

# Autoeficacia y salud

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Tesis doctoral UDC / 2021

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## **AGRADECIMIENTOS**

Mi más sincero agradecimiento a todas las personas que han hecho posible la recogida de información necesaria para llevar a cabo los estudios incluidos en este trabajo así como a las instituciones que lo han facilitado.

Igualmente quiero dar las más sinceras gracias a mis Directores de Tesis, D. Miguel Clemente Díaz y D. Manuel Gandoy Crego, siendo un absoluto privilegio el poder compartir con ellos muchos momentos en estos años para la elaboración de esta tesis y de los que tanto he aprendido. Le agradezco de corazón su paciencia, su generosidad y su trabajo con el que contribuyen sin lugar a dudas a transmitir su conocimiento a la sociedad, máxime en los momentos tan difíciles que hemos vivido en los últimos años a raíz de la pandemia mundial de la COVID-19.

Por último, no puedo olvidarme de dar las gracias a mis padres y en especial a mi mujer y mi hija. Han sido unos años muy complicados marcados por maratónicas jornadas de trabajo. Sin duda ha merecido la pena el esfuerzo y el tiempo dedicado, aunque ello hubiese supuesto restar tiempo a la faceta más familiar y personal. El haber llegado hasta aquí no hubiese sido posible sin vuestro apoyo, cariño y comprensión. GRACIAS.

# RESUMEN

## RESUMEN

El uso de la asistencia sanitaria no sólo está determinado por la complejidad del proceso de salud o por el estado funcional del paciente, sino también por otras variables, entre ellas, las psicológicas. Este trabajo tuvo por objetivo estudiar la incidencia de características psicológicas específicas, valorar en qué medida éstas se relacionan con la integración al mundo laboral y estudiar qué variables psicológicas y psicosociales nos permiten identificar a las personas que pueden ser consideradas grandes consumidoras de recursos sanitarios. Se realizaron tres estudios observacionales y correlacionales de tipo transversal sobre muestras diferenciadas ( $n_1=438$ ;  $n_2=1332$ ;  $n_3=1124$ ) constituidas por personas adultas residentes en Galicia. Los resultados señalan que sería posible establecer un perfil diferenciador en el que variables vinculadas a la autoeficacia y una visión optimista del mundo identifiquen a personas con menor probabilidad de consumo de recursos sanitarios. Asimismo, implicarían perfiles psicológicos diferenciales las categorías de trabajador activo, prejubilado o jubilado.

## RESUMO

O uso da asistencia sanitaria non só está determinado pola complexidade do proceso de saúde ou polo estado funcional do paciente, senón tamén por outras variables, entre elas, as psicolóxicas. Este traballo tivo por obxectivo estudar a incidencia de características psicolóxicas específicas, valorar en que medida estas relaciónanse coa integración ao mundo laboral e estudar que variables psicolóxicas e psicosociais permítennos identificar as persoas que poden ser consideradas grandes consumidoras de recursos sanitarios. Realizáronse tres estudos observacionais e correlacionais de tipo transversal sobre mostras diferenciadas ( $n_1=438$ ;  $n_2=1332$ ;  $n_3=1124$ ) constituídas por persoas adultas residentes en Galicia. Os resultados sinalan que sería posible establecer un perfil diferenciador no que variables vinculadas á autoeficacia e unha visión optimista do mundo identifiquen a persoas con menor probabilidade de consumo de recursos sanitarios. Así mesmo, implicarían perfís psicolóxicos diferenciais as categorías de traballador activo, prexubilado ou xubilado.

## **ABSTRACT**

The use of health care is not only determined by the complexity of the health process or by the functional state of the patient, but also by other variables, including psychological ones. The aim of this work was to study the incidence of specific psychological characteristics, to assess to what extent these are related to integration into the world of work and to study which psychological and psychosocial variables allow us to identify people who can be considered high consumers of health care resources. Three cross-sectional observational and correlational studies were carried out on different samples ( $n_1=438$ ;  $n_2=1332$ ;  $n_3=1124$ ) made up of adults living in Galicia. The results indicate that it would be possible to establish a differentiating profile in which variables linked to self-efficacy and an optimistic view of the world identify people with a lower probability of consuming health resources. Likewise, the categories of active worker, pre-retired or retired would imply differential psychological profiles.

