHARE, Survey of Health, Age, and Retirement in Europe.

Fig 2. Prevalence of loneliness (feeling lonely 'most of the time') among adults living alone in eleven European countries (adults aged 65+, the SHARE study).



Footnote to Fig. 2:
95%CIs, 95% confidence intervals; SHARE, Survey of Health, Age, and Retirement in Europe.

Table 1. Prevalence of loneliness, according to descriptive characteristics of 5,074 adults, aged 65+ years in the SHARE study (2004/05).

			Loneliness[a]				
			Most of the time	**Some of the time**	**None of the time**		**Feeling lonely most of the time compared to none of the time**
Characteristics		n		weight %		p-value[b]	Adjusted Odds Ratio (95%CIs)
Gender	*Males*	2,343	7.2	30.8	62.0	<0.001	1.00 (ref.)
	Females	2,731	11.2	47.9	40.9		2.08 (1.35-3.19)
Age, *years*	*65-74*	3,064	7.7	36.5	55.8		1.00
	75-84	1,681	11.9	44.7	43.4	<0.001	1.72 (1.14-2.59)
	85+	329	12.4	55.5	32.1		2.28 (0.99-5.19)
Educational Attainment, *years*	*0-7*	2,181	12.4	43.8	43.8		1.16 (0.66-2.02)
	8-12	1,607	7.8	43.7	48.5	<0.001	1.05 (0.59-1.86)
	13+	1,250	7.3	35.3	57.4		1.00
Retirement Status	*Retired*	4,184	9.2	39.4	51.4	0.009	1.12 (0.66-1.88)
	Not retired	890	11.3	47.2	41.5		1.00
Income, *quartile*	*Lower*	1,788	13.6	49.8	36.7		2.88 (1.49-5.58)
	Median	2,599	7.2	36.9	55.9	<0.001	1.14 (0.60-2.17)
	Upper	687	7.3	30.8	61.9		1.00
Country, *regions*	*Northern*	870	5.0	30.1	64.9		1.00
	Central	2,631	7.5	40.6	51.9	<0.001	2.63 (1.54-5.51)
	Southern	1,573	12.6	42.6	44.8		4.62 (2.63-8.10)

95%CIs, 95% confidence intervals; SHARE, Survey of Health, Age, and Retirement in Europe.
Weight percentages were estimated according to the complex sampling design of the study. A total of 2,833 participants (49.5%) reported feeling lonely none of the time, 1,864 participants (40.9%) some of the time and 377 (9.6%) most of the time.
[a] Categories of 'almost all of the time' & 'most of the time' were combined into 'most of the time'.
[b] Chi-square tests of independence (based on the adjusted F).
Multiple logistic regression analysis (estimations according to the complex sampling design of the study).

Table 2. Adverse health conditions, stressful life events and social isolation according to loneliness in 5,074 adults aged 65+ years in the SHARE study (2004/05).

			Loneliness				Feeling lonely most of the time compared to none of the time
			Most of the time	Some of the time	None of the time		
		n	weight %			p-value[a]	Adjusted Odds Ratio (95%CIs)
Adverse health conditions							
Chronic Diseases	*none*	1,123	7.7	35.5	56.8	0.015	1.00 (ref.)
	≥1	3,951	10.1	42.2	47.7		1.44 (0.84-2.47)
(I)ADL limitations	*none*	3,648	8.9	37.3	53.8	<0.001	1.00
	≥1	1,425	11.3	49.5	39.2		1.34 (0.85-2.12)
Disease Symptoms	*none*	1,286	8.1	33.8	58.1	0.002	1.00
	≥1	3,788	10.0	42.9	47.1		1.22 (0.77-1.91)
Depressive Symptoms	*<4*	3,654	7.4	35.0	57.6	<0.001	1.00
	≥4	1,362	14.3	52.4	33.3		2.69 (0.77-4.07)
Adverse health events	*none*	451	5.7	27.2	67.1	0.001	1.00
	≥1	4,623	9.9	41.9	48.2		1.95 (0.80-4.73)
Stressful life events							
Stop working due to health problems	*No*	5,052	11.0	35.7	53.3	0.904	1.00 (ref.)
	Yes	22	9.6	40.9	49.0		0.88 (0.16-4.79)
Financial situation greatly deteriorated	*No*	4,701	9.4	40.6	50.0	0.406	1.00
	Yes	373	11.4	43.8	44.8		1.17 (0.62-2.20)
Widowhood	*No*	3,392	7.8	30.0	62.2	<0.001	1.00
	Yes	1,682	12.2	57.5	30.3		1.87 (1.16-3.02)
Child move out of parental home	*No*	1,014	8.5	36.2	55.3	0.032	1.00
	Yes	4,060	9.9	42.5	47.6		1.75 (1.06-2.89)
Adverse life events	*none*	522	5.9	24.0	70.1	<0.001	1.00
	≥1	4,552	10.1	43.1	46.8		2.11 (1.16-3.84)
Social isolation indicators							
Living arrangements	*living with a partner or spouse*	2,801	5.4	24.3	70.3	<0.001	1.00 (ref.)
	living without a partner or spouse	2,273	13.3	55.4	31.3		3.96 (2.52-6.22)
Marital status	*married, widowed etc*	4,795	9.3	40.7	50.0	0.166	1.00
	being unmarried	279	14.4	45.2	40.4		2.04 (0.85-4.86)
Number of children	*at least one child*	4,421	8.6	39.6	51.8	<0.001	1.00
	no children	653	15.2	48.2	36.7		2.27 (1.35-3.83)
Contact with children	*daily to about once a month*	4,982	9.6	40.5	49.9	0.058	1.00
	less than once a month or never	92	7.3	58.3	34.4		1.48 (0.48-4.51)
Proximity with children	*at least one child living in the same house-building*	1,667	11.0	40.7	48.3	0.248	1.00
	all children living >1 km	3,407	8.6	41.1	50.3		0.96 (0.63-1.45)
Activity participation	*at least one*	2,463	6.9	37.2	55.9	<0.001	1.00
	no activity	2,611	11.2	43.3	45.5		1.48 (1.01-2.20)
Social exchange	*given or received support at least once a month*	1,718	11.0	43.6	45.4	0.057	1.00
	almost never	3,356	8.9	39.5	51.6		0.76 (0.51-1.13)
Clustering of Social Isolation Indicators	*<4*	4,328	8.2	37.8	54.0	<0.001	1.00
	4+	746	15.5	54.2	30.3		2.65 (1.57-4.64)

95%CIs, 95% confidence intervals; SHARE, Survey of Health, Age, and Retirement in Europe.
Weight percentages were estimated according to the complex sampling design of the study.
[a] Chi-square tests of independence (based on the adjusted F).
Multiple logistic regression analysis (estimations according to the complex sampling design of the study, with sociodemographic characteristics and country region (northern, central, southern) used as covariates).

Table 3. Associations between adverse health conditions (1st model), stressful life events (2nd model) and social isolation (3rd model) and loneliness (feeling lonely 'most of the time')

	Feeling lonely most of the time compared to none of the time		
	1st model	*2nd model*	*3rd model*
Prognostic factors	Adjusted Odds Ratio (95%CIs)		
Adverse health conditions			
Chronic Diseases, *≥1*	1.35 (0.76, 2.39)	1.22 (0.68-2.21)	1.23 (0.67-2.25)
(I)ADL limitations, *≥1*	1.00 (0.62, 1.62)	1.06 (0.65-1.72)	1.00 (0.61-1.63)
Disease Symptoms, *≥1*	0.89 (0.54, 1.47)	0.95 (0.55-1.62)	0.99 (0.57-1.71)
Depressive Symptoms, *≥4*	2.89 (1.89, 4.44)	2.84 (1.83-4.39)	2.81 (0.81-4.37)
Stressful life events			
Stop working due to health problems		0.95 (0.16-5.60)	1.23 (0.24-6.31)
Financial situation greatly deteriorated		1.16 (0.54-2.53)	1.38 (0.65-2.94)
Widowhood		2.00 (1.21-3.31)	0.98 (0.44-2.18)
Child move out of parental home		2.08 (1.24-3.48)	1.75 (1.03-2.96)
Social isolation indicators			
Living arrangements *(living without a partner or spouse vs. counterparts)*			3.54 (0.60-7.86)
Marital status *(being unmarried vs. married, widowed etc)*			1.13 (0.38-3.38)
Number of Children *(Having no children vs. Having at least one child)*			1.43 (0.73-2.80)
Parent-child contact *(Less than once a month or never vs. Daily to-about once a month or no having children)*			0.83 (0.24-2.82)
Proximity with children *(All children living outside or >1 km vs. At least one child living in the same house/building or no having children)*			1.00 (0.60-1.61)
Activity participation *(No activity vs. At least one)*			1.43 (0.94-2.18)
Social exchange *(Never vs Given or/and receipt help more than less often)*			0.86 (0.56-1.33)
Pseudo $R_{Nagelkerke}$	0.163	0.212	0.259

95%CIs, 95% confidence intervals.
Multiple logistic regression analysis (estimations according to the complex sampling design of the study, with sociodemographic characteristics and country region (northern, central, southern) used as covariates).

Κεφάλαιο 5ο

Preventive health services utilization in relation to social isolation in older adults

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Abstract

Purpose: The current study aims to examine the utilization of preventive health services in relation to social isolation among older Europeans adults.

Methods: Data on 5,129 adults 65 years of age and older was obtained from the first wave of the Survey of Health, Ageing and Retirement in Europe (SHARE, 2004/05). Prevalence of social isolation indicators (living arrangements, marital status, number of children, contact with children, proximity to children, activity participation, social exchange) was assessed in relation to preventive health services utilization, which was ascertained by a 12-item composite score (PHSUs). Estimations were based on the complex study design.

Results: Diverse facets of social isolation were differently associated to preventive care. Significantly lower mean PHSUs were found for adults living unpartnered, who were unmarried, had no children and were socially disengaged. A similar pattern was thus drawn regarding the clustering of social isolation indicators (4+). Considerable variations were detected across SHARE countries in the distribution of PHSUs amongst socially isolated adults.

Conclusion: Socially isolated individuals were found to receive fewer preventive services. This finding confers important evidence on the potential factors that affect the use of preventive health services among older adults. It is also suggestive of the need to develop public health and social policies with the aim to alleviate social isolation and as a means to enhance preventive care uptake in later life.

Keywords: preventive health services; social isolation; SHARE study

Introduction

Health and social care systems in Europe and globally are being confronted with far-reaching challenges due to the prevailing changing patterns of demography and epidemiology. These patterns are associated with the growth of the elderly population and the subsequent health and long-term care implications (Cooke and Mannix 2009). In this context, specific health conditions, which account for a pronounced burden of ill health and decreased functional status, co-occur. Adults thriving into advanced age are thus more socially and psychologically vulnerable and specific aspects of their well-being and quality of life are being adversely impacted (Ferrucci et al. 2008). The age-associated varying pattern of elevated health and social needs entails a greater

reliance on medical and social care services and hence substantial financial demands on public expenditure (Iecovich and Biderman 2013).

To this effect, fostering preventive health care has been viewed as a key strategy towards healthy ageing, through to the substantial benefits it bears for the maintenance of health and well-being and the alleviation of the chronic disease burden (Ogden et al. 2012). Although, acute and chronic illnesses are triggered as people grow older, there are still specific diseases which could be prevented through the systematic uptake of preventive services (Peng and Jensen 2016). In addition, preventive health services hold the potential to contribute to the prevention and even treatment of chronic diseases through the provision of relevant guidance and advice. It has therefore been acknowledged that the receipt of adequate preventive services offer the possibility to offset the need for in-patient services, such as emergency department visits and hospital admissions (Kolstad and Kowalski 2012).

It has thus been estimated that, even though only 3% of healthcare expenditure in the United States is spent on prevention, a percentage of 70% of deaths are associated with preventable diseases (CMMS 2014). Against this background, barriers leading to older people not receiving optimal preventive care may be considered as possible disease and mortality risk factors (Okoro et al. 2005). Therefore, it is important to investigate family-related and psycho-social resources, which are particularly relevant in late life, and may have some role to play in the diverging pattern of preventive health services utilization.

Indeed, in view of the attenuation in life commitments and loss of major familial and work roles on account of age-associated transitions, older individuals are arguably more subject to specific, unfavourable, social states pertaining to social isolation (De Jong Gierveld et al. 2006). A large body of research has pointed to adverse conditions, such as social withdrawal, loss of important others, lack of independence and insufficient control due to physical changes and impairment, being more typical of old age (Fees et al. 1999; Victor et al. 2000). It has thus been maintained that social isolation accrues at older ages due to the accumulation of the above life-course trajectories. Additionally, conditions of social isolation have been evidenced to account for the unequally patterned distribution of health and well-being outcomes observed among the elderly (Courtin and Knapp 2015), albeit they have thus far been treated as “less-recognized health risks” (Meyer and Schuyler 2011).

Specific aspects of social isolation have also been documented with regard to the receipt of preventive health services by older people. For instance, Lau and Kirby (2009) examined compliance with recommended preventive care in relation to marital status, and detected a significantly higher likelihood of obtaining a wide range of preventive services within a proposed timeframe among elderly adults living in a partnered arrangement compared to their non-partnered peers. Another study on breast cancer screening, among multi-cultural, middle-aged women, showed that non-adherence to the respective guidelines was linked to a lower level of social support (Katapodi et al. 2002). More recently, Beckett et al. (2015) provided evidence suggesting a lower likelihood of undertaking influenza and pneumonia immunizations among adults older than 65 years of age, beneficiaries of Medicare, and those living in single-person households. In this respect, symptoms and effects of social isolation should be primarily addressed "as the most promising way of preventing unscheduled admissions" (Themessl-Huber and Hubbard 2006).

Nonetheless, the findings yielded by previous research in this field have been rather inconclusive, as regards the aggregate effect of social isolation on preventive care use among the elderly. In addition, the majority of empirical research to date has drawn on socio-economic determinants to explain disparities in preventive health care use (Hoeck et al. 2014). A few more recent studies have also considered psycho-social factors, such as religiosity (Benjamins 2006) and purpose in life (Kim et al. 2014).

Therefore, social isolation in the later life context has been the subject of less research, with most studies addressing living arrangements and partnership status. There seems to be hardly any evidence relevant to the utilization of preventive services following a comprehensive appraisal of social isolation. Lastly, social isolation in relation to the utilization of different health resources has been mainly addressed from a single-country perspective, allowing for the argument that further evidence is required from internationally comparative data.

The current study seeks to build upon the still-emerging evidence by examining the distribution of preventive health services utilization according to specific quantitative components of social isolation. Based on a large, representative population of European adults 65 years of age and older, comparable data on potential regional variations is also provided. Following on the above literature review, we hypothesized that social isolation would deter older adults from maintaining health-seeking behaviour oriented towards preventive care and that it would affect the utilization of

preventive health services in differing ways. Accordingly, two major hypotheses were stated and examined: (1) Social isolation indicators, as well as their clustering, will be associated with a lower mean score of preventive health services utilization; (2) The utilization of distinct components of preventive health services will be differently related to social isolation indicators.

Methods

Study population and sampling

The present study draws on data retrieved from the first wave of the Survey of Health, Ageing and Retirement in Europe (SHARE, http://www.share-project.org) which was carried out in 2004/05 among eleven northern, central and southern European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). The SHARE sample, as more sharply delineated by Borsch-Supan et al. 2005, comprises national probability household samples of community-dwelling adults, aged over 50, and their partners or spouses, regardless of their age.

SHARE was modeled closely after and harmonized with the English Longitudinal Study of Ageing (ELSA) and the Health and Retirement Study (HRS) and created an international network acknowledged by the European Union under the coordination of The Mannheim Research Institute for the Economics of Ageing in Germany at the macro-level, and universities or research centers at the national level (Borsch-Supan et al. 2005).

For the determination of the SHARE study sample, sampling designs were employed ranging from a simple selection of households to rather complex, multi-stage probability designs according to both registers administered at a national and regional level and telephone directories. An overall weighted response rate of about 62% was achieved among households selected with at least one age-eligible household member and ranged from 38.8% in Switzerland to 81.0% in France. At the individual level, though, the average response rates were higher, ranging from 73.7% in Spain to 93.3% in Germany. A more extensive account of study design, ethics, sampling methods, data collection and documentation has been provided elsewhere (Borsch-Supan et al. 2013).

For the purposes of the current inquiry, analysis was based on 5,129 adults aged 65 years and over within the SHARE sample (2,366 males and 2,763 females), separated into three different age groups (65-74, 75-84 and 85+).

Measures

Social isolation

Drawing on previous empirical and theoretical literature we assume that social isolation is an adverse social state, characterized by solitary living, a limited family network size, infrequent parent-child interactions, activity disconnectedness and lack of social support exchanges. Our definition is thus in accordance with Zavaleta et al.'s (2014) determination of social isolation as "the inadequate quality and quantity of social relations with other people at the different levels where human interaction takes place (individual, group, community and the larger social environment)".

According to the afore-mentioned delineation, social isolation was measured in structural and functional terms. More precisely, physical separation from significant others, which corresponds to a structural element of social isolation, as also posited by Tomaka et al. (2006), was captured in terms of living arrangements, marital status, number of children and family-associated relations, defined by parent-child contact and proximity. Living arrangements were measured by the question "*Do you live with a spouse or partner?/Do you live alone (without a spouse or partner)?*". Marital status was defined by the query "*What is your marital status*?" (*1: 'Married and living together with spouse', 2: 'Registered partnership', 3: 'Married, living separated from spouse', 4: 'Never married', 5: 'Divorced', 6: 'Widowed'*), so as to differentiate those residing with a partner or spouse from those living unpartnered. Respondents were also asked to report the number of all their children; those with no natural, fostered, adopted or stepchildren were determined as childless. Parents' contact to their most contacted child was assessed through the question phrased as follows: "*During the past twelve months, how often did you or your husband/wife/partner have contact with your child, either personally, by phone or mail?*" (*1: 'Daily', 2: 'Several times a week', 3: 'About once a week', 4: 'About every two weeks', 5: 'About once a month', 6: 'Less than once a month' and 7: 'Never'*). Response categories were further classified in order to distinguish between respondents, stating communication with their most contacted child daily to about once a month, and those with contact less than once a month or never. Older adults' geographical proximity to their children was

defined by the distance between residences, according to the question: 'Where does your child live? (*1: 'In the same household', 2: 'In the same building', 3: 'Less than 1 kilometre away', 4: 'Between 1 and 5 kilometres away', 5: 'Between 5 and 25 kilometres away', 6: 'Between 25 and 100 kilometres away', 7: 'Between 100 and 500 kilometres away', 8: 'More than 500 kilometres away' and 9: 'More than 500 kilometres away or in another country*'). Individuals whose children lived at a distance more than 1 kilometre away were differentiated to those who had at least one child living with them in the same house or building.

No activity participation and lack of supportive exchanges were considered to represent the functional facet of social isolation and hence the unavailability of adequate supportive social involvements and connections. Participants were queried to indicate if they had participated in any activity during the previous month *(1:'Done voluntary or charity work', 2: 'Cared for a sick or disabled adult', 3: 'Provided help to family, friends or neighbours', 4: 'Attended an educational or training course', 5: 'Gone to a sport, social or other kind of club', 6: 'Taken part in a religious organization (church, synagogue, mosque etc.)' and 7: 'Taken part in a political or community-related organization').* Individuals who responded that they had not taken part in any of the activities assessed were represented by the category 'no activity', in comparison to those who declared being engaged in at least one activity. Intergenerational supportive exchanges were addressed in terms of the respondents' transfers of any kind of support in the past twelve months (*1: 'Personal care, e.g. dressing, bathing or showering, eating, getting in or out of bed, using the toilet, 2: 'Practical household help, e.g. with home repairs, gardening, transportation, shopping, household chores', and 3: 'Help with paperwork, such as filling out forms, settling financial or legal matters'*). The respective responses (*1: 'Almost daily', 2: 'Almost every week', 3: 'Almost every month' and 4: 'Less often'*) were recoded in order to ascertain older adults who had given or had been offered support at least once a month, in relation to those with rare supportive exchanges.

For the purposes of the present inquiry, participants were assigned a point if they asserted living unpartnered, having never been married, being childless, getting through to their most contacted child less than once a month or never, residing in separate households to all their children, having been involved in no social or productive activities within the previous month and having infrequently exchanged support over the course of the last year. A total clustering score of social isolation

ranging from 0 to 7 was subsequently yielded by summing respective responses. A score of 4+ was considered indicative of greater social isolation and is hereinafter referred to as multiple presence or accumulation of social isolation indicators.

Preventive health services utilization score (PHSUs)

Data on the utilization of preventive health services was obtained from the self-completed drop-off questionnaire in conjunction with the baseline questionnaire and according to the respondents' self-reports on 12 items. The frequency of a wide range of services used was investigated, encompassing visits to general practitioners (GPs) and dentists, immunizations and screenings. In particular, participants were asked to indicate whether they: (1) had had contact with a dentist/ dental hygienist for routine check-ups and/or prevention in the previous year ('*During the last twelve months, have you seen a dentist or a dental hygienist?*'); (2) had a GP for advice/prevention (*'Do you have a "GP" (i.e. a doctor you usually turn to for your common health problems)?'*); (3) were assessed by a GP for physical activity ('*How often does your GP ask how much physical activity you do?*'); (4) received advice for regular exercise from a GP ('*How often does your GP tell you that you should get regular exercise?*'); (5) were assessed by a GP for body weight ('*How often does your GP check your weight?*'); (6) were asked by a GP about drug use or prescriptions ('*How often does your GP ask you about any drugs you take, either over-the-counter or prescribed by another doctor?*'); (7) had had a flu vaccination in the preceding year ('*In the last year, have you had a flu vaccination?*'); (8) had had a mammogram in the preceding two years ('*In the last two years, have you had a mammogram?'*); (9) had ever had a sigmoidoscopy/colonoscopy ('*Have you ever had a sigmoidoscopy or colonoscopy?*'); *(*10) had been tested for hidden blood in stool in the preceding ten years ('*In the last ten years, have you had a test that detects hidden blood in your stool?*'); (11) had ever been referred by a doctor to a physiotherapy or exercise program for joint pain ('*Have you ever been sent to physiotherapy or an exercise program for joint pain?')*; (12) had ever been referred by a doctor to an orthopedic surgeon for joint pain *('Have you ever been sent by a doctor to an orthopeadic surgeon for the joint pain that you presently have?'*). For the purposes of the analysis, initial responses to any given item were coded into a binary variable (0=no/never, 1=yes/at some time/every visit). Then all responses were summed and a composite (cumulative) score was generated with a range of 0-12 components (PHSUs). Afterwards, this score was transformed into a 0-100 scale in order to be comparable to other similar scales. Higher values corresponded to a greater number of preventive services received by the respondents (Linardakis et al. 2015).

Additional measures

The socio-structural and demographic variables that have been regarded as relevant in the prediction of services utilization (Nelson et al. 2002) and which were adjusted for in the current analysis comprised gender (*male/female*), years of age *(65–74, 75-84* and *85+*), educational attainment (*0-7, 8-12, 13+ years of education*), retirement status (*retired/not retired*) and income quartiles (*low <25%, average between 25 and 75% and high >75%*). Furthermore, the eleven European countries were geographically classified into northern (*Denmark, Sweden*), central (*Austria, Belgium, France, Germany, the Netherlands, Switzerland*) and southern (*Greece, Italy, Spain*) and were also specified as covariates following relevant evidence documenting regionally distributed outcomes in the utilization of health care resources (Hoeck et al. 2014).

Finally, need factors, defined by self-perceived health status (*very good* or *good* and *fair, bad* or *very bad*), chronic diseases (*none, 1* or *2, 3+ conditions)* and disease symptoms (*none, 1* or *2, 3+ symptoms*), were also addressed, since they are well-established predictors of health care use by middle-aged and older adults (Fernandez-Martinez et al. 2012).

Statistical analysis

Data analyses were conducted with the SPSS software (IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp). Sampling design weights that adjust for non-response were employed according to the complex multistage stratification sampling design of the study.

Firstly, social isolation indicators and mean scores of the utilization of preventive health services, measured on a composite score (PHSUs), were examined by virtue of descriptive statistics. More precisely, frequency distributions of the participants' demographic and socio-structural attributes were estimated. Secondly, in order to test our first hypothesis, mean PHSUs were calculated according to the presence and clustering of social isolation indicators (as none, 1, 2, 3 and 4+) by performing analysis of covariance following the complex sample design procedure and controlling for gender, age, education, retirement status, income, European regions, self-rated health status, chronic diseases and symptoms. Thirdly, so as to test our second hypothesis, multiple logistic regression analysis was applied, defining as covariates gender, age, education, retirement status, income, European regions, self-rated health status, chronic diseases and symptoms. Possible relationships between social isolation

indicators with the different components of the utilization of preventive health services were thus estimated.

Further, in order to detect possible national variations, weighted prevalence and corresponding confidence intervals (95% CIs) regarding the occurrence of 4+ social isolation indicators were estimated. Lastly, the same analysis was applied to examine the distribution of PHSUs for respondents with 4+ social isolation indicators in the eleven countries under investigation.

Results

Descriptive data of the population under survey are displayed in Table 1. With regard to socio-demographic characteristics, over half the participants were females (53.9%), belonged to the 65-74 age group (60.3%) and resided in central Europe (52.1%). A little less than half the sample had 0-7 years of schooling (43.2%), whereas more than one third belonged to the lowest income quartile (35.3%). Relative to health care needs, a substantial proportion (46.2%) of respondents perceived themselves to be in fair, bad or very bad health, with more than one-fourth of them reporting three or more concurrent morbidities and disease symptoms (29.9% and 27.4% respectively). In Table 1, findings on the frequency distribution of social isolation items are also shown. For the majority (55.1%) of older adults, the prevailing living arrangement status was residing without a spouse or partner. Only 5.5% of the adults surveyed had never been married, 12.9% were childless and an even smaller proportion (1.8%) indicated having had contact with their children less often than once a month or not at all during the past year. A large proportion of the respondents exhibited infrequent social exchange in the last twelve months (66.1%), lived separately to their offspring (67.1%) and `did not state any activity involvement during the course of the previous month (51.5%).

The clustering of social isolation indicators was the least pronounced at both ends of the spectrum, with an accumulation of indicators being yielded for 19.3% of the participants, whereas 1.7% of them did not present any indicator. In fact, the dominant proportion of participants was found with two (30.4%) or three (37.2%) social isolation indicators, with the most common being lack of social exchange, followed by social inactivity and separate parent-child residence (Table 2).

Total mean PHSUs in relation to the presence and clustering of social isolation indicators are shown in Table 2. A significantly higher mean PHSUs was found for

adults living as a couple (*with a partner or spouse*) (p=0.001), who were married (p=0.004), had at least one child (p=0.046) and maintained some kind of activity involvement (p=0.023). This pattern was not drawn along all social isolation indicators, but it was retained after their clustering, whereby relative to their most socially contented peers for whom no clustering indicators of social isolation were observed, respondents with multiple presence of indicators were found to attend significantly less preventive care (41.8 vs. 37.6, p-trend=0.046).

The distribution of the distinct components of the preventive health services utilization according to social isolation indicators is presented in Table 3. Significantly lower odds of seeing a dentist/dental hygienist were attested for individuals living without a spouse or partner (ORs= 0.69; 95% CI 0.52-0.91) and indicating no activity involvement (ORs= 0.70; 95% CI 0.54-0.89). Adults who were socially inactive also had lower odds of being assessed by GPs for their physical activity (ORs=0.71, 95% CI 0.52-0.96) and having undertaken sigmoidoscopy or colonoscopy (ORs=0.74, 95% CI 0.57-0.96). The likelihood of being advised by a GP on regular exercise was lower for unmarried older adults (ORs=0.53, 95% CI 0.30-0.93). Seniors with infrequent or no contact with their children demonstrated a significantly lower likelihood of being assessed by a GP for body weight. Older adults living separately to their offspring had higher odds of having flu vaccination (ORs=1.31, 95% CI 1.04-1.65) or of having a mammogram (ORs=1.39, 95% CI 1.01-1.91). The likelihood of being tested for hidden blood in stool was lower for unpartnered respondents (ORs=0.72, 95% CI 0.53-0.98).

Although social isolation was relatively low in the current sample of European adults aged 65 years and over, significant differences were discernible between the eleven European countries under investigation. To be more precise, the rate of the multiple presence of social isolation indicators was approximately 9-22.0% in southern Europe, relative to 13-25% among older people in northern and central Europe. Moreover, the proportion of adults being identified with more than 4 indicators of social isolation was the highest in Sweden (25.2%) and the lowest in Greece (8.8%).

A comparable pattern was also discerned when cross-national differences were further investigated as regards the distribution of PHSUs according to the accumulation of social isolation indicators. Specifically, the mean score of the

utilization of preventive health care services among adults presenting 4+ indicators of social isolation ranged from 49.6 in France to 26.0 in Greece.

Discussion

The current research considered preventive health services utilization in relation to different facets of social isolation in the context of later life, across eleven European countries and based on a large and nationally representative sample of adults aged 65 and older, derived from the SHARE study. Drawing on the relevant literature which points out that no consensus has been reached up to date as to how exactly social isolation ought to be defined and thus measured, a comprehensive assessment was facilitated by determining objective domains of older people's family and social conditions. Specific indicators which have also recently been employed to outline diverse facets of social isolation (Zavaleta et al. 2016) were examined. We hypothesized that socially isolated older adults would be less likely to engage in health-protective behaviours, as reflected by a lower likelihood of receiving preventive health care services. It was also hypothesized that different elements of social isolation would be differently related to the receipt of preventive services.

According to our definition of social isolation, less than one-sixth of the respondents (15.9%) were found to have an accumulation of social isolation indicators. Despite the absence of a standard measure of social isolation and the inconsistency of its conceptualization and determination across a range of investigations which renders comparisons between different studies difficult, the above finding seems to accord well with prior research evidence. According to Dickens et al.'s (2011) systematic review, the prevalence of social isolation has been portrayed to range from 7 to 17% among European adults in their mid and later life.

Although our findings show that the majority within the present representative population-based sample of older European adults was not socially isolated, consistent with our first hypothesis, an overall pattern regarding the association between social isolation indicators and preventive care emerged. More particularly, highly isolated adults were featured to pursue fewer preventive health services compared with their non-isolated counterparts. Most items addressed so as to determine social isolation (*living arrangements, marital status, number of children, activity participation*) demonstrated significant differences in the estimated mean PHSUs. Additionally, in

line with our second hypothesis, specific features of social isolation were associated with a significantly lower likelihood of receiving distinct preventive health services.

The above findings are in line with past empirical research on preventive care in relation to concrete features of social isolation (Beckett et al. 2015). For instance, separated or divorced elderly men have been found to obtain fewer preventive services than their married counterparts (Morales et al. 2004). Furthermore, a higher likelihood of adherence to recommended preventive health care has been documented among older adults residing with a spouse, as compared to those living alone (Lau and Kirby 2009). Middle-aged women attending frequent religious services were more likely to have conducted a wide array of preventive investigations, such as mammograms, Pap smears, and breast self-examination (Benjamins 2006). Volunteering was also positively linked to greater use of preventive services, such as flu shots, cholesterol tests, mammograms/x-rays, Pap smears and prostate screening among middle-aged and older participants of the HRS (Kim et al. 2014).

It therefore seems that older adults with adequate family and social bonds are reasonably more likely to better acknowledge their health needs and be essentially fostered by network members to pursue specific services aiming at health protection (Ashida et al. 2011). Equally importantly, ties of kinship have been also viewed as salient sources through which informational and emotional support can be elicited by older people (Musa et al. 2009). Therefore, family and social interactions eliminate or offset health literacy and psychological barriers which have been suggested by relevant research to account for the underutilization of preventive care in later life (Fernandez et al. 2016; Thorpe et al. 2006).

Regarding regional differences, and congruent with previous studies (Walker 1993), the general picture leads to the proposition that social isolation is more prevalent among northern European adults, relative to their southern and central counterparts. In the present inquiry the accumulation of social isolation indicators comprised 24.0% of northern Europeans, as compared to 17.3% of central and 16.5% of southern ones. The significantly highest proportion of 4+ social isolation indicators was detected among Swedish seniors (25.2%) and the lowest proportion among Greek older adults (8.8%).

The afore-mentioned findings might indicate that in societies with a familialist attitude, where co-habitation of adult children with their older parents is the predominant living arrangement and parent-child intergenerational transfers are

prevailing, social isolation is less pronounced compared to more individualistic countries. It could thus be presumed that the fact that Greece, as described by Vozikaki et al. 2016, presents a significantly limited share of older adults being socially and productively engaged, with the exception of religious attendance, is suggestive of the inadequacy of extant socially interactive networks, thus rendering Greek older adults more dependent upon their family relationships. This might give substance to the findings of the present analysis according to which a large majority (64.8%) of adults in the south of Europe were observed to be sharing the same household with their children, whereas this applied to less than one third (28.3%) of their northern peers. Solitary living seems to be highly appreciated in the north of Europe, where, according to Dykstra (2009), co-habitation might also be seen as a "defeat".

As for the distribution of PHSUs by social isolation it was noteworthy that the mean score of preventive health services utilization was ascertained to be considerably higher among socially isolated older adults in the centre of Europe. This held true for most countries, despite there being significant differences among them. This pattern was most striking in the case of adults with 4+ social isolation indicators in France (49.6), Austria (45.9) and Belgium (44.3), where the highest scores regarding the utilization of preventive health services were outlined and found to be almost twice as high relative to Greece (26.0). Socially isolated Greek adults were thus found to receive by far the fewest preventive resources among the eleven surveyed populations ($p<0.05$), despite the fact that prior research on the SHARE population has evidenced Greece to present a high prevalence of respondents reporting poor well-being and multiple chronic diseases (Linardakis et al. 2015; Vozikaki et al. 2016).

A better insight into possible factors underlying country variance could be facilitated by future analyses through providing a more delineated account of each distinct service incorporated into the composite score constructed for the assessment of preventive health services utilization. Lastly, significant future research could also be devoted, taking into consideration the structural, country-specific, features of healthcare systems which appertain to the availability, delivery and access to preventive healthcare across Europe.

Strengths and limitations

The interpretation of the current findings, though resting on data derived from a large-scale study and obtained through validated questionnaires, is subject to several caveats which merit attention. Firstly, inferences concerning the causal relationships between social isolation and the utilization of preventive health services resources should be cautiously drawn on account of the cross-national nature of the present analyses. It could be fairly inferred that the extent of services utilization is accounted for by actual health care needs and medical diagnoses, whereas, as previously postulated and portrayed through country variations (Schoen et al. 2005), it could be situational and contextual, rather than personal attributes which might conceivably determine health services utilization patterns and preventive health-seeking behaviours. The longitudinal design of the SHARE study confers the potential for future research to unfold causal associations through examination of changes over time.

Social isolation was measured by several distinct items which have been the focus of empirical analyses across social, epidemiology and gerontology literature and have been identified as particularly pertinent to the context of older life. Nevertheless, comparability with extant large-scale surveys should be attempted only upon consideration of the inconsistency among indexes or scales employed in order to capture different aspects of social isolation. Population-based studies might also render it difficult to assess the real extent of social isolation owing to the fact that their respondents appear to be generally well-off by virtue of social integration. As a result, older adults lacking social isolation indicators might possibly be over-represented, which may explain the reduced prevalence of social isolation detected in the current survey. The present research could be complemented by future investigations, which could reveal possible associations between specific services and social isolation, and further elucidate particular patterns of service use among socially isolated people of older age. Lastly, another limitation possibly lies in the occurrence of reporting or recall biases which are, however, inherent in most studies assigning self-reported measures for the estimation of health services utilization (Allin et al. 2006).

Conclusions

Notwithstanding the afore-mentioned shortcomings mainly pertaining to methodological concerns, the current investigation lends support to the hypothesis that

social isolation has some role to play in the underutilization of preventive services, and that specific facets of social isolation possibly make for less use of preventive services among older European adults. It is thus apparent that the impact of social isolation on health-related outcomes, such as preventive behaviours, among the elderly remains relatively unexplored. It is therefore a challenge of critical significance to identify those factors of older people's social environments which may be associated with a lower likelihood of obtaining preventive health care services. Moreover, reinforcement of preventive health care in old age could also been thought of as a means to further effectively manage the multiple health and social care needs of older adults and thus reduce the strain placed on public expenditure. Valtorta and Hanratty (2012) p.521 maintained that "*a drive to address loneliness and isolation could prove to be one of the most cost-effective strategies that a health system could adopt, and a counter to rising costs of caring for an ageing population*".

In this regard, the present results add to earlier work in the field and bears significant public health policy implications as regards the articulation of potential interventions attempting to alleviate social isolation as a means to foster essential health prevention.

Compliance with ethical standards

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Conflict of interest The authors declare that they have no conflicts of interests.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with human participants performed by any of the authors.

Informed consent Informed consent was obtained from all individual participants included in the study.

Abbreviations

GP, General Practitioner; ELSA, English Longitudinal Study of Ageing; HRS, Health Retirement Study; PHSUs, Preventive Health Services Utilization score; SHARE, Survey of Health, Ageing and Retirement in Europe

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Table 1. Descriptive characteristics of 5,129 adults, aged 65+ years in the SHARE study (2004/05).

			N	%
Gender		*males*	2,366	46.1
		females	2,763	53.9
Age, *years*		*65-74*	3,097	60.3
		75-84	1,701	33.2
		85+	331	6.5
		mean ± standard deviation (min-max)	73.6±6.6 (65-99)	
Education, *years*		*0-7*	2,202	43.2
		8-12	1,629	32.0
		13+	1,262	24.8
		mean ± standard deviation (min-max)	8.9±4.5 (0-21)	
Retirement status		*retired*	4,228	82.4
Income[a]		*lower quartile*	1,808	35.3
European regions		*northern*	874	17.0
		central	2,674	52.1
		southern	1,581	30.8
Self-rated health		*fair, bad or very bad*	2,370	46.2
Chronic diseases		*none*	774	15.1
		1-2	2,823	55.0
		3+	1,532	29.9
Disease symptoms		*none*	1,300	25.3
		1-2	2,424	47.3
		3+	1,405	27.4
Social isolation indicators	**Living arrangements**	*living without partner or spouse*	2,827	55.1
	Marital status	*unmarried*	280	5.5
	Number of children	*no children*	663	12.9
	Contact with children	*less than once a month or never*	92	1.8
	Proximity to children	*all children living >1 km*	3,442	67.1
	Activity participation	*no activity*	2,640	51.5
	Social exchange	*almost never*	3,390	66.1

[a] Income was classified using country-specific quartiles for all participants in the 2004/05 SHARE study

Table 2. Mean scores of total Preventive Health Services Utilization score (PHSUs) in European adults aged 65+, according to the presence and clustering of social isolation indicators.

			Estimated Population		Preventive Health Services Utilization score [a]	
Social Isolation Indicators		**N**	**N**	**%**	**Mean score (stand. error)**	***p*-value**
Living arrangements	*living with partner or spouse*	2,461	8,423,000	45.6	44.3 (0.6)	0.001
	living without partner or spouse	2,081	10,051,264	54.4	39.8 (0.7)	
Marital status	*married, widowed etc.*	4,297	17,488,840	94.7	42.3 (0.4)	0.004
	being unmarried	245	985,424	5.3	33.6 (2.3)	
Number of children	*at least one child*	3,954	15,690,173	84.9	42.3 (0.5)	0.046
	no children	588	2,784,091	15.1	36.7 (1.0)	
Contact with children	*daily to about once a month*	4,457	18,028,456	97.6	42.0 (0.4)	0.082
	less than once a month or never	85	445,809	2.4	34.9 (3.7)	
Proximity to children	*at least one child living in the same house/building*	1,545	7,738,551	41.9	42.1 (0.6)	0.516
	all children living >1 km	2,997	10,735,715	58.1	41.6 (0.6)	
Activity participation	*at least one*	2,185	6,972,598	37.7	43.3 (0,7)	0.023
	no activity	2,357	11,501,668	62.3	40.9 (0.6)	
Social exchange	*given or received support at least once a month*	1,543	620,4824	33.6	42.1 (0.8)	0.752
	almost never	2,999	12,269,441	66.4	41.8 (0.5)	
Clustering of social isolation indicators	*None*	65	314,445	1.7	41.8 (2.4)	
	1	644	2,100,921	11.4	45.0 (1.0)	
	2	1,567	5,617,710	30.4	44.8 (0.7)	0.046 [b]
	3	1,587	6,871,698	37.2	40.7 (0.7)	
	4+	679	3,569,490	19.3	37.6 (1.2)	

[a] Total score ranges from 0 to 100, with a higher score indicating greater use of preventive health services. Overall mean score: 41.9; standard error: 0.6

[b] Polynomial (linear) trend analysis

Comparisons were examined using analysis of covariance (according to the complex sample design procedure), with gender, age (year categories), education (year categories), retirement status, income, European regions (northern, central, southern), self-rated health, chronic diseases and disease symptoms as covariates

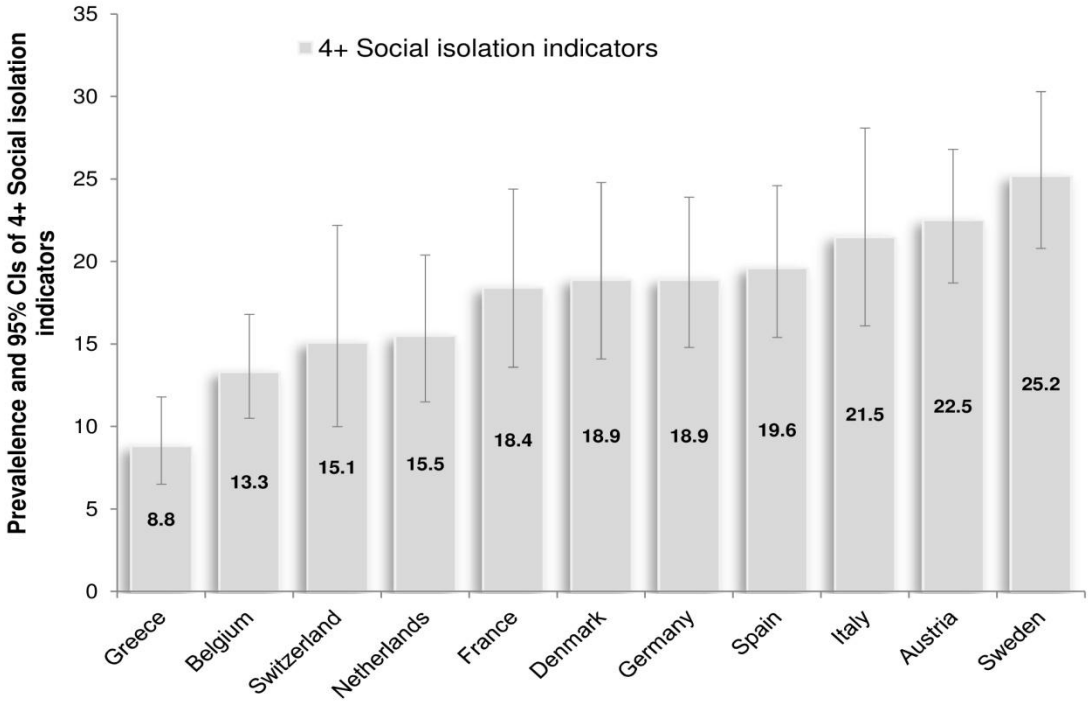
Table 3. Social isolation indicators in relation to components of total Preventive Health Services Utilization score (PHSUs) in European adults aged 65+.