# ABREVIATURAS



## TABLA DE ABREVIATURAS

SIGLA	SIGNIFICADO
<b>CRI</b>	Coping Responses Inventory
<b>DCL</b>	Deterioro Cognitivo Leve
<b>IAGG</b>	International Association of Gerontology and Geriatrics
<b>IGE</b>	Instituto Gallego de Estadística
<b>INE</b>	Instituto Nacional de Estadística de España
<b>MFE</b>	Memory Failures of Everyday
<b>MoCA</b>	Montreal Cognitive Assessment
<b>QCS</b>	Quejas Cognitivas Subjetivas
<b>SEH</b>	Self-efficacy and Health
<b>UE</b>	Unión Europea
<b>ZTPI</b>	Zimbardo Temporal Perspective Inventory

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# **1. INTRODUCCIÓN**

# 1. INTRODUCCIÓN

## 1.1. Servicios sanitarios y envejecimiento

La demanda de servicios sanitarios es mayor año tras año, lo cual se asocia al aumento progresivo de la esperanza de vida de la ciudadanía (Wiener y Tilly, 2002; Naciones Unidas, 2012). En efecto, el colectivo de personas mayores es el que registra mayor frecuencia de ingresos hospitalarios y estancias más prolongadas en comparación con otros tramos de edad (Veras, 2002). El propio proceso de envejecimiento, asociado a la disminución de la aptitud física y de la capacidad funcional (Pereira, 2003), puede conducir al aumento de la fragilidad, la cronicidad y la demanda de cuidados de larga duración (Wiener y Tilly, 2002). No obstante, estudios recientes destacan que el uso de la asistencia sanitaria no sólo está determinado por la complejidad del proceso de salud o por el estado funcional de las personas, destacándose la investigación realizada por Schoormans et al. (2016), que tuvo el objetivo de examinar el valor predictivo de las características psicológicas de pacientes con cardiopatías congénitas para el uso futuro de la asistencia sanitaria, con independencia de las características clínicas. Sus resultados señalan que los pacientes que refirieron un mayor uso de la asistencia sanitaria tenían un mal estado funcional, poseían niveles bajos de calidad de vida y consideraban que su situación de salud no podía ser manejada por ellos mismos ni por el tratamiento. Sus hallazgos señalan que el uso de la asistencia sanitaria no está totalmente determinado por la complejidad de la enfermedad y el estado funcional, sino también por las características psicológicas de los pacientes.

## **1.2. Características psicológicas**

Existe un interés creciente por determinar cómo distintas características psicológicas pueden influir en la salud. Las mismas engloban tanto las habilidades psicológicas como los rasgos de personalidad, que se definen como la predisposición a comportarse de una determinada manera (Pervin, 1996). Las habilidades psicológicas abarcan los comportamientos y pensamientos que controlan el estado psicológico personal.

Cooper et al. (2011) estudiaron su relación con el deterioro funcional de las personas mayores institucionalizadas: sus hallazgos indican que aquellas relacionadas con la sensación de control desempeñan un papel central en las sucesivas etapas del proceso de discapacidad y, a su vez, pueden verse afectadas por éste. En la misma línea, Windsor et al (2013) señalan que el funcionamiento físico está asociado al bienestar emocional de las personas mayores de edad avanzada. Por otra parte, la autoestima es un predictor del envejecimiento exitoso en las personas mayores (Cha et al., 2012), mientras que las percepciones negativas del envejecimiento son un factor de riesgo para algunas dimensiones del deterioro físico asociado a la edad (Robertson et al., 2015). En la misma línea, la edad subjetiva es considerada una variable predictiva de la salud mental y física durante el envejecimiento: las personas con mayor edad subjetiva tienden a ser más sedentarias, lo que aumenta los riesgos de desarrollar o empeorar patologías crónicas (Choi y DiNitto, 2014; Stephan et al., 2016).

### **1.2.1. Percepción de autoeficacia**

En los estudios de la influencia de las características psicológicas sobre la salud, uno de los constructos más analizados es la percepción de autoeficacia, fundamentalmente por haber

demostrado ser un excelente predictor de numerosas conductas (Godoy Izquierdo et al., 2008). Ésta denota la estimación personal de ser capaz de realizar una conducta específica (Bandura, 1977, 1989, 2004). Los hallazgos a la fecha indican que las personas mayores con una alta percepción de autoeficacia son más propensas a iniciar la atención sanitaria preventiva y a buscar un tratamiento con mayor antelación. Asimismo, su desarrollo está asociado a una menor probabilidad de llevar a cabo comportamientos de riesgo para la salud (Grembowski et al., 1993). Kostka y Jachimowicz (2010) concluyeron que la autoeficacia se asocia con un envejecimiento saludable, expresado en una mayor calidad de vida. Esto se hizo más evidente en las personas mayores con independencia funcional limitada que viven "en transición" entre un entorno comunitario y otro institucional. Por tal motivo, señalan que las intervenciones serían más eficaces si se estableciera este subgrupo como el primer objetivo de las medidas psicosociales de prevención y promoción de la salud. Además, la autoeficacia se puede entrenar y mejorar, lo que la convierte en un componente clave de los programas de educación sanitaria. Así lo demuestran trabajos como el de Scult et al. (2015) quienes, tras conducir un programa de envejecimiento saludable basado en la autoeficacia, observaron aumentos significativos en las personas mayores que completaron el entrenamiento.

### **1.2.2. Quejas cognitivas subjetivas**

Las quejas cognitivas subjetivas (QCS) se definen como preocupaciones reportadas tras la percepción de cambios a nivel cognitivo sin déficits significativos en test neuropsicológicos (Montejo et al., 2011; Jessen et al., 2014). Se asocian con la salud percibida y el estado cognitivo objetivo, motivo por el cual su estudio está ganando atención (Hill et al., 2016; Montejo et al., 2013). Asimismo,



se ha establecido una relación estrecha con algunos factores afectivos, incluidos los síntomas subclínicos de la depresión, la ansiedad y los rasgos de personalidad (Amarigilio et al., 2012; Balash et al., 2013).

Tanto las QCS como la percepción de autoeficacia poseen una naturaleza subjetiva. Si bien las dificultades expresadas a través de las QCS podrían repercutir en la estimación personal sobre la propia capacidad para controlar situaciones, aún no se ha estudiado el vínculo entre ambas.

### **1.2.3. Rasgos de personalidad**

Existe una clara relación entre la personalidad y la calidad de vida relacionada con la salud (Huang et al., 2017). La personalidad también se ha asociado con el funcionamiento físico (Suchy et al., 2010), siendo el neuroticismo uno de los factores con mayor incidencia en el buen funcionamiento (Canada et al., 2014). Además, los niveles bajos de neuroticismo son importantes predictores de un envejecimiento exitoso (Baek et al., 2016). Kessler y Maclean (2015) encontraron asociaciones entre la prueba Big Five de factores de personalidad y las medidas de consumo y abuso del alcohol, que es un factor importante de riesgo cardiovascular.

Los estudios realizados a la fecha indican que algunos tipos de personalidad tendrían más probabilidad de consumir servicios de salud que otros. Powers et al. (2014) analizaron personas con patologías de la personalidad, comprobando que son un claro predictor de un mayor consumo de recursos sanitarios. Asimismo, se ha estudiado la relación del consumo de atención médica con las variables de personalidad, en especial con el Inventario de paradojas del tiempo de Zimbardo (Zimbardo y Boyd, 1999), Derogatis Symptom Check-List (Derogatis y Cleary, 1977; Derogatis et al.,

1976), mediante el locus de control o internalización-externalización (Bollini et al., 2004; Schraggeova y Kopcova, 2009), así como a través de la reactancia psicológica (Hall et al., 2017; Siegel et al., 2017) y de las capacidades de afrontamiento (Bebanic et al., 2017; Veldman et al., 2017).

### **1.3. Integración al mundo laboral**

Estudios recientes ubican como otro factor influyente en los procesos de salud y en el uso de los servicios sanitarios - también asociado al envejecimiento de la población - la integración en el mundo laboral. Este fenómeno, unido a las sucesivas crisis mundiales, provocó la aparición de tres categorías de trabajadores: (1) las personas mayores que siguen trabajando porque no se ha producido el relevo generacional (Susó, 1997), (2) las que reciben salarios muy bajos debido a la crisis económica, y se definen como trabajadores cuyos ingresos caen por debajo del umbral de la pobreza (Ehrenreich, 2010), y (3) las que fueron expulsadas del mercado laboral por el cierre de empresas y, al no poder reincorporarse al sistema productivo debido a su edad, acceden a la jubilación anticipada (Alonso-Benito et al., 2010).