	Social isolation indicators						
	Living arrangements	**Marital status**	**Number of children**	**Contact with children**	**Proximity to children**	**Activity participation**	**Social exchange**
	Living without partner or spouse *vs. living with partner or spouse*	***Being unmarried*** *vs. married, widowed etc*	***No children*** *vs. at least one child*	***Less than once a month or never*** *vs. daily to about once a month*	***All children living >1km*** *vs. at least one child living in the same house/building*	***No activity*** *vs. at least one*	***Almost never*** *vs. given or received support at least once a month*
Components of PHSUs	Odd ratio 95% CIs						
Seeing dentist/dental hygienist	0.69 (0.52-0.91)	0.63 (0.37-1.08)	1.03 (0.69-1.49)	0.64 (0.29-1.41)	0.95 (0.73-1.24)	0.70 (0.54-0.89)	1.05 (0.80-1.37)
Having a general practitioner (GP) for advice and prevention	1.27 (0.84-1.91)	0.93 (0.45-1.91)	1.33 (0.79-2.23)	0.69 (0.20-2.37)	0.80 (0.56-1.14)	2.11 (1.45-2.98)	0.89 (0.63-1.28)
GP assesses physical activity	0.73 (0.53-1.02)	1.00 (0.58-1.73)	0.88 (0.58-1.32)	0.99 (0.42-2.38)	1.04 (0.77-1.39)	0.71 (0.52-0.96)	0.78 (0.58-1.04)
GP advises on regular exercise	1.09 (0.81-1.48)	0.53 (0.30-0.93)	1.16 (0.77-1.76)	1.13 (0.51-2.52)	0.75 (0.57-1.00)	1.22 (0.91-1.65)	1.11 (0.84-1.47)
GP assesses body weight	0.98 (0.74-1.31)	0.76 (0.45-1.30)	1.05 (0.73-1.51)	0.40 (0.19-0.85)	1.12 (0.87-1.45)	0.84 (0.65-1.08)	0.97 (0.74-1.28)
GP asks about drug use or prescription	0.92 (0.66-1.24)	1.00 (0.56-1.80)	0.94 (0.66-1.34)	0.99 (0.45-2.18)	0.78 (0.60-1.01)	1.06 (0.82-1.36)	1.22 (0.92-1.61)
Having flu vaccination	0.82 (0.64-1.05)	1.03 (0.59-1.79)	0.86 (0.63-1.17)	0.96 (0.45-2.04)	1.31 (1.04-1.65)	0.94 (0.76-1.17)	1.19 (0.94-1.51)
Having a mammogram	0.93 (0.68-1.28)	0.96 (0.55-1.68)	0.88 (0.57-1.36)	1.94 (0.63-6.04)	1.39 (1.01-1.91)	0.92 (0.67-1.25)	1.18 (0.85-1.64)
Having sigmoidoscopy or colonoscopy	1.00 (0.75-1.35)	1.10 (0.63-1.92)	0.85 (0.57-1.26)	0.52 (0.23-1.22)	1.01 (0.76-1.35)	0.74 (0.57-0.96)	0.87 (0.66-1.16)
Tested for hidden blood in stool	0.72 (0.53-0.98)	0.81 (0.45-1.45)	0.95 (0.64-1.40)	0.55 (0.23-1.31)	1.05 (0.78-1.41)	0.96 (0.73-1.27)	0.91 (0.67-1.22)
Referral to a physiotherapy or exercise program for joint pain	0.86 (0.62-1.18)	0.58 (0.29-1.14)	0.78 (0.47-1.27)	0.60 (0.23-1.56)	1.07 (0.78-1.45)	1.07 (0.80-1.43)	0.99 (0.72-1.34)
Referral to an orthopedic surgeon for joint pain	0.96 (0.68-1.36)	0.98 (0.46-2.11)	1.64 (0.38-1.07)	1.92 (0.79-4.67)	1.02 (0.73-1.41)	0.86 (0.63-1.18)	0.96 (0.69-1.34)
Pseudo $R_{Nagelkerke}$	0.387	0.200	0.057	0.102	0.091	0.141	0.079

95% CIs, 95% confidence intervals

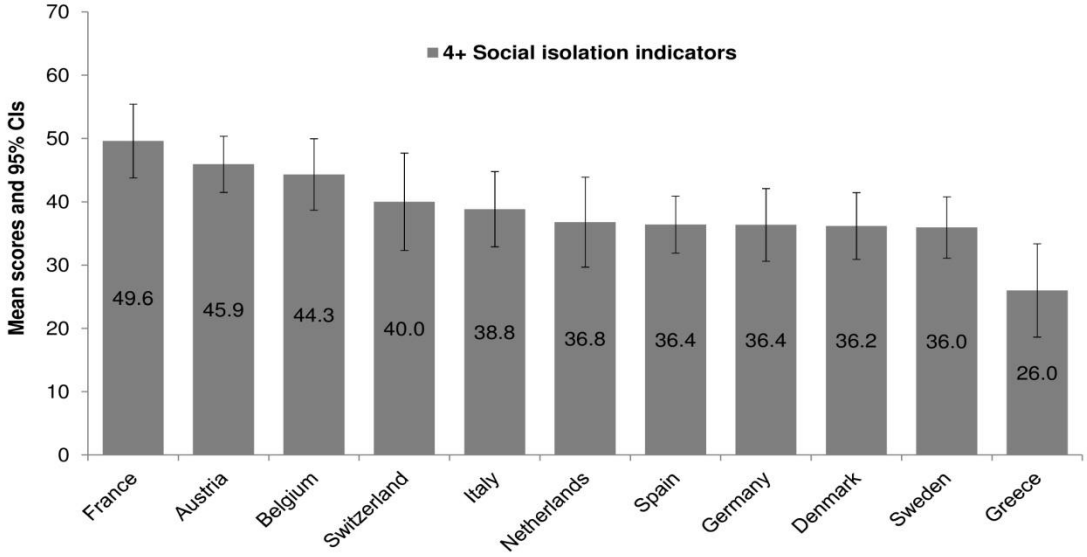
Multiple logistic regression analysis (estimations were extracted according to the complex sampling design of the study). Gender (males, females), age (year categories), education (year categories), retirement status, income, European regions (northern, central, southern), self-rated health, chronic diseases and disease symptoms were used as covariates

Fig 1. Prevalence of 4+ social isolation indicators among eleven European populations aged 65+ (the SHARE study).



Footnote to Fig. 1:
95% CIs, 95% confidence intervals; SHARE, Survey of Health, Ageing, and Retirement in Europe.

Fig 2. Mean score of total Preventive Health Services Utilization (PHSUs) among European adults with 4+ social isolation indicators in eleven European populations (the SHARE study).



Footnote to Fig. 2:
95% CIs, 95% confidence intervals; SHARE, Survey of Health, Ageing, and Retirement in Europe.

Συζήτηση

1. Κύρια ευρήματα

Η παρούσα διατριβή αντλώντας δεδομένα από το πρώτο κύμα της Μελέτης για την Υγεία, τη Γήρανση και τη Συνταξιοδότηση στην Ευρώπη αποσκοπούσε στη διερεύνηση της εμφάνισης των πολλαπλών θετικών διαστάσεων της ευεξίας, ξεχωριστά, αλλά και αθροιστικά, μεταξύ των ατόμων ηλικίας άνω των 65 ετών έντεκα διαφορετικών Ευρωπαϊκών χωρών. Επίσης, μελετήθηκε η συσχέτιση των επιμέρους δεικτών της ευεξίας και της αθροιστικής παρουσίας τους με τα κοινωνικο-δημογραφικά χαρακτηριστικά των ερευνώμενων, τη διατήρηση ενός παραγωγικά και κοινωνικά ενεργού τρόπου ζωής, αλλά και την κοινωνική απομόνωση, ως το αντίθετο της κοινωνικής δραστηριοποίησης και τέλος την εμφάνιση αισθημάτων μοναξιάς. Ταυτόχρονα, πραγματοποιήθηκε συγκριτική διερεύνηση των παραπάνω αποτελεσμάτων μεταξύ των διαφορετικών πληθυσμών και χωρών προκειμένου να διαπιστωθεί η ύπαρξη ενδεχόμενων διαφοροποιήσεων. Επιπροσθέτως, εξετάστηκε η χρήση προληπτικών υπηρεσιών υγείας σε σχέση με την κοινωνική απομόνωση. Τέλος, εκτιμήθηκε ο επιπολασμός της μοναξιάς σε επίπεδο ατόμων, αλλά και χωρών και γεωγραφικών περιοχών και συσχετίστηκαν οι δυσμενείς συνθήκες υγείας, τα στρεσσογόνα γεγονότα ζωής και η κοινωνική απομόνωση με τη συχνότητα εμφάνισης αισθημάτων μοναξιάς.

Τα βασικά ευρήματα των παραπάνω διερευνήσεων μπορούν να συνοψιστούν ως εξής:

i) Διαπιστώθηκε μια συγκεκριμένη αθροιστική κατανομή όσον αφορά στον επιπολασμό των δεικτών της ευεξίας κατά ηλικιακή ομάδα, με την αναλογία των ερευνώμενων με υψηλό επίπεδο ευεξίας να μειώνεται σταθερά με την άνοδο της ηλικίας. Οι εν λόγω διαφορές ωστόσο ήταν εντονότερες μεταξύ των ατόμων της νεότερης ηλικιακής ομάδας 65-74 ετών και εκείνων άνω των 85 ετών.

ii) Ο επιπολασμός των θετικών δεικτών ευεξίας μεταξύ των ατόμων άνω των 85 ετών παρέμεινε σε συγκρίσιμα επίπεδα με αυτόν των ατόμων 75-84, ενώ σε κάποιες περιπτώσεις δεικτών διαπιστώθηκε να είναι ακόμη και μεγαλύτερος, όπως στην ποιότητα ζωής, την αυτο-αναφερόμενη υγεία, την ικανοποίηση από τη ζωή και την απουσία χρόνιων νοσημάτων. Επίσης, ο επιπολασμός του φυσιολογικού δείκτη μάζας σώματος ήταν σημαντικά υψηλότερος μεταξύ των ατόμων άνω των 85 ετών, σε σύγκριση με τα άτομα των δυο μικρότερων ηλικιακών ομάδων.

iii) Σημαντικές διαφοροποιήσεις στα αποτελέσματα της ευεξίας διαπιστώθηκαν μεταξύ των δύο φύλων, με ένα σημαντικά υψηλότερο ποσοστό ανδρών σε σχέση με εκείνο των γυναικών να επιδεικνύουν θετικά αποτελέσματα ευεξίας όσον αφορά στην απουσία συμπτωμάτων κατάθλιψης, το πολύ καλό αυτο-

εκτιμούμενο επίπεδο υγείας, την ικανοποίηση από τη ζωή και την εμφάνιση ενός ή κανενός χρόνιου νοσήματος, ενώ σχετικά μεγαλύτερη ήταν η αναλογία των γυναικών που παρουσίασαν καλύτερα αποτελέσματα σχετικά με την υψηλή ποιότητα ζωής και το φυσιολογικό δείκτη μάζας σώματος.

iv) Σε όλους τους δείκτες της ευεξίας σημαντικές ήταν οι διαφορές που ανιχνεύτηκαν μεταξύ των υπό μελέτη χωρών και γεωγραφικών περιοχών ενισχύοντας το τεκμηριωμένο εύρημα της ύπαρξης διαβάθμισης στα αποτελέσματα υγείας και ευεξίας μεταξύ των χωρών Ευρωπαϊκού Βορρά και Νότου. Συγκεκριμένα, σημαντικά υψηλότερο ήταν το ποσοστό των Βορειοευρωπαίων που επέδειξαν θετικά αποτελέσματα ευεξίας, με την πολλαπλή παρουσία παραγόντων ευεξίας να είναι επίσης μεγαλύτερη στις Βόρειες χώρες, σε σύγκριση με τις Κεντρικές και τις Νότιες χώρες. Προς την ίδια κατεύθυνση, η αναλογία των ηλικιωμένων ατόμων που βρέθηκαν χωρίς κανένα παράγοντα ευεξίας ήταν χαμηλότερη για τις χώρες της Βόρειας Ευρώπης και υψηλότερη στις χώρες του Νότου.

v) Υψηλότερο επίπεδο ευεξίας, όπως αυτό αποτυπώθηκε στις θετικές αναφορές των ατόμων για την ικανοποίηση από τη ζωή, την ποιότητα ζωής, την απουσία καταθλιπτικών συμπτωμάτων, την αυτο-αξιολόγηση του επιπέδου υγείας, τα χρόνια νοσήματα και το φυσιολογικό δείκτη μάζας σώματος, ανιχνεύτηκε μεταξύ των ατόμων που συμμετείχαν συχνότερα σε παραγωγικές ή/και κοινωνικές δραστηριότητες. Πιο συγκεκριμένα, τα άτομα με συχνή συμμετοχή σε παραγωγικές ή/και κοινωνικές δραστηριότητες είχαν σημαντικά μεγαλύτερο ποσοστό υψηλής ποιότητας ζωής, χαμηλού σκορ καταθλιπτικών συμπτωμάτων, πολύ καλής αυτο-αναφερόμενης υγείας, υψηλής ικανοποίησης από τη ζωή και λιγότερων χρόνιων νοσημάτων, σε σχέση με τα άτομα χωρίς καμία δραστηριοποίηση.

vi) Ο επιπολασμός των πολλαπλών παραγόντων ευεξίας διαπιστώθηκε να είναι υψηλότερος μεταξύ των παραγωγικά και κοινωνικά δραστήριων ηλικιωμένων ατόμων, με τη συχνή παραγωγική ή/και κοινωνική δραστηριοποίηση των ερευνώμενων να σχετίζεται με σημαντικά υψηλότερη πιθανότητα για πολλαπλή παρουσία παραγόντων ευεξίας.

vii) Μεταξύ των διαφορετικών Ευρωπαϊκών χωρών ο επιπολασμός της πολλαπλής παρουσίας παραγόντων ευεξίας σχετίστηκε σημαντικά και θετικά με τη συχνή παραγωγική ή/και κοινωνική δραστηριοποίηση, με την εμφάνιση 4+ παραγόντων να είναι πιο συχνή μεταξύ των περισσότερων χωρών των οποίων οι ερευνώμενοι επέδειξαν υψηλά ποσοστά συχνής συμμετοχής σε παραγωγικές ή/και κοινωνικές δραστηριότητες.

viii) Η συχνότητα της παραγωγικής και κοινωνικής δραστηριοποίησης διαπιστώθηκε να διαφέρει κατά φύλο, ηλικιακή ομάδα, μορφές συμβίωσης και κοινωνικο-οικονομικό επίπεδο, με τα υψηλότερα ποσοστά συμμετοχής, τόσο σε παραγωγικές, όσο και σε κοινωνικές δραστηριοποίησης να απαντώνται μεταξύ των ανδρών, των ατόμων της μικρότερης ηλικιακής ομάδας, εκείνων που ζούσαν με σύντροφο ή σύζυγο, των ερευνώμενων με περισσότερα χρόνια εκπαίδευσης και εκείνων με υψηλότερο οικογενειακό εισόδημα. Διαβάθμιση στα αποτελέσματα της συχνής δραστηριοποίησης παρατηρήθηκε μεταξύ των χωρών Βορρά-Νότου, με τα ηλικιωμένα άτομα του Ευρωπαϊκού Βορρά να επιδεικνύουν σημαντικά υψηλότερα ποσοστά συμμετοχής, τόσο σε παραγωγικές, όσο και κοινωνικές δραστηριότητες, σε σύγκριση με τους ηλικιωμένους της Νότιας και Κεντρικής Ευρώπης. Εξαίρεση αποτέλεσε Ελλάδα όπου και εντοπίστηκε η μεγαλύτερη αναλογία ατόμων με συχνή παραγωγικής δραστηριοποίηση, λόγω του υψηλού ποσοστού συμμετοχής σε θρησκευτικές τελετές και οργανισμούς.

ix) Το υψηλότερο σκορ ευεξίας παρατηρήθηκε μεταξύ των συμμετεχόντων χωρίς κανένα παράγοντα κοινωνικής απομόνωσης, ενώ τα άτομα που εμφάνισαν περισσότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης είχαν το χαμηλότερο σκορ ευεξίας. Περαιτέρω, το μέσο σκορ της ευεξίας ήταν σημαντικά υψηλότερο μεταξύ των ατόμων που ανέφεραν ότι έρχονταν συχνά σε επαφή με τα παιδιά τους και εκείνων που επέδειξαν συμμετοχή σε τουλάχιστον μια παραγωγική ή κοινωνική δραστηριότητα τον τελευταίο μήνα.

x) Τα άτομα με συχνά αισθήματα μοναξιάς είχαν σημαντικά χαμηλότερο μέσο σκορ ευεξίας και εμφάνισαν σε σημαντικά μικρότερο ποσοστό πολλαπλούς παράγοντες ευεξίας. Η αναλογία των ερευνώμενων με πολύ υψηλή ικανοποίηση από τη ζωή ήταν σημαντικά χαμηλότερη μεταξύ εκείνων που δήλωσαν ότι βίωναν συχνά μοναξιά την τελευταία εβδομάδα.

xi) Η εμφάνιση συχνών αισθημάτων μοναξιάς ήταν σημαντικά υψηλότερη μεταξύ των γυναικών, των ατόμων μεγαλύτερης ηλικίας, αυτών με λιγότερα χρόνια εκπαίδευσης, εκείνων με χαμηλότερο οικογενειακό εισόδημα , καθώς και των συμμετεχόντων της Νότιας Ευρώπης.

xii)Σημαντικά μεγαλύτερη ήταν η πιθανότητα εμφάνισης συχνών αισθημάτων μοναξιάς μεταξύ των ατόμων που διαβιούσαν σε συνθήκες χηρείας, εκείνων που τα παιδιά τους είχαν πρόσφατα μετακομίσει από την πατρική εστία, των ατόμων που δεν είχαν παιδιά και αυτών με περισσότερα από τέσσερα συμπτώματα κατάθλιψης.

xiii) Η εμφάνιση των θετικών αποτελεσμάτων της ευεξίας ήταν χαμηλότερη μεταξύ των ατόμων που βίωναν μοναξιά στην Ισπανία και την Ιταλία, ενώ στην Ελβετία παρατηρήθηκε σημαντικά υψηλότερος επιπολασμός στους περισσότερους δείκτες της ευεξίας, καθώς και όσον αφορά στην πολλαπλή τους παρουσία μεταξύ των ερευνώμενων με συχνά αισθήματα μοναξιάς.

xiv) Οι συμμετέχοντες της Βόρειας Ευρώπης είχαν σημαντικά υψηλότερη πιθανότητα να εμφανίσουν περισσότερα αποτελέσματα ευεξίας και λιγότερους δείκτες κοινωνικής απομόνωσης, σε σχέση με τους συνομήλικους τους στη Νότια Ευρώπη.

xv) Η χρήση προληπτικών υπηρεσιών υγείας βρέθηκε να είναι σημαντικά χαμηλότερη μεταξύ των ατόμων με περισσότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης. Επίσης, οι συμμετέχοντες που διαβιούσαν με σύντροφο ή σύζυγο, οι έγγαμοι, αυτοί που είχαν τουλάχιστον ένα παιδί και εκείνοι που παρέμεναν κοινωνικά ενεργοί είχαν σημαντικά υψηλότερο σκορ χρήσης υπηρεσιών προληπτικής ιατρικής.

xvi) Αναφορικά με την κατανομή του σκορ της χρήσης προληπτικών υπηρεσιών υγείας σύμφωνα με την εμφάνιση πολλαπλών παραγόντων κοινωνικής απομόνωσης σημαντικές διαφορές διαπιστώθηκαν σε επίπεδο χωρών, με το υψηλότερο σκορ να απαντάται μεταξύ των ατόμων με περισσότερους από τέσσερις δείκτες κοινωνικής απομόνωσης στη Γαλλία και το χαμηλότερο στην Ελλάδα.

2. Παραγωγική και κοινωνική δραστηριοποίηση

Παρά το γεγονός ότι η διατήρηση μιας ενεργούς κοινωνικής ζωής θεωρείται ότι μειώνεται αναπόφευκτα με την άνοδο της ηλικίας εξαιτίας μιας σειράς κρίσιμων μεταβολών που σχετίζονται με τη γήρανση και τη βίωση συνθηκών που συνυφαίνονται με την εμφάνιση περιορισμών στη λειτουργικότητα και την έκπτωση των φυσικών ικανοτήτων των ατόμων (Bukov et al. 2002), αξιοσημείωτο είναι το εύρημα της παρούσας έρευνας σύμφωνα με το οποίο το 36,4% των συμμετεχόντων βρέθηκαν να δηλώνουν ότι παραμένουν κοινωνικά ενεργοί και ότι κατά τη διάρκεια του προηγούμενου μήνα συμμετείχαν σε τουλάχιστον μια παραγωγική ή κοινωνική δραστηριότητα σχεδόν καθημερινά ή σχεδόν κάθε εβδομάδα. Η μελέτη της κατανομής της συχνότητας των δυο διαφορετικών διαστάσεων της δραστηριοποίησης έδειξε ότι οι ερευνώμενοι συμμετείχαν συχνότερα σε κοινωνικές δραστηριότητες (32,6%), σε σύγκριση με τη συμμετοχή σε παραγωγικές δραστηριότητες (28,1%). Επιπροσθέτως, μεγαλύτερο ήταν το ποσοστό των ερευνώμενων που επέδειξαν συχνή συμμετοχή (σχεδόν καθημερινά ή σχεδόν κάθε εβδομάδα), τόσο σε παραγωγικές

(19,9%), όσο και κοινωνικές δραστηριότητες (23,8%), συγκρινόμενο με την αναλογία των ηλικιωμένων με λιγότερο συχνή συμμετοχή (λιγότερο συχνά από σχεδόν καθημερινά ή κάθε εβδομάδα). Περισσότερο από το 1/3 των ερευνώμενων δήλωσαν ότι είχαν συμμετάσχει συχνά (σε εβδομαδιαία ή καθημερινή βάση) σε έστω μια από τις υπό μελέτη παραγωγικές ή/και κοινωνικές δραστηριότητες.

Η παραγωγική και κοινωνική δραστηριοποίηση βρέθηκε να διαφέρει σημαντικά μεταξύ των διαφορετικών ηλικιακών ομάδων, με τα υψηλότερα ποσοστά συμμετοχής να απαντώνται μεταξύ των ερευνώμενων ηλικίας 65-74, τόσο σε παραγωγικές (19,6%; 95% CI 17,8–21,4), όσο και κοινωνικές δραστηριότητες (21,1%; 95 % CI 19,3–23,1), σε σύγκριση με τα άτομα ηλικίας 75–84 (12,1%; 95% CI 10,0–14,6 και 17,2%; 95% CI 14,8–20,0, αντίστοιχα), παρά το γεγονός ότι μια σημαντική αναλογία ατόμων άνω των 85 ετών παρατηρήθηκε ότι εξακολουθούσαν να παραμένουν παραγωγικά ή/και κοινωνικά δραστήρια (13,9%). Αυτό το εύρημα βρίσκεται σε συμφωνία με τα αποτελέσματα των Mendes de Leon κ συν. (2003), οι οποίοι επίσης διαπίστωσαν ότι η κοινωνική συμμετοχή μειώνεται με την ηλικία σύμφωνα με την ανάλυση τους που αφορούσε σε ένα αντιπροσωπευτικό δείγμα ατόμων άνω των 65 ετών από τη μελέτη New Haven EPESE. Αντίθετα, οι Warr κ συν. (2004), εξετάζοντας ένα δείγμα ατόμων 50 έως 74 ετών, δεν παρατήρησαν διαφορές στο μέσο επίπεδο της συχνότητας της κοινωνικής δραστηριοποίησης που να σχετίζονται με την ηλικία. Παρομοίως, παρόλο που οι McMunn κ συν. (2009) παρείχαν εμπειρικά στοιχεία υποστηρικτικά της υπόθεσης ότι η άνοδος της ηλικίας συνάδει με περιορισμό της κοινωνικής συμμετοχής, αυτό βρέθηκε να ισχύει μόνο για τους συμμετέχοντες άνω των 80 ετών.

Παρά το γεγονός ότι η συχνή παραγωγική και κοινωνική δραστηριοποίηση δεν διέφερε σημαντικά κατά φύλο, ήταν πιο εμφανής μεταξύ των ανδρών (17,7%; 95% CI 15,0–19,1 και 19,1%; 95% CI 17,1–21,3, αντίστοιχα), σε σχέση με τις γυναίκες (15,4%; 95% CI 13,7–17,4 και 18,9%; 95% CI 16,9–21,1, αντίστοιχα). Σημαντικά υψηλότερος επιπολασμός συχνής συμμετοχής σε παραγωγικές ή/και κοινωνικές δραστηριότητες παρατηρήθηκε μεταξύ των ερευνώμενων υψηλότερου μορφωτικού επιπέδου (36,2%; 95% CI 32,7–39,9), σε σχέση με τα άτομα με λιγότερα χρόνια εκπαίδευσης (27,6%; 95% CI 24,6–30,9 και 25,1%; 95% CI 22,8–27,6), καθώς και μεταξύ των συμμετεχόντων υψηλότερου οικογενειακού εισοδήματος (35,9%; 95% CI 31,1–41,0), σε σύγκριση με τα άτομα με το χαμηλότερο εισόδημα (25,3%; 95% CI 22,4-28,4).

Τα ποσοστά συμμετοχής σε παραγωγικές και κοινωνικές δραστηριότητες διέφεραν σημαντικά μεταξύ των τριών γεωγραφικών περιοχών, με τη συχνή παραγωγική και κοινωνική δραστηριοποίηση να είναι υψηλότερη μεταξύ των ηλικιωμένων ατόμων στη Βόρεια Ευρώπη (26,7%; 95% CI 23,9–29,7 και 27,6%; 95% CI 24,7–30,8,

αντίστοιχα), σε σύγκριση με τους συμμετέχοντες της Νότιας και Κεντρικής Ευρώπης. Τα ίδια αποτελέσματα παρατηρήθηκαν και όσον αφορά στην εκτίμηση της συμμετοχής σε παραγωγικές ή/και κοινωνικές δραστηριότητες συνολικά. Συγκεκριμένα, η αναλογία των Νοτιοευρωπαίων που συμμετείχαν έστω σε μια παραγωγική ή/και κοινωνική δραστηριότητα ήταν περίπου δυο φορές μικρότερη (22,6%), σε σχέση με τα ηλικιωμένα άτομα του Βορρά, οι μισοί περίπου από τους οποίους (43,9%) και διαπιστώθηκε ότι διατηρούσαν οποιαδήποτε μορφή παραγωγικής ή/και κοινωνικής δραστηριοποίησης. Παρομοίως, σημαντικές διαφοροποιήσεις διαπιστώθηκαν κα όταν εκτιμήθηκε η συχνή δραστηριοποίηση μεταξύ των διαφορετικών υπό μελέτη Ευρωπαϊκών χωρών, με τα ποσοστά συμμετοχής σε παραγωγικές δραστηριότητες να κυμαίνονται μεταξύ του 29,4% στη Γαλλία και 28,1% στη Σουηδία έως 5,9% στην Ισπανία και της συμμετοχής σε κοινωνικές δραστηριότητες από 42,0% στην Ελλάδα και 31,6% στη Δανία έως 8,1% στην Ιταλία. Τα εν λόγω ευρήματα είναι υποστηρικτικά της διαπίστωσης ότι διαφαίνεται μια διαβάθμιση μεταξύ Βορρά και Νότου, με εξαίρεση να αποτελεί η Ελλάδα εξαιτίας του μεγαλύτερου ποσοστού των ηλικιωμένων που εμφανίζονται να είναι κοινωνικά ενεργά λόγω κυρίως της ιδιαίτερα υψηλής συχνής συμμετοχής σε θρησκευτικές και εκκλησιαστικές δραστηριότητες και τελετές. Οι παραπάνω παρατηρήσεις συντείνουν στην επιβεβαίωση του συμπεράσματος των Sirven και Debrand (2012) (p. 1289) ότι «το να ζεις σε μια βόρεια χώρα αυξάνει σημαντικά τις πιθανότητες συμμετοχής σε κοινωνικές δραστηριότητες». Επίσης, έχει υποστηριχθεί ότι τα υψηλά ποσοστά κοινωνικής δραστηριοποίησης που απαντώνται στις χώρες του Ευρωπαϊκού Βορρά ίσως να αντανακλούν την αναγκαιότητα υποκατάστασης σημαντικών ρόλων που είναι έμφυτοι στα οικογενειακά δίκτυα, σε σύγκριση με τις χώρες του Νότου όπου οι δεσμοί που απορρέουν από το οικογενειακό περιβάλλον θεωρούνται ότι είναι περισσότερο ισχυροί (Croezen et al. 2015).

3. Κοινωνική απομόνωση

Η πολλαπλή παρουσία παραγόντων κοινωνικής απομόνωσης ήταν λιγότερο εμφανής στις δυο άκρες της κατανομής, με το 19,3% των συμμετεχόντων να έχουν περισσότερους από τέσσερις παράγοντες και το 1,7% να μην παρουσιάζει κανένα παράγοντα. Στην πραγματικότητα, για τη μεγαλύτερη αναλογία ατόμων διαπιστώθηκαν δύο (30,4%) ή τρεις (37,2%) παράγοντες κοινωνικής απομόνωσης. Οι πιο συνηθισμένοι παράγοντες κοινωνικής απομόνωσης ήταν η απουσία ανταλλαγών κοινωνικής στήριξης, η κοινωνική αδράνεια και η χωριστή διαβίωση των παιδιών από τους γονείς.

Η επικρατούσα αντίληψη ότι ίσως η κοινωνική απομόνωση εντείνεται καθώς τα άτομα γηράσκουν εξαιτίας ποικίλων μεταβολών, οι οποίες περαιτέρω ενισχύουν το κοινωνικο-οικονομικό και συναισθηματικό μειονέκτημα το οποίο είναι σύμφυτο στις μεγαλύτερες ηλικίες (Cornwell and Waite 2009; Steptoe et al. 2013), φαίνεται να επιβεβαιώνεται και από τα ευρήματα της παρούσας εργασίας. Σε αντιστοιχία με μια πρόσφατη εμπειρική διερεύνηση (Toepoel 2013), όπου τα μεγαλύτερα σε ηλικία άτομα ήταν και αυτά που άνηκαν στην πιο απομονωμένη κοινωνικά ομάδα, η κοινωνική απομόνωση διαφάνηκε να αυξάνεται με την άνοδο της ηλικίας, ενώ ο επιπολασμός των πολλαπλών παραγόντων κοινωνικής απομόνωσης βρέθηκε να διαφέρει σημαντικά μεταξύ των τριών ηλικιακών ομάδων, με τις διαφορές αυτές να είναι πιο έντονες μεταξύ των ατόμων 65 έως 74 και των ατόμων 85 ετών και άνω. Ταυτόχρονα, σημαντικά χαμηλότερη πιθανότητα παρουσίας πολλαπλών παραγόντων ευεξίας παρατηρήθηκε μεταξύ των συμμετεχόντων τέταρτης ηλικίας. Πιο συγκεκριμένα, για το 24,4% των ερευνώμενων ηλικίας άνω των 85 ετών διαπιστώθηκε ότι περισσότεροι από τέσσερις παράγοντες κοινωνικής απομόνωσης ήταν παρόντες, σε σύγκριση με το 20,9% των ατόμων 75 έως 84 και το 17,0% εκείνων 65 έως 74 ετών.

Λαμβάνοντας υπόψη το γεγονός ότι η μοναχική συμβίωση και η κοινωνική αδράνεια βρέθηκαν να είναι πιο πιθανό να συμβούν μεταξύ των ατόμων μεγαλύτερης ηλικίας, αυτό ίσως να είναι ενδεικτικό του γεγονότος ότι στα τελευταία χρόνια της ζωής ενδέχεται να επέρχεται συσσώρευση μειονεκτημάτων, τόσο σε κοινωνικό επίπεδο, όσο και στο επίπεδο της υγείας και της ευεξίας. Επομένως, είναι πιθανό η θετική συσχέτιση μεταξύ κοινωνικής απομόνωσης και ηλικίας να είναι αποτέλεσμα «πραγματικής ηλικιακής επίδρασης» ή να συντρέχουν και άλλες συνθήκες που συνάδουν με τη γήρανση και εμπλέκονται στη διαμόρφωση αυτής της σχέσης (Victor et al. 2000).

Σημαντικές διαφοροποιήσεις στον επιπολασμό των επιμέρους δεικτών της κοινωνικής απομόνωσης, αλλά και στην πολλαπλή εμφάνισή τους, παρατηρήθηκαν μεταξύ των δυο φύλων, με τους άνδρες να εμφανίζουν καλύτερα αποτελέσματα σε σχέση με τις γυναίκες. Η παρουσία περισσότερων των τεσσάρων παραγόντων κοινωνικής απομόνωσης ήταν σημαντικά υψηλότερη μεταξύ των γυναικών, σε σύγκριση με αυτήν των ανδρών (17,5% έναντι 13,4%, p=0,003). Το ποσοστό των γυναικών που διαπιστώθηκε ότι ζούσαν μόνες ήταν δυο φορές μεγαλύτερο, σε σχέση με εκείνο των ανδρών (54,1 έναντι 27,4%, p<0,001), εύρημα που μπορεί να εξηγηθεί βάσει του γεγονότος ότι οι γυναίκες τείνουν να ζουν περισσότερα χρόνια (Wenger et al. 1996), παρά το γεγονός ότι εμφανίζονται να κατέχουν λιγότερους οικονομικούς και εκπαιδευτικούς πόρους και να αντιμετωπίζουν περισσότερες δυσμενείς καταστάσεις υγείας (Mcdonough and Walters 2001). Πρόσφατες έρευνες έχουν δείξει

ότι η κοινωνική απομόνωση απαντάται συχνότερα μεταξύ των γυναικών εξαιτίας του γεγονότος ότι το μεγαλύτερο ποσοστό αυτών διαβιούν σε συνθήκες χηρείας και ζουν χωρίς σύντροφο ή σύζυγο (Holwerda et al. 2012). Ωστόσο, η ατεκνία, η οποία έχει συσχετιστεί με την ύπαρξη μικρότερων οικογενειακών δικτύων και λιγότερων οικογενειακών δεσμών (Wenger et al. 2007), βρέθηκε να είναι μεγαλύτερη μεταξύ των ανδρών, εύρημα που συνάδει με την αντίληψη, ότι εξαιτίας μακροχρόνιων ρόλων που απορρέουν από την κοινωνική ταυτότητα των δυο φύλων, η απόκτηση παιδιών εκτιμάται ιδιαίτερα από τις γυναίκες, ενώ ταυτόχρονα αντιπροσωπεύει ένα κοινωνικό στόχο στον οποίο οι γυναίκες αναμένεται να ανταποκριθούν με επιτυχία (Rijken and Merz 2014).

Επιπροσθέτως, σε συμφωνία με προηγούμενα ερευνητικά αποτελέσματα (Bassuk et al. 1996; Turner and Marino 1994), το χαμηλό εκπαιδευτικό και οικονομικό επίπεδο αναδείχθηκαν σε παράγοντες που σχετίζονται με την εμφάνιση συνθηκών κοινωνικής απομόνωσης μεταξύ των ατόμων μεγαλύτερων ηλικιών, καθώς οι συμμετέχοντες με λιγότερους μορφωτικούς και οικονομικούς πόρους, όπως αυτοί εκτιμήθηκαν βάσει των χρόνων εκπαίδευσης και του διαθέσιμου οικογενειακού εισοδήματος, είχαν μεγαλύτερη πιθανότητα παρουσίας πολλαπλών παραγόντων κοινωνικής απομόνωσης. Πιο συγκεκριμένα, το 15,5% των ατόμων με ανώτερη εκπαίδευση βρέθηκε με περισσότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης, γεγονός το οποίο ίσχυσε για το 17,0% των ατόμων με τα λιγότερα χρόνια εκπαίδευσης. Ακόμη πιο έντονες ήταν οι διαφορές κατά οικογενειακό εισόδημα, με την κοινωνική απομόνωση να είναι πολύ περισσότερο εμφανής μεταξύ των λιγότερο οικονομικά εύρωστων ατόμων (26,3%), σε σύγκριση με τους συνομηλίκους τους ανώτερων οικονομικών στρωμάτων (6,4%). Παρομοίως, το χαμηλό κοινωνικο-οικονομικό επίπεδο, ως αντιπροσωπευτικό της ύπαρξης κοινωνικού μειονεκτήματος, έχει συσχετιστεί θετικά με την κοινωνική απομόνωση μεταξύ ατόμων ηλικίας 45-75 ετών, βάσει δεικτών μέτρησης της κοινωνικής συμμετοχής, των μορφών συμβίωσης και του αριθμού των στενών δεσμών (Weyers et al. 2008).

4. Μοναξιά

Ο επιπολασμός της πολύ συχνής ή συχνής εμφάνισης αισθημάτων μοναξιάς (τον περισσότερο καιρό ή για κάποιο καιρό), βρέθηκε να είναι 50,5% στα πλαίσια της παρούσας διερεύνησης, εύρημα που συμφωνεί με τα αποτελέσματα της μελέτης των Savviko κ συν. (2005), σύμφωνα με τα οποία το 39,0% των ατόμων άνω των 75 ετών δήλωσαν ότι αισθάνονται μοναξιά. Παρομοίως, το 40,0% των Βρετανών ατόμων άνω των 65 ετών βρέθηκαν σε σχετική μελέτη να βιώνουν συχνά αισθήματα μοναξιάς (Victor et al. 2015). Περαιτέρω, στην παρούσα εργασία η εμφάνιση αισθημάτων

μοναξιάς τον περισσότερο καιρό αναφέρθηκε από το 11,2% των γυναικών και το 7,2% των ανδρών, ενώ ότι αισθάνονται μοναξιά συχνά δήλωσαν οι γυναίκες σε ποσοστό 47,9%, σε σχέση με το αντίστοιχο 30,8% του ανδρικού πληθυσμού (p<0,001). Η κατανομή της μοναξιάς βρέθηκε να διαφέρει σημαντικά μεταξύ των διαφορετικών ηλικιακών ομάδων, με το μεγαλύτερο ποσοστό των συμμετεχόντων με πολύ συχνά αισθήματα μοναξιάς να απαντάται μεταξύ των ατόμων 85 ετών και άνω (12,4%), σε σύγκριση με τα νεότερα σε ηλικία άτομα, 65-74 (7,7%) και 75-84 ετών (11,9%) (p<0,001). Όσον αφορά στην κατανομή της μοναξιάς κατά εκπαιδευτικό επίπεδο, μικρότερο ήταν το ποσοστό των ατόμων με περισσότερα χρόνια εκπαίδευσης (13+ χρόνια) για τα οποία διαπιστώθηκαν αισθήματα μοναξιάς τον περισσότερο καιρό (7,3%), σε σχέση με τους συμμετέχοντες χαμηλότερου μορφωτικού επιπέδου (p<0,001). Επίσης, υψηλότερο ήταν το ποσοστό των ατόμων με μικρότερο οικογενειακό εισόδημα που υπέφεραν από μοναξιά (13,6%), σε σύγκριση με τα άτομα που ανήκαν σε υψηλότερα εισοδηματικά στρώματα (7,3%) (p<0,001).