Luego de examinar la relación entre el trabajo, la calidad de vida y el proceso de envejecimiento, [Chandola et al. \(2007\)](#) encontraron que las personas de grados ocupacionales inferiores envejecían más rápido en términos de un deterioro más acelerado de la salud comparadas con las personas de grados superiores. Años más tarde, [Brønnum-Hansen et al. \(2019\)](#) encontraron diferencias en la esperanza de vida y la salud de grupos profesionales compuesto por personas de 50 a 75 años. Por otra parte, [Genin et al. \(2018\)](#) descubrieron niveles de sedentarismo elevados tanto en

empleados activos como inactivos, que atribuyeron al alto nivel de sedentarismo que caracteriza la tarea ocupacional.

Aún existen pocas investigaciones que analicen la influencia de la jubilación anticipada como variable en el uso de servicios sanitarios. Una de ellas es la de Hoebel et al. (2017), realizada en Alemania. El equipo encontró que un nivel socio-económico bajo se asocia con una mayor percepción de necesidades insatisfechas para varios tipos de servicios sanitarios, tanto en la edad laboral tardía y como en el grupo de personas prejubiladas. Sus hallazgos también indican que la percepción de esas necesidades podría reducirse a edades más avanzadas.

## **2. JUSTIFICACIÓN Y OBJETIVOS**

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### **2.1. Justificación**

Esta investigación es de gran relevancia para la Comunidad Autónoma de Galicia, la cual se caracteriza por un proceso de envejecimiento pronunciado, con valores por sobre la media española y europea. El rasgo principal de este proceso no es sólo la existencia de un mayor porcentaje de personas mayores sino también una menor proporción de jóvenes. Según datos obtenidos en fuentes estadísticas oficiales (Eurostat, INE, IGE), la tasa de dependencia de personas, la cual relaciona individuos económicamente dependientes con el grupo de población potencialmente activa, supera al rededor de un 10% la media española y europea. Asimismo, el ratio de necesidad de apoyo familiar es superior al de España y al de la UE, esto se relaciona en forma directa con una elevada proporción de personas mayores de 84 años y baja entre los 45 y 64. La composición demográfica de Galicia se caracteriza por la caída de la población en edad legal de trabajar y el progresivo aumento de las personas jubiladas.

La interacción entre los distintos segmentos de la población pone de manifiesto que Galicia se aproxima más aceleradamente a los retos asociados al envejecimiento, entre ellos, el aumento de la dependencia y de la demanda asistencial y la escasez de recursos sanitarios. Respecto a estos últimos, cabe tener en consideración que, debido a su composición poblacional y al bajo recambio, Galicia podría encontrarse con un déficit de cuidadores familiares y profesionales. Asimismo es acertado considerar que la caída del número de habitantes por hogar en combinación con la dispersión demográfica que caracteriza a las poblaciones rurales, podrían aumentar el riesgo de aislamiento y soledad.

Como se mencionó en la revisión de literatura científica reflejada en la introducción, el uso de la asistencia sanitaria no está determinado sólo por la complejidad del proceso de salud o por el estado funcional del paciente. A la variable edad hay que añadir otros determinantes psicosociales de la salud. En consecuencia, este trabajo se propone estudiar el valor predictivo de características sobre la demanda de servicios sanitarios por parte de personas adultas en Galicia.

Desde ya, sostenemos que el acceso a los sistemas de salud pública debe ser gratuito, universal e independiente de las características particulares de la persona usuaria. Sin embargo, consideramos que resulta útil estudiar cómo ciertas variables en particular podrían incidir en el uso de servicios sanitarios. La determinación de un perfil de usuario puede ayudar a crear mecanismos que, sin menoscabar la cartera actual de servicios sanitarios, conduzcan a una mejor calidad en la atención y a una gestión de recursos más eficaz. En la actualidad, las características demográficas y su posible evolución requieren, entre otras medidas, programar acciones socio-sanitarias específicas para la región. En este sentido un análisis localizado, como el que se realizó en este trabajo, cobra valor estratégico.