Επίσης, διαπιστώθηκε ότι οι ερευνώμενοι με ένα ή περισσότερα χρόνια νοσήματα ήταν περισσότερο πιθανό να αναφέρουν πολύ συχνά ή συχνά αισθήματα μοναξιάς, συγκρινόμενα με εκείνους χωρίς κανένα χρόνιο νόσημα (p=0,015). Επιπροσθέτως, μεγαλύτερη ήταν η αναλογία των ατόμων με έναν ή περισσότερους περιορισμούς στις καθημερινές λειτουργίες και ένα ή περισσότερα συμπτώματα νοσηρότητας που ανέφεραν πολύ συχνά ή συχνά αισθήματα μοναξιάς, σε σχέση με τα άτομα με κανένα περιορισμό (p<0,001) και κανένα σύμπτωμα (p=0,001). Αναφορικά με την καταθλιπτική συμπτωματολογία, η μοναξιά ήταν σημαντικά πιο εμφανής μεταξύ των ατόμων που βρέθηκαν να υποφέρουν από τέσσερα ή περισσότερα συμπτώματα κατάθλιψης (14,2%), σε σχέση με εκείνα με λιγότερα από τέσσερα συμπτώματα (7,6%). Όσον αφορά στα στρεσσογόνα γεγονότα ζωής, το ποσοστό των ηλικιωμένων ατόμων που διαβιούσαν σε συνθήκες χηρείας και δήλωσαν ότι ένιωθαν μόνα (12,2%) ήταν σημαντικά υψηλότερο από το αντίστοιχο των μη χήρων (7,8%) (p<0,001). Παρομοίως, η παρουσία περισσότερων από μιας δυσμενούς συνθήκης υγείας διαπιστώθηκε να σχετίζεται με την πολύ συχνή ή συχνή εμφάνιση αισθημάτων μοναξιάς, κατ' αντιστοιχία με τα ευρήματα προηγούμενων ερευνών, σύμφωνα με τα οποία η μοναξιά φαίνεται να είναι μεγαλύτερη μεταξύ των ατόμων μέσης ηλικίας και άνω με φτωχά αποτελέσματα υγείας (Koropeckyj-Cox 1998). Επομένως, διαφαίνεται ότι ίσως είναι πιθανό, όπως και έχει προηγουμένως προταθεί (Paul 2015), η νοσηρότητα να χειροτερεύει την ικανότητα των ατόμων να διατηρούν τις κοινωνικές τους συναναστροφές εξαιτίας των δυσκολιών που αντιμετωπίζουν στην επικοινωνία, αλλά και της απροθυμίας τους να μοιραστούν τις αρνητικές καταστάσεις που

αντιμετωπίζουν σε σχέση με την υγεία τους, γεγονός που ενδεχομένως να επιτείνει τη βίωση αισθημάτων μοναξιάς.

Όσον αφορά στα αγχογόνα γεγονότα ζωής, το ποσοστό των ατόμων που ζούσαν σε συνθήκες χηρείας τα οποία δήλωσαν να βιώνουν μοναξιά τον περισσότερο καιρό ήταν σημαντικά μεγαλύτερο (12,2%), σε σχέση με τους συμμετέχοντες που δεν ήταν χήροι (7,8%) (p<0.001). Κατ' αντιστοιχία, σε μια πρόσφατη έρευνα μεταξύ ηλικιωμένων ατόμων στη Σουηδία, η χηρεία αναγνωρίστηκε ως σημαντικός προγνωστικός παράγοντας της μοναξιάς για τα άτομα άνω των 75 ετών (Daahlberg et al. 2015), ενώ η μοναξιά ήταν υψηλότερη μεταξύ των ατόμων που ήταν χήροι και συμμετείχαν στη Γερμανική Μελέτη «Study Way of Living of Older Adults» (Pinquart 2003). Η διαβίωση χωρίς σύντροφο ή σύζυγο επίσης βρέθηκε να ισοδυναμεί με μεγαλύτερο κίνδυνο βίωσης μοναξιάς για τα άτομα ηλικίας 62-91 ετών που συμμετείχαν στο «National Social Life, Health and Aging Project» (Hawkley et al. 2006). Σε παρόμοια διερεύνηση δεδομένων της Αγγλικής Διαχρονικής Μελέτης για τη Γήρανση (English Longitudinal Study of Ageing-ELSA), τα άτομα που ζούσαν χωρίς σύντροφο ή σύζυγο διαπιστώθηκε ότι ένιωθαν ότι τους έλειπε παρέα και ανέφεραν χαμηλά επίπεδα ικανοποίησης από τη ζωή (Demakakos et al. 2006). Επιπροσθέτως, τα ηλικιωμένα άτομα των οποίων τα παιδιά είχαν πρόσφατα μετακομίσει από την πατρική εστία βρέθηκαν να βιώνουν μοναξιά σε μεγαλύτερο ποσοστό, σε σχέση με τους συνομήλικους τους που ζούσαν με κάποιο από τα παιδιά τους (52,4% έναντι 44,7%, p=0,032). Επίσης, η μοναξιά παρατηρήθηκε να είναι σημαντικά υψηλότερη μεταξύ των κοινωνικά απομονωμένων ατόμων, βάσει των μορφών συμβίωσης, του αριθμού των παιδιών και της κοινωνικής δραστηριοποίησης (p<0,001), ενώ μεγαλύτερη ήταν η αναλογία ηλικιωμένων ατόμων για τους οποίους περισσότεροι από τέσσερεις παράγοντες κοινωνικής απομόνωσης ήταν εμφανείς και οι οποίοι δήλωσαν ότι αισθάνονταν μοναξιά τον περισσότερο καιρό ή κάποιο καιρό (69,7%), σε σύγκριση με τους συμμετέχοντες με λιγότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης (46,0%). Κατ' αντιστοιχία, υψηλότερα επίπεδα μοναξιάς έχουν επίσης διαπιστωθεί μεταξύ των άτεκνων ηλικιωμένων ατόμων (Koropeckyj-Cox 1998), αλλά και των λιγότερο κοινωνικά ενσωματωμένων (Jylha 2004).

5. Ευεξία και κοινωνικο-δημογραφικά χαρακτηριστικά

Πολλαπλή εμφάνιση παραγόντων ευεξίας παρατηρήθηκε για το 10,2% των συμμετεχόντων, ενώ το 4,4% αυτών βρέθηκαν να μην παρουσιάζουν κανένα από τους δείκτες που χρησιμοποιήθηκαν για την περιεκτική διερεύνηση της ευεξίας. Για την πλειοψηφία των ηλικιωμένων ατόμων του δείγματος ανιχνεύτηκαν μόνο ένας (28,9%) ή δύο δείκτες ευεξίας (27,9%). Σημαντικές ήταν οι διαφορές που

παρατηρήθηκαν μεταξύ ανδρών και γυναικών, με τις γυναίκες να εμφανίζονται σε ποσοστό 17,1% με κανένα παράγοντα ευεξίας, σε σχέση με το 11,0% των ανδρών. Το μέσο σκορ των παραγόντων ευεξίας δεν διέφερε κατά φύλο, παρόλο που ήταν υψηλότερο μεταξύ των ανδρών (2,0%; 95% CI 1,9–2,1), σε σύγκριση μ' αυτό των γυναικών (1,7%; 95% CI 1,6–1,8). Ωστόσο, όσον αφορά στον επιπολασμό των επιμέρους δεικτών της ευεξίας, σημαντικά υψηλότερη ήταν η αναλογία των ανδρών που παρουσίασαν καλύτερα αποτελέσματα σχετικά με την απουσία συμπτωμάτων κατάθλιψης, την εκτίμηση της υγείας ως πολύ καλής, την ικανοποίηση από τη ζωή και την ύπαρξη ενός ή κανενός χρόνιου νοσήματος. Τα παραπάνω ευρήματα συνάδουν μ' αυτά της υπάρχουσας κοινωνικής και ιατρικής έρευνας σύμφωνα με τα οποία φαίνεται να επικρατεί ένα ευδιάκριτο υπόδειγμα στο οποίο είναι εμφανής η αρνητική σχέση μεταξύ γυναικείου φύλου και ευεξίας (Pinquart and Sorensen 2001). Προς αυτή την κατεύθυνση, η καταθλιπτική συμπτωματολογία έχει βρεθεί να είναι μεγαλύτερη μεταξύ των γυναικών άνω των 70 ετών, σε σύγκριση με τους άνδρες (Barry et al. 2008), ενώ έχει διαπιστωθεί ότι οι γυναίκες είναι πιο πιθανό σε σχέση με τους άνδρες να υποφέρουν από λειτουργικούς περιορισμούς (Arber and Cooper 1999), να αντιμετωπίζουν περισσότερες σωματικές αναπηρίες (Murtagh and Hubert 2004), να παρουσιάζουν υψηλότερα ποσοστά κακής αυτο-αξιολόγησης της υγείας (Benyamini et al. 2003) και να ζουν περισσότερα χρόνια, παρά την ύπαρξη ποικίλων χρόνιων καταστάσεων νοσηρότητας (Crimmins et al. 2002).

Σημαντικές διαφορές κατά ηλικιακή ομάδα ανιχνεύτηκαν επίσης και όσον αφορά στον επιπολασμό των επιμέρους δεικτών της ευεξίας, ενώ παρατηρήθηκε ένα συγκεκριμένο πρότυπο όσον αφορά στην αθροιστική εμφάνιση των παραγόντων ευεξίας. Παρά το γεγονός ότι η πολλαπλή παρουσία παραγόντων ευεξίας βρέθηκε να μειώνεται με την άνοδο της ηλικίας, οι διαφοροποιήσεις αυτές ήταν μεγαλύτερες μεταξύ των δυο πρώτων ηλικιακών ομάδων 65-74 και 75-84 ετών, ενώ για τα άτομα τέταρτης ηλικίας (85+) ο επιπολασμός των δεικτών ευεξίας διέφερε σημαντικά μόνο με αυτόν της νεότερης ηλικιακής ομάδας και ήταν σε συγκρίσιμα επίπεδα μ' αυτόν των ατόμων 75-84 ετών. Μάλιστα στην περίπτωση της ποιότητας ζωής και της αυτο-αναφερόμενης υγείας οι συμμετέχοντες άνω των 85 ετών βρέθηκαν σε μεγαλύτερο ποσοστό να δηλώνουν ότι απολαμβάνουν υψηλό επίπεδο ποιότητας ζωής και ότι η υγεία τους είναι πολύ καλή, σε σύγκριση με τα άτομα ηλικίας 75 έως 84 ετών. Πιο συγκεκριμένα, η αναλογία των ατόμων που ανέφεραν υψηλή ποιότητα ζωής (5,0%) και εκτίμησαν το επίπεδο της υγείας τους ως πολύ καλό (6,0%) ήταν μεγαλύτερη στα άτομα τέταρτης ηλικίας, σε σχέση με τα άτομα ηλικίας 75–84 (4,7% και 4,5%, αντίστοιχα), ενώ ο επιπολασμός των ηλικιωμένων που δήλωσαν πολύ ικανοποιημένοι με τη ζωή τους δεν διέφερε σημαντικά με τα άτομα τέταρτης ηλικίας καθώς ήταν ελάχιστα υψηλότερος στην ομάδα των ατόμων 75–84 (28,0%), όταν συγκρίθηκε με

τη μεγαλύτερη ηλικιακή ομάδα 85+ (27,4%). Τα ευρήματα αυτά ουσιαστικά επιβεβαιώνουν το λεγόμενο «παράδοξο της ευεξίας», σύμφωνα με το οποίο απαντάται θετική συσχέτιση μεταξύ της αύξησης της ηλικίας και της ευεξίας των ηλικιωμένων ατόμων, όπως αυτή προσδιορίζεται από διαφορετικούς σχετιζόμενους με την ευεξία δείκτες (Ehrlich and Isaacowitz 2002; Gana et al. 2012). Όπως έχει προταθεί από προγενέστερες έρευνες, όπως για παράδειγμα αυτή των Birditt κ συν. (2005), τόσο οι καθημερινοί παράγοντες άγχους, όσο και η αντίδραση σε αυτούς αμβλύνονται καθώς οι άνθρωποι γηράσκουν, γεγονός που ενδεχομένως να επιτρέπει στα άτομα τέταρτης ηλικίας να απολαμβάνουν σχετικά υψηλά επίπεδα ευεξίας. Όσον αφορά στο δείκτη εκτίμησης της καταθλιπτικής συμπτωματολογίας, διαπιστώθηκε μια καμπυλόγραμμη σχέση μεταξύ κατάθλιψης και ηλικίας, με τον επιπολασμό του χαμηλότερου σκορ να είναι μεγαλύτερος στη νεότερη ηλικιακή ομάδα και να αυξάνεται σημαντικά στις άλλες δυο ηλικιακές ομάδες.

6. Ευεξία και παραγωγική και κοινωνική δραστηριοποίηση

Υψηλότερο επίπεδο ευεξίας, όπως αυτό αποτυπώθηκε στις θετικές αυτο-αναφορές των συμμετεχόντων για την ικανοποίηση από τη ζωή, την ποιότητα ζωής, την απουσία καταθλιπτικής συμπτωματολογίας, την αυτο-εκτίμηση της υγείας και το δείκτη μάζας σώματος, διαπιστώθηκε μεταξύ των ατόμων που συμμετείχαν συχνότερα, τόσο σε παραγωγικές, όσο και σε κοινωνικές δραστηριότητες. Παρομοίως, ο επιπολασμός της εμφάνισης πολλαπλών παραγόντων ευεξίας ήταν σημαντικά υψηλότερος μεταξύ των παραγωγικά ή/και κοινωνικά ενεργών συμμετεχόντων. Πιο συγκεκριμένα, η συμμετοχή των ερευνώμενων σε παραγωγικές ή/και κοινωνικές δραστηριότητες βρέθηκε να σχετίζεται σημαντικά με μεγαλύτερη πιθανότητα εμφάνισης πολλαπλών παραγόντων ευεξίας ή παρουσίας μεγαλύτερου αριθμού θετικών αποτελεσμάτων ευεξίας. Οι παραπάνω παρατηρήσεις συμφωνούν με την αντίληψη ότι η ευεξία κατά την περίοδο της γήρανσης επηρεάζεται σημαντικά από την κοινωνική ενσωμάτωση των ατόμων και βρίσκεται σε αντιστοιχία με τα ευρήματα προηγούμενων μελετών. Πράγματι, η θετική συσχέτιση μεταξύ της κοινωνικής συμμετοχής και της ευεξίας έχει αναδειχθεί από την υπάρχουσα εμπειρική έρευνα η οποία και έχει τονίσει το γεγονός ότι τα ηλικιωμένα άτομα που παραμένουν κοινωνικά ενεργά είναι περισσότερο πιθανό να θεωρούν ότι η υγεία τους είναι καλή (Bennett 2005), να αναφέρουν υψηλή ποιότητα ζωής και ικανοποίηση από τη ζωή (McMunn et al. 2009; Warr et al. 2004), να βιώνουν μειωμένη ψυχολογική επιβάρυνση (Glass et al. 2006) και να εμφανίζουν φυσιολογικό δείκτη μάζας σώματος (Kamiya et al. 2010).

Όσον αφορά στους επιμέρους δείκτες της ευεξίας, παρατηρήθηκε ότι ένα σημαντικά χαμηλότερο ποσοστό των ερευνώμενων που δεν είχαν συμμετάσχει σε καμία παραγωγική ή/και κοινωνική δραστηριότητα ανέφεραν υψηλή ποιότητα ζωής (4,9%; 95% CI 3,9–6,0), σε σύγκριση με τα άτομα που δήλωσαν συχνή συμμετοχή σε παραγωγικές ή/και κοινωνικές δραστηριότητες (7,6%; 95% CI 6,0–9,6).

Επιπροσθέτως, μια σημαντικά υψηλότερη αναλογία ατόμων με συχνή συμμετοχή σε οποιαδήποτε παραγωγική ή/και κοινωνική δραστηριότητα επέδειξαν χαμηλό σκορ συμπτωμάτων κατάθλιψης (69,2%; 95% CI 65,9–72,4), σε σχέση με εκείνα χωρίς καμία δραστηριοποίηση (53,8 %; 95% CI 51,0–56,5). Τα παραπάνω αποτελέσματα παρατηρήθηκαν για όλους τους δείκτες της ευεξίας και για την πολλαπλή εμφάνισή τους.

Περαιτέρω, η πιθανότητα πολλαπλής παρουσίας παραγόντων ευεξίας βρέθηκε να είναι υψηλότερη για τα άτομα που συμμετείχαν σε κοινωνικές δραστηριότητες (ORs=1,57), σε σύγκριση με τα άτομα που συμμετείχαν σε παραγωγικές δραστηριότητες (ORs=1,35), ενώ ο επιπολασμός των ερευνώμενων με περισσότερους από τέσσερις παράγοντες ευεξίας ήταν υψηλότερος μεταξύ αυτών που συμμετείχαν λιγότερο συχνά σε παραγωγικές δραστηριότητες (20,5%; 95% CI 14,6–28,1), σε σύγκριση με αυτούς που συμμετείχαν συχνά (16,7%; 95% CI 13,7–20,2). Σε αντιστοιχία, με τα προαναφερθέντα ευρήματα, τα αποτελέσματα προηγούμενων σχετικών ερευνών έχουν δώσει έμφαση στις λεγόμενες υποθέσεις «επιβάρυνσης λόγω ρόλων» και «ανάπτυξης λόγω ρόλων», σύμφωνα με τις οποίες διαφαίνεται ότι ενδεχομένως η επίδραση των παραγωγικών και κοινωνικών δραστηριοτήτων στα αποτελέσματα υγείας να σχετίζονται με τους διαφορετικούς ρόλους που αυτές εμπεριέχουν και τη βίωση θετικών ή αρνητικών εμπειριών που συνυφαίνονται με την επιτέλεση των ρόλων αυτών (Rozario et al. 2004). Επιπροσθέτως, η συμμετοχή σε παραγωγικές δραστηριότητες ίσως να επιφέρει μια καμπυλόγραμμη επίδραση στην ευεξία με την έννοια ότι τα μέτρια επίπεδα συμμετοχής να ενέχουν περισσότερο ευεργετικές επιδράσεις, σε αντίθεση με τα χαμηλά και τα υψηλά επίπεδα (Klumb 2004). Επίσης, ενδεχομένως η συνεισφορά συγκεκριμένων μορφών παραγωγικής δραστηριοποίησης στην ευεξία να μην είναι ισότιμη. Πιο συγκεκριμένα, η συμμετοχή σε εθελοντικές ή φιλανθρωπικές οργανώσεις είναι πιθανό να αποτελεί την πιο ευεργετική πτυχή της παραγωγικής δραστηριοποίησης καθώς συνυφαίνεται με τη διαμόρφωση κοινωνικών δεσμών που αιχμαλωτίζουν τα μεγαλύτερα οφέλη της διαγωγής μιας ενεργούς κοινωνικής ζωής σε όρους ανάληψης πολλαπλών ρόλων, συνδετικότητας και συντροφικότητας. Αντίθετα, η διάσταση της παραγωγικής δραστηριοποίησης που αφορά στην παροχή άτυπης βοήθειας και φροντίδας εντάσσεται κυρίως σ’ ένα περιβάλλον υποχρεωτικών οικογενειακών και συγγενικών σχέσεων και ενδεχομένως εμπεριέχει την ανάληψη επιβαρυντικών, αγχογόνων και

ανεπιθύμητων ρόλων που ενέχουν αρνητικά αποτελέσματα για την υγεία και την ευεξία. Προς αυτή την κατεύθυνση, η αναλογία των συμμετεχόντων που εκτίμησαν το επίπεδο της υγείας τους ως πολύ καλό και δήλωσαν ότι ήταν ικανοποιημένοι από τη ζωή τους ήταν υψηλότερη μεταξύ αυτών που συμμετείχαν σε παραγωγικές δραστηριότητες λιγότερο συχνά σε σύγκριση με τους περισσότερο παραγωγικά ενεργούς.

7. Ευεξία και κοινωνική απομόνωση

Λαμβάνοντας υπόψη το γεγονός ότι μέχρι σήμερα δεν υπάρχει συναίνεση ως προς τη μέτρηση και τον ορισμό της κοινωνικής απομόνωσης, επιχειρήθηκε η περιεκτική εκτίμηση του βάσει της άντλησης δεικτών που εστιάζουν στις αντικειμενικές διαστάσεις των οικογενειακών και κοινωνικών συνθηκών διαβίωσης των ηλικιωμένων ατόμων. Οι διαστάσεις αυτές μετρήθηκαν σε δομικούς και λειτουργικούς όρους. Πιο συγκεκριμένα, η φυσική απομάκρυνση από τους σημαντικούς άλλους, η οποία ανταποκρίνεται στη δομική πτυχή της κοινωνικής απομόνωσης, όπως έχει προταθεί από τους Tomaka et al. (2006), αξιολογήθηκε βάσει των μορφών συμβίωσης, της οικογενειακής κατάστασης, του αριθμού των παιδιών και των σχετιζόμενων με την οικογένεια σχέσεων σε όρους επαφής των παιδιών με τους γονείς και της γεωγραφικής τους εγγύτητας. Η έλλειψη κοινωνικής συμμετοχής και η απουσία ανταλλαγών κοινωνικής στήριξης θεωρήθηκαν ως δείκτες αντιπροσωπευτικοί της λειτουργικής διάστασης της κοινωνικής απομόνωσης.

Σε συμφωνία με προηγούμενα συμμιγή ερευνητικά αποτελέσματα όσον αφορά στη σχέση μεταξύ κοινωνικής απομόνωσης και ευεξίας, εξαιτίας κυρίως των διαφορετικών ορισμών και των μεθόδων μέτρησης αυτών των εννοιών, το πρότυπο της σχέσης στην παρούσα ανάλυση επίσης βρέθηκε να ποικίλει μεταξύ των διαφορετικών δεικτών. Για παράδειγμα οι μορφές συμβίωσης διαπιστώθηκε να σχετίζονται σημαντικά με τους περισσότερους δείκτες της κοινωνικής απομόνωσης και της πολλαπλής εμφάνισης τους. Πιο συγκεκριμένα, η απουσία συμπτωμάτων κατάθλιψης (p<0,001), η αναφορά πολλής καλής υγείας (p<0,001), η ικανοποίηση από τη ζωή (p=0,012), η παρουσία κανενός ή ενός χρόνιου νοσήματος και η ύπαρξη φυσιολογικού δείκτη μάζας σώματος (p<0,001) ήταν σημαντικά περισσότερο εμφανείς μεταξύ των ατόμων που διαβιούσαν με σύζυγο ή σύντροφο, σε σχέση με εκείνα που δήλωσαν ότι ζούσαν μόνα. Επίσης, το σκορ της ευεξίας ήταν σημαντικά υψηλότερο μεταξύ των συμμετεχόντων που ζούσαν με σύντροφο ή σύζυγο, καθώς και εκείνων που έρχονταν σε επαφή με τα παιδιά τους καθημερινά ή σχεδόν μια φορά την εβδομάδα, σε σύγκριση με εκείνους που ζούσαν χωρίς σύντροφο (1,90 έναντι

1,69, p=0,007) και εκείνους που ανέφεραν λιγότερο συχνή ή καμία επαφή με τα παιδιά τους (1,80 έναντι 1,40, p=0,028).

Η μοναχική διαβίωση διαπιστώθηκε πρόσφατα ότι σχετίζεται σημαντικά με την χαμηλή ποιότητα ζωής και την ύπαρξη κατάθλιψης μεταξύ των ατόμων άνω των 65 ετών (Henning-Smith 2016). Στην παρούσα μελέτη, η γονική κατάσταση επίσης συσχετίστηκε με την εμφάνιση λιγότερων συμπτωμάτων κατάθλιψης και υψηλότερης ικανοποίησης από τη ζωή, εύρημα το οποίο και συμφωνεί με τα διαπιστούμενα από προγενέστερες μελέτες ψυχολογικά οφέλη που επιφέρει για τα ηλικιωμένα άτομα η ύπαρξη παιδιών (Umberson and Montez 2010). Ωστόσο, η σχέση μεταξύ της ατεκνίας και της πολλαπλής εμφάνισης παραγόντων ευεξίας δεν ήταν στατιστικά σημαντική. Όπως έχει προηγουμένως αναφερθεί (Silverstein and Giarruso 2010), ενδεχομένως τα άτομα χωρίς παιδιά να προσαρμόζονται με επιτυχία σ' αυτή την κατάσταση καθ' όλη τη διάρκεια της ζωής τους και να επιδιώκουν να εντάσσονται σε ευρύτερα υποστηρικτικά κοινωνικά δίκτυα, ενώ η ατεκνία ίσως ακόμη και να ενέχει κάποια οφέλη που να σχετίζονται με την απουσία των υποχρεώσεων και των ευθυνών που απορρέουν από την άσκηση του γονεϊκού ρόλου, την αντιμετώπιση λιγότερων συγκρούσεων και ανησυχιών και ως εκ τούτου, την ύπαρξη χαμηλότερου επιπέδου ψυχολογικής και οικονομικής επιβάρυνσης για τα άτομα καθώς αυτά γερνούν.

Επίσης, η κοινωνική συμμετοχή βρέθηκε να σχετίζεται με την ευεξία, με τα κοινωνικά ενεργά άτομα να παρουσιάζουν σημαντικά υψηλότερο σκορ ευεξίας, σε σύγκριση με τους κοινωνικά αδρανείς συνομηλίκους τους (1,93 έναντι 1,70, p=0,001). Σημαντικά μεγαλύτερη ήταν η αναλογία των κοινωνικά δραστήριων ατόμων που παρουσίασαν χαμηλό σκορ κατάθλιψης (p<0,001), που εκτίμησαν την υγεία τους ως πολύ καλή (p<0,001), που δήλωσαν ότι ήταν πολύ ικανοποιημένοι από τη ζωή τους (p<0,001) και που ανέφεραν λιγότερα από δύο χρόνια νοσήματα (p=0,001). Τα παραγωγικά και κοινωνικά δραστήρια άτομα βρέθηκαν σύμφωνα με την ανάλυση πολλαπλής λογιστικής παλινδρόμησης να έχουν σημαντικά υψηλότερη πιθανότητα εμφάνισης πολλαπλών παραγόντων ευεξίας, σε σχέση με τα κοινωνικά ανενεργά άτομα. Πιο συγκεκριμένα, η κοινωνική συμμετοχή αναδείχθηκε προγνωστικός παράγοντας της ευεξίας, με την πιθανότητα παρουσίας πολλαπλών παραγόντων ευεξίας να είναι χαμηλότερη μεταξύ των συμμετεχόντων χωρίς καμία κοινωνική δραστηριοποίηση (ORs=0,51; 95% CI 0,38-0,68).

Τα προαναφερθέντα ευρήματα επιβεβαιώνουν την υπόθεση ότι η κοινωνική δραστηριοποίηση ενέχει ιδιαίτερη σημασία για τα αποτελέσματα της ευεξίας των ηλικιωμένων ατόμων. Παρομοίως, μεγαλύτερη πιθανότητα εμφάνισης καταθλιπτικών συμπτωμάτων βρέθηκε για τα κοινωνικά αδρανή άτομα σύμφωνα με τα αποτελέσματα του «Established Populations for Epidemiologic Studies of the Elderly (EPESE) Project» (Glass et al. 2006). Αντίθετα, η πιθανότητα εμφάνισης

περισσότερων των τεσσάρων παραγόντων ευεξίας ήταν υψηλότερη μεταξύ εκείνων που δήλωσαν σπάνιες ή καθόλου ανταλλαγές κοινωνικής στήριξης (ORs=1,49; 95% CI 1,07-2,08). Ενδεχομένως, η παραπάνω παρατήρηση να σχετίζεται με τα είδη της στήριξης που μελετήθηκαν τα οποία εμπεριείχαν την παροχή λειτουργικής και διεκπεραιωτικής φροντίδας, καθώς και με το γεγονός ότι οι διαδικασίες λήψης φροντίδας ίσως να πυροδοτούν στρεσσογόνα συναισθήματα ιδιαιτέρως για τα ηλικιωμένα εκείνα άτομα με αυξημένες ανάγκες άντλησης αυτών των μορφών φροντίδας λόγω δυσμενών καταστάσεων υγείας (Newsom 1999).

8. Ευεξία και μοναξιά

Η μοναξιά βρέθηκε να σχετίζεται σημαντικά και αρνητικά με την πολλαπλή εμφάνιση παραγόντων ευεξίας. Μάλιστα, ο επιπολασμός της εμφάνισης περισσότερων των τριών παραγόντων ευεξίας ήταν διπλάσιος (15,5%; 95% CI 13,8-17,2) μεταξύ των συμμετεχόντων που δήλωσαν ότι δεν ένιωσαν ποτέ μοναξιά την τελευταία εβδομάδα, σε σύγκριση με εκείνους με πολύ συχνά αισθήματα μοναξιάς (τον περισσότερο καιρό) (6,9%; 95% CI 3,7-12,4). Παρομοίως, λαμβάνοντας ως συγχυτικούς παράγοντες το φύλο, την ηλικία, το μορφωτικό επίπεδο, τη χηρεία, την κατάσταση συνταξιοδότησης, το εισόδημα και τις γεωγραφικές περιοχές διαπιστώθηκε, βάσει ανάλυσης συνδιακύμανσης, ότι το μέσο σκορ των παραγόντων ευεξίας ήταν σημαντικά υψηλότερο μεταξύ των ατόμων που δεν εμφάνισαν καθόλου αισθήματα μοναξιάς κατά το διάστημα της προηγούμενης εβδομάδας (1,36), σε σύγκριση με τους συνομήλικους τους με επίμονα αισθήματα μοναξιάς (1,07) (p-trend=0,002). Όσον αφορά στους επιμέρους δείκτες της ευεξίας σημαντική συσχέτιση παρατηρήθηκε μεταξύ της ικανοποίησης από τη ζωή και της συχνότητας μοναξιάς. Πιο συγκεκριμένα, η αναλογία των ατόμων που ανέφεραν υψηλή ικανοποίηση από τη ζωή ήταν σημαντικά χαμηλότερη μεταξύ εκείνων που εμφάνισαν πολύ συχνά αισθήματα μοναξιάς (10,5%; 95% CI 7,1-15,3), σε σύγκριση με τα άτομα που δήλωσαν απουσία τέτοιων αισθημάτων (40,5%; 95% CI 38,1-42,9). Αντίστοιχη ήταν και η εικόνα που διαπιστώθηκε για την υψηλή ποιότητα ζωής και την αξιολόγηση του επιπέδου υγείας ως πολύ καλού, αν και η συσχέτισή τους με τη συχνότητα της μοναξιάς δεν ήταν σημαντική.

Τα παραπάνω ευρήματα βρίσκονται σε συμφωνία με τα αποτελέσματα προηγούμενων ερευνών που έχουν αναδείξει τη μοναξιά ως δείκτη πρόβλεψης της υγείας και της ευεξίας των ηλικιωμένων ατόμων (Cornwell et al. 2009; Rodriguez-Blazquez 2012) και επομένως, είναι υποστηρικτικά της άποψης ότι η διατήρηση ουσιωδών κοινωνικών και οικογενειακών σχέσεων και αλληλεπιδράσεων συνιστά ένα σημαντικό μέσο προστασίας ενάντια στην εμφάνιση συνθηκών κοινωνικής απομόνωσης και

μοναξιάς (Biordi and Nicholson 2008). Παρομοίως, οι Chen και Feeley (2014) στην ανάλυσή τους που αφορούσε σε ένα δείγμα ατόμων ηλικίας άνω των 50 ετών που συμμετείχαν στην Αμερικανική Μελέτη για την Υγεία και τη Συνταξιοδότηση παρατήρησαν ότι οι ερευνώμενοι με επαρκή λήψη υποστήριξης από τους συζύγους/συντρόφους τους βίωναν χαμηλότερα επίπεδα μοναξιάς και υψηλότερη ευεξία. Πιο πρόσφατα, η κοινωνική απομόνωση και η φτωχή ποιότητα κοινωνικών σχέσεων συσχετίστηκαν με υψηλότερη μοναξιά, η οποία ενείχε υψηλότερο κίνδυνο κατάθλιψης μεταξύ των συμμετεχόντων άνω των 50 ετών της Ιρλανδικής Διαχρονικής Μελέτης της Γήρανσης (TILDA) (Santini et al. 2016).

9. Χρήση προληπτικών υπηρεσιών υγείας και κοινωνική απομόνωση

Η παρούσα εργασία μελέτησε τη χρήση προληπτικών υπηρεσιών υγείας σε σχέση με διαφορετικές διαστάσεις της κοινωνικής απομόνωσης σε έντεκα Ευρωπαϊκές χώρες βάσει ενός αντιπροσωπευτικού δείγματος ατόμων που συμμετείχαν στη μελέτη SHARE. Αντλήθηκαν συγκεκριμένοι δείκτες οι οποίοι έχουν πρόσφατα χρησιμοποιηθεί για να περιγράψουν ποικίλες πτυχές της κοινωνικής απομόνωσης (Zavaleta et al. 2016) προκειμένου να διερευνηθεί η υπόθεση ότι τα κοινωνικά απομονωμένα άτομα άνω των 65 ετών θα ήταν λιγότερο πιθανό να εκδηλώνουν προστατευτικές για την υγεία τους συμπεριφορές και συγκεκριμένα να χρησιμοποιούν μεγάλο αριθμό υπηρεσιών προληπτικής ιατρικής. Επίσης, εξετάστηκε η υπόθεση ότι διαφορετικές διαστάσεις της κοινωνικής απομόνωσης σχετίζονται διαφορετικά με τη λήψη συγκεκριμένων μορφών προληπτικών υπηρεσιών υγείας.

Σύμφωνα με τον ορισμό της κοινωνικής απομόνωσης που υιοθετήθηκε, λιγότερο από το 1/6 των συμμετεχόντων (19,3%) βρέθηκαν να παρουσιάζουν πολλαπλούς παράγοντες κοινωνικής απομόνωσης. Παρά το γεγονός ότι δεν υπάρχει ένας προτυποποιημένος δείκτης εκτίμησης της κοινωνικής απομόνωσης και παρότι απαντάται ασυνέπεια ως προς τη θεωρητική και ερευνητική προσέγγιση του φαινομένου, γεγονός που δυσχεραίνει την άντληση συγκρίσιμων με άλλες μελέτες συμπερασμάτων, το παραπάνω εύρημα φαίνεται να συμφωνεί με αυτά προηγούμενων ερευνών. Για παράδειγμα, σύμφωνα με τη συστηματική ανασκόπηση των Dickens κ συν. (2011), ο επιπολασμός της κοινωνικής απομόνωσης των Ευρωπαίων μέσης και τρίτης ηλικίας κυμαίνεται μεταξύ 7,0 και 17,0%.

Παρόλο που σύμφωνα με τα παραπάνω ευρήματα, η πλειοψηφία των συμμετεχόντων βρέθηκαν να μην είναι κοινωνικά απομονωμένοι, σε συμφωνία με την πρώτη μας υπόθεση, παρατηρήθηκε ένα συγκεκριμένο πρότυπο όσον αφορά στη σχέση μεταξύ δεικτών κοινωνικής απομόνωσης και χρήσης προληπτικών υπηρεσιών. Πιο συγκεκριμένα, μεταξύ των συμμετεχόντων που παρουσίασαν πολλαπλούς

παράγοντες κοινωνικής απομόνωσης διαπιστώθηκε σημαντικά χαμηλότερο σκορ χρήσης προληπτικών υπηρεσιών υγείας. Επίσης, οι περισσότεροι δείκτες που χρησιμοποιήθηκαν για τον προσδιορισμό της κοινωνικής απομόνωσης (μορφές συμβίωσης, οικογενειακή κατάσταση, αριθμός παιδιών και κοινωνική δραστηριοποίηση) σχετίστηκαν σημαντικά με τη χρήση υπηρεσιών προληπτικής ιατρικής. Επιπροσθέτως, σε συμφωνία με τη δεύτερη υπόθεσή μας, συγκεκριμένες πτυχές της κοινωνικής απομόνωσης βρέθηκαν να σχετίζονται με σημαντικά χαμηλότερη πιθανότητα λήψης διαφορετικών προληπτικών υπηρεσιών.

Πιο συγκεκριμένα, σημαντικά υψηλότερο συνολικό μέσο σκορ χρήσης προληπτικών υπηρεσιών διαπιστώθηκε μεταξύ των ηλικιωμένων ατόμων που ζούσαν με σύντροφο ή σύζυγο (p=0,001), των ερευνώμενων που ήταν παντρεμένοι (p=0,004), που είχαν τουλάχιστον ένα παιδί (p=0,046) και αυτών που διατηρούσαν οποιαδήποτε μορφή κοινωνικής δραστηριοποίησης (p=0,023). Παρόλο που αυτή η σχέση δεν παρατηρήθηκε για όλους τους δείκτες, ωστόσο διατηρήθηκε όσον αφορά στην πολλαπλή εμφάνισή τους, με τους συμμετέχοντες με πολλαπλούς παράγοντες κοινωνικής απομόνωσης, σε σύγκριση με εκείνους χωρίς κανένα παράγοντα, να παρουσιάζουν χαμηλότερη χρήση προληπτικών υπηρεσιών υγείας (41,8 έναντι 37,6, p-trend=0,046). Επίσης, μεταξύ των ατόμων που ζούσαν με σύντροφο ή σύζυγο (ORs=0,69; 95% CI 0,52–0,91) και εκείνων χωρίς καμία κοινωνική δραστηριοποίηση (ORs=0,70; 95% CI 0,54–0,89) παρατηρήθηκε σημαντικά χαμηλότερη πιθανότητα να έχουν επισκεφθεί οδοντίατρο. Οι κοινωνικά αδρανείς συμμετέχοντες είχαν χαμηλότερη πιθανότητα να έχουν ερωτηθεί από γενικό γιατρό σχετικά με τη φυσική τους δραστηριότητα (ORs=0,71; 95% CI 0,52–0,96) και να έχουν πραγματοποιήσει σιγμοειδοσκόπηση ή κολονοσκόπηση (ORs=0,74; 95% CI 0,57–0,96). Επιπροσθέτως, η πιθανότητα λήψης συμβουλής από γενικό γιατρό σχετικά με τη φυσική άσκηση διαπιστώθηκε να είναι χαμηλότερη μεταξύ των ανύπαντρων ατόμων (ORs=0,53; 95% CI 0,30–0,93). Επίσης, οι ερευνώμενοι με σπάνια ή καθόλου επαφή με τα παιδιά τους επέδειξαν μικρότερη πιθανότητα να έχουν εξεταστεί από γενικό γιατρό για το σωματικό τους βάρος (ORs=0,40; 95% CI 0,19-0,85). Χαμηλότερη πιθανότητα να έχουν εμβολιαστεί για γρίπη (ORs=1,31; 95% CI 1,04–1,65) ή να έχουν κάνει μαστογραφία (ORs=1,39; 95% CI 1,01–1,91) διαφάνηκε για τα άτομα που ζούσαν χωριστά από τα παιδιά τους. Τέλος, η συμβίωση χωρίς σύντροφο ή σύζυγο βρέθηκε να σχετίζεται με χαμηλότερη πιθανότητα εξέτασης για λανθάνουσα αιμορραγία στα κόπρανα (ORs=0,72; 95% CI 0,53–0,98).

Σε συμφωνία με τα προαναφερθέντα ευρήματα, έχει παρατηρηθεί ότι οι χωρισμένοι ή διαζευγμένοι ηλικιωμένοι άντρες χρησιμοποιούν λιγότερες προληπτικές υπηρεσίες, σε σχέση με τα αντίστοιχα έγγαμα άτομα (Morales et al. 2004). Επιπροσθέτως, η πιθανότητα ανταπόκρισης στη συνιστώμενη λήψη συγκεκριμένων προληπτικών

φροντίδων υγείας έχει διαπιστωθεί να είναι υψηλότερη μεταξύ των ηλικιωμένων ατόμων που διαβιούν με σύντροφο, σε σύγκριση με τα άτομα εκείνα που ζουν μόνα (Lau and Kirby 2009). Κατ' αντιστοιχία, έχει βρεθεί ότι οι γυναίκες μέσης ηλικίας που συμμετέχουν συχνά σε θρησκευτικές δραστηριότητες είναι πιο πιθανό να εκτελούν μια σειρά από προληπτικές υπηρεσίες, όπως μαστογραφίες, εξέταση μαστών και τεστ Παπανικολάου (Benjamins 2006). Παρομοίως, η εθελοντική δραστηριοποίηση έχει συσχετιστεί θετικά με μεγαλύτερη χρήση προληπτικών υπηρεσιών μεταξύ των ατόμων μέσης και τρίτης ηλικίας (Kim et al. 2014).

10. Διαφοροποιήσεις μεταξύ χωρών και γεωγραφικών περιοχών

Ο επιπολασμός των θετικών δεικτών ευεξίας διέφερε σημαντικά μεταξύ των υπό μελέτη γεωγραφικών περιοχών, με τις χώρες της Βόρειας Ευρώπης να χαρακτηρίζονται από την ύπαρξη καλύτερων αποτελεσμάτων σε όλους τους δείκτες που χρησιμοποιήθηκαν ως αντιπροσωπευτικοί της υψηλής ευεξίας και να εμφανίζουν μεγαλύτερη αναλογία ηλικιωμένων ατόμων με πολλαπλή παρουσία παραγόντων ευεξίας.

Στις χώρες της Νότιας Ευρώπης σύμφωνα με την τυπολογία που ανέπτυξε ο Mauricio Ferrera (Ferrera 1996) επικρατεί το λεγόμενο «νοτιο-ευρωπαϊκό μοντέλο» (Southern welfare model) όσον αφορά τις πολιτικές κράτους-πρόνοιας. Το ευδιάκριτο αυτό μοντέλο κοινωνικής πολιτικής χαρακτηρίζεται από ανισότητες στην κατανομή των κοινωνικών παροχών και ταυτόχρονη χαμηλή αποδοτικότητα και αποτελεσματικότητα του κοινωνικού κράτους, το οποίο φαίνεται να αρκείται στην παροχή επιδομάτων και συντάξεων, ενώ κυρίαρχη είναι η επιβάρυνση της οικογένειας η οποία λειτουργεί εν πολλοίς ως ο βασικός φορέας θεσμικής ενσωμάτωσης, αλλά και ως ο κυρίαρχος άτυπος μηχανισμός κοινωνικής στήριξης και φροντίδας. Σε μακρο-οικονομικό επίπεδο, οι διαφοροποιήσεις που παρουσιάζει το νοτιο-ευρωπαϊκό μοντέλο κράτους πρόνοιας σε όρους κατανομής των κοινωνικών πόρων και αντιμετώπισης της κοινωνικής ευπάθειας θεωρούνται ότι επεξηγούν εν μέρει και τις ανισότητες που αντανακλώνται ποικιλοτρόπως στα αποτελέσματα υγείας των αντίστοιχων πληθυσμών (Sarti et al. 2013). Μάλιστα, τα συστήματα ευημερίας έχουν θεωρηθεί σημαντικοί προσδιοριστές της υγείας, αλλά και της ύπαρξης κοινωνικών ανισοτήτων στην υγεία καθώς φαίνεται να είναι ικανά να συμβάλουν στον περιορισμό της έκτασης, αλλά και της επίδρασης της κοινωνικής θέσης στη διαμόρφωση των αποτελεσμάτων υγείας (Eikemo et al. 2008).

Στην παρούσα εργασία, παρόλο που δεν επιχειρήθηκε η διερεύνηση ανισοτήτων μεταξύ των υπό μελέτη χωρών στα πλαίσια των προτεινόμενων μοντέλων κοινωνικής προστασίας και κοινωνικής πολιτικής (πχ. Esping- Andersen, Mauricio Ferrera),

ωστόσο παρατηρήθηκαν σημαντικές διαφοροποιήσεις στα αποτελέσματα της ευεξίας μεταξύ των τριών γεωγραφικών περιοχών οι οποίες φαίνεται να βρίσκονται σε αντιστοιχία με αυτές που έχουν ερμηνευτεί βάσει της κατηγοριοποίησης των χωρών ως προς τις διαφορετικές πολιτικές κράτους πρόνοιας που υιοθετούν.

Πιο συγκεκριμένα, ο επιπολασμός των 4+ παραγόντων ευεξίας ήταν δυο φορές υψηλότερος στις χώρες της Βόρειας Ευρώπης (23,2%), σε σχέση με τις χώρες της Κεντρικής Ευρώπης (11,2%) και τρεις φορές υψηλότερος, σε σύγκριση με τις χώρες του Νότου (7,2%). Παρόμοια αποτελέσματα παρατηρήθηκαν όσον αφορά στην αναλόγια των ατόμων που παρουσίασαν απουσία παραγόντων ευεξίας, η οποία ήταν εμφανώς υψηλότερη στις χώρες της Νότιας (19,4%) και Κεντρικής Ευρώπης (11,5%) σε σχέση με τις χώρες του Ευρωπαϊκού Βορρά (5,9%). Τα παραπάνω αποτελέσματα ενισχύουν περαιτέρω την επανειλημμένως διαπιστούμενη διαβάθμιση στα αποτελέσματα ευεξίας και υγείας μεταξύ Νότου και Βορρά (Mackenbach 2014), η οποία έχει αποδοθεί στην επικράτηση διαφοροποιήσεων μεταξύ των χωρών αυτών σε όρους κοινωνικών συνθηκών διαβίωσης και επάρκειας των υπαρχόντων υγειονομικών και κοινωνικών πολιτικών (Aijanseppa et al. 2005). Περαιτέρω, περίπου το 1/3 των ερευνώμενων στη Δανία (30,0%) παρουσίασαν περισσότερους από τέσσερις παράγοντες ευεξίας, ακολουθούμενοι από τους ηλικιωμένους στην Ελβετία (28,0%), αναλογία που διαπιστώθηκε να είναι μόλις 5,0% στην Ιταλία και 8,5% στη Γαλλία. Αντίθετα, η έλλειψη παραγόντων ευεξίας ήταν σημαντικά υψηλότερη στις χώρες του Νότου, σε ποσοστό υψηλότερο του 15,0%, ενώ το αντίστοιχο ποσοστό ήταν 5,0 έως 15,0% στις περισσότερες χώρες της Κεντρικής Ευρώπης και Βόρειας Ευρώπης και λιγότερο από 5,0% στη Δανία και την Ελβετία. Περαιτέρω, η απουσία παραγόντων ευεξίας ήταν υψηλότερη στην Ισπανία (20,9 %), την Ιταλία (18,8%) και την Ελλάδα (17,7%), ενώ διαπιστώθηκε για μια μικρή μόνο αναλογία ηλικιωμένων στην Ελβετία (3,2%), τη Δανία (4,4%) και τη Σουηδία (6,7%).

Τα παραπάνω αποτελέσματα θα μπορούσαν να ερμηνευτούν βάσει των ευρημάτων της υπάρχουσας γεροντολογικής έρευνας τα οποία συντείνουν προς τη διαπίστωση της επικράτησης ενός συγκεκριμένου προτύπου στην κατανομή των αποτελεσμάτων της ευεξίας και της υγείας μεταξύ των Ευρωπαϊκών χωρών που διέπεται από την ύπαρξη σημαντικής διαβάθμισης στα αποτελέσματα αυτά και το οποίο τείνει να είναι πιο ευνοϊκό για τα ηλικιωμένα άτομα στις χώρες του Ευρωπαϊκού Βορρά (Fagerström et al. 2007; Komp and Aartsen 2013; Mackenbach 2014). Προγενέστερες μελέτες έχουν συμπεράνει ότι η παραπάνω σχέση είναι αποτέλεσμα των διαφοροποιήσεων στη διαθεσιμότητα, κατανομή και άντληση κοινωνικο-οικονομικών, υγειονομικών και άλλων πόρων μεταξύ των πληθυσμών που διαβιούν στις χώρες του Ευρωπαϊκού Βορρά και Νότου (Aijanseppa et al. 2005), οι οποίες φαίνεται ότι παραμένουν και στις μεγαλύτερες ηλικίες (Huisman et al. 2003). Υπάρχουν, επίσης και πρόσφατες

ενδείξεις ότι επιβαρυντικοί για την υγεία παράγοντες που σχετίζονται με τον τρόπο ζωής απαντώνται συχνότερα στις χώρες της Νότιας Ευρώπης, σε σχέση με εκείνες του Ευρωπαϊκού Βορρά (Linardakis et al. 2014).

Παρόλο που στο υπάρχον δείγμα Ευρωπαίων ατόμων ηλικίας άνω των 65 ετών ο επιπολασμός της κοινωνικής απομόνωσης παρατηρήθηκε ότι ήταν χαμηλός, σημαντικές διαφορές διαπιστώθηκαν μεταξύ των υπό μελέτη Ευρωπαϊκών χωρών. Για να είμαστε περισσότερο ακριβείς, το ποσοστό της εμφάνισης πολλαπλών παραγόντων κοινωνικής απομόνωσης ήταν περίπου 9,0–22,0% στη Νότια Ευρώπη, σε σύγκριση με το 13,0–25,0% μεταξύ των ηλικιωμένων ατόμων στη Βόρεια και την Κεντρική Ευρώπη. Επιπλέον, η αναλογία των ηλικιωμένων ατόμων που βρέθηκαν με περισσότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης ήταν η υψηλότερη στη Σουηδία (25,2%) και η χαμηλότερη στην Ελλάδα (8,8%). Ως εκ τούτου, οι αντικειμενικές διαστάσεις της κοινωνικής απομόνωσης φαίνεται να είναι λιγότερο εμφανείς σε κοινωνίες όπου οι οικογενειακοί δεσμοί είναι ισχυρότεροι, η συγκατοίκηση των παιδιών με τους γονείς ή η διαμονή σε κοντινή απόσταση είναι η κυρίαρχη μορφή συμβίωσης και οι διαγενεακές μεταβιβάσεις είναι αυξημένες, σε σύγκριση με περισσότερο ατομικιστικές κοινωνίες. Θα μπορούσε επίσης να υποτεθεί ότι σε χώρες όπως η Ελλάδα, όπου ένα σημαντικά περιορισμένο ποσοστό ηλικιωμένων παρατηρήθηκε να παραμένει κοινωνικά ενεργό, σύμφωνα με τη συμμετοχή σε παραγωγικές και κοινωνικές δραστηριότητες, με εξαίρεση τη συμμετοχή σε θρησκευτικές εκδηλώσεις ή τελετές, υπάρχει ανεπάρκεια αλληλεπιδρώντων κοινωνικών δικτύων, γεγονός που καθιστά τους ηλικιωμένους περισσότερο «εξαρτημένους» από τις οικογενειακές τους σχέσεις και κυρίως τους δεσμούς τους με τα παιδιά τους. Ταυτόχρονα, η μοναχική διαβίωση φαίνεται να εκτιμάται περισσότερο στις χώρες του Βορρά, όπου η συγκατοίκηση ίσως ακόμη και να θεωρείται ως μια προσωπική «ήττα» μεταξύ των ατόμων μεγαλύτερων ηλικιών (Dykstra 2009).

Σημαντικές διαφοροποιήσεις διαπιστώθηκαν στην κατανομή των επιμέρους δεικτών της κοινωνικής απομόνωσης μεταξύ των διαφορετικών γεωγραφικών περιοχών. Για παράδειγμα, λιγότεροι ερευνώμενοι στις χώρες της Νότιας Ευρώπης, σε σύγκριση με τους συνομηλίκους τους στην Κεντρική και Βόρεια Ευρώπη, δήλωσαν ότι έρχονταν σε επαφή με τα παιδιά τους λιγότερο από μια φορά το μήνα ή ποτέ. Προηγούμενα ευρήματα έχουν συντείνει στη διαπίστωση ότι η συχνή επαφή παιδιών και γονέων είναι λιγότερο πιθανό να συμβεί μεταξύ των Βορειοευρωπαίων (Tomassini et al. 2004), γεγονός το οποίο και έχει αποδοθεί στην επικρατούσα αντίληψη, αλλά και την αξία που αποδίδουν οι ηλικιωμένοι γονείς στο Νότο της Ευρώπης ως προς την αναγκαιότητα διατήρησης στενών διαγενεακών σχέσεων, οι οποίες φαίνεται να είναι και οι κυρίαρχες μορφές κοινωνικών αλληλοσυσχετίσεων που αναπτύσσονται στο

περιβάλλον της τρίτης και τέταρτης ηλικίας στις χώρες αυτές (Dykstra 2009). Στην παρούσα διερεύνηση, η γεωγραφική εγγύτητα ή η συμβίωση των ηλικιωμένων γονέων με τα παιδιά τους ήταν πιο συνηθισμένη στις χώρες της Νότιας Ευρώπης, εύρημα το οποίο βρίσκεται σε αντιστοιχία με προγενέστερες μελέτες που έχουν δείξει ότι τα ηλικιωμένα άτομα στο Νότο είναι περισσότερο εξοικειωμένα, αλλά και επιδιώκουν τη συγκατοίκηση με τα ενήλικα παιδιά τους, σε σχέση με τον ηλικιωμένο πληθυσμό του Βορρά (Iacovou 2002). Μάλιστα, η συγκατοίκηση η οποία συνιστά μια συνηθισμένη μορφή συμβίωσης για την παροχή διαγενεακής οικογενειακής στήριξης στις χώρες του Νότου, εκτός του ότι είναι πολιτισμικά προτιμητέα, θεωρείται, επίσης, ότι συνιστά το αποτέλεσμα «μετρήσιμων οικονομικών παραγόντων και παραγόντων πολιτικής» (Berthoud and Iacovou 2004), με την έννοια ότι τα ηλικιωμένα άτομα στο Νότο της Ευρώπης διαβιούν αναμφισβήτητα σε συγκριτικά δυσμενέστερες οικονομικές συνθήκες και η σχετική ανεπάρκεια των υπηρεσιών του επίσημου συστήματος πρόνοιας καθιστά σε πολλές περιπτώσεις αναγκαία τη διαβίωση των ηλικιωμένων γονιών με τα παιδιά τους για την υποκατάσταση των αντίστοιχων υπηρεσιών φροντίδας και στήριξης. Το αντίθετο φαίνεται να ισχύει στις χώρες του Βορρά όπου η μοναχική διαβίωση των ατόμων καθώς αυτά γηράσκουν ισοδυναμεί ουσιαστικά με περισσότερη αυτονομία και ανεξαρτησία και αποτελεί την προτιμούμενη μορφή διαβίωσης. Άλλη μια σημαντική διαφοροποίηση μεταξύ των χωρών υπό μελέτη παρατηρήθηκε όταν εξετάστηκε η αναλογική σχέση (ratio) μεταξύ ευεξίας και κοινωνικής απομόνωσης, με τα υψηλότερα ratios να απαντώνται στην Ελβετία και τη Δανία και τα χαμηλότερα στην Ισπανία και την Ιταλία. Αυτό το εύρημα είναι ενδεικτικό του γεγονότος ότι η εμφάνιση θετικών αποτελεσμάτων ευεξίας είναι επικρατέστερη στην Ελβετία και τη Δανία, σε σχέση με τους δείκτες της κοινωνικής απομόνωσης, ενώ αντίθετα στην Ισπανία και την Ιταλία οι δείκτες της κοινωνικής απομόνωσης φαίνεται να είναι πιο εμφανείς, σε σύγκριση με τους παράγοντες ευεξίας.

Όσον αφορά στην κατανομή του σκορ της χρήσης προληπτικών υπηρεσιών υγείας, αξιοσημείωτο ήταν το εύρημα σύμφωνα με το οποίο το σκορ αυτό ήταν σημαντικά υψηλότερο μεταξύ των ηλικιωμένων ατόμων στη Σουηδία (25,2%) και την Αυστρία (22,5%), ενώ ήταν μόλις 8,8% στην Ελλάδα και 13,3% στο Βέλγιο. Αυτό ίσχυσε για τις περισσότερες χώρες της Κεντρικής και Νότιας Ευρώπης, παρά τις σημαντικές διαφορές μεταξύ τους. Ένα συγκρίσιμο πρότυπο διαπιστώθηκε όταν μελετήθηκαν περαιτέρω οι διαφορές μεταξύ των διαφορετικών χωρών όσον αφορά στην κατανομή του σκορ της χρήσης προληπτικών υπηρεσιών υγείας σε σχέση με την πολλαπλή εμφάνιση παραγόντων κοινωνικής απομόνωσης. Αυτό το πρότυπο ήταν περισσότερο εμφανές στην περίπτωση των ατόμων με περισσότερους από τέσσερις παράγοντες κοινωνικής απομόνωσης στη Γαλλία (49,6), την Αυστρία (45,9) και το Βέλγιο (44,3),

όπου και διαπιστώθηκε το υψηλότερο σκορ χρήσης υπηρεσιών προληπτικής ιατρικής, το οποίο και ήταν σχεδόν δυο φορές μεγαλύτερο σε σύγκριση με την Ελλάδα (26,0). Οι κοινωνικά απομονωμένοι ηλικιωμένοι Έλληνες που συμμετείχαν στη μελέτη βρέθηκαν να λαμβάνουν σημαντικά τις λιγότερες υπηρεσίες πρόληψης, παρά το γεγονός ότι όπως έχουν δείξει προηγούμενες εμπειρικές αναλύσεις που έχουν βασισθεί στα δεδομένα της μελέτης SHARE μεταξύ των Ευρωπαϊκών χωρών η Ελλάδα παρουσιάζει ένα μεγάλο επιπολασμό ατόμων με πολλαπλούς παράγοντες που ενοχοποιούνται για την εμφάνιση χρόνιων νοσημάτων (Linardakis et al. 2015).

Τέλος, μεγαλύτερη ήταν η αναλογία των Ευρωπαίων του Νότου που δήλωσαν ότι αισθάνονταν μοναξιά τον περισσότερο καιρό (12,6%), σε σχέση με τους συμμετέχοντες της Κεντρικής (7,5%) και Βόρειας Ευρώπης (5,0%). Σημαντικές διαφοροποιήσεις διαπιστώθηκαν όταν εξετάστηκε ο επιπολασμός της μοναξιάς μεταξύ των διαφορετικών χωρών. Σύμφωνα με τα ευρήματα της παρούσας εργασίας, μεγαλύτερη ήταν η αναλογία των ηλικιωμένων ατόμων στην Ελλάδα και την Ιταλία που ανέφεραν πολύ συχνά αισθήματα μοναξιάς, σε σχέση με τους ερευνώμενους στις υπόλοιπες υπό μελέτη χώρες. Πιο συγκεκριμένα, 27,8% των Ιταλών και 26,1% των Ελλήνων δήλωσαν ότι βίωναν αισθήματα μοναξιάς τον περισσότερο καιρό την προηγούμενη εβδομάδα, ενώ αυτό ίσχυσε μόνο για το 5,0% του αντίστοιχου πληθυσμού στην Ελβετία.

Περαιτέρω, όταν μελετήθηκε η κατανομή των παραγόντων της ευεξίας μεταξύ των ατόμων με συχνά αισθήματα μοναξιάς σε επίπεδο χωρών, διαπιστώθηκαν σημαντικές διαφοροποιήσεις. Πιο συγκεκριμένα, οι συμμετέχοντες που δήλωσαν ότι βίωναν αισθήματα μοναξιάς τον περισσότερο ή κάποιο καιρό στην Ισπανία επέδειξαν σημαντικά χαμηλότερη αναλογία πολλαπλών παραγόντων ευεξίας (5,0%; 95% CI 2,5-9,5), σε σύγκριση με τους συμμετέχοντες των υπόλοιπων χωρών. Επιπροσθέτως, σημαντικά χαμηλότερος επιπολασμός λιγότερων από δυο χρόνια νοσήματα (29,9%; 95% CI 23,6-37,1) και φυσιολογικού δείκτη μάζας σώματος (30,8%; 95% CI 24,5-37,9) παρατηρήθηκε μεταξύ των μοναχικών ατόμων στην Ισπανία, ενώ αντίθετα η αναλογία των ερευνώμενων που βρέθηκαν με υψηλή ποιότητα ζωής (2,9% 95% CI 1,3-6,4), με πολύ καλή εκτίμηση του επιπέδου υγείας (2,6% 95% CI 0,7-8,7) και υψηλή ικανοποίηση από τη ζωή (9,3% 95% CI 5,4-15,4) ήταν σημαντικά χαμηλότερη στην Ιταλία. Η συσσώρευση παραγόντων ευεξίας ήταν σημαντικά υψηλότερη μεταξύ των ατόμων με συχνά αισθήματα μοναξιάς στην Ελβετία (24,6%; 95% CI 14,6-38,3). Παρομοίως, στην Ελβετία διαπιστώθηκε η μεγαλύτερη αναλογία μοναχικών ατόμων με υψηλή ποιότητα ζωής, πολύ καλή αυτο-αξιολόγηση της υγείας, ικανοποίηση από τη ζωή και λιγότερα από δυο χρόνια νοσήματα.

Όσον αφορά στη γεωγραφική κατανομή της μοναξιάς, διαθέσιμες έρευνες έχουν επίσης επιβεβαιώσει την ύπαρξη διαβάθμισης στα σχετικά αποτελέσματα μεταξύ των

χωρών Βορρά και Νότου, με τους Βορειοευρωπαίους να εμφανίζουν λιγότερο συχνά αισθήματα μοναξιάς σε σχέση με τα άτομα του Νότου (Jylha and Saarenheimo 2010). Αυτά τα αποτελέσματα θα μπορούσαν να ερμηνευτούν στα πλαίσια των λεγόμενων «πολιτισμικών προσδοκιών» οι οποίες ίσως να λειτουργούν ως επιβαρυντικοί παράγοντες για την εμφάνιση αισθημάτων μοναξιάς. Ακριβώς εξαιτίας του γεγονότος ότι στις χώρες του Νότου η συγκατοίκηση με τα παιδιά ή η γεωγραφική εγγύτητα με αυτά αποτελεί μια σημαίνουσα σκοπιά της διαγενεακής κοινωνικής αλληλεγγύης και τα ηλικιωμένα άτομα αποδίδουν σ' αυτήν ιδιαίτερη αξία (Zavaleta et al. 2014) και παρόλο που τα ποσοστά της είναι ιδιαίτερα υψηλά, η προσδοκία που συνυφαίνεται με την επίτευξή των συνθηκών αυτών ενδέχεται να επιφέρει αισθήματα ανησυχίας και απογοήτευσης. Υπό αυτή την έννοια, πολιτισμικοί παράγοντες ίσως να ενέχουν μεγάλη σημασία στο πως τα ηλικιωμένα άτομα ερμηνεύουν την έκταση των οικογενειακών τους σχέσεων και την ποιότητα των σχέσεων αυτών και θα μπορούσαν να εξηγήσουν την παρατηρούμενη διαβάθμιση στην εμπειρία της μοναξιάς μεταξύ των χωρών Βορρά και Νότου. Μάλιστα στην παρούσα μελέτη, η μεγάλη πλειοψηφία (64,8%) των ερευνώμενων στη Νότια Ευρώπη βρέθηκαν να μοιράζονται το ίδιο νοικοκυριό με τα παιδιά τους, ενώ αυτό ίσχυσε για λιγότερο από το 1/3 των Βορειοευρωπαίων συμμετεχόντων (28,3%). Παρόλο, λοιπόν που «το μήλο δεν ζει μακριά από το δέντρο» στο νότο της Ευρώπης» (Isengard 2013), απαντάται μια ασυμφωνία που προκαλεί σύγχυση (Sundström et al. 2009), με την επικράτηση αισθημάτων να είναι πιο συνηθισμένη στις χώρους του νότου (Yang and Victor 2011).

Υπό το ίδιο πρίσμα, οι διαφοροποιήσεις όσον αφορά στην εμφάνιση των παραγόντων ευεξίας μεταξύ των μοναχικών ατόμων σε επίπεδο χωρών θα μπορούσαν, επίσης, να ερμηνευτούν σε όρους πολιτισμικών αντιλήψεων και αξιών οι οποίες επενεργούν διαφορετικά στην εμφάνιση αισθημάτων μοναξιάς. Συγκεκριμένα, έχει προταθεί ότι ενδεχομένως τα άτομα στις νότιες χώρες είναι περισσότερο ευάλωτα στη βίωση μοναξιάς καθώς εμφανίζουν χαμηλό βαθμό αυτονομίας και ανεξαρτησίας καθ' όλο τον κύκλο ζωής τους, με αποτέλεσμα να επηρεάζονται περισσότερο συναισθηματικά από τις απώλειες που υφίστανται αναπόφευκτα καθώς γερνούν σε επίπεδο κοινωνικών ρόλων και σχέσεων, εν αντιθέσει με τους συνομήλικους τους στο βορρά που επενδύουν περισσότερο στην αυτονομία τους και ενδεχομένως οι σχετιζόμενες με τη γήρανση μεταβολές να επιδρούν λιγότερο επιβαρυντικά στη συναισθηματική τους υγεία (Dykstra 2009). Επιπροσθέτως, θα μπορούσε εύλογα να υποτεθεί ότι το επίπεδο της μοναξιάς επιφέρει διαφορετικές επιδράσεις στην ευεξία των ατόμων μεταξύ βορρά και νότου και ότι οι επιδράσεις αυτές είναι μεγαλύτερες για τους ηλικιωμένους στις νότιες χώρες, λαμβάνοντας υπόψη το γεγονός ότι οι παράγοντες κινδύνου της μοναξιάς, όπως η υλική αποστέρηση, η φτωχή υγεία και η κοινωνική

απομόνωση κατανέμονται διαφορετικά μεταξύ των διαφορετικών αυτών γεωγραφικών περιοχών. Μάλιστα, τα ηλικιωμένα άτομα στο νότο της Ευρώπης έχουν συστηματικά βρεθεί να βρίσκονται σε λιγότερο ευνοϊκή θέση, σε όρους απορρόφησης κοινωνικο-οικονομικών και θεσμικών πόρων (Hansen et al. 2015).

11. Περιορισμοί έρευνας

Η ερμηνεία των παραπάνω ευρημάτων θα πρέπει να βασιστεί στη θεώρηση ορισμένων περιορισμών, όπως και περιγράφονται παρακάτω. Πρώτον, είναι δύσκολο να αντληθούν συμπεράσματα σχετικά με την αιτιολογική σχέση μεταξύ της κοινωνικής δραστηριοποίησης και της ευεξίας εξαιτίας της συγχρονικής φύσης των αποτελεσμάτων. Παρά το γεγονός ότι οι προηγούμενες μελέτες που έχουν εξετάσει την παραπάνω σχέση προοπτικά έχουν αναγνωρίσει ένα σταθερό πρότυπο που συντείνει προς τη διαπίστωση ότι η συμμετοχή σε δραστηριότητες συνιστά προγνωστικό παράγοντα της ευεξίας (Baker et al. 2005; Glass et al. 2006), η προσπάθεια να διερευνηθεί η αιτιολογικότητα εγείρει ορισμένα ζητήματα. Πρώτον, θα μπορούσε δικαιολογημένα να υποτεθεί ότι οι ευεργετικές επιδράσεις της κοινωνικής δραστηριοποίησης ίσως να είναι αποτέλεσμα αντίστροφης σχέσης, με την έννοια ότι η ευεξία ενδέχεται να αποτελεί προϋπόθεση για τη διατήρηση της κοινωνικής δραστηριοποίησης των ατόμων καθώς αυτά γερνούν. Θα μπορούσε επίσης να είναι εξίσου πιθανό ότι το να αντιμετωπίζει κάποιος προβλήματα υγείας αποτελεί εμπόδιο για τη συμμετοχή του σε δραστηριότητες και κοινωνικές αλληλεπιδράσεις, γεγονός που με τη σειρά του μπορεί να επιφέρει περιορισμούς στην ευεξία. Σύμφωνα με τα αποτελέσματα της διερεύνησης των Richard κ συν. (2008) για την εκτίμηση των προσδιοριστικών παραγόντων της ευεξίας ατόμων άνω των 58 ετών η υγεία βρέθηκε να αποτελεί ανεξάρτητο προγνωστικό παράγοντα της κοινωνικής συμμετοχής. Αντίθετα, οι Li και Ferraro (2006) διαπίστωσαν αμοιβαίες επιδράσεις μεταξύ εθελοντισμού και πνευματικής και σωματικής υγείας για τα ηλικιωμένα άτομα, παρατηρώντας τόσο μια ευεργετική, όσο και μια συμπληρωματική σχέση, ενώ για τους συμμετέχοντες μέσης ηλικίας διαπιστώθηκε να ισχύει ο μηχανισμός της κοινωνικής επιλογής, με τα άτομα με λιγότερα καταθλιπτικά συμπτώματα να έχουν υψηλότερα επίπεδα εθελοντικής δραστηριοποίησης. Αυτά τα ευρήματα, επίσης, επιβεβαιώθηκαν από την πιο πρόσφατη μελέτη των Johnson κ συν. (2014) οι οποίοι τόνισαν ότι τα ηλικιωμένα άτομα με γνωστική αναπηρία, σε σχέση με τα άτομα χωρίς αναπηρία συμμετείχαν σε λιγότερες δραστηριότητες, παρόλο που κοινωνικο-δημογραφικοί παράγοντες θα μπορούσαν επίσης να εξηγήσουν τη σχέση αυτή. Ωστόσο στην ίδια μελέτη τα περισσότερο δραστήρια άτομα ήταν πιθανότερο να αναφέρουν υψηλότερη ποιότητα ζωής ανεξάρτητα από το επίπεδο της γνωστικής τους αναπηρίας. Παρομοίως, οι Adams κ συν. (2011) στην κριτική ανασκόπηση της

γεροντολογικής βιβλιογραφίας για την κοινωνική δραστηριοποίηση και την ευεξία συμπέραναν ότι η υπάρχουσα έρευνα συντείνει στην ύπαρξη μιας συσχέτισης που υπόκειται σε εξήγηση, τόσο σε όρους κοινωνικής επιλογής, όσο και κοινωνικής αιτιολογίας. Δεδομένου, ότι η μελέτη SHARE είναι μια διαχρονική μελέτη, παρέχει σημαντικές δυνατότητες για τη διενέργεια συγκρίσεων μεταξύ των διαφορετικών κυμάτων που θα μπορούσαν να παράγουν ενδείξεις για σχέσεις αιτιότητας μεταξύ κοινωνικής συμμετοχής και ευεξίας και να συμβάλουν στην αναγνώριση πιθανών επιδράσεων που μπορεί να επιφέρουν στο επίπεδο της ευεξίας αλλαγές στην κοινωνική δραστηριοποίηση των ατόμων. Παρομοίως, παρόλο που η παρούσα εργασία είναι ενδεικτική συγκεκριμένων συσχετίσεων μεταξύ των επιμέρους δεικτών της κοινωνικής απομόνωσης και διαφορετικών αποτελεσμάτων της ευεξίας, αιτιολογικές σχέσεις δεν μπορούν να διαπιστωθούν εξαιτίας ακριβώς του συγχρονικού χαρακτήρα των αναλύσεων. Επίσης, αντίστροφες σχέσεις μπορεί επίσης να ισχύουν με την έννοια ότι το επίπεδο της ευεξίας των ηλικιωμένων ατόμων ενδέχεται να επηρεάζει και τους διαθέσιμους οικογενειακούς και κοινωνικούς τους πόρους.

Κατ' αντιστοιχία, είναι επίσης δύσκολο να αντληθούν συμπεράσματα σχετικά με την αιτιολογική σχέση μεταξύ χρήσης προληπτικών υπηρεσιών υγείας και κοινωνικής απομόνωσης. Θα μπορούσε εύλογα να υποτεθεί ότι η έκταση των προληπτικών υπηρεσιών υγείας που προσλαμβάνει ένα άτομο συναρτάται άμεσα με τις πραγματικές ανάγκες υγείας και τις ιατρικές διαγνώσεις, ενώ όπως έχει και προηγουμένως υποστηριχθεί μέσω της ανάδειξης διαφοροποιήσεων μεταξύ χωρών στα σχετικά αποτελέσματα (Schoen et al. 2005), η υιοθέτηση συμπεριφορών υγείας που σχετίζονται με την πρόληψη θα μπορούσε να είναι συναφής με άλλους παράγοντες, πέρα των προσωπικών χαρακτηριστικών και επιλογών, που σχετίζονται περισσότερο με την οργάνωση, τη δομή και τη διάθεση των αντίστοιχων υπηρεσιών. Η διαχρονικότητα της μελέτης SHARE παρέχει τη δυνατότητα μελλοντικής διερεύνησης των αιτιολογικών σχέσεων μεταξύ χρήσης προληπτικών υπηρεσιών και κοινωνικής απομόνωσης μέσω της εξέτασης αντίστοιχων χρονικών αλλαγών.

Ένας επιπρόσθετος περιορισμός έγκειται στο γεγονός ότι οι ρόλοι που ενέχονται σε κάθε τύπο παραγωγικής και κοινωνικής δραστηριοποίησης ίσως να ενέχουν πολυδιάστατες ετερογενείς επιδράσεις σε διαφορετικές εκφάνσεις της ευεξίας οι οποίες θα μπορούσαν να ανιχνευτούν εάν κάθε μορφή δραστηριότητας είχε μελετηθεί ξεχωριστά. Επίσης, παρά το γεγονός ότι η κοινωνική δραστηριοποίηση μετρήθηκε σε όρους συχνότητας συμμετοχής λαμβάνοντας υπόψη το επεξηγηματικό πλαίσιο της θεωρίας δραστηριοτήτων και την αντίληψη ότι οι θετικές εμπειρίες που αποκτώνται από την κοινωνική συμμετοχή συνάδουν με τη συχνότητα της αφοσίωσης σ' αυτές, άλλα χαρακτηριστικά των δραστηριοτήτων, όπως η ποιότητά που αποδίδεται σ' αυτές

από τα ίδια άτομα που τις επιτελούν ίσως να ασκούν επίδραση στη διαμόρφωση της ευεξίας.

Τα παραπάνω ενδέχεται να ισχύουν και όσον αφορά στην εκτίμηση της κοινωνικής απομόνωσης για την οποία αντλήθηκαν δείκτες οι οποίοι αντανακλούν, σύμφωνα με τα ευρήματα της υπάρχουσας επιδημιολογικής και γεροντολογικής έρευνας, σημαντικές πτυχές των συνθηκών διαβίωσης των ηλικιωμένων ατόμων. Ωστόσο, για τη συγκρισιμότητα των αποτελεσμάτων της παρούσας έρευνας απαιτείται προσοχή ακριβώς λόγω της ασυνέπειας που απαντάται μεταξύ των δεικτών και των κλιμάκων που έχουν χρησιμοποιηθεί από παρόμοιες έρευνες για τη μέτρηση της κοινωνικής απομόνωσης.

Επίσης, αξίζει να σημειωθεί ότι ο πληθυσμός της μελέτης SHARE αποτελείται από άτομα που ζουν στην κοινότητα, γεγονός που σημαίνει ότι τα ιδρυματοποιημένα άτομα τα οποία έχουν λιγότερες ευκαιρίες κοινωνικής συμμετοχής εκ των πραγμάτων αποκλείονται από τη μελέτη, περιορισμός ο οποίος μπορεί να έχει ως αποτέλεσμα την υποτίμηση του πραγματικού μεγέθους της θετικής επίδρασης της κοινωνικής δραστηριοποίησης στα αποτελέσματα της ευεξίας. Παρομοίως, σε τέτοιες μελέτες καθίσταται δύσκολο να μετρηθεί και η πραγματική έκταση της κοινωνικής απομόνωσης λόγω ακριβώς του γεγονότος ότι οι συμμετέχοντες βρίσκονται σε ευνοϊκή θέση σε όρους κοινωνικής ενσωμάτωσης, με αποτέλεσμα τα άτομα που διαβιούν σε συνθήκες κοινωνικής απομόνωσης ενδεχομένως να υπό αντιπροσωπεύονται, γεγονός που ίσως να εξηγεί εν μέρει και το χαμηλό επιπολασμό της κοινωνικής απομόνωσης που διαπιστώθηκε στην παρούσα διερεύνηση. Το γεγονός ότι η έρευνα αυτή ίσως να παρουσιάζει μια σχετική προκατάληψη προς τα περισσότερο κοινωνικά ενσωματωμένα μη-ιδρυματοποιημένα άτομα ενδέχεται να επιτρέπει την εκτίμησης της πραγματικής έκτασης της σχέσης μεταξύ κοινωνικής απομόνωσης και ευεξίας.

Ένα επιπλέον μειονέκτημα που θα μπορούσε να αναγνωρισθεί αφορά στην ενδεχόμενη προκατάληψη που σχετίζεται με την εκτίμηση της ευεξίας βάσει αυτο-αναφερόμενων μετρήσεων, το οποίο όμως φαίνεται να ενυπάρχει στις περισσότερες μελέτες που χρησιμοποιούν εργαλεία που εδράζονται κυρίως στις υποκειμενικές αντιλήψεις των ίδιων των συμμετεχόντων. Παρομοίως, η εκτίμηση της χρήσης προληπτικών υπηρεσιών βασίστηκε στις αυτο-αναφορές των ερευνώμενων, γεγονός που ενδέχεται να διέπεται από προκατάληψη αναφοράς ή ανάκλησης, μειονέκτημα το οποίο ωστόσο φαίνεται να είναι σύμφυτο σε μελέτες που αντλούν τέτοιου τύπου πληροφορίες για τη μέτρηση της χρήσης υπηρεσιών υγείας γενικότερα (Allin et al. 2006). Στην περίπτωση μάλιστα της εκτίμησης της μοναξιάς, έχει υποστηριχθεί ότι η χρήση μιας ερώτησης που ζητάει ευθέως από τα άτομα να υποδείξουν πόσο μόνα νιώθουν, παρόλο που χρησιμοποιείται ευρέως από σχετικές έρευνες, ίσως να οδηγεί

στην υπό εκτίμηση της μοναξιάς καθώς οι άνθρωποι εμφανίζονται απρόθυμοι να παραδεχτούν ότι βιώνουν μοναξιά ακριβώς εξαιτίας των επικρατουσών κοινωνικών αντιλήψεων που προσλαμβάνουν τη μοναξιά ως κοινωνικά ανεπιθύμητη (Victor et al. 2000).

Τέλος, το γεγονός ότι δεν παρατηρήθηκαν σημαντικές διαφοροποιήσεις ως προς τους επιμέρους δείκτες της ευεξίας μεταξύ των ατόμων της μεγαλύτερης ηλικιακής ομάδας σε σχέση με τους νεότερους συνομήλικους τους, το οποίο έχει περιγραφεί στη βιβλιογραφία ως το λεγόμενο «παράδοξο της ευεξίας», θα μπορούσε να είναι αποτέλεσμα του λεγόμενου «negativity bias» που διέπει τις αυτο-αναφορές των ατόμων νεότερων ηλικιακών ομάδων και της σχετιζόμενης με την ηλικία επίδρασης της θετικότητας (age-related positivity effect), υπό την έννοια ότι τα άτομα μεγαλύτερων ηλικιών τείνουν να κρίνουν περισσότερο θετικά τις συνθήκες της ζωής τους, να ρυθμίζουν καλύτερα τις συναισθηματικές τους αντιδράσεις και να αποδίδουν μεγαλύτερη αξία στο γεγονός ότι έχουν κατορθώσει να επιβιώσουν (higher survival value), παρά τις αντικειμενικά δυσχερείς συνθήκες που βιώνουν (Morgan and Scheibe 2014). Επιπροσθέτως, όπως ήδη αναφέρθηκε παραπάνω, τα άτομα μεγαλύτερων ηλικιών ενδεχομένως εστιάζουν περισσότερο στις θετικές εμπειρίες της ζωής τους, έρχονται αντιμέτωπα με λιγότερους στρεσσογόνους παράγοντες καθώς γερνούν και τείνουν να αναζητούν και να αναπτύσσουν ουσιώδεις κοινωνικές σχέσεις οι οποίες λειτουργούν ως αντιστάθμισμα των λειτουργικών και άλλων περιορισμών που αντιμετωπίζουν.

12. Συμπεράσματα- Προτάσεις

Λαμβάνοντας υπόψη τα κύρια ευρήματα της παρούσας εργασίας γίνεται αντιληπτό ότι η διασφάλιση και ενίσχυση της παραγωγικής και κοινωνικής δραστηριοποίησης και η μείωση της κοινωνικής απομόνωσης των ατόμων καθώς αυτά γερνούν αποτελεί ένα σημαντικό ατραπό στην επίτευξη θετικών αποτελεσμάτων ευεξίας και στην ενίσχυση ευνοϊκών για την υγεία συμπεριφορών, όπως είναι αυτή της προσφυγής στη διαθέσιμη προληπτική φροντίδα υγείας. Επίσης, η παρούσα μελέτη παρέχει σημαντικές ενδείξεις για το ρόλο που ενέχουν συγκεκριμένες δυσμενείς διαστάσεις του οικογενειακού και κοινωνικού περιβάλλοντος των ατόμων που προσιδιάζουν στην κοινωνική απομόνωση στη διαμόρφωση των θετικών αποτελεσμάτων της ευεξίας. Επιπροσθέτως, τα παρόντα αποτελέσματα είναι υποστηρικτικά της λεγόμενης διαβάθμισης μεταξύ Βορρά και Νότου (North-South Gradient), καθώς προσφέρουν περαιτέρω στοιχεία τα οποία φαίνεται να επιβεβαιώνουν την ύπαρξη διαφοροποιήσεων στην κατανομή των αποτελεσμάτων της ευεξίας, αλλά και της χρήσης προληπτικών υπηρεσιών υγείας μεταξύ των χωρών του Ευρωπαϊκού Βορρά

και Νότου, με τους πολίτες της Βόρειας Ευρώπης να παρουσιάζουν σημαντικά καλύτερα αποτελέσματα, σε σχέση με τους συνομηλίκους τους στη Νότια Ευρώπη. Επίσης, διαπιστώθηκε ότι υπάρχει ένα σαφές πολλαπλό μειονέκτημα για τα ηλικιωμένα άτομα των χωρών του Νότου, τα οποία εμφανίζονται ταυτόχρονα να έχουν προσπορίσει λιγότερα χρόνια εκπαίδευσης, να κατέχουν χαμηλότερο εισόδημα και να έχουν λιγότερες ευκαιρίες κοινωνικής δραστηριοποίησης.