## **2.2. Objetivos**

Nuestro interés se centra en determinar variables que puedan explicar un mayor o menor consumo. Dentro del objetivo aglutinador y en función de cada uno de los estudios empíricos realizados en orden a alcanzarlo, se detallan a continuación los objetivos específicos:

- Estudiar si la percepción de autoeficacia es una variable subjetiva relevante para predecir las QCS en adultos de mediana edad que viven en la comunidad.
- Explorar el papel de percepción de autoeficacia y las QCS en la predicción del uso de los servicios sanitarios.
- Determinar en qué medida la situación laboral de una persona conlleva la presentación de variables psicológicas que permitan definir un perfil.
- Analizar el posible valor predictivo de ese perfil en el uso de los servicios sanitarios.
- Establecer qué variables psicológicas y psicosociales son de utilidad para identificar a las personas que pueden ser consideradas grandes consumidoras de recursos sanitarios.

De acuerdo a estos cinco objetivos, se publicaron tres artículos científicos en revistas indexadas en el Journal Citation Reports ([Anexo](#)).

# 3. METODOLOGÍA





### **3. METODOLOGÍA**

Los tres estudios realizados en el marco de este trabajo de doctorado tuvieron un diseño observacional y transversal. A continuación se expone un resumen de la metodología empleada en cada caso.

#### **3.1. Impacto de la autoeficacia y las quejas cognitivas subjetivas en el uso de la asistencia sanitaria entre los adultos de mediana edad.**

##### **3.1.1. Muestra**

El presente estudio se realizó con 438 personas adultas residentes en la Comunidad Autónoma de Galicia: 247 mujeres (56,4%) y 191 hombres (43,6%). Los participantes fueron informados sobre los objetivos del estudio antes de firmar el consentimiento respectivo.

Los criterios de inclusión fueron (a) edad de 55 a 69 años y (b) vivir en la comunidad. Este rango de edad está respaldado por las recomendaciones de la Asociación Internacional de Geriátrica y Gerontología (IAGG) para el cribado del deterioro cognitivo (Morley et al., 2015). Los criterios de exclusión fueron: (a) diagnóstico de demencia; (b) diagnóstico de deterioro mental mayor, incluyendo consumo de tóxicos; y (c) lesiones, daño cerebral u otras circunstancias de salud que impidieran la evaluación.

### **3.1.2. Procedimientos**

Los datos fueron recogidos entre enero y mayo de 2018. El reclutamiento de los participantes fue realizado por investigadores de la Facultad de Enfermería de la Universidad de Santiago de Compostela. Los cuestionarios se administraron en los domicilios de las personas que participaron.

Para el análisis se creó una base específica con el programa estadístico SPSS versión 20. Al momento de comparar grupos, debido a las diferencias en sus tamaños, se utilizaron las pruebas no paramétricas de Kruskal-Wallis y U de Mann-Whitney. El valor predictivo de la autoeficacia, la edad y el estado cognitivo en las QCS se calculó mediante regresión lineal. El valor predictivo de la edad, el estado cognitivo, la autoeficacia y las QCS sobre la utilización o no de servicios sanitarios se calculó mediante regresión logística, comprendiendo la edad y el estado cognitivo como variables categóricas, y la autoeficacia y las QCS como variables continuas.

### **3.1.3. Variables e instrumentos**

Las variables valoradas en este estudio fueron: (a) psicológicas, (b) cognitivas, (c) socio-demográficas, y de (d) uso de los recursos sanitarios. Los instrumentos utilizados para medirlas fueron:

- *Escala de autoeficacia aplicada a la salud (SEH)* (Gandoy-Crego et al., 2016). Basada en el test de autoeficacia de Baessler y Schwarzer (1996), creada por Gandoy-Crego et al. (2016). Esta escala está compuesta por 10 ítems. La forma de respuesta también es del tipo Likert y también tiene cuatro alternativas de respuesta, desde "nunca" (1) hasta siempre (4); no

tiene alternativa de respuesta neutra. La escala no incluye sub-escalas. Se calculó el índice de fiabilidad alfa de Cronbach y se obtuvo un coeficiente de fiabilidad de 86, que se considera muy adecuado.