Σημαντικά ήταν επίσης τα ευρήματα σε σχέση με την ύπαρξη διαφοροποιήσεων λόγω φύλου και ηλικίας. Συγκεκριμένα, διαπιστώθηκε ότι οι άνδρες εμφανίζουν καλύτερα αποτελέσματα ευεξίας και λιγότερους παράγοντες κοινωνικής απομόνωσης, συμμετέχουν περισσότερο σε κοινωνικές δραστηριότητες και βιώνουν λιγότερο συχνά αισθήματα μοναξιάς. Επίσης, μεγαλύτερη ήταν η πιθανότητα τα άτομα καθώς αυξάνεται η ηλικία τους να εμφανίσουν περισσότερους παράγοντες κοινωνικής απομόνωσης, να αισθάνονται μοναξιά τον περισσότερο καιρό και να χρησιμοποιούν λιγότερο συχνά προληπτικές υπηρεσίες υγείας. Αντίθετα, η άνοδος της ηλικίας δεν βρέθηκε να συνάδει κατ' ανάγκη με την εμφάνιση λιγότερων θετικών αποτελεσμάτων ευεξίας, με την παρουσία πολλαπλών παραγόντων ευεξίας να μην διαφέρει σημαντικά μεταξύ των ατόμων τρίτης και τέταρτης ηλικίας, εύρημα που υποστηρίζει περαιτέρω την επικράτηση του λεγόμενου «παράδοξου της ευεξίας». Τέλος, τα παρόντα ευρήματα είναι υποστηρικτικά της εμφάνισης σημαντικών διαφοροποιήσεων στα αποτελέσματα της ευεξίας, της κοινωνικής απομόνωσης, της μοναξιάς, αλλά και της χρήσης υπηρεσιών υγείας, λόγω κοινωνικο-οικονομικού επιπέδου και ως εκ τούτου, επιβεβαιώνουν την ύπαρξη σημαντικών ανισοτήτων μεταξύ ατόμων με διαφορετικούς μορφωτικούς και οικονομικούς πόρους. Επομένως, ενισχύουν την κατανόηση σχετικά με τους παράγοντες εκείνους που εκθέτουν τα άτομα σε κίνδυνο μειωμένης ευεξίας και περιορισμένης χρήσης προληπτικών υπηρεσιών υγείας και σε συνθήκες κοινωνικής απομόνωσης και μοναξιάς.

Τα παραπάνω αποτελέσματα θα μπορούσαν να ληφθούν υπόψη από τους σχεδιαστές πολιτικής και όλους τους εμπλεκόμενους φορείς στην ανάπτυξη στρατηγικών για την ενίσχυση της κοινωνικής δραστηριοποίησης των ηλικιωμένων ατόμων και τη μείωση των παραγόντων κοινωνικής απομόνωσης με σκοπό την προαγωγή της ευεξίας και της υγείας τους. Είναι ιδιαίτερα σημαντικό να καταστεί σαφές ότι τα ηλικιωμένα άτομα δύνανται να επιτελέσουν σημαντικές συνεισφορές, τις οποίες μπορεί να καρπώνεται ολόκληρη η κοινωνία, εφόσον διατηρείται η ενεργητικότητα και η ανεξαρτησία τους. Ο ίδιος ο Παγκόσμιος Οργανισμός Υγείας έχει τονίσει την αναγκαιότητα ανάπτυξης ενός νέου υποδείγματος το οποίο να προσλαμβάνει τους ηλικιωμένους ως ενεργούς εταίρους και συμβάλλοντες για την επίτευξη μιας κοινωνίας ενσωμάτωσης των ατόμων όλων των ηλικιακών ομάδων (World Health Organization 2001).

Η ανάπτυξη καλών πρακτικών προς την κατεύθυνση της άμβλυνσης των παραγόντων κακής υγείας και περιορισμένης ευεξίας που να στοχεύουν ακριβώς στη διεύρυνση των κινήτρων, ευκαιριών και συνθηκών κοινωνικής δραστηριοποίησης και συμμετοχής των ατόμων καθώς αυτά γερνούν μπορεί να αποτελέσει το καλύτερο μέσο μείωσης της εξάρτησης και της αναπηρίας και μεγιστοποίησης του δυναμικού τους και ανακούφισης του φορτίου της φροντίδας τους που συνεπάγεται η διαβίωσή τους σε συνθήκες κοινωνικής απομόνωσης και μοναξιάς για τις υπηρεσίες υγείας και τις κοινωνικές υπηρεσίες. Επομένως, η καλά τεκμηριωμένη υπόθεση της προστατευτικής για την ευεξία επίδρασης των κοινωνικών σχέσεων και της κοινωνικής ενσωμάτωσης και αντίστροφα του κινδύνου που φέρει η κοινωνική απομόνωση έχει σημαίνουσα βαρύτητα όσον αφορά στις πολιτικές, αλλά και τους θεσμούς που στοχεύουν τόσο στην πρόληψη, όσο και στη θεραπεία των συνθηκών νοσηρότητας των ατόμων κατά την περίοδο της γήρανσης.

Ως εκ τούτου, και λαμβάνοντας υπόψη ότι τα άτομα καθώς γερνούν εκτίθενται περισσότερο σε απώλειες που σχετίζονται ακριβώς με την ηλικία και επηρεάζουν σημαντικά τις κοινωνικές τους σχέσεις είναι κρίσιμο οι εκάστοτε παρεμβάσεις να διασφαλίζουν ότι όλα τα άτομα έχουν ίση πρόσβαση σε προστατευτικούς για την υγεία και την ευεξία τους πόρους και να προσανατολίζονται προς την εξάλειψη των παραγόντων που προκαλούν ανισότητες στην άντληση των πόρων αυτών.

Τέλος, τα ευρήματα της εργασίας αυτής μπορούν να παρέχουν σημαντική πληροφόρηση αναφορικά με την υλοποίηση παρεμβάσεων που θα μπορούσαν να οδηγήσουν σε βελτιώσεις σε συγκεκριμένα αποτελέσματα της ευεξίας, μέσω ακριβώς της διαμόρφωσης συνθηκών που ενισχύουν τη λήψη των απαραίτητων υπηρεσιών προληπτικής ιατρικής και τη μείωση των παραγόντων που δυσχεραίνουν την προσφυγή σ' αυτές. Ιδιαίτερα όσον αφορά στη χρήση προληπτικών υπηρεσιών υγείας, η οποία και θεωρείται ένα μέσο εξέχουσας σχετικότητας ως προς την καθυστέρηση ή την πρόληψη της νοσηρότητας, τη διατήρηση της υγείας και τη μείωση των αναγκών σε ιατρική φροντίδα και λαμβάνοντας υπόψη το γεγονός ότι «ο τελικός στόχος της δημόσιας υγείας είναι να αυξήσει την περίοδο της γήρανσης η οποία να είναι ελεύθερη από κακή υγεία, αναπηρία και εξάρτηση» (Donaldson and Scally 2009, p.417), η ανάδειξη των παραγόντων που σχετίζονται με τη χρήση προληπτικών υπηρεσιών ή υπηρεσιών προαγωγής της υγείας που δύνανται να καθυστερήσουν τη μετάβαση στη φτωχή υγεία και τη λειτουργική έκπτωση και οι οποίοι υπόκεινται σε παρεμβάσεις είναι ιδιαίτερης σημασίας από τη σκοπιά της δημόσιας υγείας και των πολιτικών υγείας.

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Σύντομο Βιογραφικό

Η Μαρία Βοζικάκη γεννήθηκε το 1980 στο Ηράκλειο Κρήτης, είναι παντρεμένη και έχει δυο κόρες, 5 ετών και 6 μηνών.

Σπούδασε στο Τμήμα Κοινωνικής Διοίκησης, στο Δημοκρίτειο Πανεπιστήμιο Θράκης από το 1999 έως το 2004 και ολοκλήρωσε τις σπουδές της με βαθμό 8,38 (Λίαν Καλώς) ακολουθώντας την κατεύθυνση της Κοινωνικής Διοίκησης και Κοινωνικής Πολιτικής. Εν συνεχεία παρακολούθησε και ολοκλήρωσε με βαθμό 8,70 (Άριστα) το Πρόγραμμα Μεταπτυχιακών Σπουδών στη «Δημόσια Υγεία και Διοίκηση Υπηρεσιών Υγείας», το οποίο ολοκλήρωσε το 2005 με ειδίκευση στη «Διοίκηση Υπηρεσιών Υγείας», στο Τμήμα Ιατρικής του Πανεπιστημίου Κρήτης. Το 2016 παρακολούθησε και ολοκλήρωσε επιτυχώς με βαθμό 9,70 (Άριστα) το Πρόγραμμα Παιδαγωγικής και Διδακτικής Επάρκειας του Παιδαγωγικού Τμήματος Δημοτικής Εκπαίδευσης, της Σχολής Επιστημών Αγωγής του Πανεπιστημίου Κρήτης. Επίσης, έχει παρακολουθήσει σεμινάρια κατάρτισης στην Εκπαίδευση Εκπαιδευτών Ενηλίκων, τις Μαθησιακές Δυσκολίες, τις Ευπαθείς Κοινωνικές Ομάδες, τη Νοσοκομειακή Διοίκηση, τη Λειτουργία Δομών Κοινωνικής Στήριξης, το Μάρκετινγκ, την Αντιμετώπιση Κρίσεων και τη Διαχείριση του Άγχους, την Πληροφορική και τις Νέες Τεχνολογίες.

Κατά το διάστημα 2005 έως 2008 εργάστηκε για δύο χρόνια ως Κοινωνιολόγος στο Κέντρο Κοινωνικής Πρόνοιας για Ηλικιωμένους-Συμβουλευτικός Σταθμός Οικογένειας και Βρεφονηπιακός Σταθμός για παιδιά με ειδικές ανάγκες. Στη συνέχεια εργάστηκε ως επιστημονικός συνεργάτης σε ερευνητικά προγράμματα του Τμήματος Ιατρικής του Πανεπιστημίου Κρήτης από το 2009 έως το 2015 (SHARE, ΘΑΛΗΣ, ΕΣΠΑ κλπ).

Μέχρι σήμερα έχει συμμετάσχει σε έξι δημοσιεύσεις σε διεθνή περιοδικά, έχει μια συμμετοχή σε συγγραφή κεφαλαίου σε τόμο ελληνικής έκδοσης, μια συμμετοχή σε ελληνικό περιοδικό και έχει συμμετοχές σε συνέδρια ως εισηγήτρια και δημοσιεύσεις σε πρακτικά συνεδρίων.

Παράρτημα

Δημοσιεύσεις Υποστήριξης Διδακτορικής Διατριβής

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Activity Participation and Well-Being Among European Adults Aged 65 years and Older

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Abstract Increasing evidence suggests that different patterns of activity participation confer several positive well-being outcomes through the later years of life. The aim of the present study is to examine the likelihood of higher well-being linked with a socially engaged lifestyle with a view to extending prior research. Data on a nationally representative sample of adults aged 65 and older from eleven European countries (n = 7025) was drawn from the first Wave of the Survey of Health, Aging and Retirement in Europe (SHARE, 2004/5). Socially and productively oriented activities were administered as salient aspects of activity participation and were rated on frequency of involvement. Well-being was defined by the clustering of six indicators including life satisfaction, quality of life, self-rated health, psychological distress, chronic diseases and Body Mass Index (BMI). The effect of activity participation on the clustering of well-being indicators was estimated according to complex samples ordinal regression models. The overall pattern was that of a significantly increased likelihood for frequently active participants to present multiple presence of positive well-being outcomes ($p < 0.05$). This held true not only at the individual level but also across most SHARE countries. Although the findings of the current analysis cannot identify the direction of causality of the observed effects, they still lend some support to the reasonable conjecture that old-age activity engagement matters for individuals' wellbeing and testify to the suggestion that public health and social care

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interventions should consider the respective potential well-being gains and therefore foster the facilitation of activities and attachments.

Keywords Older adults · Social activities · Productive activities · Well-being

Abbreviations

SHARE	Survey of Health, Ageing and Retirement in Europe
CES-D	Center for Epidemiological Studies of Depression questionnaire
BMI	Body Mass Index

1 Introduction

The rising proportion of people thriving into old age over the last several years and the subsequent policy and practice implications for health and social care systems as concerns a population expected to present an increasingly older-age structure have brought the identification of factors which may bear on late-life welfare to the consideration of the existing research and policy framework of old age (Rechel et al. 2013). Hence, the call for directing policy concern toward reinforcing activity engagement as a key element of strategies pointing to the amelioration of older adults' lives and thus as an additional perspective on potential fields for well-being initiatives in old age has been dominant.

The main focus of the current study was on elaborating on well-being and activity engagement among the elderly from eleven European countries by providing a detailed descriptive account of the respective measures and their socio-demographic and regional distribution and examining if there is evidence of positive well-being outcomes associated with different patterns of activity involvement. Specifically, we were concerned with examining the potential benefits afforded by the frequency of activity performance for elders' well-being operationalized as the clustering of six distinct indicators: quality of life, depressive symptomatology, self-rated health, life satisfaction, chronic diseases and Body Mass Index (BMI). Social involvement was conceptualized along two dimensions, productive activity participation and social activity participation, each encompassing activities which have been denoted to lie at the core of older people's activity engagement according to related research evidence.

Well-being has been delineated as the key objective of public policies targeting older people drawing on the gain view of aging and the belief that late-life holds far-reaching opportunities for personal growth and meaningful social engagement. Even though, there is not an all-embracing conceptual and methodological framework explicitly referring to well-being and hence the difficulties in defining and measuring it, its multifaceted nature has been commonly acknowledged and key elements of well-being at older ages to be assessed have been posited across social gerontology research. According to older adults' self-evaluations well-being refers essentially to a state of 'feeling healthy, free from pain and able to lead a positive life' (Hoban et al. 2011) (p. 5). In this regard, indicators featuring the physical, mental and emotional aspects of well-being are substantially relevant for research on elderly well-being. However and despite the fact that the inclusion of indicators referring to various elements of older adults' well-being in the empirical analysis might afford additional insights on those domains of old life that should be mostly aimed at by activity engagement interventions, the main strand of research so far has been restricted

to the employment of specific well-being measures not allowing for a comprehensive assessment. In addition, previous evidence in the field has mainly displayed a single country interest with the possible effects of activity participation on well-being on a cross-country perspective being still relatively unexplored.

1.1 Previous Research on Activity Participation and Well-Being

The field of social, mental and behavioral sciences that examines old-age well-being endeavors to add to the explication of the processes of growing old, with the emphasis lying on the comprehension and assessment of the different factors and conditions that account for advanced later-life well-being. Productively and socially oriented activities as a salient component of successful aging whereby valued outcomes and mutual contributions with salutary effects are furnished have been corroborated by empirical inquiry as aspects of everyday later-life that hold an essential role to the maintenance and enhancement of well-being. The outlined premise that older people contemplate their well-being more positively when they occupy activity roles within their social settings has been variously addressed. For instance, McMunn et al. (2009) on their analysis based upon the second wave of the English Longitudinal Study of Aging (ELSA) investigated the association between participation in activities and well-being as measured by the indicators of quality of life, life satisfaction and depression. In another study (Wahrendorf and Siegrist 2010) (p. 60) quality of life was addressed as 'a theoretically grounded indicator of well-being' and the link between changes in productive activities and changes in quality of life was assessed on data derived from the Survey of Health, Ageing and Retirement in Europe (SHARE). More recently, Gilmour (2012) employed self-perceived health, loneliness and life satisfaction on his examination of the health and well-being benefits of the number of frequently undertaken activities for people aged 65 and older who participated in the Canadian Community Health Survey-Healthy Aging.

On the other hand, old-age activity participation has been variously defined and measured across diverse theoretical and empirical approaches. Overarching and interchangeably constructs which have been given substance in the conceptual advancement of activity involvement, namely social engagement, active engagement with life, connectedness, connectivity and embeddedness, have traditionally focused on the measurement of the performance and retention of purposeful roles integral to activities through which older people's access to important flows of psycho-social resources is facilitated. Baum et al. (2000), drawing data from the Health Development and Social Capital Project detected a specific participation profile for people aged 70 and over as compared to younger participants pertaining to higher levels of community group participation in terms of church attendance, volunteering and participation in service clubs. In the same study, this pattern appeared to be cumulative and remain relatively stable among older people over a 4-year period. Mendes de Leon et al. (2003) assessed social engagement on a summary measure reflecting the aggregation of a wide range of social and productive activities common at older populations. Older adults' activity performance was measured on both overall frequency of participation in 17 different activities and number of activities by distinguishing six separate domains (family and social, church and charity, home and garden, reflection and learning, music and drama and sports) by Warr et al. (2004). As well, in Bennett's (2005) study, late-life social engagement was determined by the respondents' involvement in 20 distinct activity domains entailing either actual social involvement or limited social interaction. More recently, resting on SHARE data Sirven and Debrand (2012) evaluated social capital according to participation in five social activities (voluntary/charity work,

training course, sport/social club, religious organization, and political/community organization).

A lack of definition and measurement consistency, as well as an overlap of concepts is therefore apparent, rendering it difficult to compare extant research findings on activity participation and well-being outcomes. However, the still-emerging evidence base holds that activity involvement at older ages, measured either on overall activity level or on divergent respects of particular activity domains, effects a significant contribution to several aspects of older adults' well-being lending plausibility to activity theory and its postulation that people who remain engaged in activities through which social roles are enacted are afforded with positive outcomes (Rowe and Kahn 1997). In particular, there is evidence to feature familial and non-familial attachment, religious and group attendance and participation in volunteer, recreational and leisure pursuits in older adults population as important indicators of quality of life (Bowling 1995), determinants of life satisfaction and self-perceived health status (Van Willigen 2000) and predictors of cognitive functioning and physical and mental health and well-being (Everard et al. 2000; Hao 2008; Morrow-Howell et al. 2003).

The potential mechanisms underlying the age-associated well-being protective prospect of active engagement with life have been mainly expounded upon physiological, behavioral and psychosocial pathways through which direct and indirect effects are exerted. The *main effects* model suggests that through the social support and social integration functions of social engagement behavioral and physiological benefits are gained regarding the inducement of salutary health-related behaviors and the enhancement of neuroendocrine and immune systems functioning (Cohen 2004). Furthermore, several investigations have consistently supported the *stress-buffering* hypothesis allowing for the contention that later-life well-being is positively impacted by social interactions and supportive transactions which reinforce adaptation to stressful events and coping with major life transitions and thus moderate plausible adverse effects (Musick and Wilson 2003; Unger et al. 1997). To this vein, another model proposed by Herzog et al. (1998) is supportive of the contention that it is the activation and the maintenance of the agentic self prompted through social involvement that constitutes the main mechanism via which palpable favorable implications for well-being are held.

With the above end in view, in our conceptualization of activity involvement both productive social participation referred to as productive activity participation and collective and political participation referred to as social activity participation were considered so that to encompass domains of diverse activity patterns that are prevalent in older people's social context and particularly relevant for their well-being. Following Klumb's (2004) (p. 121) proposition that productive activities are defined by their 'outcome utility rather than the pleasure they afford' and the position maintained by Baker et al. (2005) that productive activities serve for the welfare of others, hold a common social element and are meaningful to individuals undertaking them, the respondents' contribution to the production of societal and personal services and goods in the current study was gauged both in terms of being occupied in voluntary and charity activities, as well as in family and social bonds involving informal assistance and caregiving. Thus, according to the definition of social engagement stated by Glass et al. (2006) (p. 606) as the 'performance of meaningful social roles for either leisure or productive activity', social participation as a salient domain of activity involvement was measured on four items corresponding to the respondents' frequency of embeddedness in education and training related groups and religious or other political and civic associations.

1.2 The Present Study

Even though previous research has attested to variations in well-being by socio-economic characteristics, differences among older people have not yet been fully investigated as concerns diverse aspects of well-being and distinct domains of activity participation. In this regard, based on a large and nationally representative sample of the 65 and over European population the current paper sets out firstly to present descriptive data on well-being and activity participation at an individual and regional level and secondly to address the well-being benefits presumably conferred by activity participation in order to replicate prior findings and furnish new cross-nationally comparative evidence to the existing literature by employing indicators which capture several elements of old-age well-being. In particular, the specific queries under focus were as follows:

(1) Is productive and social activity participation equally distributed across socio-structural variables and regional groups?
(2) Is well-being differently determined among genders, age groups and regional settings?
(3) Do older adults experience positive outcomes across different dimensions of well-being associated with frequency of engagement in productive and social activities?
(4) Is a similar association pattern held between the two different activity participation domains and well-being measures?
(5) Are regional variations evidenced in regard to the association of frequent activity participation and the prevalence of multiple well-being indicators?

2 Methods

2.1 Study Sample

This study employed data from the first wave of the Cross-European Survey of Health, Ageing and Retirement in Europe (SHARE, http://www.share-project.org) conducted between 2004/5 in eleven European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, Netherlands, Spain, Sweden and Switzerland) and coordinated by the Munich Center for the Economics of Aging (MEA). SHARE seeks to gain insight into key features of the ageing process and its challenges addressing multifaceted questions with reference to quality of life, health and well-being, care needs, health-care use, social and family networks, social support, wealth and assets. The novelty of this survey lies at the fact that its multidisciplinary and multinational design facilitates comparative cross-national research in the European context from a social, economic and health perspective.

The target population of the survey included households which consisted of at least one person 50 years of age or older, that is people who were born in 1954 or earlier as far as the first wave of the survey is concerned. Furthermore, the possibly younger counterparts of the age-eligible respondents were also interviewed. People were excluded if they were not residing at the sampled address at the time of the survey, were unable to respond to the procedures owing to physical and mental difficulties or could not speak the respective national questionnaire language.

The target SHARE population was randomly selected to be nationally representative of the European community-dwelling middle-aged and over population. Full probability

sampling was achieved by employing sampling frames pertaining to country-specific resources resting both on registers administered at a national and regional level, as well as telephone directories. The respective sampling designs undertaken varied from a simple selection of households to rather complex multistage procedures, which resulted in an average weighted response rate ranging from 73.7 % in Spain to 93.3 % in Germany at the individual level and 38.8 % in Switzerland to 81.0 % in France at the household level. A more thorough delineation of study design, procedure guidelines and released data has been published elsewhere (Borsch-Supan et al. 2013).

For the purposes of the current investigation and in order to address activity participation and its relationship to well-being in the later-life context, the analysis comprised individuals aged 65 years and older within the SHARE sample, which yielded a study population of 7025 respondents (3308 males and 3717 females), divided into three age groups: 65–74, 75–84 and 85+.

2.2 Data Collection

The main survey data collection was implemented by means of a centrally-programmed, computer-assisted personal interviewing technique (CAPI) based on an automatically generated questionnaire consisting of 21 modules. Data collection was further supplemented by a brief self-administered paper-and-pencil questionnaire ('drop-off') which was handed to the respondents after the completion of the baseline interview.

3 Measures

3.1 Well-Being Indicators

In the current study six distinct indicators were administered to represent different physical, mental and emotional aspects of older adults' well-being: quality of life, psychological distress, self-rated health, life satisfaction, chronic diseases and BMI. High well-being was equated with reporting high quality of life, indicating absence of depressive symptomatology, perceiving health status as very good, being very satisfied with life, suffering from none or one chronic health condition and exhibiting normal BMI.

Satisfaction with life was determined by featuring a single-question indicator which has been widely applied (Amit and Litwin 2010; Davern et al. 2007) and has been shown to have acceptable levels of reliability and validity (Pavot and Diener 1993). The rating of life satisfaction was obtained by querying 'How satisfied are you with your life in general?' on a 1 (very satisfied) to 4 (very dissatisfied) response scale. As regards the usefulness of this global measure of life satisfaction, the notion posited by Cummins et al. (2003) was adopted taking into account that the question 'How satisfied are you with your life as a whole?' yields stable interpretations of one's personal general state of well-being over time.

Quality of life was measured on CASP-12, which is a shorter version of the original 19-item scale (CASP-19) (Blane et al. 2004; Wiggins et al. 2007), first included in the self-completion questionnaire of SHARE and found to correlate highly with the original version and thus display adequate psychometric properties (Cronbach's alpha = 0.83) (Knesebeck et al. 2007). CASP-12 has been acknowledged and utilized as a measure of assessing quality of life in older people as the result of the fulfilment of four substantial

dimensions of human needs: control (C), autonomy (A), self-realization (S) and pleasure (P). Response categories were scored on a four-point scale (often, sometimes, rarely and never) and the negatively worded items were reversely coded so that the above four conceptual domains could be drawn. Responses were summed and a total score ranging from 12 to 48 was generated, with higher scores pointing to the existence of better quality of life (Cronbach's alpha = 0.89). A cut-off point of ≥39, being indicative of high quality of life, was defined as the reference category.

An abbreviated version of the Center for Epidemiological Studies Depression scale (CES-D) was administered in order to identify the absence of depressive symptomatology. The 11-item abridged version of CES-D, as administered in the SHARE questionnaire which encompasses 11 identical items from the original 20-item index first introduced by Radloff (1977), has been widely addressed among different populations (Everson-Rose et al. 2004; Smith 2006) and the elderly (Barry et al. 2008; Kohout et al. 1993). CES-D 11 has also been demonstrated to produce valid and reliable assessments of decreased positive affect and to correlate at a high level with the 20-item original version of CES-D, with a Cronbach's alpha ranging from 0.81 to 0.83 (Gellis 2010; Kohout et al. 1993). Participants were queried as regards the frequency they had experienced specific depressive symptoms during the course of the previous 7 days according to four-category response options to which a value of zero, one, two or three was assigned (0: 'Almost none of the time', 1: 'Some of the time', 2: 'Most of the time', 3: 'Almost all of the time'). Responses on the items were summed after reversely coding the four positively stated items which produced an overall score of depressive symptomatology, ranging from 0 to 33, with higher values signifying a greater degree of psychological distress sustained by the respondents over the past one-week period (Cronbach's alpha = 0.79). A cut-off of nine or higher was applied as a threshold indicative of the occurrence of clinically significant depressive symptomatology, as proposed by Steffick (2000) and recently administered to correspond to the original cut-off point score of 16 in the 20-item measure (Kroemeke and Gruszczyńska 2014). In the current analysis a score <9 points denoting the absence of depressive symptomatology served as the reference category.

Self-assessed health status and chronic health conditions were administered for the assessment of the respondents' overall health drawing on relating research evidence suggesting that they have some role to play in the link between different domains of social engagement and various well-being outcomes at older ages (Crimmins et al. 2002; Glass et al. 2006; Lampinen et al. 2006).

Self-perceived health was ascertained through a single question phrased in the following manner: 'Would you say your health is…' which comprised a response scale of four options ranging from '*very good*' to '*very bad*'. This item has been typically incorporated in the literature to gauge self-reported morbidity among older adults (Breeze et al. 2001) and has been found to be a valid indicator of general health status (Schnittker and Bacak 2014). For the purposes of the current analysis '*very good*' self-perceived health status was defined as the reference category.

Prevalent chronic diseases were estimated on older adults' self-report on their medical diagnosis of 11 health conditions ('Has a doctor ever told you that you had any of the conditions…'), including myocardial infarction, high blood pressure, or hypertension, high blood cholesterol, stroke, diabetes or high blood glucose, chronic lung disease, asthma, arthritis, osteoporosis, cancer, stomach or duodenal/peptic ulcer and portrayed on a showcard. According to the respondents' affirmative responses on the presence of chronic health conditions an indicator of '*0 or 1*' chronic disease was generated and regarded as the reference category in the analysis.

BMI was defined in terms of self-reported current height and weight (weight in kilograms dividedby the square of the height in meters). Participants were categorized as under-weight (<18.5 kg/m^2), normal (18.5–24.9 kg/m^2), overweight (25.0–29.9 kg/m^2) or obese (≥30.0 kg/m^2) correspondingly to the cut-off points indicated by the respective WHO definitions (WHO 2011). The category of '*normal weight*' BMI was selected as the reference category.

The prevalence of the clustering of the above well-being indicators was estimated by assigning a score of 0 (absence) and 1 (presence) for each individual well-being indicator, according to their reference categories. A total clustering score was subsequently obtained by adding up the resulted binary variables, standing for the number of the indicators that were present for each respondent and ranging from 0 to 6, with 0 connoting the absence of any of the aforementioned well-being indicators and 6 representing the presence of all well-being indicators. The clustering of 4+ well-being indicators was considered to be indicative of higher well-being and referred to as multiple presence of well-being indicators.

3.2 Measures of Activity Participation

Activity participation within the last month was determined as productive and social on the basis of the expected utility outcome, either for the social context or for the individual, which allowed for the construction of two distinctive activity domains: (a) Productive activity participation assessed by summing the items: 'Done voluntary or charity work', 'Cared for a sick or disabled adult' and 'Provided help to family, friends or neighbours' and (b) Social activity participation captured from the aggregation of the following items: 'Attended an educational or training course', 'Gone to a sport, social or other kind of club', 'Taken part in a religious organization (church, synagogue, mosque etc.)' and 'Taken part in a political or community-related organization'. For each of the above activities participants were firstly queried as regards their engagement during the course of the previous month and then were asked to demonstrate the respective frequency of their performance on a three point scale (1: 'almost daily', 2: 'almost every week', 3: 'less often'). For the purposes of the present analysis, response categories on the above query were further classified as 'frequent', combining respondents stating to participate almost daily or almost every week and as 'less frequent', encompassing participants declaring to participate less often than almost daily or less often than almost every week. Further, participants who responded that they were not engaged in any of the activities addressed in the first question were represented by the category 'never'. Therefore, frequency of participation in each activity domain was assessed as follows: 'frequent', 'less frequent' and 'never'.

3.3 Additional Measures

Demographic and socio-structural characteristics that have been found to matter for well-being were taken into account in the analysis in order to define possible relevant covariates. Demographic information included age, sex and living status. Respondents were classified into three age groups (65–74, 75–84 and 85+ years old), whereas their living status was determined according to a categorical variable to differentiate those residing alone from those living with a partner or spouse. Social background resources were assessed on educational attainment defined by total years of schooling as indicated by the International Standard Classification of Education (ISCED) developed by UNESCO (1997) and wealth measured on self-reported income estimated by reference to an imputed variable reflecting

the total earnings accrued in the preceding year on the household level from a host of possible sources, including salaries, pensions, benefits, rents, dividends from shares and stocks etc. (Borsch-Supan and Jurges 2005). Country-specific quartiles of household income were computed and utilized to reflect cross-national differences. Countries were also included in the analysis and were geographically grouped into Southern (Greece, Italy and Spain), Northern (Denmark and Sweden), and Central (Austria, Belgium, France, Germany, The Netherlands and Switzerland) to detect possible variations in the prevalence of well-being indicators and activity involvement and further examine if the hypothesized effect of activity participation on well-being is consistent among different European regions.

3.4 Statistical Analysis

Data were analyzed using the SPSS software (IBM SPSS Statistics for Windows, Version 21.0. Armonk, NY: IBM Corp) and Stata/MP 3.1. Weights were applied reflecting non-responses and stratification design according to the complex sampling design of the study. Firstly, the well-being and activity participation indicators utilized in the analysis were analyzed by means of descriptive statistics. More precisely, frequency distributions of the respondents' personal characteristics were estimated. Secondly, the prevalence of productive and social activity participation and individual well-being indicators and their clustering were estimated with the corresponding 95 % confidence intervals (95 % CIs). In addition, the indicators of well-being and their clustering were addressed from an age, gender and regional perspective. Thirdly, the association between different aspects of well-being and productive and social activity participation was sought for by employing ordinal regression analysis controlling for age, gender, living status, income and country regions which were regarded as covariates. Three ordinal regression models were conducted to compute adjusted Odds Ratios (ORs) so that to estimate separately the effects of productive activities, social activities and productive or/and social activities on clustering indicators of well-being (as none, 1, 2, 3 and 4+). In the first ordered logit model, we predicted the effect of productive activities on the clustering of well-being indicators defining as possible covariates age, gender, education, living status, income and country regions. In the second model social activities were added, whereas in the third model the interaction between the aggregation of productive and social activities and well-being measures was estimated. For regression analysis frequency of activities was used as factor with 'never' serving as the reference category. Test of parallel lines was computed by 2 log-likelihood function and logit was applied as a link function. McKelvey–Zavoina pseudo R^2 estimators were 0.078, 0.082 and 0.078 in the three models, respectively. Weighted means and 95 % CIs of well-being indicators were estimated for each level of productive and social activity participation frequency by employing analysis of covariance according to the complex sample general linear model procedure. The aforementioned variables facilitated as covariates. The association between frequent productive or/and social activity participation and prevalence of 4+ well-being indicators in the eleven participating European countries, as well as the frequency of lacking clustering well-being indicators across European regions were graphically illustrated. Moreover and according to simple linear regression analysis, the prevalence of the accumulation of well-being indicators in each country was associated with frequent productive or/and social activity participation.

4 Results

The descriptive data for socio-demographic variables and activity participation domains are summarized in Table 1. The average age of the study population was 73.1 years (s.d. = 6.3) and the age distribution was such that 63.0 % of the sample was 65–74 years, 31.5 % was 75–84 years and 5.4 % was 85+ years old, with males representing the 47.1 % of the respondents. The participants' mean time in formal education was 9 years (s.d. = 4.5) and the majority of the sample (67.0 %) reported living with a partner or spouse. As for frequency distributions of the two distinct activity domains, social activity participation was most engaged in by the respondents, since it concerned 32.6 % of the sample declaring to have participated frequently or less frequently in social activities during the course of the month preceding the study, as compared to the respective proportion of respondents regarding productive activity participation (28.1 %). Additionally, respondents exhibited higher prevalence on frequent involvement (almost daily or almost every week) both in productive (19.9 %) and social (23.8 %) activities, as compared to the proportion with regard to the less frequent participation (less often than almost daily or less often than every week) (8.2 and 8.8 %, respectively). When activity level was measured on the aggregation of the two distinct engagement dimensions, more than one-third of the respondents (36.4 %) indicated being frequent active participants (on a weekly or daily basis) in at least one of the above mentioned productive and social activities.

Level of productive and social activity participation, measured on frequency, according to socio-demographic characteristics and European regions is displayed in Table 2. Prevalence of productive and social activity participation varied significantly according to age group, with respondents participating the most between the ages of 65–74 both in productive (19.6%; 95 % CI 17.8–21.4) and social activities (21.1 %; 95 % CI 19.3–23.1), compared to their older counterparts aged 75–84 (12.1 %; 95 % CI 10.0–14.6 and 17.2 %; 95 % CI 14.8–20.0, respectively). Frequent productive and social activity participation was more prevalent among males (17.7 %; 95 % CI 15.0–19.1 and 19.1 %; 95 % CI 17.1–21.3, respectively) than females (15.4 %; 95 % CI 13.7–17.4 and 18.9 %; 95 % CI 16.9–21.1, respectively), albeit not to a significant level. Moreover, a higher prevalence of frequent participation in productive or/and social activities was also observed among respondents of higher educational attainment (36.2 %; 95 % CI 32.7–39.9), as compared to those with less years of education (27.6 %; 95 % CI 24.6–30.9 and 25.1 %; 95 % CI 22.8–27.6) and among respondents of higher income (35.9 %; 95 % CI 31.1–41.0), as compared to those with average (30.8 %; 95 % CI 28.4–33.2) and low income (25.3 %; 95 % CI 22.4-28.4).

Participation rates also varied significantly across country groups, with the prevalence of frequent productive and social activity participation being reasonably higher among older adults in the Northern European region (26.7 %; 95 % CI 23.9–29.7 and 27.6 %; 95 % CI 24.7–30.8, respectively) as compared to the other two regions. The above pattern was retained when activities were considered on the aggregate level, as well. A similar picture was also drawn when cross-national differences were further examined, with productive activity participation rates ranging from 29.4 % in France and 28.1 % in Sweden to 5.9 % in Spain and social activity participation rates ranging from 42.0 % in Greece and 31.6 % in Denmark to 8.1 % in Italy, revealing a North–South European gradient, the exception being Greece due to the remarkably high share of the elderly appearing to be socially active (42.0 %) and France on account of the high share of productively active participants (results not shown). In general, almost half of respondents surveyed in Northern European region (43.9 %), one-third in Central European region

Table 1 Descriptive characteristics of 7025 adults, aged 65+ years in the SHARE study (2004/05)

	N	%
Gender		
Males	3308	47.1
Females	3717	52.9
Age (years)		
65–74	4429	63.0
75–84	2214	31.5
85+	382	5.4
Total	7025	73.1 ± 6.3[a]
Education (years)		
0–7	6975	9.0 ± 4.5 (0, 21)
Living status		
Alone	2312	33.0
Income		
Low	2205	31.4
European regions		
Northern	1237	17.6
Central	3711	52.8
Southern	2077	29.6
Productive activity participation (in the previous month)		
Frequent	1392	19.9
Less frequent	572	8.2
Never	5037	71.9
Social activity participation (in the previous month)		
Frequent	1664	23.8
Less frequent	615	8.8
Never	4724	67.5
Productive or/and social activity participation (in the previous month)		
Frequent	2552	36.4
Less frequent	795	11.4
Never	3656	52.2

[a] Values are mean ± SD (minimum, maximun)

(33.5 %) and one-fifth in Southern European region (22.6 %) reported being frequently engaged in at least one productive or/and social activity during the month preceding the survey.

The percentage distribution of the outcome variables of well-being by age, gender and European region are shown in Table 3. High quality of life (score $\geq$ 39) was detected for 5.7 % of the respondents as estimated on CASP-12, whereas a low depression score deploying the <9 cut-off point on CES-D was ascertained for the majority of the sample (59.7 %). The proportion of the participants rating their general health as '*very good*' was 8.0 %. More than one-quarter of the sample (28.7 %) stated to be '*very satisfied*' with their life, approximately half of the respondents (43.8 %) were diagnosed with none or one

Table 2 Productive and social activity participation according to socio-demographics and European regions in 7025 adults, aged 65+ years

	Frequent activity participation (almost daily or almost every week)		
	Productive	Social	Productive or/and social
	weight % (95 %CIs)		
Socio-demographics			
Gender			
Males	17.7 (15.0–19.1)	19.1 (17.1–21.3)	29.5 (27.0–32.0)
Females	15.4 (13.7–17.4)	18.9 (16.9–21.1)	29.8 (27.4–32.3)
Age (years)			
65–74	19.6 (17.8–21.4)	21.1 (19.3–23.1)	33.6 (31.4–35.9)
75–84	12.1 (10.0–14.6)	17.2 (14.8–20.0)	25.8 (22.8–29.0)
85+	6.2 (3.1–11.9)	9.2 (6.0–13.8)	13.9 (9.4–20.1)
Education (years)			
0–7	12.4 (10.7–14.3)	15.9 (14.1–17.9)	25.1 (22.8–27.6)
8–12	15.7 (13.4–18.3)	17.3 (14.8–20.0)	27.6 (24.6–30.9)
13+	20.5 (17.8–23.5)	23.8 (20.8–27.1)	36.2 (32.7–39.9)
Living status			
Alone	12.4 (10.3–14.8)	18.0 (15.6–20.7)	23.6 (23.4–29.5)
With partner/spouse	18.7 (17.1–20.5)	19.7 (18.0–21.5)	32.0 (30.0–34.1)
Household income			
Low	11.5 (9.6–13.7)	17.7 (15.3–20.5)	25.3 (22.4–28.4)
Average	17.3 (15.5–19.3)	19.3 (17.4–21.4)	30.8 (28.4–33.2)
High	22.6 (18.6–27.2)	20.9 (16.9–25.4)	35.9 (31.1–41.0)
European regions			
Northern	26.7 (23.9–29.7)	27.6 (24.7–30.8)	43.9 (40.5–47.7)
Central	20.1 (18.1–22.2)	24.0 (18.9–23.3)	33.5 (31.0–36.1)
Southern	9.5 (7.8–11.4)	15.2 (13.2–17.3)	22.6 (20.2–25.3)

CIs confidence intervals. Weight percentages and 95 % confidence intervals were estimated according to the complex sampling design of the study

chronic health condition and 37.4 % were normal weight. Further, comparisons of well-being indicators disclosed significant differences by gender, with the overall well-being pattern pertaining to better outcomes for males. More specifically, 69.0 % (95 % CI 66.2–71.7) of males and 52.4 % (95 % CI 31.6–41.8) of females had experienced depressive symptoms during the previous month below the threshold of <9. Further, males demonstrated a significantly higher prevalence in terms of their appraisal of their general health as '*very good*' (10.0 %; 95 % CI 8.6–11.6) and suffering from none or one chronic disease (48.4 %; 95 % CI 45.6–51.3), as compared to females (6.4 %; 95 % CI 5.3–7.7 and 40.3 %; 95 % CI 37.5–43.1, respectively). Significant differences were also traced in view of female and male reporting of life satisfaction, with males showing greater prevalence of being very satisfied (32.1 %; 95 % CI 29.6–34.7) than females (26.2 %; 95 % CI 23.9–28.6). Normal BMI was significantly more common among older females (41.2 %) than older males (32.6 %) and a slightly higher, albeit not statistically significant, proportion of females (6.0 %) than males (5.4 %) indicated high quality of life.

Table 3 Prevalence of indicators of well-being according to gender, age and European regions in 7025 adults, aged 65+ years

Indicators of well-being	n	Total	Gender		Age (years)			European regions		
			Males	Females	65–74	75–84	85+	Northern	Central	Southern
		weight % (95 %CIs)								
CASP-12, score ≥ 39	487	5.7 (4.9–6.6)	5.4 (4.3–6.7)	6.0 (4.9–7.3)	6.3 (5.3–7.5)	4.7 (3.5–6.4)	5.0 (2.5–9.7)	9.5 (7.7–11.7)	5.7 (4.6–7.0)	5.2 (4.1–6.7)
CES-D 11, score < 9	4604	59.7 (57.6–61.7)	69.0 (66.2–71.7)	52.4 (49.5–55.3)	64.4 (62.0–66.8)	54.8 (51.0–58.6)	42.3 (33.6–51.5)	79.3 (76.4–81.9)	63.6 (60.7–66.3)	52.0 (48.6–55.3)
SRH, very good	884	8.0 (7.1–9.0)	10.0 (8.6–11.6)	6.4 (5.3–7.7)	10.2 (8.9–11.7)	4.5 (3.5–5.8)	6.0 (3.0–11.6)	20.8 (18.2–23.6)	7.6 (6.5–8.8)	6.9 (5.5–8.8)
Life satisfaction, very satisfied	2629	28.7 (27.1–30.5)	32.1 (29.6–34.7)	26.2 (23.9–28.6)	29.6 (27.5–31.7)	27.4 (24.4–30.7)	28.0 (20.7–36.7)	45.3 (42.1–48.5)	29.6 (27.2–32.0)	25.6 (23.0–28.4)
Chronic diseases, 0 or 1	3243	43.8 (41.8–45.9)	48.4 (45.6–51.3)	40.3 (37.5–43.1)	48.9 (46.5–51.4)	36.2 (32.8–39.8)	37.7 (29.1–47.2)	43.7 (40.4–47.0)	46.0 (43.2–48.7)	43.8 (41.8–45.9)
BMI, normal	2688	37.4 (35.4–39.4)	32.6 (30.0–35.3)	41.2 (38.4–44.0)	35.2 (32.8–37.6)	38.8 (35.2–42.5)	50.0 (40.7–59.4)	46.3 (43.0–49.7)	39.6 (36.9–42.3)	33.4 (30.3–36.7)
Clustering indicators										
None	796	14.4 (13.0–16.1)	11.0 (9.1–13.3)	17.1 (15.0–19.4)	12.2 (10.7–14.0)	17.9 (14.9–21.3)	16.3 (10.5–24.4)	5.9 (4.5–7.8)	11.5 (9.7–13.7)	19.4 (16.9–22.3)
1	1762	28.9 (27.1–30.9)	26.9 (24.3–29.6)	30.5 (27.9–33.3)	27.4 (25.2–29.7)	30.6 (27.3–34.2)	33.8 (25.0–43.8)	20.8 (18.1–23.7)	28.6 (26.1–31.2)	30.4 (27.4–33.7)
2	1942	27.9 (26.1–29.8)	30.1 (27.5–32.8)	26.2 (23.8–28.8)	28.7 (26.5–31.0)	27.4 (24.2–30.9)	23.4 (16.7–31.9)	26.0 (23.1–29.1)	29.7 (27.2–32.3)	25.7 (23.0–28.7)
3	1482	18.5 (17.0–20.1)	20.5 (18.4–22.8)	17.0 (15.0–19.2)	19.4 (17.6–21.4)	16.7 (14.2–19.6)	20.2 (13.8–28.2)	24.1 (21.4–27.1)	19.0 (17.0–21.2)	17.2 (14.8–19.8)
4+	1043	10.2 (9.2–11.3)	11.5 (10.0–13.2)	9.2 (7.8–10.7)	12.3 (10.8–13.9)	7.3 (5.9–9.1)	6.4 (3.8–10.8)	23.2 (20.5–26.1)	11.2 (9.7–12.8)	7.2 (5.8–9.0)

CIs confidence intervals, *CASP-12* Control, Autonomy, Self-realization and Pleasure questionnaire, *CES-D 11* Center for Epidemiological Studies of Depression questionnaire, *SRH* Self-Rated Health status, *BMI* Body Mass Index

Weight percentages and 95 % confidence intervals were estimated according to the complex sampling design of the study

Clustering of well-being indicators was less marked at both ends of the spectrum, with 14.4 % of the total sample rendering no positive well-being outcomes, whereas multiple indicators of well-being (4+) were observed for 10.2 % of the respondents. For the majority of the sample one or two well-being indicators were present (28.9 and 27.9 %, respectively). Between genders, according to 95 % CIs, significant differences were uncovered on the prevalence of no well-being indicators, with females (17.1 %) being more likely to be lacking in well-being indicators than males (11.0 %). Nonetheless, the prevalence of multiple well-being indicators was not found to differ significantly by gender, albeit it was more evident among males, with the weighted mean score of indicators of well-being being significantly greater for males (2.0 %; 95 % CI 1.9–2.1) than females (1.7 %; 95 % CI 1.6–1.8) (results not shown in table).

Significant differences were detected concerning the prevalence of well-being indicators by age group, with an overall clustering pattern being evident across all age groups. More precisely, the proportion of older people indicating high well-being decreased consistently with age, yet the differences were more marked between the young-old age group of participants (65–74 years) and the old-age group (75–84 years). It is noteworthy though that the proportion of the respondents with positive well-being outcomes remained almost stable between the 75–84 and the 85+ age group or even increased for the oldest-old participants of the study (85+). In particular, a higher proportion of the oldest-old reported high quality of life (5.0 %) and evaluated their health status in the highest category (very good) (6.0 %) compared to their younger counterparts aged 75–84 years (4.7 and 4.5 %, respectively), whereas the prevalence of the individuals declaring to be very satisfied with their life was only slightly higher for the 75–84 age group (28.0 %), when compared to the 85+ years of age group (27.4 %). Reverse was the pattern as regards CES-D implying a curvilinear relationship between depressive symptomatology and age, with the prevalence of lower depressive score peaking at the youngest age group and decreasing significantly in the other two older age groups of participants. Further, although the presence of 4+ well-being indicators was significantly more common among participants aged 65–74 years than among those of age 75–84 years, the prevalence of accumulated well-being indicators among the oldest-old participants of the study did not significantly differ from the younger age groups.

Prevalence estimates of positive well-being varied considerably across regions, with the Northern European region ranking significantly the highest in all the indicators reflecting high well-being, as well as in their clustering. Particularly, the prevalence of 4+ well-being indicators was shown to be more than twice as high (23.2 %; 95 % CI 20.5–26.1) in Northern countries compared to Central countries (11.2 %, 95 % CI 9.7–12.8) and more than three times as high compared to Southern ones (7.2 %; 95 % CI 5.8–9.0). Conversely, as illustrated in Table 3, the Southern European region displayed a significantly higher prevalence of not presenting any well-being indicators relative to the other regions. Further, a specific pattern concerning the prevalence of lacking clustering indicators of well-being was present among European regions, which exceeded 15 % among older adults in Southern countries, ranged between 5 and 15 % in Central countries and was less than 5 % in Northern European countries (Fig. 1). According to a more detailed examination as regards the absence of any well-being indicators among the eleven participating countries, the highest prevalence was detected for Spain (20.9 %), Italy (18.8 %) and Greece (17.7 %), whereas for a small proportion of residents in Switzerland (3.2 %), Denmark (4.4 %) and Sweden (6.7 %) no well-being indicators were present (results not shown). Converse was the pattern for the clustering of 4+ well-being indicators whereby approximately one-third of respondents from Denmark (30 %) displayed multiple well-

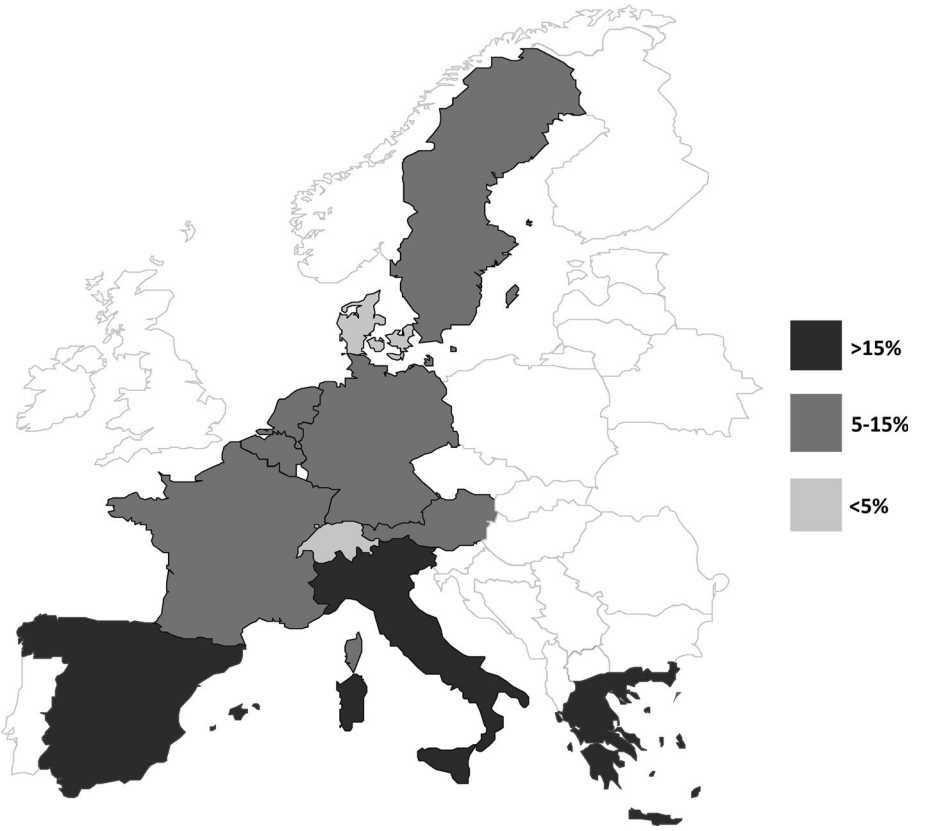

Fig. 1 Frequency of lacking indicators of well-being across eleven European countries of SHARE study. *Footnote* Percentage frequencies and 95 % confidence intervals were estimated according to the complex sampling design of the study

being indicators followed by their counterparts in Switzerland (28 %), whereas the lowest prevalence of 4+ well-being indicators was evidenced in Italy (5.0 %) and France (8.5 %) (results not shown). It is noteworthy though that despite the above referred regional differences in the prevalence of well-being outcomes a high proportion of European older adults stated to be very satisfied with their life and displayed a low depressive symptomatology score. More specifically, nearly half (45.3 %) of older adults in Northern countries were very satisfied with their life, followed by Central and Southern countries, whereby more than one-quarter of older individuals were highly satisfied with their life (29.6 and 25.6 %, respectively). Further, a low depression score was detected for 79.3 % of Northern older adults, followed closely by 63.6 % of Central and 52.0 % of Southern European elders.

Table 4 features the prevalence of well-being indicators according to frequency of participation in productive and social activities. A significantly lower percentage of the respondents who had not participated in any productive or/and social activities during the last month reported high quality of life (4.9 %; 95 % CI 3.9–6.0) compared to those who were frequently involved in activities (7.6 %; 95 % CI 6.0–9.6). Similarly to this finding, a significantly higher proportion of the individuals who displayed frequent participation in

Table 4 Prevalence of indicators of well-being according to productive and social activity participation in 7025 adults, aged 65+ years

Activity participation (in the previous month)	Indicators of well-being						
	CASP-12, score ≥ 39	CES-D 11, score < 9	SRH, very good	Life satisfaction, very satisfied	Chronic diseases, 0 or 1	BMI, normal	4+ Clustering indicators
	weight % (95 %CIs)						
Productive or/and social							
Frequent	7.6 (6.0–9.6)	69.2 (65.9–72.4)	11.7 (10.0–13.6)	34.7 (31.6–37.9)	47.6 (44.2–50.9)	38.1 (34.9–41.4)	15.0 (12.9–17.4)
Less frequent	5.1 (3.4–7.8)	67.5 (61.2–73.2)	12.1 (8.3–17.2)	34.8 (29.0–41.1)	45.7 (39.3–52.2)	35.7 (29.8–42.1)	14.2 (10.3–19.4)
Never	4.9 (3.9–6.0)	53.8 (51.0–56.5)	5.5 (4.6–6.7)	24.8 (22.7–27.1)	41.8 (39.1–44.5)	37.2 (34.6–40.0)	7.2 (6.1–8.5)
Productive							
Frequent	8.5 (6.2–11.5)	70.6 (66.2–74.7)	11.9 (9.7–14.5)	32.9 (28.9–37.2)	48.0 (43.5–52.6)	41.4 (37.0–45.9)	16.7 (13.7–20.2)
Less frequent	5.8 (3.5–9.4)	74.5 (67.4–80.6)	19.0 (13.1–26.7)	38.7 (31.3–46.6)	50.6 (42.8–58.4)	35.2 (28.1–42.9)	20.5 (14.6–28.1)
Never	5.1 (4.3–6.1)	56.2 (53.8–58.6)	6.3 (5.4–7.3)	27.1 (25.2–29.0)	42.5 (40.1–44.8)	36.7 (34.4–39.0)	8.0 (7.0–9.1)
Social							
Frequent	7.8 (5.8–10.4)	70.6 (66.5–74.4)	12.5 (10.4–15.0)	38.2 (34.3–42.4)	48.7 (44.5–52.9)	37.3 (33.3–41.4)	16.4 (13.6–19.5)
Less frequent	6.0 (3.9–9.1)	68.2 (61.2–74.5)	11.7 (7.4–17.9)	32.3 (26.4–38.7)	46.0 (39.0–53.1)	39.6 (32.8–46.8)	14.4 (9.8–20.7)
Never	5.2 (4.3–6.2)	56.0 (53.5–58.5)	6.5 (5.5–7.5)	25.9 (24.0–28.0)	42.4 (40.0–44.9)	37.1 (34.8–39.6)	8.2 (7.2–9.4)

CIs confidence intervals, *CASP-12* Control, Autonomy, Self-realization and Pleasure questionnaire, *CES-D 11* Center for Epidemiological Studies of Depression questionnaire, *SRH* Self-Rated Health status, *BMI* Body Mass Index

Weight percentages and 95 %CIs were estimated according to the complex sampling design of the study

any productive or/and social activities displayed a low depressive score (69.2 %; 95 % CI 65.9–72.4), compared to their inactive counterparts (53.8 %; 95 % CI 51.0–56.5). This pattern was consistent for most well-being indicators and remained after their clustering, with 4+ indicators of well-being being significantly more prevalent among frequent participants than infrequent ones (15.0 %, 95 % CI 12.9–17.4 vs. 7.2 %; 95 % CI 6.1–8.5). Likewise, a higher proportion of the respondents who indicated suffering from less than two chronic health conditions was observed among active individuals (47.6 %; 95 % CI 44.2–50.9), compared to those reporting to be inactive (41.8 %; 95 % CI 39.1–44.5). However, it is notable that the opposite was the case with reference to productive activity participation when considered separately, with the proportion of individuals demonstrating self-assessed very good health being higher among older adults engaged in productive activities less frequently (19.0 %; 95 % CI 13.1–26.7), compared to those being frequently involved (11.9 %; 95 % CI 9.7–14.5). In addition, a higher proportion of older people being infrequently productive participants reported being very satisfied with their life (38.7 %) compared to those with frequent participation (32.9 %). The above picture was also outlined for psychological distress and chronic diseases and was consistent among older people displaying an accumulation of well-being indicators.

Finally, the association between social engagement and the clustering indicators of well-being was estimated through ordinal regression analysis. Results presented in Table 5 demonstrate that the effects of productive (1st model) and social activities (2nd model) on the clustering of well-being indicators, as well as of productive or/and social activities (3rd model) were significant. In all three models, respondents of higher age and residing in Central and Southern European countries had significantly lower odds of indicating accumulated indicators of well-being, by contrast to highly educated and living with partner individuals who were more likely to present a greater number of well-being indicators ($p < 0.05$). The clustering of well-being indicators (none, 1, 2 and 4+) was found to correlate at a significant level with frequent participation in productive (ORs = 1.35, $p = 0.007$) and social activities (ORs = 1.57, $p < 0.001$), as well as in productive or/and social activities (ORs = 1.47, $p < 0.001$). Further, a higher score of well-being indicators was evident among older adults participating frequently in productive or/and social activities in relation to those having not participated in any activities over the course of the previous month (2.1 vs. 1.7, respectively, $p < 0.05$) (Fig. 2). The above pattern also emerged when country-specific differences were considered, with frequency of activity engagement bearing a significant association with well-being. In particular, a higher prevalence of 4+ well-being indicators was apparent in countries with a greater percentage of older adults participating in any productive or/and social activities on a daily or weekly basis (Fig. 3). This was most striking the case for Denmark and Switzerland, but not in other countries, such as Greece. The correlation between frequent productive or/and social activity participation and the percentage of respondents displaying multiple presence of well-being indicators was 0.050 ($p = 0.045$).

5 Discussion

The present study considered the potential well-being benefits conferred by leading a productively and socially engaged lifestyle in the context of later life deriving data from the first wave of SHARE study and focusing on a representative sample of people aged 65 and over residing in 11 European countries. For our articulation of the concept of activity

Table 5 Effects of characteristics and productive (model 1), social (model 2) or productive or/and social activities (model 3) on clustering indicators of well-being, according to complex samples ordinal regression, in 7025 adults, aged 65+ years

	Model 1				Model 2				Model 3			
	OR	95 %CIs	Wald (χ^2)	*p* value	OR	95 %CIs	Wald (χ^2)	*p* value	OR	95 %CIs	Wald (χ^2)	*p* value
Gender	0.87	0.74, 1.03	3.58	0.088	0.87	0.74, 1.02	3.76	0.081	0.86	0.73, 1.02	4.08	0.071
Age	0.98	0.97, 0.99	5.48	0.041	0.99	0.97, 0.99	7.28	0.022	0.98	0.97, 0.99	5.57	0.040
Education	1.05	1.03, 1.07	30.48	<0.001	1.04	1.02, 1.06	26.29	<0.001	1.04	1.03, 1.06	27.18	<0.001
Living status	1.43	1.20, 1.72	19.34	0.001	1.43	1.19, 1.72	19.58	0.001	1.43	1.19, 1.72	19.32	0.001
Income	1.12	0.99, 1.27	4.43	0.062	1.15	1.01, 1.30	6.08	0.033	1.13	1.00, 1.28	4.96	0.050
Countries	0.77	0.67, 0.88	17.87	0.002	0.75	0.65, 0.85	24.00	0.001	0.76	0.67, 0.87	19.99	0.001
Activity participation												
Frequent	1.35	1.11, 1.64	17.31	0.007	1.57	1.32, 1.89	32.99	<0.001	1.47	1.26, 1.72	30.02	<0.001
Less frequent	1.58	1.11, 2.27		0.017	1.27	0.96, 1.68		0.084	1.27	0.97, 1.67		0.078
Never (ref. category)	1.00				1.00				1.00			

As clustering indicators were defined as none, 1, 2, 3 and 4+

Ordinal regression analysis (using logit as a link function). Frequency of activity was used as factor ("never" was applied as the reference category). Gender (males, females), living status (living alone, with partner/spouse), income (defined as low <25 %, as average between 25 and 75 %, and as high >75 % according to country-specific quartile classification for adults aged 50+ of SHARE Survey; it) and European regions (Northern, Central, Southern), were used as covariates. Test of parallel lines was done by 2 log-likelihood function. Testing for interaction effects significantly higher odds were found in all combinations of productive and social activities

OR odds ratio, *CIs* confidence intervals

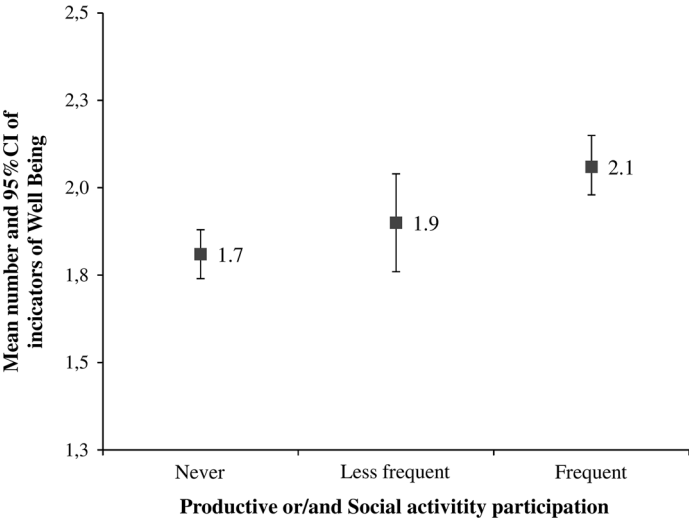

Fig. 2 Mean number (score) of well-being indicators according to productive or/and social activity participation in 7025 adults, aged 65+ years. *Footnote* Complex Samples General Linear Model—Analysis of covariance (gender, age, living status, education, income and regions were used as covariates)

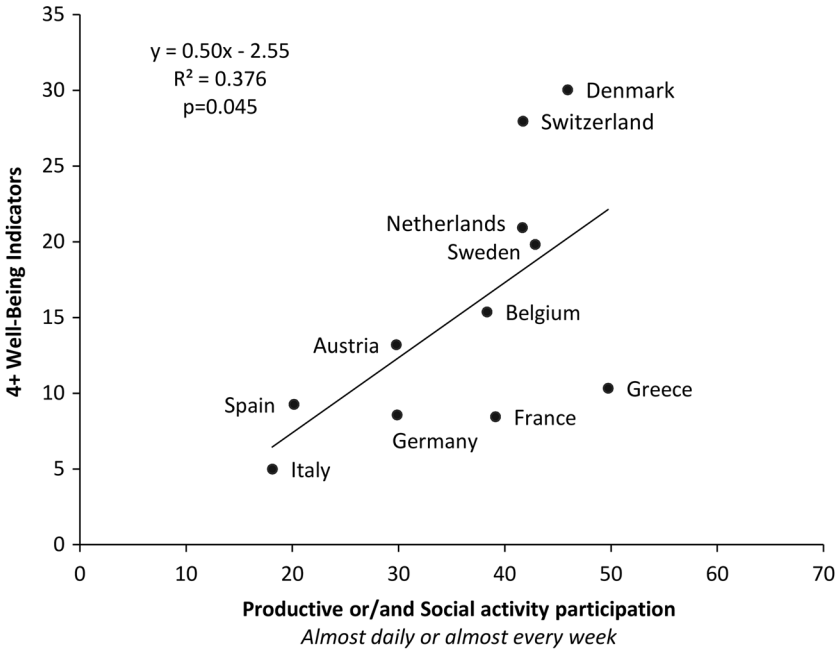

Fig. 3 Multiple presence (4+) of well-being indicators according to productive or/and social activity participation in 7025 adults, aged 65+ years. *Footnote* Linear regression analysis of prevalence of multiple presence (4+) of well-being indicators in each country according to productive or/and social activity participation

involvement and its respective domains, a conceptual model was applied distinguishing between productive and social activity participation. A comprehensive range of involvements that have been documented to be highly prevalent at older ages and are among those most frequently investigated by disciplinary lenses directed at diverse populations of older people (Gagliardi et al. 2010; Hilleras et al. 1999) were incorporated in our analysis. To address the association between frequency of involvement in productive and social activities and well-being outcomes a holistic appraisal of well-being was modelled by viewing life satisfaction, quality of life, psychological distress, self-rated health, chronic diseases and BMI, as indicators that are assumed to tap into different facets of well-being.

5.1 Determinants of Activity Participation

Despite the fact that activity participation is presumed to impede following manifold later-life transitions and declining individual physical capacities (Bukov et al. 2002), of note is the finding of the current results that one-third of the respondents aged 65 and older (36.4 %) participating in the SHARE survey maintained frequent activity participation as reflected on their almost daily or almost every week embeddedness in at least one type of the activities quoted previously. Further, the prevalence of the two separate activity domains differed by age group, unveiling a discernible participation pattern with some decline occurring with increasing age. Even though a considerable proportion of the oldest-old participants of the study aged over 85 years (13.9 %) declared to be active on a weekly or daily basis, social engagement was attenuated with age, with the youngest age group of participants (65–74 years) participating more frequently in productive and social activities, compared to their older counterparts, aged 75–84 and over age 85 years. This finding is in accordance with Mendes de Leon et al. (2003) who also detected evidence for an attenuation in social engagement with age on their analysis of a representative sample of older people aged 65 and older sourced from the New Haven EPESE study. On the contrary, Warr et al. (2004) examining a sample of Community-living British adults aged 50 and 74 years, did not observe an age-related decrease in the mean level of activity measured on frequency. Relatedly, although McMunn et al. (2009) afforded empirical evidence for the notion that social engagement decreases with age, it thus appeared that this only held true for the age group of participants in their late seventies or eighties.

Further, no significant differences were observed between genders as regards both activity domains undertaken in the present study, albeit males ranked slightly higher. Although, productive activity participation was less frequent than social activity participation, engagement in both productive and social involvements was socially patterned, with most frequently active older adults being males, with 65–74 years of age, owning higher socio-structural resources regarding their income and educational attainment, living with a partner or spouse, indicating positive well-being outcomes and residing in Northern European countries.

Additionally, although one-third of the sample aged 65 and older declared that they were frequently engaged in activities, comparing activity involvement rates across SHARE countries divulged that a regional grouping of the eleven participating countries was apparent, with the proportion of productively and socially embedded older people being significantly higher in Northern countries. Further, according to a joint consideration of productive and social activities approximately half of Northern European adults were frequently active in at least one type of the respective activities, with this proportion being twice as low in Southern countries. The above evidence converges in asserting Sirven and Debrand's (2012) (p. 1289) conclusion that 'living in a northern country significantly

strengthens the chances of taking part in social activities'. It has also been suggested that high activity participation rates in Northern European region might reflect the substitution of important roles inherent in familial networks by activity participation, compared to Southern countries where family networks appear to be stronger (Croezen et al. 2015).

5.2 Well-Being by Socio-Demographic Characteristics

The findings of the current study also seem to point to another age-associated finding, the so-called "well-being paradox" which holds that there is a positive relationship between advancing age and older adults' well-being determined by different relevant indicators (Ehrlich and Isaacowitz 2002; Gana et al. 2012). More precisely, the prevalence of positive well-being indicators among participants above the age of 85 years remained comparable to levels among the old-old individuals aged 75–84 years or even increased for specific outcomes, such as quality of life, life satisfaction and self-rated health. It might be that, as earlier research has concluded (Birditt et al. 2005), both daily stressors and reactivity to them are lessened through the later years of life which might allow for enhanced well-being.

As for the prevalence of well-being indicators, gender differences were thus essential with a significantly higher proportion of males yielding positive outcomes on psychological distress, self-rated health, life satisfaction and chronic diseases and a slightly higher percentage of females displaying better outcomes regarding their quality of life and BMI. The above findings are in conjunction with existing research dealing with akin outcomes, wherein a consistent finding seems to prevail highlighting an overall pattern of a negative relationship between female gender and later life well-being (Pinquart and Sorensen 2001). For instance, an earlier study by Barry et al. (2008), drawing upon data from a longitudinal survey (Precipitating Events Project-PEP) of people aged 70 or older, indicated that during a 6-year follow-up assessment of depressive symptomatology on the 11-item CES-D scale depressive symptoms were more prevalent among females compared to males. Generally, extant epidemiological studies attending to variations in health outcomes by gender across different nations and populations have evidenced that females are more likely than males to suffer from a higher level of functional limitations (Arber and Cooper 1999) and greater physical disability (Murtagh and Hubert 2004), to live longer albeit with more chronic conditions (Crimmins et al. 2002) and indicate higher rates of poor self-ratings of health (Benyamini et al. 2003).

Lastly, substantial regional differences on all indicators of well-being emerged reinforcing further the well-documented South-North gradient. More specifically, a significantly higher proportion of older Northern European adults demonstrated positive well-being outcomes and thus multiple presence of well-being indicators was considerably more prevalent in Northern countries compared to Central and Southern European countries. Towards the same direction, the proportion of older individuals who were found to present no clustering indicators of well-being was the lowest in the Northern European region and the highest in the Southern European region followed by the Central region. The above outcomes could be exemplified by current gerontological literature illustrating the existence of a specific well-being pattern among European countries, being more favorable for the Northern European older population (Fagerström et al. 2007; Komp and Aartsen 2013). Earlier research has inferred that this relationship is mostly driven by consistent discrepancies in material and social resources which also seem to persist in old age (Huisman et al. 2003), whereas there is recent evidence supporting that lifestyle related risk factors for

older people's health are more prevalent in Southern countries compared to Northern ones (Linardakis et al. 2014).

5.3 Activity Participation and Well-Being

A higher level of well-being, as reflected on positive self-reports on life satisfaction, quality of life, depressive symptomatology, self-perceived health status and BMI, appeared to be prevalent among those respondents embedded more frequently in both activity participation domains addressed in the current study. Similarly, the prevalence of multiple well-being indicators was found to be higher among frequent productively or/and socially active participants. Further, the estimated ORs for the clustering of the well-being indicators were akin to results on both activity engagement domains. In particular, the respondents' frequent involvement in productive or/and social activities was linked with a significantly higher likelihood of displaying an accumulation or greater number of positive well-being outcomes. This finding is supportive of the notion that well-being in old age is significantly accounted for by activity participation and accord well with earlier evidence on social engagement. Indeed, the positive relationship between activity involvement and well-being has been emphasized by empirical literature documenting that older people who exhibit a higher level of activity participation are more likely to perceive themselves in better health (Bennett 2005), report enhanced quality of life and life satisfaction (McMunn et al. 2009; Warr et al. 2004), experience reduced psychological distress (Glass et al. 2006) and demonstrate a lower likelihood of obesity (Kamiya et al. 2010). Further, the likelihood of multiple clustering of well-being indicators was ascertained to be slightly higher for social (ORs = 1.57) compared to productive activity participation (ORs = 1.35), whereas the prevalence of respondents exhibiting a clustering of 4+ well-being indicators was higher among those being less frequently engaged in productive activities (20.5 %; 95 % CI 14.6–28.1) compared to their more frequently active counterparts (16.7 %; 95 % CI 13.7–20.2). In line with the above findings, evidence across earlier research lends plausibility to the role strain and role enhancement hypotheses reinforcing that productive and social activities may bear distinct implications attributed to the different role experience they involve (Rozario et al. 2004). Moreover, it has been connoted that engagement in productive activities might exert a curvilinear effect on subjective well-being denoting that through moderate levels of participation more salutary effects might be conferred in contrary to low and high levels (Klumb 2004). It might also be that the contribution of specific types of productive activity involvement on well-being outcomes is not equivalent. More specifically, participation in voluntary or charity work is likely to be the most advantageous aspect of productive involvement since it embodies social bonds that capture the most salutary effects of leading an active societal life by virtue of amplifying the chances for multiple roles, connectedness and companionship. On the contrary, the dimension of productive engagement concerning the provision of informal help and caregiving is mainly afforded in the context of compulsory family and kindred ties and thus may entail the assumption of burdensome, stressful and undesirable roles which bear adverse effects on health and well-being.

Moreover, the prevalence of multiple positive indicators of well-being was significantly and positively correlated to frequent activity participation among different European countries, with the clustering of 4+ well-being indicators being more apparent among most countries displaying high frequent activity participation rates. The above pattern was drawn for Denmark, Switzerland, Sweden and the Netherlands, which across the eleven participating countries demonstrated the highest participation rates and the highest

prevalence of 4+ well-being indicators simultaneously. Conversely, in Spain and Italy where frequent activity participation was particularly low the percentage of older individuals traced with an accumulation of well-being indicators was also among the lowest. The above pattern concerning the well-being benefits of activity participation did not emerge for Greece, which might be explained by the high prevalence of social activities detected for this country due to a respective remarkably high religious attendance rate of Greek older people, contrary to other forms of social activities. However, further plausible explanations on the observed difference across European countries could in principle be facilitated through a more detailed analysis considering each different type of activities which comprised the two distinct domains of productive and social activity participation and their respective well-being potential.

5.4 Limitations and Future Directions

The findings of the present study should be viewed upon consideration of a few limitations which are cited hereinafter. Firstly, inferences about the causal directionality of the linkage between activity involvement and well-being are difficult to be drawn due to the cross-sectional nature of the current research. Despite the fact that previous studies prospectively addressing well-being outcomes and different aspects of social engagement identify a consistent pattern favoring participation in activities as the predictor (Baker et al. 2005; Glass et al. 2006), the effort to untangle the causality of the above relationship raises matters which merit to be further regarded. It could be fairly surmised that the salutary effects of activity involvement might be due to inverse causality, in that well-being is also a prerequisite for late-life active engagement. It could also be equally possible that being in poor health constitutes a deterrent to maintaining activities and social interactions, thereby incurring additional well-being constraints. Such a relationship held true in Richard et al.'s (2008) study of the determinants of social participation among people aged 58 years and older indicating health as an independent predictor of social participation. However, Li and Ferraro (2006) documented reciprocal effects between volunteering and mental and physical health for the older group of participants by uncovering both a salutary and compensatory relationship, whereas for the middle-aged group a social selection mechanism was more prevalent, with less depressed individuals exhibiting higher levels of volunteering. These findings are confirmed by a most recent study by Johnson et al. (2014) who pointed out that cognitively impaired older adults in comparison to their cognitively intact counterparts were involved in fewer activities, although socio-demographic variables might also explicate this association. However, in the same study more active individuals were more likely to report higher quality of life irrespective of their level of cognitive impairment. Similarly, Adams et al. (2011) in their critical review of gerontological literature on activity participation and well-being concluded that longitudinal and cross-sectional evidence converge to the existence of an association between engagement and well-being amenable to explanation both in terms of social selection and social causation processes, whereas Putnam (2000) (p. 326) on his review of the relevant literature acknowledged that 'in none is the importance of social connectedness so well established as in the case of health and well-being'. Since SHARE is a longitudinal study, it bears a significant potential for future research and thus comparisons between waves might yield evidence on the causal association between social engagement and well-being, identify the effects of changes in activity participation on corresponding changes in well-being outcomes and unravel the magnitude of these effects over time.

An additional limitation to the present study lies in the fact that roles integral to each subtype of productive and social activity participation may exert multifaceted heterogeneous influences on different well-being outcomes which might be detected if separately addressed. Moreover and despite the fact that social engagement was measured in terms of the frequency of participation drawing on the explanatory framework of activity theory and the notion that positive experiences are accrued by activity participation contingent upon frequency of commitment, features intrinsic to activities, such as the quality ascribed to the them might also be of importance to well-being. A further shortcoming should be acknowledged regarding the potential bias held by self-reported accounts of well-being, which is however inherent in most studies utilizing measures based on the respondents' subjective assessments. Lastly, it should be noted that SHARE population is comprised of community dwellers, signifying that institutionalized people who may have less opportunities for social engagement were not targeted. This is one of the constraints that may have led to the underestimation of the real size of the positive impact of activity participation on well-being outcomes.

6 Conclusions

In summary, the above limitations pertaining to conceptual and methodological issues notwithstanding, corresponding to prior research in the context of later-life well-being the results of the present study offer evidence in support of the hypothesis that well-being is positively associated with social engagement, adding to the gerontological literature to date and holding several implications for active aging policies. Those findings could be useful to inform social and health public planning about the necessity of investing in resources that make for better well-being and age-specific involvements the elderly can reap benefits from.

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Compliance with Ethical Standards

Conflit of interest The authors declare that there are no conflicts of interest.

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Social isolation and well-being among older adults in Europe

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ΑΡΧΕΙΑ ΕΛΛΗΝΙΚΗΣ ΙΑΤΡΙΚΗΣ 2018, 35( ):1–14

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OBJECTIVE **To examine the distribution of different elements of social isolation according to background characteristics at the individual and country level, and investigate whether social isolation is associated with well-being outcomes among European older adults.** METHOD **This was a secondary data analysis of participants aged ≥65 years (n=5,129), who took part in the first wave of the Survey of Health, Aging and Retirement in Europe, 2004/5 (SHARE). Well-being was determined by the clustering of six indicators comprising life satisfaction, quality of life, self-rated health, depressive symptomatology, chronic diseases and body mass index (BMI). Social isolation was determined using seven specific aspects of older people's living conditions.** RESULTS **Analysis of covariance showed that a significantly higher mean score of well-being was attested among adults with frequent parent-child contact (p=0.028) and at least one social or productive involvement (p=0.001). Multiple logistic regression analysis indicated a significantly lower likelihood of displaying ≥4 well-being outcomes among the oldest-old, the retired and socially disengaged and a higher likelihood for the most highly educated respondents and those involved in rare or no social support exchanges. Northern Europeans were more likely to indicate more well-being outcomes and less social isolation indicators than their southern counterparts.** CONCLUSIONS **These cross-sectional findings offer empirical support to the social structure of social isolation and its potentially adverse effect on specific well-being outcomes in old age. Public health and social policies are needed to better address the potential well-being implications of social isolation among European older adults.**

Κοινωνικός αποκλεισμός και ευεξία μεταξύ των ηλικιωμένων ατόμων στην Ευρώπη

Περίληψη στο τέλος του άρθρου

Key words

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Well-being

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The transition from middle age to older age has been closely related to social aging due to the occurrence of several changes at both the individual and the family level. Firstly, the transition from late adulthood to older age is marked by the process of changing from labor force participation to retirement and is thus possibly accompanied by the disruption or relinquishment of previous work and social roles.[1] Equally important is the trajectory from parenthood to the "empty nest" phase, involving the potential attenuation of kinship interactions and connections.[2] Other profound age-associated challenges involve emotional pain and stress as a result of the death of loved ones and the subsequent losses in identity and attachments inherent in enduring family and friendship ties.[3,4] A specific age-related pattern with regards to the onset and progression of conditions relevant to health decline and compromised physical functioning is typical of old age and has been consistently ascertained in gerontology research.[5] In this regard, various psycho-social resources, such as social bonds, supportive social networks and social engagement, are thought to make up for the aforementioned negative states and have been used to determine how successfully people manage to age and thrive in the later-life setting with respect to health and well-being.[6,7] It is well established that individuals who are socially integrated and strongly attached to groups and affiliations are more likely to be healthier, live longer[8] and report positive well-being outcomes.[9] Social relations, assessed by specific elements of social support, have been documented to mediate the adverse effects of socio-economic status on subjective health in middle and older age.[10] Family and social connectedness have also been found to hold a central role in older people's perception of what "good quality of life" actually constitutes.[11]

The objective state whereby a person undergoes a dearth or deficiency of meaningful social relationships, referred to as social isolation,[12] has been identified by most psychological and sociological research as a discrete

health and mortality risk factor. Several aspects of social isolation have been shown to account for the unequally patterned distribution of health and well-being outcomes in older adults.[13,14] In particular, solitary living, a limited family network, lack of social support, social disengagement and loneliness have been proposed as potential risk factors for coronary heart disease,[15] cognitive impairment,[16] functional decline,[17] depressive symptomatology,[18] and low subjective well-being[19] in older age. Less is known, however, about how the absence of social and family resources pertaining to social isolation is implicated in the configuration of the various domains of well-being in older age. Furthermore, most research to date has focused on single countries or regions[20,21] rather than examining social isolation and well-being using cross-nationally comparable data. Additionally, relevant earlier gerontological and social studies have measured well-being using single measures or indicators, such as life satisfaction[22] or quality of life.[23] There is therefore a lack of a robust evidence base on the role of social isolation in the welfare of older adults.

Drawing on international comparative data on older community-dwelling adults in eleven European countries, the present study aimed to (a) conduct a cross-national appraisal of social isolation in older adults; (b) examine the association of social isolation with several well-being outcomes, and (c) determine whether the above hypothesized associations differ by country of residence. To overcome earlier barriers to measuring the constructs of interest,[24] social isolation was operationalized as an index comprising both structural and functional features, while well-being was operationalized as a multifaceted outcome, integrating distinct physical, emotional and psychological components of the welfare of older adults.

MATERIAL AND METHOD

Participants and questionnaires

This study utilized data from the first wave of the cross-national Survey of Health, Ageing and Retirement in Europe (SHARE, http://www.share-project.org), initially conducted between 2004–2006 in eleven European countries (Denmark, Sweden, Austria, France, Germany, Switzerland, Belgium, the Netherlands, Spain, Italy and Greece). The participants were adults aged ≥50 years, residing in the community, including their partners irrespective of age. The multidisciplinary approach of SHARE allowed for the delivery of a thorough account of health, socio-economic, familial and other domains of the living conditions of European middle-aged and older adults.[25]

Nationally representative probability samples were achieved based on country-specific sampling resources. The sampling designs varied from stratified-simple, random sampling or multistage sampling (in countries where national population or regional/local registers were available), to single or multistage sampling (in countries where telephone directories were obtained). Sample weights were also estimated and provided to account for the complex sample design and counterbalance non-response. Most of the data collection was carried out by computer assisted personal interviews (CAPI), further supplemented by "drop-off" self-completed paper and pencil questionnaires. Details on sampling procedures, response rates, data collection and questionnaires are provided elsewhere.[26] For the purposes of the current study, analysis focused on individuals aged ≥65 years, comprising a sample of 2,366 males and 2,763 females (n=5,129).

Measures

A major premise for identifying older people who endure a state of social isolation pertains to inquiring into social disconnectedness and deprivation of social support networks.[27] Following a widely-held definition of social isolation[28] as *"an objective measurable state of having minimal contact with other people, such as family, friends or the wider community"*, questions on essential structural and functional attributes, inherent in older people's objective familial and social settings, were administered. In particular, the structural aspect of social isolation was construed using living arrangements, marital status, number of children and family-related interactions, defined in terms of parent-child contacts and geographical proximity to offspring. The functional facet of social isolation was determined by considering social disconnectedness, gauged by the absence of any kind of social and productive activity involvement, and lack of social exchanges, measured as the occurrence of rare or no transfers of any form of functional assistance or support between older parents and their adult offspring.

An index of social isolation was then constructed, with participants being assigned one point if they lived unpartnered *(not residing with a partner or spouse)*, were unmarried, had no children, did not cohabitate with their offspring *(all children residing in a separate household/building or at a distance more than 1 km away)*, declared infrequent parent-child contact *(having any kind of contact either personally, by phone or mail, less than once a month or never during the past twelve months)*, exhibited social disengagement *(not having done voluntary or charity work, cared for a sick or disabled adult, provided help to family, friends or neighbors, attended an educational or training course, gone to a sport, social or other kind of club, taken part in a religious organization, taken part in a political or a community-related organization in the last month)* and were involved in infrequent or no social support exchanges *(given and or received any kind of social support less than once a month or never the last twelve months)*. The final, total clustering index ranged from 0 to 7, with older people presenting with 4+ indicators being considered to experience a higher level of social isolation.

Well-being was operationalized drawing upon the current conceptual and methodological understanding of well-being, as outlined above, and building on the idea that *"well-being*

constitutes an area of research and practice that has objective and subjective components, and that social scientists cannot make rational evaluations of well-being as a state, unless both are taken into account".[29] Thus, well-being was construed along six related, yet distinct, indicators, comprising: Life satisfaction, determined by a four-rating single question; quality of life, measured on the Control, Autonomy, Self-realization, Pleasure (CASP-12) scale; psychological distress, using the Center for Epidemiological Studies of Depression (CES-D 11) questionnaire; self-rated health, defined by a four-item question; presence of chronic diseases (11 health conditions); body mass index (BMI), estimated according to the World Health Organization (WHO) criteria.[30] Advanced well-being was equated with high quality of life (CASP-12 score of ≥39 points), absence of psychological distress (CES-D 11 score of <9 points), very good self-rated health, high satisfaction with life, no or one chronic health condition and normal BMI (18.5–24.9 kg/m^2).[9] The accumulation of multiple well-being indicators, as indicated by a clustering score of 4+, was regarded to suggest the presence of a high level of well-being.

The demographic characteristics of gender and age *(years)* and the socio-structural resources of educational attainment *(total years of schooling)*, household income *(gross income in the last year)* and retirement status *(not retired/retired)* were assessed as potential determinants of social isolation and well-being. Possible regional variations in the role of social isolation in the accumulation of well-being outcomes were examined by classifying the European regions geographically into northern *(Denmark, Sweden)*, central *(Austria, Belgium, France, Germany, the Netherlands, Switzerland)* and southern *(Greece, Italy, Spain)*.

Statistical analysis

The data were analyzed using the Statistical Package for Social Sciences (SPSS) software (IBM SPSS Statistics for Windows, version 23.0; IBM Corp, Armonk, NY). Weights were applied, adjusted for non-response and according to the complex sampling design of the survey. The prevalence (weighted %) of social isolation indicators and their clustering (0, 1, 2, 3 or 4+) was examined according to the participants' socio-demographic characteristics *(gender, age, education status, household income, retirement status)*, with the corresponding 95% confidence intervals (95% CIs), and by country, with the significance of differences evaluated by Chi-square tests of independence (p-values determined based on the adjusted-F statistic). The mean well-being score was estimated according to the presence and clustering of social isolation indicators (as none, 1, 2, 3 and 4+), using analysis of covariance, following the complex multistage stratification sampling design procedures of the study, with gender, age (years), education status (years), household income, retirement status and European region (northern, central, southern) as covariates. The weighted prevalence (and 95% CIs) of each well-being variable for respondents with 4+ social isolation indicators was estimated at the country level. Multiple logistic regression analysis was applied for older adults displaying multiple well-being outcomes (4+), compared with those with none, 1, 2 or 3 indicators. Two models were performed to compute adjusted odds ratios (ORs) in order to estimate (a) the role of socio-demographic characteristics and European regions, and (b) the aggregate association between socio-demographics, European regions and social isolation indicators and the accumulation of well-being outcomes. The test of parallel lines was computed by the 2 log-likelihood function and logit was applied as a link function. Nagelkerke pseudo R estimators were 0.076 and 0.101 in the two models, respectively. Simple linear regression analysis was used to illustrate graphically the well-being (WB) and social isolation (SI) ratios (WB:SI ratios) in each European country. This ratio illustrates the rational relation between well-being and social isolation indicators, with a ratio of 1.00 or almost 1.00, indicating similar prevalent levels of well-being and social isolation, and a ratio of greater than 1.00 denoting a higher occurrence of well-being outcomes relative to social isolation indicators.

RESULTS

Socio-demographic characteristics

The socio-demographic characteristics of the participants are presented in table 1. More than half of the partici-

Table 1. Descriptive characteristics of 5,129 adults, aged ≥65 years in the SHARE study (2004/05).

Characteristics	n	%
Gender		
Males	2,366	46.1
Females	2,763	53.9
Age (years)		
65–74	3,097	60.3
75–84	1,701	33.2
≥85	331	6.5
Mean±standard deviation (min–max)	73.6±6.6 (65–99)	
Education (years)		
0–7	2,202	43.2
8–12	1,629	32.0
≥13	1,262	24.8
Mean±standard deviation (min–max)	9.0±4.5 (0–21)	
Retirement status		
Retired	4,228	82.4
*Income**		
Lower quartile	1,808	35.3
European regions		
Northern	874	17.1
Central	2,674	52.1
Southern	1,581	30.8

*Income was classified using country-specific quartiles for all participants in the SHARE survey in 2004/05

pants (53.9%) were females. The mean age was 73.6 years (SD [standard deviation]: 6.6; range 65 to 99 years). The majority of participants (75.2%) had received 0–7 years of education or had attended high school. The vast majority of participants (82.4%) were in retirement, and over one third (35.3%) were classified as low-income individuals. The central European region represented the majority (52.1%) of the surveyed SHARE population.

Social isolation according to socio-demographic characteristics and country

Table 2 demonstrates the prevalence of social isolation indicators, and their clustering, according to socio-demographic characteristics. The majority of participants (53.5%) lived unpartnered, a characteristic considerably higher in females than in males (54.1 vs 27.4%, p<0.001) and in the oldest age group (86.8%, p<0.001), compared to the younger age groups (86.8 vs 41.8 vs 64.6%, p<0.001). The prevalence of older adults living unpartnered was greater among those with the fewest years of education and the lowest household income (p=0.001). Being unmarried and childless was more common among highly educated individuals and the lowest-income group (p=0.001). Parent-child geographic distance was more common among females and retired participants and less prevalent in the highest household income group. Social disengagement (no activity participation) was prevalent for the majority of participants (60.9%), with higher prevalence among the oldest age group (p=0.002), participants with the lowest educational attainment and household income (p<0.001) and retired participants (p=0.045). Infrequently or never

Table 2. Prevalence of social isolation indicators according to socio-demographic characteristics in 5,129 adults, aged ≥65 years in the SHARE study.

				Gender		Age (years)			Education status (years)			Household income			Retirement status	
		Total		Males	Females	65–74	75–84	≥85	0–7	8–12	≥13	Low	Average	High	Not-retired	Retired
Social isolation indicators		n	Weight (%) (95% CIs)	Weighted (%)												
Living without partner or spouse		2,296	53.5 (51.1–55.8)	27.4	54.1*	41.8	64.6	86.8*	48.2	39.8	38.1*	68.5	36.7	17.8*	36.3	46.9*
Being unmarried		280	5.5 (4.4–6.8)	7.8	9.2	6.9	4.2	1.0	3.3	9.7	11.7*	12.5	8.2	4.4*	10.2	7.0*
Childless		659	15.0 (13.3–16.9)	17.2	14.7	14.0	15.9	18.6	13.8	14.1	18.5*	21.1	15.1	10.7*	15.2	16.5
Parent-child contact: Less than once a month or never		92	2.3 (1.6–3.3)	3.0	2.0	2.7	1.9	1.3	1.9	2.2	3.0	3.0	2.2	2.4	2.4	2.6
All children living >1 km		3.435	59.7 (57.3–62.0)	47.5	51.2*	60.0	60.8	52.6	48.0	48.6	51.3	51.2	51.8	42.6*	41.0	57.7*
No activity participation		2.633	60.9 (58.6–63.1)	53.0	55.5	55.3	65.8	78.9*	67.0	54.5	44.6*	63.6	53.5	44.3*	49.6	58.9*
Social exchange: Almost never		3.381	66.3 (63.9–68.6)	69.9	62.5*	71.3	62.3	48.6*	70.9	64.5	63.2*	65.5	65.6	67.0	65.3	66.5
Clustering of social isolation indicators	None	71	1.7 (1.2–2.4)	5.8	3.8	2.4	0.7	1.0	2.0	5.5	6.2	1.2	4.4	9.8	7.4	2.2
	1	725	11.3 (10.1–12.7)	19.3	14.4	13.9	8.7	5.0	12.7	17.7	19.0	7.9	17.4	26.4	20.0	13.5
	2	1775	31.2 (29.1–33.4)	35.0	31.2	34.2	28.1	24.2	34.1	31.9	32.9	27.8	34.5	36.4	33.8	32.2
	3	1792	36.8 (34.4-39.2)	26.6	33.1	32.5	41.6	45.4	34.2	30.7	26.4	36.8	30.3	21.1	25.8	34.3
	4+	752	19.0 (16.9–21.2)	13.4	17.5*	17.0	20.9	24.4*	17.0	14.2	15.5*	26.3	13.4	6.4*	13.1	17.9*

Weight percentages were estimated according to the complex sampling design of the study
Chi-square tests (of independence based on the adjusted F): *p<0.05
95% CIs: 95% confidence intervals

being involved in any kind of supportive exchange was more prevalent in males, participants in the youngest age group and those with the fewest years of education. Social isolation, as measured by the clustering of 4+ indicators, was significantly more prevalent in females, compared to males (17.5% vs 13.4%, p=0.003), those in the oldest age group, those with the lowest educational attainment and household income, as well as participants who were retired.

The prevalence of social isolation indicators, including also their clustering, by European country, are presented in table 3. Austria presented the highest prevalence of single-person households. The highest prevalence of adults who declared never having married was observed in Sweden (16.8%), and the lowest in southern Europe (3.3% in Spain and Italy and 5.7% in Greece). Germany exhibited the highest proportion of childless adults (18.6%) and those maintaining infrequent or no contact with their offspring (3.7%), while the lowest prevalence of having no offspring contact was observed in Greece (0.5%). Geographical distance between participants and their adult children varied between countries but was generally lower in southern Europe, and highest in Denmark (72.3%). In contrast, activity disengagement was highest in two southern European countries, namely Spain (70.5%) and Italy (68.6%), and lowest in Switzerland (31.3%). Prevalence of lack of support and social exchange was also highest in Spain (78.3%). Clustering of social isolation indicators was highest in Austria (19.4%) and generally more prevalent in adults from northern and central European countries (except for Switzerland, the Netherlands and Belgium). Greece was the only country where the prevalence of social isolation (4+ indicators) was lower than 10%.

Well-being outcomes according to social isolation indicators

The mean well-being scores according to the various different social isolation indicators and their clustering are presented in table 4. Participants who lived with a partner and those who contacted their offspring daily or almost once a month had significantly higher total well-being scores, compared to those who lived without a partner (1.90 vs 1.69, p=0.007), and those who reported less frequent or no parent-child contact (1.80 vs 1.40, p=0.028), respectively. Social engagement was also significantly related to well-being, with active participants in any kind of social or productive involvement displaying a considerably higher mean well-being score than their socially disengaged counterparts (1.93 vs 1.70, p=0.001). In contrast, those who exhibited frequent social exchanges had a lower mean score of well-being than participants who lacked social support (1.66 vs 1.85, p=0.007). Socially isolated participants, as measured by the clustering of 4+ indicators, had the lowest mean well-being score, compared to less isolated individuals, but this association was weak.

Ancillary analysis of the association between individual well-being outcomes and social indicators revealed that the proportion of participants with a low depression score (69.2%) (p<0.001) reported very good health (9.9%) (p<0.001), satisfaction with life (33.2%) (p=0.012), and less than two chronic conditions (46.1%) and had a normal BMI (35.2%) (p<0.001) was substantially greater among those living with a partner, than those living without a partner or spouse. In addition, a higher proportion of participants who were socially active, compared with those who were not, had a low depressive score (p<0.001), very good health (p<0.001), life satisfaction (p<0.001) and less than two chronic conditions (p=0.001). Lastly, a significantly higher proportion of participants who were infrequently or almost never involved in supportive exchanges (59.8%), compared with those reporting having provided and or received any kind of social support at least once a month over the last year (52.5%), did not report having psychological distress. A greater proportion of participants who had frequent exchanges of social support, compared with those with rare or no support provision or receipt, reported being very satisfied with their life and having less than two chronic diseases (29.7% vs 24.1%, p=0.002 and 44.6% vs 38.7%, p<0.001, respectively).

The associations between socio-demographic variables, social isolation indicators and the presence of 4+ well-being outcomes, examined via multiple regression analysis, are presented in table 5. Gender, age, educational attainment, retirement status and European region were independent predictors of well-being clustering in both regression models, with participants of female gender, higher age, retired and living in the central and southern Europe being less likely to demonstrate multiple indicators of well-being, relative to males, younger respondents, non-retired and northern Europeans, respectively. Adults with more years of schooling had higher odds of presenting 4+ well-being indicators in both the first (1.79; 95% CI: 1.18–2.72) and the second (1.74; 95% CI: 1.15–2.64) models. Activity involvement and social engagement were also predictors of well-being clustering in the second model, with the likelihood of exhibiting accumulated well-being outcomes being lower among participants with no activity involvement (0.51; 95% CI: 0.38–0.68) and higher among those who reported being involved in rare or no exchanges of social support (1.49; 95% CI: 1.07–2.08).

Table 3. Prevalence of social isolation indicators according to European country in 5,129 adults, aged ≥65 years in the SHARE study.

		European countries										
		Austria	**Belgium**	**Denmark**	**France**	**Germany**	**Greece**	**Italy**	**Netherlands**	**Spain**	**Sweden**	**Switzerland**
Social isolation indicators		**Weight (%) (95% CIs)**										
Living without partner or spouse		*47.8 (44.4–51.2)*	35.6 (32.8–38.5)	40.2 (36.0–44.4)	39.5 (35.3–43.9)	43.2 (39.6–46.9)	44.8 (41.5–48.1)	41.2 (36.7–45.8)	38.7 (35.2–42.3)	41.9 (38.0–45.9)	42.5 (39.1–45.9)	35.8 (30.7–41.2)
Being unmarried		11.1 (9.2–13.4)	9.5 (7.9–11.4)	14.8 (12.0–18.0)	11.7 (9.1–14.9)	12.2 (9.9–15.0)	5.7 (4.3–7.4)	3.3 (1.9–5.7)	8.2 (6.3–10.5)	3.3 (2.0–5.5)	*16.8 (14.2–19.7)*	10.5 (7.6–14.4)
Having no children		16.7 (14.3–19.4)	12.1 (14.2–10.3)	12.3 (9.7–15.5)	13.2 (10.5–16.4)	*18.6 (15.8–21.7)*	12.9 (10.9–15.3)	15.2 (12.0–18.9)	14.2 (11.8–17.0)	16.6 (13.8–20.0)	11.3 (9.2–13.7)	15.8 (12.2–20.2)
Parent-child contact: Less than once a month or never		3.3 (2.3–4.8)	2.3 (1.5–3.4)	1.4 (0.7–2.8)	2.4 (1.4–4.1)	*3.7 (2.6–5.5)*	0.5 (0.2–1.3)	1.7 (0.8–3.9)	1.9 (1.1–3.3)	1.9 (1.0–3.6)	1.3 (0.7–2.4)	2.9 (1.6–5.3)
All children living >1 km		52.7 (49.3–56.0)	63.5 (60.6–66.3)	*72.3 (68.2–76.0)*	64.4 (60.1–68.4)	53.3 (35.5–42.0)	49.7 (56.9–38.7)	36.1 (31.9–40.5)	64.6 (61.2–67.8)	34.9 (31.3–38.6)	71.4 (68.2–74.4)	55.8 (50.2–61.2)
No activity participation		48.4 (45.0–51.7)	39.2 (36.3–42.2)	34.7 (30.7–38.9)	45.4 (41.1–49.9)	52.6 (49.0–56.1)	42.4 (39.2–45.7)	68.6 (64.4–72.4)	36.1 (32.9–39.4)	*70.5 (66.8–73.9)*	34.7 (31.6–37.9)	31.3 (26.4–36.6)
Social exchange: Almost never		66.3 (63.0–69.4)	52.6 (49.6–55.6)	58.1 (53.8–62.3)	65.4 (61.1–69.5)	60.6 (57.0–64.1)	68.8 (65.7–71.8)	70.2 (65.9–74.2)	58.6 (55.2–61.9)	*78.3 (74.9–81.5)*	61.7 (58.4–64.8)	62.4 (56.9–67.6)
Clustering of social isolation indicators	*None*	4.3 (3.1–5.9)	7.0 (5.7–8.7)	3.6 (2.2–5.7)	3.2 (2.0–5.1)	5.5 (4.2–7.1)	4.6 (3.5–6.2)	4.9 (3.6–6.7)	5.7 (4.3–7.6)	3.4 (2.3–5.1)	3.9 (2.8–5.3)	5.1 (3.1–8.2)
	1	17.8 (15.3–20.6)	22.8 (20.4–25.3)	20.0 (16.8–23.7)	19.0 (15.8–22.7)	16.1 (13.8–18.6)	19.9 (17.4–22.7)	15.5 (12.9–18.6)	20.6 (18.2–23.2)	11.7 (9.6–14.3)	19.5 (17.2–22.0)	23.6 (19.2–28.7)
	2	29.0 (26.0–32.1)	31.7 (29.0–34.5)	33.8 (29.9–37.9)	29.7 (25.8–33.9)	30.9 (27.8–34.2)	43.0 (39.8–46.3)	33.8 (30.0–37.9)	32.2 (29.2–35.4)	36.6 (33.0–40.3)	31.0 (28.1–34.0)	34.6 (29.6–40.0)
	3	29.6 (26.6–32.7)	27.3 (24.7–30.1)	27.6 (23.9–31.6)	32.1 (28.1–36.3)	29.5 (26.3–33.0)	23.3 (20.6–26.2)	31.5 (27.5–35.9)	30.8 (27.7–34.1)	31.9 (28.3–35.6)	28.5 (25.5–31.6)	26.4 (21.9–31.5)
	4+	*19.4 (16.8–22.2)*	11.1 (9.4–13.2)	15.0 (12.2–18.3)	16.0 (13.0–19.5)	18.0 (15.2–21.2)	9.1 (7.4–11.1)	14.2 (11.0–18.2)	10.7 (8.5–13.4)	16.4 (13.5–19.8)	17.2 (14.6–20.1)	10.3 (7.4–14.1)

Weight percentages were estimated according to the complex sampling design of the study
Italic percentage indicates the highest prevalence and grays the lowest in each indicator in level of $p<0.05$
95% CIs: 95% confidence intervals

Table 4. Mean number of well-being outcomes, according to the presence and clustering of social isolation indicators in the SHARE study.

Social isolation indicators			Well-being outcomes*		
			Weight (%)	Mean (standard error)	p-value
Living arrangements	*Living with partner or spouse*		46.5	1.90 (0.04)	0.007
	Living without partner or spouse		53.5	1.69 (0.04)	
Marital status	*Married, widowed etc.*		94.5	1.79 (0.03)	0.962
	Being unmarried		5.5	1.78 (0.12)	
Number of children	*At least one child*		85.0	1.79 (0.03)	0.981
	No children		15.0	1.79 (0.07)	
Contact with children	*Daily to about once a month*		97.6	1.80 (0.03)	0.028
	Less than once a month or never		2.4	1.40 (0.15)	
Proximity to children	*At least one child living in the same house/building*		40.3	1.82 (0.04)	0.329
	All children living >1 km		59.7	1.77 (0.03)	
Activity participation	*At least one*		39.0	1.93 (0.04)	0.001
	No activity		61.0	1.70 (0.03)	
Social exchange	*Given and or received support at least once a month*		33.7	1.66 (0.05)	0.007
	Almost never		66.3	1.85 (0.03)	
Clustering of social isolation indicators		None	1.7	1.94 (0.21)	0.200**
		1	11.3	1.89 (0.06)	
		2	31.3	1.83 (0.04)	
		3	36.7	1.77 (0.04)	
		4+	19.0	1.69 (0.07)	

* Well-being outcomes: Life satisfaction; CASP-12: Control, Autonomy, Self-realization and Pleasure questionnaire; CES-D 11: Center for Epidemiological Studies of Depression questionnaire, Self-rated health, Chronic diseases; BMI: Body mass index
Comparisons were examined using analysis of covariance (according to the complex sample design procedure), with gender, age *(years)*, education status *(years)*, household income, retirement status and European regions (northern, central, southern), as covariates
** Polynomial (linear) trend

Social isolation and well-being at the regional and country level

The prevalence of positive well-being outcomes among participants with 4+ social isolation indicators was highest in northern Europe, than in the other two European regions (fig.1). In particular, Switzerland and Denmark exhibited the highest proportion of socially isolated individuals assessing their health as being very good, reporting being very satisfied with their life and displaying a low depression score. The highest prevalence of respondents recording high quality of life was observed among Swiss socially isolated participants, whereas having less than two chronic conditions and normal BMI were more prevalent in Switzerland and Sweden, respectively. The mean ratio of well-being to social isolation indicators (WB:SI ratio) was higher in Switzerland (1.19) and Denmark (1.11) (fig. 2). In contrast, participants in southern countries, such as Italy (0.77) and Spain (0.78), displayed the lowest ratios, indicating that social isolation was more prevalent than well-being. The exception was Greece, where the corresponding WB:SI ratio was 0.97, suggesting an almost equal occurrence of well-being and social isolation indicators in the Greek elderly population.

DISCUSSION

This study aimed to examine the association between social isolation and well-being, taking into account personal characteristics and country of residence, among nationally representative samples of European older adults residing in 11 countries and participating in the SHARE study. The study made an important contribution to the evidence base by examining these constructs and their interaction cross-nationally and by operationalizing the assessment of the constructs by considering a variety of factors pertaining to social isolation and well-being, including social and family resources, as well as physical, mental and emotional indicators, instead of using single measures or indicators of these constructs.

Table 5. Adjusted odds ratios for presenting 4+ well-being outcomes in relation to socio-demographics and social isolation indicators in 5,129 adults, aged 65+ years in the SHARE study.

Prognostic factors		4+ clustering indicators of well-being	
		Adjusted odds ratios (95% CIs)	
		1st model	2nd model
Gender *(females vs males)*		0.63 (0.46–0.88)	0.66 (0.47–0.93)
Age	*65–74 years*	1.00	1.00
	75–84	0.54 (0.39–0.75)	0.60 (0.42–0.85)
	≥85	0.51 (0.27–0.99)	0.71 (0.35–1.44)
Education status	*0–7 years*	1.00	1.00
	8–12	1.39 (0.90–2.14)	1.43 (0.93–2.19)
	≥13	1.79 (1.18–2.72)	1.74 (1.15–2.64)
Retirement status *(retired vs not retired)*		0.56 (0.38–0.85)	0.60 (0.40–0.90)
Household income	*Low*	1.00	1.00
	Average	1.36 (0.96–1.92)	1.26 (0.88–1.81)
	High	1.46 (0.94–2.28)	1.27 (0.81–2.01)
European regions	*Northern*	1.00	1.00
	Central	0.33 (0.25–0.44)	0.37 (0.28–0.50)
	Southern	0.24 (0.16–0.35)	0.29 (0.19–0.44)
Living arrangements *(living without partner or spouse vs living with partner or spouse)*		–	0.88 (0.60–1.30)
Marital status *(being unmarried vs being married, widowed etc.)*		–	1.51 (0.73–3.14)
Number of children *(having no children vs having at least one child)*		–	0.83 (0.48–1.44)
Parent-child contact *(less than once a month or never vs daily to about once a month)*		–	0.46 (0.15–1.41)
Proximity to children *(all children living >1 km vs at least one child living in the same house/building)*		–	0.95 (0.65–1.40)
Activity participation *(no activity vs at least one)*		–	0.51 (0.38–0.68)
Social exchange *(almost never vs given and or received support at least once a month)*		–	1.49 (1.07–2.08)
	Pseudo $R_{Nagelkerke}$	0.076	0.101

95% CIs: 95% confidence intervals
Multiple logistic regression analysis (estimations according to the complex sampling design of the study)

The prevailing premise that social isolation may be triggered as people grow older through diverse personal life-course trajectories, which further compound the socio-economic and emotional disadvantages pertinent in later-life,[20,31] was supported by the present analysis. The finding that social isolation increased consistently with age was similar to that of a recent empirical investigation,[32] where the oldest participants were the most socially isolated age group. The clustering of social isolation indicators differed markedly amongst the three age groups, with the variations being more pronounced between the two ends of the age spectrum, the young-old and the oldest-old individuals. The group aged >85 years displayed a significantly lower likelihood of having a greater number of positive well-being outcomes in both models. Given the fact that living without a partner or spouse and social disconnectedness were both significantly more likely to occur among respondents of greater age, this suggests that multiple social and well-being disadvantages accumulate in the later years of life. It is, however, difficult to assess whether the positive link between social isolation and age is the result of a "true age-effect" or whether other conditions inherent in old age are involved in this association.[33]

Significant gender differences were observed concerning the prevalence of most social isolation indicators and their accumulation, with males generally faring better than females. Most prominent were the gender differences in partnership status, with almost twice as many females as males living unpartnered. This is possibly because women tend to live longer and thus outlive their partners,[12] despite

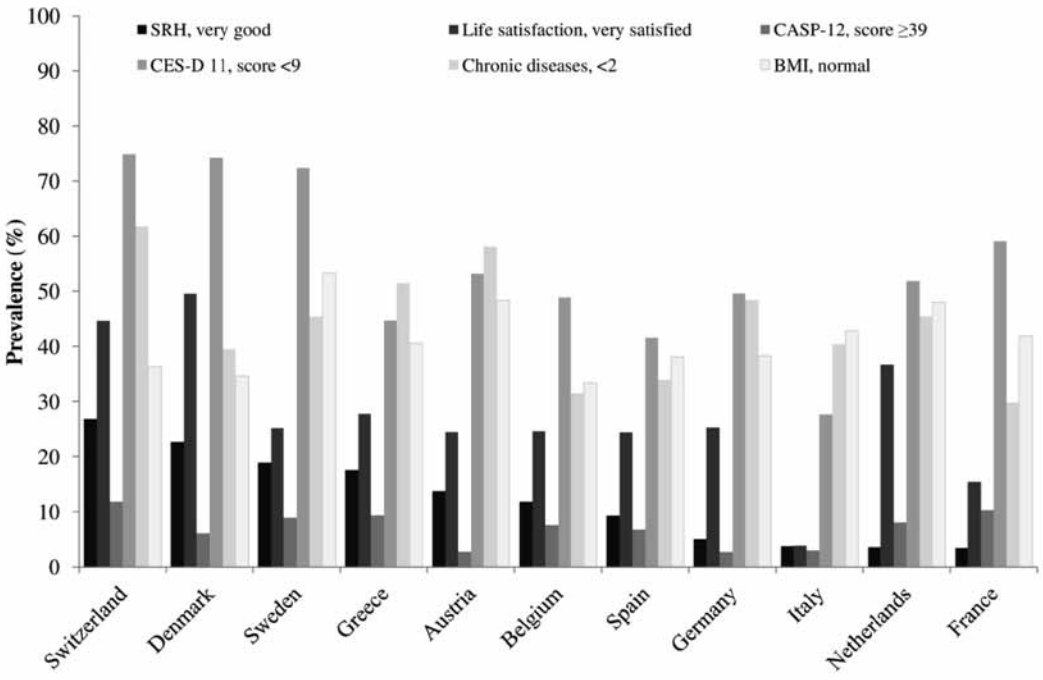

Figure 1. Prevalence of 4+ social isolation indicators in 5,129 adults, aged 65+ years, in relation to the presence of well-being outcomes in the SHARE study.

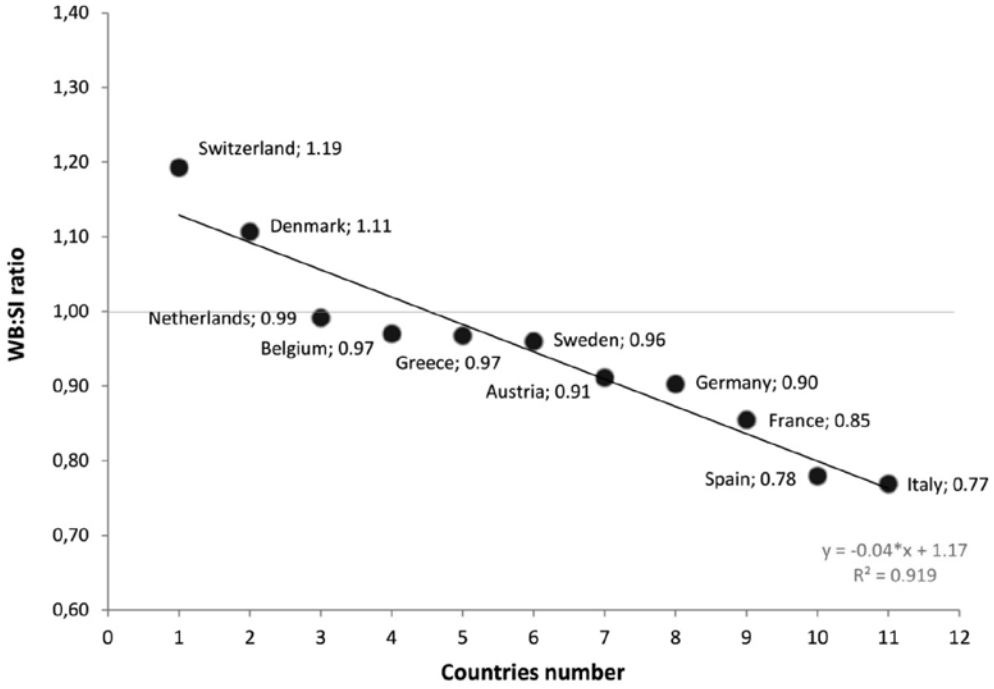

Figure 2. Well-being (WB) to social isolation (SI) ratio (WB:SI ratio) in 5,129 adults, aged 65+ years, in the SHARE study in eleven European countries.

generally displaying fewer financial and educational resources and more ill-health conditions.[34] Recent evidence shows that social isolation is significantly greater among women than men as a result of them not having married or being no longer married, and thus living without a spouse or partner.[35] Childlessness, which is associated with the existence of smaller family networks and fewer ties of kinship,[36] was found in the present study to be higher in

males, though not to a significant degree. This is in agreement with the contention that, due to life-course social identity roles tied to gender, parenthood is highly valued by women, representing a social goal expected to be accomplished by them.[37] Important gender-linked variations were also observed in the social isolation indicator of lack of social support exchanges. In agreement with the present findings, studies have shown that receipt of social support is much less evident among men[35] and integration in wider confidant networks is more prevalent among women.[38] These gender differences should be considered when formulating policies related to social isolation in older age.

In concordance with earlier literature,[39,40] low literacy and limited financial resources were shown to be risk factors for social isolation in the current study. When social isolation was operationalized as a composite social disengagement index, based on the number of social ties or contacts, it was found that older adults with fewer years of education and lower income resources had a higher likelihood of becoming socially isolated. Similarly, low education and income status, representing social disadvantage, among adults aged 45–75 years has been positively associated with social isolation, as estimated by social participation, partnership status and number of close ties.[41]

Congruent with earlier research showing mixed results on the association between social isolation and well-being, due to the different definitions and measurement methods of these constructs, the pattern of the association in the present analysis also varied along the different construct measures. For example, living status was significantly associated with most of the indicators of social isolation and their clustering, with the absence of clinically relevant depression, very good self-perceived health status, satisfaction with life and the occurrence of none or one chronic condition being more prevalent among individuals sharing a partnered arrangement, than their unpartnered counterparts. Living alone has recently been demonstrated to be significantly associated with poor quality of life and serious psychological distress among adults aged 65 and older.[42] Parental status was also associated with lower psychological distress and higher life satisfaction, which is in support of the previously suggested psychological benefits in late life of parenting.[43] The strength of the evidence for the role of childlessness in the accumulation of well-being indicators was however weak. As previously suggested,[44] it may be that childless people successfully adjust to their status through their life course, and seeking to engage in wider social supportive networks, whilst childlessness might also have some benefits to confer, such as fewer responsibilities, conflicts and concerns and hence less psychological and financial strain.

There was some evidence, albeit, weak, that the older adults afflicted the most by social isolation (as indicated by the presence of 4+ isolation indicators) experienced lower levels of well-being, than those with no social isolation indicators. According to regression analysis, however, socially and productively active older adults were considerably more likely to present a greater number of well-being outcomes, than socially inactive individuals. This finding confirms the notion that social engagement matters for the well-being of older adults, as demonstrated by the Established Populations for Epidemiologic Studies of the Elderly (EPESE) project,[18] which also suggested that socially disengaged older adults have a higher likelihood of presenting depressive symptoms.

The finding that social support was negatively associated with well-being is in contrast to earlier research supporting the positive effect of social support on several health and well-being outcomes in older people.[45,46] The experience of being cared for, however, might also entail stressful emotions for older adults with related health-associated needs for social support.[47] The negative association observed in the current study might therefore be due to the extent of the exchange of the specific types of social support assessed, which could also be linked to the participants' health status. Another study[48] also showed that the receipt of instrumental support was associated with a greater likelihood of exhibiting poor health self-ratings. It is possible that the social exchange process might lack reciprocity in the situation where, because of health conditions, older adults are rendered recipients of assistance and support, while being unable to compensate for it.[49] Subsequently, this kind of unrequited social exchange, in so far that it is negatively appraised by older adults, may embody feelings of dependency and incompetence,[50] and thus trigger psychological distress.[51]

Considerable differences were observed in the distribution of indicators of social isolation and their clustering across countries. Despite the country variations with regards to individual social isolation indicators, such as frequency of contact with, and proximity to offspring, activity participation and social exchanges, relative consistency was observed at the regional level. For example, fewer residents in southern Europe, as compared to both their central and northern counterparts, reported contacting their offspring less than once a month or never. This finding agrees with earlier research showing that frequent parent-child contact is much less likely to occur among northern Europeans, compared with their southern peers.[52] This could be due to the stronger family contexts which appear to prevail in southern European countries, where proximate later inter-

generational ties are predominant and highly appreciated by the elderly.[53] Adult offspring in southern societies are subjected to strong cultural expectations with regards to the maintenance of intimate life-course bonds and interaction with their parents.[54] The current study also showed significantly lower proximity to offspring in the northern European countries than in Spain, Italy and Greece, which agrees with earlier findings that older adults are more likely to co-reside with their adult children in southern than in northern Europe.[55] Co-habitation, which is a common living arrangement for intergenerational familial care in southern Europe, apart from being culturally preferable, has also been attributed to *"measurable economic and policy factors"*;[56] the comparatively worse financial situation of older people in the south of Europe and the inadequacy of formal welfare system services partially necessitate parent-child co-residence. The converse appears to apply in the north of Europe, where solitary living in the later years of life means more autonomy and independence and seems to be the most preferred living arrangement for older people.

Lack of social support exchanges among European older parents and their children was relatively high; it was least often observed in Belgium, Denmark and the Netherlands, whereas, notably, Spain, Italy and Greece ranked among the highest. This contradicts previous research which has suggested that older people's living arrangements determine their intergenerational supportive exchanges,[57] implying that support and care transfers among older parents and their offspring are most likely to occur in southern Europe, where cohabitation is more common. Furthermore, northern Europeans were less likely to be socially and productively inactive than participants in southern Europe, with the exception of Greece. Similar conclusions have been drawn by previous research, which has indicated that participation rates in a wide range of social and productive activities tend to be much higher in northern Europe.[58]

Cross-national differences were observed in the well-being to social isolation ratio estimated in each European country, with the highest ratios detected in Switzerland and Denmark and the lowest in Spain and Italy. This finding suggests that the occurrence of positive well-being outcomes is more pronounced in Switzerland and Denmark, relative to the prevalence of social isolation indicators. The opposite was observed for Spain and Italy, where the indicators of social isolation were more prevalent than positive well-being outcomes. Similar results were observed regarding the accumulation of well-being outcomes, with the likelihood to achieve high well-being, being significantly higher in northern than in southern European countries. This further reinforces the consistently depicted north-south gradient in health and well-being,[59] which has been considered to be contingent on differences in the distribution of socio-economic and health care resources both within and between European countries.[60]

The current research findings are liable to certain limitations which warrant discussion. Firstly, although the present paper is indicative of specific associations between the measures under scrutiny, causal inferences cannot be drawn, due to the cross-sectional nature of the study. Reverse causation cannot thus be excluded, since it could be fairly assumed that the well-being of older adults might affect the amount of their family and social resources. Secondly, the study is biased towards healthier and more socially integrated non-institutionalized elderly, while frail, not community-resident, older people were not investigated. This might have led to the underestimation of the real magnitude of the association between social isolation and well-being. Lastly, the self-reported nature of social isolation and well-being constructs should be considered when interpreting the results of the present inquiry. Studies that rely mainly on self-assessment are thought to suffer from recall errors and reporting bias, due to social desirability drawbacks, to which social and health research based on self-reported data is inherently subject.

Despite the aforementioned methodological and conceptual limitations, this study provides important evidence of the role of the underlying adverse domains of social environment which pertain to social isolation in the determination of the well-being of European older adults. The findings provide further evidence of the salient role the country context plays in elderly people's well-being, substantiating the previously demonstrated north-south gradient in the distribution of health and well-being outcomes. These findings should be considered by policy makers and stakeholders involved in the development of strategies to reduce social isolation, with the aim of improving well-being in later life. The results of this study can also support the development of interventions that could lead to improvements in late-life well-being through the mitigation of social isolation and the amelioration of specific facets of the objective family and social conditions of older adults.

ΠΕΡΙΛΗΨΗ

Κοινωνικός αποκλεισμός και ευεξία μεταξύ των ηλικιωμένων ατόμων στην Ευρώπη

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ΣΚΟΠΟΣ Εξέταση της κατανομής των διαφορετικών παραμέτρων της κοινωνικής απομόνωσης σύμφωνα με τα κοινωνικο-δημογραφικά χαρακτηριστικά των συμμετεχόντων σε ατομικό επίπεδο, αλλά και σε επίπεδο χωρών, καθώς και διερεύνηση της συσχέτισης μεταξύ κοινωνικής απομόνωσης και διαφορετικών αποτελεσμάτων ευεξίας μεταξύ των ηλικιωμένων στην Ευρώπη. **ΥΛΙΚΟ-ΜΕΘΟΔΟΣ** Το παρόν δείγμα, το οποίο συνιστούσαν άτομα ηλικίας ≥65 ετών (n=5.129), αντλήθηκε από το πρώτο κύμα της μελέτης SHARE (μελέτη για την υγεία, τη γήρανση και τη συνταξιοδότηση στην Ευρώπη, 2004/5). Η ευεξία προσδιορίστηκε ως η συγκέντρωση έξι δεικτών που περιλαμβάνουν την ικανοποίηση από τη ζωή, την ποιότητα ζωής, την αυτο-αναφερόμενη υγεία, την καταθλιπτική συμπτωματολογία, τα χρόνια νοσήματα και τον δείκτη μάζας σώματος. Ο κοινωνικός αποκλεισμός μελετήθηκε σε όρους επτά συγκεκριμένων εκφάνσεων των συνθηκών διαβίωσης των ηλικιωμένων ατόμων. **ΑΠΟΤΕΛΕΣΜΑΤΑ** Σύμφωνα με την ανάλυση συνδιακύμανσης βρέθηκε μια σημαντικά υψηλότερη βαθμολογία ευεξίας μεταξύ των ατόμων που είχαν συχνή επαφή με τα παιδιά τους (p=0,028) και εκείνων τα οποία συμμετείχαν τουλάχιστον σε μία κοινωνική ή παραγωγική δραστηριότητα (p=0,001). Επιπρόσθετα, η ανάλυση πολλαπλής λογιστικής παλινδρόμησης έδειξε σημαντικά χαμηλότερη πιθανότητα να εμφανίσουν 4+ αποτελέσματα ευεξίας τα πιο ηλικιωμένα άτομα, οι συνταξιούχοι και τα κοινωνικά ανενεργά άτομα και υψηλότερη πιθανότητα για τα περισσότερο μορφωμένα άτομα και εκείνα με σπάνιες ή καθόλου ανταλλαγές κοινωνικής υποστήριξης. Τέλος, οι βόρειοι Ευρωπαίοι ήταν πιο πιθανό να έχουν περισσότερους παράγοντες ευεξίας και λιγότερους δείκτες κοινωνικής απομόνωσης, σε σχέση με τους συνομηλίκους τους στη νότια Ευρώπη. **ΣΥΜΠΕΡΑΣΜΑΤΑ** Τα παραπάνω ευρήματα, παρ' όλο που θα πρέπει να ερμηνευτούν με προσοχή εξ αιτίας της συγχρονικής τους φύσης, ωστόσο παρέχουν εμπειρική υποστήριξη στην κοινωνική κατανομή της κοινωνικής απομόνωσης και τη δυσμενή επίδραση της κοινωνικής απομόνωσης σε συγκεκριμένα αποτελέσματα της ευεξίας στη γεροντική ηλικία. Ως εκ τούτου, είναι ανάγκη οι δημόσιες πολιτικές υγείας και οι κοινωνικές πολιτικές να αντιμετωπίσουν πιο ενδελεχώς τις ενδεχόμενες επιπτώσεις του κοινωνικού αποκλεισμού στην ευεξία των ατόμων της τρίτης και της τέταρτης ηλικίας.

Λέξεις ευρετηρίου: Ευεξία, Ηλικιωμένα άτομα, Κοινωνικός αποκλεισμός, Μελέτη SHARE

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ORIGINAL ARTICLE

Preventive health services utilization in relation to social isolation in older adults

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Abstract
Purpose The current study aims to examine the utilization of preventive health services in relation to social isolation among older Europeans adults.
Methods Data on 5,129 adults 65 years of age and older was obtained from the first wave of the Survey of Health, Ageing and Retirement in Europe (SHARE, 2004/05). Prevalence of social isolation indicators (living arrangements, marital status, number of children, contact with children, proximity to children, activity participation, social exchange) was assessed in relation to preventive health services utilization, which was ascertained by a 12-item composite score (PHSUs). Estimations were based on the complex study design.
Results Diverse facets of social isolation were differently associated to preventive care. Significantly lower mean PHSUs were found for adults living unpartnered, who were unmarried, had no children and were socially disengaged. A similar pattern was thus drawn regarding the clustering of social isolation indicators (4+). Considerable variations were detected across SHARE countries in the distribution of PHSUs among socially isolated adults.
Conclusion Socially isolated individuals were found to receive fewer preventive services. This finding confers important evidence on the potential factors that affect the use of preventive health services among older adults. It is also suggestive of the need to develop public health and social policies with the aim to alleviate social isolation and as a means to enhance preventive care uptake in later life.

Keywords Preventive health services · Social isolation · SHARE study

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Introduction

Health and social care systems in Europe and globally are being confronted with far-reaching challenges due to the prevailing changing patterns of demography and epidemiology. These patterns are associated with the growth of the elderly population and the subsequent health and long-term care implications (Cooke and Mannix 2009). In this context, specific health conditions, which account for a pronounced burden of ill health and decreased functional status, co-occur. Adults thriving into advanced age are thus more socially and psychologically vulnerable and specific aspects of their well-being and quality of life are being adversely impacted (Ferrucci et al. 2008). The age-associated varying pattern of elevated health and social needs entails a greater reliance on medical and social care services and hence substantial financial demands on public expenditure (Iecovich and Biderman 2013).

To this effect, fostering preventive health care has been viewed as a key strategy towards healthy ageing, through to the substantial benefits it bears for the maintenance of health and well-being and the alleviation of the chronic disease burden (Ogden et al. 2012). Although, acute and chronic illnesses are triggered as people grow older, there are still specific diseases which could be prevented through the systematic uptake of preventive services (Peng and Jensen 2016). In addition, preventive health services hold the potential to contribute to

the prevention and even treatment of chronic diseases through the provision of relevant guidance and advice. It has therefore been acknowledged that the receipt of adequate preventive services offers the possibility to offset the need for in-patient services such as emergency department visits and hospital admissions (Kolstad and Kowalski 2012).

It has thus been estimated that, even though only 3% of healthcare expenditure in the United States is spent on prevention, a percentage of 70% of deaths are associated with preventable diseases (CMMS 2014). Against this background, barriers leading to older people not receiving optimal preventive care may be considered as possible disease and mortality risk factors (Okoro et al. 2005). Therefore, it is important to investigate family-related and psycho-social resources, which are particularly relevant in late life, and may have some role to play in the diverging pattern of preventive health services utilization.

Indeed, in view of the attenuation in life commitments and loss of major familial and work roles on account of age-associated transitions, older individuals are arguably more subject to specific, unfavourable, social states pertaining to social isolation (De Jong Gierveld et al. 2006). A large body of research has pointed to adverse conditions, such as social withdrawal, loss of important others, lack of independence and insufficient control due to physical changes and impairment, being more typical of old age (Fees et al. 1999; Victor et al. 2000). It has thus been maintained that social isolation accrues at older ages due to the accumulation of the preceding life-course trajectories. Additionally, conditions of social isolation have been evidenced to account for the unequally patterned distribution of health and well-being outcomes observed among the elderly (Courtin and Knapp 2015), albeit they have thus far been treated as "less-recognized health risks" (Meyer and Schuyler 2011).

Specific aspects of social isolation have also been documented with regard to the receipt of preventive health services by older people. For instance, Lau and Kirby (2009) examined compliance with recommended preventive care in relation to marital status, and detected a significantly higher likelihood of obtaining a wide range of preventive services within a proposed timeframe among elderly adults living in a partnered arrangement compared to their non-partnered peers. Another study on breast cancer screening, among multi-cultural, middle-aged women, showed that non-adherence to the respective guidelines was linked to a lower level of social support (Katapodi et al. 2002). More recently, Beckett et al. (2015) provided evidence suggesting a lower likelihood of undertaking influenza and pneumonia immunizations among adults older than 65 years of age, beneficiaries of Medicare, and those living in single-person households. In this respect, symptoms and effects of social isolation should be primarily addressed "as the most promising way of preventing unscheduled admissions" (Themessl-Huber and Hubbard 2006).

Nonetheless, the findings yielded by previous research in this field have been rather inconclusive, as regards the aggregate effect of social isolation on preventive care use among the elderly. In addition, the majority of empirical research to date has drawn on socio-economic determinants to explain disparities in preventive health care use (Hoeck et al. 2014). A few more recent studies have also considered psycho-social factors such as religiosity (Benjamins 2006) and purpose in life (Kim et al. 2014).

Therefore, social isolation in the later life context has been the subject of less research, with most studies addressing living arrangements and partnership status. There seems to be hardly any evidence relevant to the utilization of preventive services following a comprehensive appraisal of social isolation. Lastly, social isolation in relation to the utilization of different health resources has been mainly addressed from a single-country perspective, allowing for the argument that further evidence is required from internationally comparative data.

The current study seeks to build upon the still-emerging evidence by examining the distribution of preventive health services utilization according to specific quantitative components of social isolation. Based on a large, representative population of European adults 65 years of age and older, comparable data on potential regional variations is also provided. Following on the preceding literature review, we hypothesised that social isolation would deter older adults from maintaining health-seeking behaviour oriented towards preventive care and that it would affect the utilization of preventive health services in differing ways. Accordingly, two major hypotheses were stated and examined: (1) social isolation indicators, as well as their clustering, will be associated with a lower mean score of preventive health services utilization; (2) the utilization of distinct components of preventive health services will be differently related to social isolation indicators.

Methods

Study population and sampling

The present study draws on data retrieved from the first wave of the Survey of Health, Ageing and Retirement in Europe (SHARE, http://www.share-project.org) which was carried out in 2004/2005 among 11 northern, central and southern European countries (Austria, Belgium, Denmark, France, Germany, Greece, Italy, the Netherlands, Spain, Sweden and Switzerland). The SHARE sample, as more sharply delineated by (Borsch-Supan and Brugiavini 2005), comprises national probability household samples of community-dwelling adults, aged over 50, and their partners or spouses, regardless of their age (Fig. 1).

SHARE was modelled closely after and harmonized with the English Longitudinal Study of Ageing (ELSA) and the Health and Retirement Study (HRS) and created an international network acknowledged by the European Union under

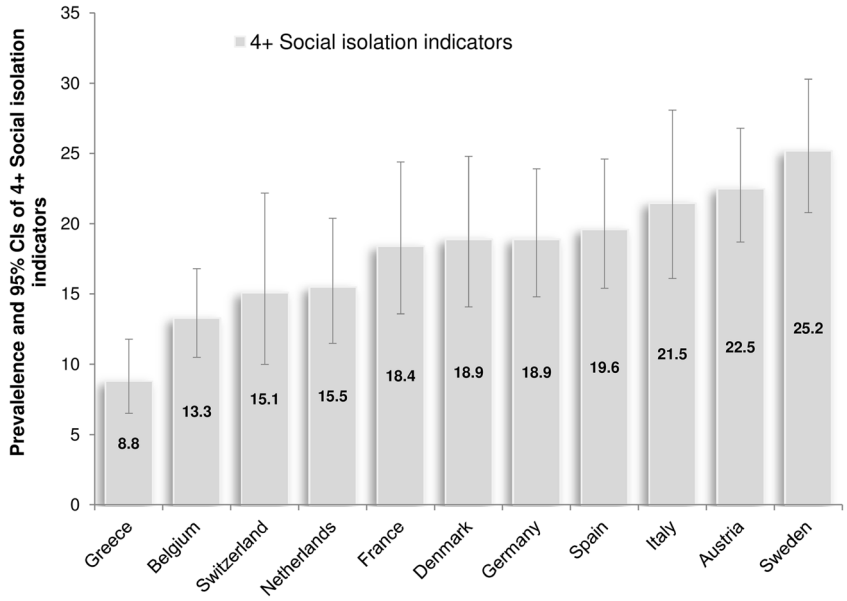

Fig. 1 Prevalence of 4+ social isolation indicators among 11 European populations aged 65+ (the SHARE study). 95% CIs, 95% confidence intervals; SHARE, Survey of Health, Ageing, and Retirement in Europe

the coordination of The Mannheim Research Institute for the Economics of Ageing in Germany at the macro-level, and universities or research centres at the national level (Borsch-Supan and Brugiavini 2005).

For the determination of the SHARE study sample, sampling designs were employed ranging from a simple selection of households to rather complex, multi-stage probability designs according to both registers administered at a national and regional level and telephone directories. An overall weighted response rate of about 62% was achieved among households selected with at least one age-eligible household member and ranged from 38.8% in Switzerland to 81.0% in France. At the individual level, though, the average response rates were higher, ranging from 73.7% in Spain to 93.3% in Germany. A more extensive account of study design, ethics, sampling methods, data collection and documentation has been provided elsewhere (Borsch-Supan et al. 2013). For the purposes of the current inquiry, analysis was based on 5,129 adults aged 65 years and over within the SHARE sample (2,366 males and 2,763 females), separated into three different age groups (65–74, 75–84 and 85+).

Measures

Social isolation

Drawing on previous empirical and theoretical literature we assume that social isolation is an adverse social state, characterized by solitary living, a limited family network size, infrequent parent-child interactions, activity disconnectedness and lack of social support exchanges. Our definition is thus in accordance with Zavaleta et al.'s (2014) determination of social isolation as "the inadequate quality and quantity of social relations with other people at the different levels where human interaction takes place (individual, group, community and the larger social environment)".

According to the afore-mentioned delineation, social isolation was measured in structural and functional terms. More precisely, physical separation from significant others, which corresponds to a structural element of social isolation, as also posited by Tomaka et al. (2006), was captured in terms of living arrangements, marital status, number of children and family-associated relations, defined by parent-child contact and proximity. Living arrangements were measured by the question "*Do you live with a spouse or partner?/Do you live alone (without a spouse or partner)?*". Marital status was defined by the query "*What is your marital status*?" (*1: 'Married and living together with spouse', 2: 'Registered partnership', 3: 'Married, living separated from spouse', 4: 'Never married', 5: 'Divorced', 6: 'Widowed'*), so as to differentiate those residing with a partner or spouse from those living unpartnered. Respondents were also asked to report the number of their children; those with no natural, fostered, adopted or stepchildren were determined as childless. Parents' contact to their most contacted child was assessed through the question phrased as follows: "*During the past 12 months, how often did you or your husband/wife/partner have contact with your child, either personally, by phone or mail?*" (*1: 'Daily', 2: 'Several times a week', 3: 'About once a week', 4: 'About every two weeks', 5: 'About once a month', 6: 'Less than once a month' and 7: 'Never'*). Response categories were further classified in order to distinguish between respondents, stating communication with their most contacted child daily to about once a month, and those with contact less than once a month or never. Older adults' geographical proximity to their children was defined by the distance between residences, according to the question: 'Where does your child live? (*1: 'In the same household', 2: 'In the same building', 3: 'Less than 1 km*

away', 4: 'Between 1 and 5 km away', 5: 'Between 5 and 25 km away', 6: 'Between 25 and 100 km away', 7: 'Between 100 and 500 km away', 8: 'More than 500 km away' and 9: 'More than 500 km away or in another country'). Individuals whose children lived at a distance more than 1 km away were differentiated to those who had at least one child living with them in the same house or building.

No activity participation and lack of supportive exchanges were considered to represent the functional facet of social isolation and hence the unavailability of adequate supportive social involvements and connections. Participants were queried to indicate if they had participated in any activity during the previous month *(1: 'Done voluntary or charity work', 2: 'Cared for a sick or disabled adult', 3: 'Provided help to family, friends or neighbours', 4: 'Attended an educational or training course', 5: 'Gone to a sport, social or other kind of club', 6: 'Taken part in a religious organization (church, synagogue, mosque etc.)' and 7: 'Taken part in a political or community-related organization')*. Individuals who responded that they had not taken part in any of the activities assessed were represented by the category 'no activity', in comparison to those who declared being engaged in at least one activity. Intergenerational supportive exchanges were addressed in terms of the respondents' transfers of any kind of support in the past 12 months (*1: 'Personal care, e.g. dressing, bathing or showering, eating, getting in or out of bed, using the toilet, 2: 'Practical household help, e.g. with home repairs, gardening, transportation, shopping, household chores', and 3: 'Help with paperwork, such as filling out forms, settling financial or legal matters'*). The respective responses (*1: 'Almost daily', 2: 'Almost every week', 3: 'Almost every month' and 4: 'Less often'*) were recoded in order to ascertain older adults who had given or had been offered support at least once a month, in relation to those with rare supportive exchanges.

For the purposes of the present inquiry, participants were assigned a point if they asserted living unpartnered, having never been married, being childless, getting through to their most contacted child less than once a month or never, residing in separate households to all their children, having been involved in no social or productive activities within the previous month and having infrequently exchanged support over the course of the last year. A total clustering score of social isolation ranging from 0 to 7 was subsequently yielded by summing respective responses. A score of 4+ was considered indicative of greater social isolation and is hereinafter referred to as multiple presence or accumulation of social isolation indicators.

Preventive health services utilization score (PHSUs)

Data on the utilization of preventive health services was obtained from the self-completed drop-off questionnaire in conjunction with the baseline questionnaire and according to the respondents' self-reports on 12 items. The frequency of a wide range of services used was investigated, encompassing visits to general practitioners (GPs) and dentists, immunizations and screenings. In particular, participants were asked to indicate whether they: (1) had had contact with a dentist/ dental hygienist for routine check-ups and/or prevention in the previous year ('*During the last 12 months, have you seen a dentist or a dental hygienist?*'); (2) had a GP for advice/prevention (*'Do you have a "GP" (i.e. a doctor you usually turn to for your common health problems)?'*); (3) were assessed by a GP for physical activity ('*How often does your GP ask how much physical activity you do?*'); (4) received advice for regular exercise from a GP ('*How often does your GP tell you that you should get regular exercise?*'); (5) were assessed by a GP for body weight ('*How often does your GP check your weight?*'); (6) were asked by a GP about drug use or prescriptions ('*How often does your GP ask you about any drugs you take, either over-the-counter or prescribed by another doctor?*'); (7) had had a flu vaccination in the preceding year ('*In the last year, have you had a flu vaccination?*'); (8) had had a mammogram in the preceding 2 years (*'In the last 2 years, have you had a mammogram?'*); (9) had ever had a sigmoidoscopy/colonoscopy ('*Have you ever had a sigmoidoscopy or colonoscopy?*'); *(*10) had been tested for hidden blood in stool in the preceding 10 years ('*In the last 10 years, have you had a test that detects hidden blood in your stool?*'); (11) had ever been referred by a doctor to a physiotherapy or exercise program for joint pain ('*Have you ever been sent to physiotherapy or an exercise program for joint pain?'*); (12) had ever been referred by a doctor to an orthopaedic surgeon for joint pain *('Have you ever been sent by a doctor to an orthopeadic surgeon for the joint pain that you presently have?')*. For the purposes of the analysis, initial responses to any given item were coded into a binary variable (0 = no/never, 1 = yes/at some time/every visit). Then all responses were summed and a composite (cumulative) score was generated with a range of 0–12 components (PHSUs). Afterwards, this score was transformed into a 0–100 scale in order to be comparable to other similar scales. Higher values corresponded to a greater number of preventive services received by the respondents (Linardakis et al. 2015; Fig. 2).

Additional measures

The socio-structural and demographic variables that have been regarded as relevant in the prediction of services utilization (Nelson et al. 2002) and which were adjusted for in the current analysis comprised gender (*male/female*), years of age *(65–74, 75–84* and *85+*), educational attainment (*0–7, 8–12, 13+ years of education*), retirement status (*retired/not retired*) and income quartiles (*low < 25%, average between 25 and 75% and high > 75%*). Furthermore, the 11 European countries were geographically classified into northern (*Denmark, Sweden*), central (*Austria, Belgium, France, Germany, the*

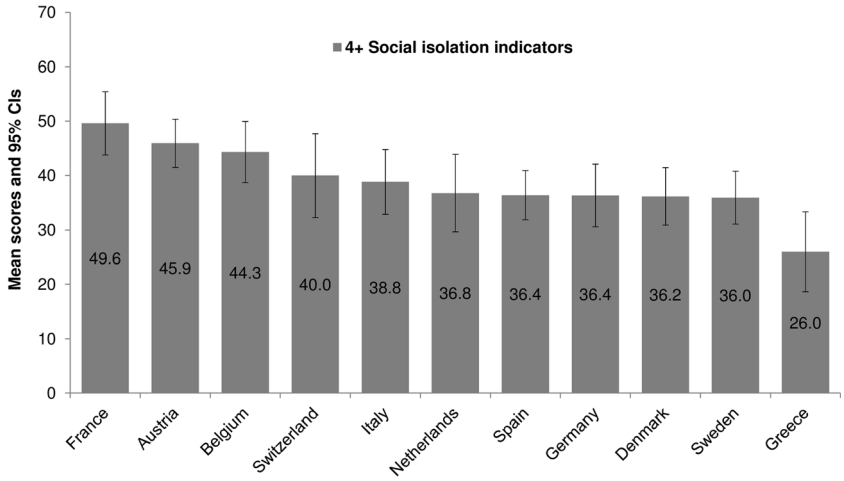

Fig. 2 Mean score of total Preventive Health Services Utilization (PHSUs) among European adults with 4+ social isolation indicators in 11 European populations (the SHARE study). 95% CIs, 95% confidence intervals; SHARE, Survey of Health, Ageing, and Retirement in Europe

Netherlands, Switzerland) and southern (*Greece, Italy, Spain*) and were also specified as covariates following relevant evidence documenting regionally distributed outcomes in the utilization of health care resources (Hoeck et al. 2014).

Finally, need factors, defined by self-perceived health status (*very good* or *good* and *fair, bad* or *very bad*), chronic diseases (*none, 1* or *2, 3+ conditions)* and disease symptoms (*none, 1* or *2, 3+ symptoms*), were also addressed, since they are well-established predictors of health care use by middle-aged and older adults (Fernandez-Martinez et al. 2012).

Statistical analysis

Data analyses were conducted with the SPSS software (IBM SPSS Statistics for Windows, Version 23.0. Armonk, NY: IBM Corp). Sampling design weights that adjust for non-response were employed according to the complex multistage stratification sampling design of the study.

Firstly, social isolation indicators and mean scores of the utilization of preventive health services, measured on a composite score (PHSUs), were examined by virtue of descriptive statistics. More precisely, frequency distributions of the participants' demographic and socio-structural attributes were estimated. Secondly, in order to test our first hypothesis, mean PHSUs were calculated according to the presence and clustering of social isolation indicators (as none, 1, 2, 3 and 4+) by performing analysis of covariance following the complex sample design procedure and controlling for gender, age, education, retirement status, income, European regions, self-rated health status, chronic diseases and symptoms. Thirdly, so as to test our second hypothesis, multiple logistic regression analysis was applied, defining as covariates gender, age, education, retirement status, income, European regions, self-rated health status, chronic diseases and symptoms. Possible relationships between social isolation indicators with the different components of the utilization of preventive health services were thus estimated.

Further, in order to detect possible national variations, weighted prevalence and corresponding confidence intervals (95% CIs) regarding the occurrence of 4+ social isolation indicators were estimated. Lastly, the same analysis was applied to examine the distribution of PHSUs for respondents with 4+ social isolation indicators in the 11 countries under investigation.

Results

Descriptive data of the population under survey are displayed in Table 1. With regard to socio-demographic characteristics, over half the participants were females (53.9%), belonged to the 65–74 age group (60.3%) and resided in central Europe (52.1%). A little less than half the sample had 0–7 years of schooling (43.2%), whereas more than one third belonged to the lowest income quartile (35.3%). Relative to health care needs, a substantial proportion (46.2%) of respondents perceived themselves to be in fair, bad or very bad health, with more than one-fourth of them reporting three or more concurrent morbidities and disease symptoms (29.9 and 27.4% respectively).

In Table 1, findings on the frequency distribution of social isolation items are also shown. For the majority (55.1%) of older adults, the prevailing living arrangement status was residing without a spouse or partner. Only 5.5% of the adults surveyed had never been married, 12.9% were childless and an even smaller proportion (1.8%) indicated having had contact with their children less often than once a month or not at all during the past year. A large proportion of the respondents exhibited infrequent social exchange in the last twelve months (66.1%), lived separately to their offspring (67.1%) and did not state any activity involvement during the course of the previous month (51.5%).

The clustering of social isolation indicators was the least pronounced at both ends of the spectrum, with an accumulation of indicators being yielded for 19.3% of the participants,

Table 1 Descriptive characteristics of 5129 adults, aged 65+ years in the SHARE study (2004/05)

			n	%
Gender		Males	2,366	46.1
		Females	2,763	53.9
Age, years		65–74	3,097	60.3
		75–84	1,701	33.2
		85+	331	6.5
		Mean ± standard deviation (min-max)	73.6 ± 6.6 (65–99)	
Education, years		0–7	2,202	43.2
		8–12	1,629	32.0
		13+	1,262	24.8
		Mean ± standard deviation (min-max)	8.9 ± 4.5 (0–21)	
Retirement status		Retired	4,228	82.4
Income[a]		Lower quartile	1,808	35.3
European regions		Northern	874	17.0
		Central	2,674	52.1
		Southern	1,581	30.8
Self-rated health		Fair, bad or very bad	2,370	46.2
Chronic diseases		None	774	15.1
		1–2	2,823	55.0
		3+	1,532	29.9
Disease symptoms		None	1,300	25.3
		1–2	2,424	47.3
		3+	1,405	27.4
Social isolation indicators	Living arrangements	Living without partner or spouse	2,827	55.1
	Marital status	Unmarried	280	5.5
	Number of children	No children	663	12.9
	Contact with children	Less than once a month or never	92	1.8
	Proximity to children	All children living >1 km	3,442	67.1
	Activity participation	No activity	2,640	51.5
	Social exchange	Almost never	3,390	66.1

[a] Income was classified using country-specific quartiles for all participants in the 2004/05 SHARE study

whereas 1.7% of them did not present any indicator. In fact, the dominant proportion of participants was found with two (30.4%) or three (37.2%) social isolation indicators, with the most common being lack of social exchange, followed by social inactivity and separate parent-child residence (Table 2).

Total mean PHSUs in relation to the presence and clustering of social isolation indicators are shown in Table 2. A significantly higher mean PHSUs was found for adults living as a couple (*with a partner or spouse*; $p = 0.001$), who were married ($p = 0.004$), had at least one child ($p = 0.046$) and maintained some kind of activity involvement ($p = 0.023$). This pattern was not drawn along all social isolation indicators, but it was retained after their clustering, whereby relative to their most socially contented peers for whom no clustering indicators of social isolation were observed, respondents with multiple presence of indicators were found to attend significantly less preventive care (41.8 vs. 37.6, p-trend = 0.046).

The distribution of the distinct components of the preventive health services utilization according to social isolation indicators is presented in Table 3. Significantly lower odds of seeing a dentist/dental hygienist were attested for individuals living without a spouse or partner (ORs = 0.69; 95% CI 0.52–0.91) and indicating no activity involvement (ORs = 0.70; 95% CI 0.54–0.89). Adults who were socially inactive also had lower odds of being assessed by GPs for their physical activity (ORs = 0.71, 95% CI 0.52–0.96) and having undertaken sigmoidoscopy or colonoscopy (ORs = 0.74, 95% CI 0.57–0.96). The likelihood of being advised by a GP on regular exercise was lower for unmarried older adults (ORs = 0.53, 95% CI 0.30–0.93). Seniors with infrequent or no contact with their children demonstrated a significantly lower likelihood of being assessed by a GP for body weight. Older adults living separately to their offspring had lower odds of having flu vaccination (ORs = 1.31, 95% CI 1.04–1.65) or of having a

Table 2 Mean scores of total Preventive Health Services Utilization (*PHSU*) score in European adults aged 65+, according to the presence and clustering of social isolation indicators. *SE* standard error

Social isolation indicators		*n*	Estimated population		PHSU score[a]	*p*-value
			n	%	Mean score (SE)	
Living arrangements	Living with partner or spouse	2,461	8,423,000	45.6	44.3 (0.6)	0.001
	Living without partner or spouse	2,081	10,051,264	54.4	39.8 (0.7)	
Marital status	Married, widowed etc.	4,297	17,488,840	94.7	42.3 (0.4)	0.004
	Unmarried	245	985,424	5.3	33.6 (2.3)	
Number of children	At least one child	3,954	15,690,173	84.9	42.3 (0.5)	0.046
	No children	588	2,784,091	15.1	36.7 (1.0)	
Contact with children	Daily to about once a month	4,457	18,028,456	97.6	42.0 (0.4)	0.082
	Less than once a month or never	85	445,809	2.4	34.9 (3.7)	
Proximity to children	At least one child living in the same house/building	1,545	7,738,551	41.9	42.1 (0.6)	0.516
	All children living >1 km	2,997	10,735,715	58.1	41.6 (0.6)	
Activity participation	At least one	2,185	6,972,598	37.7	43.3 (0,7)	0.023
	No activity	2,357	11,501,668	62.3	40.9 (0.6)	
Social exchange	Given or received support at least once a month	1,543	620,4824	33.6	42.1 (0.8)	0.752
	Almost never	2,999	12,269,441	66.4	41.8 (0.5)	
Clustering of social isolation indicators	None	65	314,445	1.7	41.8 (2.4)	0.046[b]
	1	644	2,100,921	11.4	45.0 (1.0)	
	2	1,567	5,617,710	30.4	44.8 (0.7)	
	3	1,587	6,871,698	37.2	40.7 (0.7)	
	4+	679	3,569,490	19.3	37.6 (1.2)	

[a] Total score ranges from 0 to 100, with a higher score indicating greater use of preventive health services. Overall mean score: 41.9; SE: 0.6

[b] Polynomial (linear) trend analysis

Comparisons were examined using analysis of covariance (according to the complex sample design procedure), with gender, age (year categories), education (year categories), retirement status, income, European regions (northern, central, southern), self-rated health, chronic diseases and disease symptoms as covariates

mammogram (ORs = 1.39, 95% CI 1.01–1.91). The likelihood of being tested for hidden blood in stool was lower for unpartnered respondents (ORs = 0.72, 95% CI 0.53–0.98).

Although social isolation was relatively low in the current sample of European adults aged 65 years and over, significant differences were discernible between the 11 European countries under investigation. To be more precise, the rate of the multiple presence of social isolation indicators was approximately 9–22.0% in southern Europe, relative to 13–25% among older people in northern and central Europe. Moreover, the proportion of adults being identified with more than 4 indicators of social isolation was the highest in Sweden (25.2%) and the lowest in Greece (8.8%).

A comparable pattern was also discerned when cross-national differences were further investigated as regards the distribution of PHSUs according to the accumulation of social isolation indicators. Specifically, the mean score of the utilization of preventive health care services among adults presenting 4+ indicators of social isolation ranged from 49.6 in France to 26.0 in Greece.

Discussion

The current research considered preventive health services utilization in relation to different facets of social isolation in the context of later life, across eleven European countries and based on a large and nationally representative sample of adults aged 65 and older, derived from the SHARE study. Drawing on the relevant literature which points out that no consensus has been reached up to date as to how exactly social isolation ought to be defined and thus measured, a comprehensive assessment was facilitated by determining objective domains of older people's family and social conditions. Specific indicators which have also recently been employed to outline diverse facets of social isolation (Zavaleta et al. 2016) were examined. We hypothesised that socially isolated older adults would be less likely to engage in health-protective behaviours, as reflected by a lower likelihood of receiving preventive health care services. It was also hypothesised that different elements of social isolation would be differently related to the receipt of preventive services.

Table 3 Social isolation indicators in relation to components of total Preventive Health Services Utilization score (*PHSUs*) in European adults aged 65 +

Components of PHSUs	Social isolation indicators						
	Living arrangements Living without partner or spouse vs. living with partner or spouse	Marital status Being unmarried vs. married, widowed etc.	No. of children No children vs. at least one child	Contact with children Less than once a month or never vs. daily to about once a month	Proximity to children All children living >1 km vs. at least one child living in the same house/building	Activity participation No activity vs. at least one	Social exchange Almost never vs. given or received support at least once a month
	Odd ratio 95% CIs						
Seeing dentist/dental hygienist	0.69 (0.52–0.91)	0.63 (0.37–1.08)	1.03 (0.69–1.49)	0.64 (0.29–1.41)	0.95 (0.73–1.24)	0.70 (0.54–0.89)	1.05 (0.80–1.37)
Having a general practitioner (GP) for advice and prevention	1.27 (0.84–1.91)	0.93 (0.45–1.91)	1.33 (0.79–2.23)	0.69 (0.20–2.37)	0.80 (0.56–1.14)	2.11 (1.45–2.98)	0.89 (0.63–1.28)
GP assesses physical activity	0.73 (0.53–1.02)	1.00 (0.58–1.73)	0.88 (0.58–1.32)	0.99 (0.42–2.38)	1.04 (0.77–1.39)	0.71 (0.52–0.96)	0.78 (0.58–1.04)
GP advises on regular exercise	1.09 (0.81–1.48)	0.53 (0.30–0.93)	1.16 (0.77–1.76)	1.13 (0.51–2.52)	0.75 (0.57–1.00)	1.22 (0.91–1.65)	1.11 (0.84–1.47)
GP assesses body weight	0.98 (0.74–1.31)	0.76 (0.45–1.30)	1.05 (0.73–1.51)	0.40 (0.19–0.85)	1.12 (0.87–1.45)	0.84 (0.65–1.08)	0.97 (0.74–1.28)
GP asks about drug use or prescription	0.92 (0.66–1.24)	1.00 (0.56–1.80)	0.94 (0.66–1.34)	0.99 (0.45–2.18)	0.78 (0.60–1.01)	1.06 (0.82–1.36)	1.22 (0.92–1.61)
Having flu vaccination	0.82 (0.64–1.05)	1.03 (0.59–1.79)	0.86 (0.63–1.17)	0.96 (0.45–2.04)	1.31 (1.04–1.65)	0.94 (0.76–1.17)	1.19 (0.94–1.51)
Having a mammogram	0.93 (0.68–1.28)	0.96 (0.55–1.68)	0.88 (0.57–1.36)	1.94 (0.63–6.04)	1.39 (1.01–1.91)	0.92 (0.67–1.25)	1.18 (0.85–1.64)
Having sigmoidoscopy or colonoscopy	1.00 (0.75–1.35)	1.10 (0.63–1.92)	0.85 (0.57–1.26)	0.52 (0.23–1.22)	1.01 (0.76–1.35)	0.74 (0.57–0.96)	0.87 (0.66–1.16)
Tested for hidden blood in stool	0.72 (0.53–0.98)	0.81 (0.45–1.45)	0.95 (0.64–1.40)	0.55 (0.23–1.31)	1.05 (0.78–1.41)	0.96 (0.73–1.27)	0.91 (0.67–1.22)
Referral to a physiotherapy or exercise program for joint pain	0.86 (0.62–1.18)	0.58 (0.29–1.14)	0.78 (0.47–1.27)	0.60 (0.23–1.56)	1.07 (0.78–1.45)	1.07 (0.80–1.43)	0.99 (0.72–1.34)
Referral to an orthopaedic surgeon for joint pain	0.96 (0.68–1.36)	0.98 (0.46–2.11)	1.64 (0.38–1.07)	1.92 (0.79–4.67)	1.02 (0.73–1.41)	0.86 (0.63–1.18)	0.96 (0.69–1.34)
Pseudo $R_{\text{Nagelkerke}}$	0.387	0.200	0.057	0.102	0.091	0.141	0.079

95% CIs, 95% confidence intervals

Multiple logistic regression analysis (estimations were extracted according to the complex sampling design of the study). Gender (males, females), age (year categories), education (year categories), retirement status, income, European regions (northern, central, southern), self-rated health, chronic diseases and disease symptoms were used as covariates

According to our definition of social isolation, less than one-sixth of the respondents (15.9%) were found to have an accumulation of social isolation indicators. Despite the absence of a standard measure of social isolation and the inconsistency of its conceptualization and determination across a range of investigations which renders comparisons between different studies difficult, the already mentioned finding seems to accord well with prior research evidence. According to Dickens et al.'s (2011) systematic review, the prevalence of social isolation has been portrayed to range from 7 to 17% among European adults in their mid and later life.

Although our findings show that the majority within the present representative population-based sample of older European adults was not socially isolated, consistent with our first hypothesis, an overall pattern regarding the association between social isolation indicators and preventive care emerged. More particularly, highly isolated adults were featured to pursue fewer preventive health services compared with their non-isolated counterparts. Most items addressed so as to determine social isolation (*living arrangements, marital status, number of children, activity participation*) demonstrated significant differences in the estimated mean PHSUs. Additionally, in line with our second hypothesis, specific features of social isolation were associated with a significantly lower likelihood of receiving distinct preventive health services.

The preceding findings are in line with past empirical research on preventive care in relation to concrete features of social isolation (Beckett et al. 2015)—for instance, separated or divorced elderly men have been found to obtain fewer preventive services than their married counterparts (Morales et al. 2004). Furthermore, a higher likelihood of adherence to recommended preventive health care has been documented among older adults residing with a spouse, as compared to those living alone (Lau and Kirby 2009). Middle-aged women attending frequent religious services were more likely to have conducted a wide array of preventive investigations such as mammograms, Pap smears, and breast self-examination (Benjamins 2006). Volunteering was also positively linked to greater use of preventive services such as flu shots, cholesterol tests, mammograms/x-rays, Pap smears and prostate screening among middle-aged and older participants of the HRS (Kim et al. 2014).

It therefore seems that older adults with adequate family and social bonds are reasonably more likely to better acknowledge their health needs and be essentially fostered by network members to pursue specific services aiming at health protection (Ashida et al. 2011). Equally importantly, ties of kinship have been also viewed as salient sources through which informational and emotional support can be elicited by older people (Musa et al. 2009). Therefore, family and social interactions eliminate or offset health literacy and psychological barriers which have been suggested by relevant research to account for the underutilization of preventive care in later life (Fernandez et al. 2016; Thorpe et al. 2006).

Regarding regional differences, and congruent with previous studies (Walker 1993), the general picture leads to the proposition that social isolation is more prevalent among northern European adults, relative to their southern and central counterparts. In the present inquiry, the accumulation of social isolation indicators comprised 24.0% of northern Europeans, as compared to 17.3% of central and 16.5% of southern ones. The significantly highest proportion of 4+ social isolation indicators was detected among Swedish seniors (25.2%) and the lowest proportion among Greek older adults (8.8%).

The afore-mentioned findings might indicate that in societies with a familialist attitude, where co-habitation of adult children with their older parents is the predominant living arrangement and parent-child intergenerational transfers are prevailing, social isolation is less pronounced compared to more individualistic countries. It could thus be presumed that the fact that Greece, as described by (Vozikaki et al. 2016), presents a significantly limited share of older adults being socially and productively engaged, with the exception of religious attendance, is suggestive of the inadequacy of extant socially interactive networks, thus rendering Greek older adults more dependent upon their family relationships. This might give substance to the findings of the present analysis according to which a large majority (64.8%) of adults in the south of Europe were observed to be sharing the same household with their children, whereas this applied to less than one third (28.3%) of their northern peers. Solitary living seems to be highly appreciated in the north of Europe, where, according to Dykstra (2009), co-habitation might also be seen as a "defeat".

As for the distribution of PHSUs by social isolation, it was noteworthy that the mean score of preventive health services utilization was ascertained to be considerably higher among socially isolated older adults in the centre of Europe. This held true for most countries, despite there being significant differences among them. This pattern was most striking in the case of adults with 4+ social isolation indicators in France (49.6), Austria (45.9) and Belgium (44.3), where the highest scores regarding the utilization of preventive health services were outlined and found to be almost twice as high relative to Greece (26.0). Socially isolated Greek adults were thus found to receive by far the fewest preventive resources among the eleven surveyed populations ($p < 0.05$), despite the fact that prior research on the SHARE population has evidenced Greece to present a high prevalence of respondents reporting poor well-being and multiple chronic diseases (Linardakis et al. 2015; Vozikaki et al. 2016).

A better insight into possible factors underlying country variance could be facilitated by future analyses through providing a more delineated account of each distinct service incorporated into the composite score constructed for the assessment of preventive health services utilization. Lastly, significant future research could also be devoted to taking into

consideration the structural, country-specific, features of healthcare systems which appertain to the availability, delivery and accessibility to preventive healthcare across Europe.

Strengths and limitations

The interpretation of the current findings, though resting on data derived from a large-scale study and obtained through validated questionnaires, is subject to several caveats which merit attention. Firstly, inferences concerning the causal relationships between social isolation and the utilization of preventive health services resources should be cautiously drawn on account of the cross-national nature of the present analyses. It could be fairly inferred that the extent of services utilization is accounted for by actual health care needs and medical diagnoses, whereas, as previously postulated and portrayed through country variations (Schoen et al. 2005), it could be situational and contextual, rather than pertaining to personal attributes which might conceivably determine health services utilization patterns and preventive health-seeking behaviours. The longitudinal design of the SHARE study confers the potential for future research to unfold causal associations through examination of changes over time.

Social isolation was measured by several distinct items which have been the focus of empirical analyses across social, epidemiology and gerontology literature and have been identified as particularly pertinent to the context of older life. Nevertheless, comparability with extant large-scale surveys should be attempted only upon consideration of the inconsistency among indexes or scales employed in order to capture different aspects of social isolation. Population-based studies might also render it difficult to assess the real extent of social isolation owing to the fact that their respondents appear to be generally well-off by virtue of social integration. As a result, older adults lacking social isolation indicators might possibly be over-represented, which may explain the reduced prevalence of social isolation detected in the current survey. The present research could be complemented by future investigations, which could reveal possible associations between specific services and social isolation, and further elucidate particular patterns of service use among socially isolated people of older age. Lastly, another limitation possibly lies in the occurrence of reporting or recall biases which are, however, inherent in most studies assigning self-reported measures for the estimation of health services utilization (Allin et al. 2006).

Conclusions

Notwithstanding the afore-mentioned shortcomings mainly pertaining to methodological concerns, the current investigation lends support to the hypothesis that social isolation has some role to play in the underutilization of preventive services, and that specific facets of social isolation possibly make for less use of preventive services among older European adults. It is thus apparent that the impact of social isolation on health-related outcomes such as preventive behaviours, among the elderly remains relatively unexplored. It is therefore a challenge of critical significance to identify those factors of older people's social environments which may be associated with a lower likelihood of obtaining preventive health care services. Moreover, reinforcement of preventive health care in old age could also be thought of as a means to further effectively manage the multiple health and social care needs of older adults and thus reduce the strain placed on public expenditure. Valtorta and Hanratty (2012; p. 521) maintained that "*a drive to address loneliness and isolation could prove to be one of the most cost-effective strategies that a health system could adopt, and a counter to rising costs of caring for an ageing population*".

In this regard, the present results add to earlier work in the field and bears significant public health policy implications as regards the articulation of potential interventions attempting to alleviate social isolation as a means to foster essential health prevention.

ELSA, English Longitudinal Study of Ageing; GP, General practitioner; HRS, Health Retirement Study; PHSUs, Preventive Health Services Utilization score; SHARE, Survey of Health, Ageing and Retirement in Europe

Compliance with ethical standards

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Conflict of interest The authors declare that they have no conflicts of interests.

Ethical approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. This article does not contain any studies with human participants performed by any of the authors.

Informed consent Informed consent was obtained from all individual participants included in the study.

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