- *Evaluación cognitiva MoCA*. Comprende 22 ítems ampliamente utilizados para evaluar a los pacientes con sospecha de deterioro cognitivo leve (DCL) (Nasreddine et al., 2005). Se siguieron las puntuaciones normativas regionales considerando la edad y el nivel educativo (Pereiro et al., 2017) para distinguir el estado cognitivo en (a) normal, (b) posible DCL y (c) posible demencia.
- *Memory Failures of Everyday (MFE)* (Sunderland, Harris y Gleave, 1984). Se utilizó para evaluar los fallos de memoria y cognitivos en la vida cotidiana. Se empleó la versión española validada, la cual incluye 28 ítems y un sistema de puntuación de tres puntos (0 = nunca/rara vez, 1 = a veces/no a menudo, 2 = a menudo/frecuentemente).
- *Cuestionario sobre el uso de la atención sanitaria*. Incluyó el número de veces que la persona había visitado en los últimos 2 meses: (a) un médico generalista; (b) un especialista médico; (c) un servicio de rehabilitación; y (d) se sometió a una prueba médica diagnóstica o analítica. Se creó una variable dicotómica de la siguiente manera (a) "sin uso sanitario", para los participantes que no utilizaron ninguno de estos servicios sanitarios en los últimos 2 meses, y (b) "con uso sanitario", para los participantes que utilizaron al menos uno de estos servicios sanitarios en los últimos 2 meses.

## **3.2. Perfil psicológico y consumo de recursos sanitarios en personas con empleo activo, prejubilados y jubilados**

### **3.2.1. Muestra**

Este estudio se realizó con 1.332 personas adultas residentes en la Comunidad Autónoma de Galicia. La muestra fue seleccionada aleatoriamente de la población de personas mayores de 50 años, según los porcentajes de trabajadores activos, prejubilados y jubilados que proporcionó el organismo oficial que recoge esta información en la región de Galicia. El total de participantes se compuso de 596 hombres (44,7%) y 736 mujeres (55,3%), con edades comprendidas entre los 51 y los 69 años. Se comprobó que su salud era buena en todos los casos.

En España, la edad de jubilación obligatoria en el ámbito privado es de 65 años. Sin embargo, las empresas que necesitan reducir su plantilla pueden solicitar al gobierno el uso de la jubilación anticipada y, si el gobierno lo aprueba, es posible jubilarse antes, normalmente entre los 55 y los 64 años. Por tal motivo, en la primera de las sub-muestras se incluyeron personas de entre 50 y 64 años; en la segunda, personas de entre 55 y 64 años; y en la tercera, personas de 65 años o más. Del total de personas participantes, 809 eran trabajadoras activas (61%), 140 prejubiladas (10,5%) y 379 jubiladas (28,5%). El porcentaje de hombres y mujeres de cada uno de estos grupos fue de 50% en los tres casos.

### **3.2.2. Procedimiento**

Las personas participantes fueron contactadas, primero, enviándoles una carta explicativa por correo y, después, mediante una visita a domicilio. Los cuestionarios se aplicaron en el hogar de cada participante. Los datos se recogieron entre septiembre y noviembre de 2019.

Creamos un formulario de consentimiento informado, en el que se explicaba el motivo de la investigación, se facilitaban los datos de los investigadores y se indicaba la posibilidad de que los participantes solicitaran la eliminación de sus datos del conjunto de la muestra, después de haber participado. Todos firmaron y ninguno revocó el consentimiento.

El comité de ética de la Universidad de Santiago de Compostela aprobó esta investigación. Asimismo, cumplió con los requisitos de la Declaración de Helsinki y los establecidos por la Asociación Americana de Psicología.

Los datos se introdujeron en una hoja, y posteriormente se exportaron y analizaron mediante el programa estadístico. Además de calcular las estadísticas correspondientes para determinar la composición de la muestra, se realizaron regresiones logísticas binarias, utilizando la personalidad y el consumo de recursos sanitarios como variables predictoras y las variables relacionadas con la situación laboral de los participantes como variables dependientes. Se realizaron tres regresiones logísticas, comparando personas ocupadas con prejubiladas, personas ocupadas con jubiladas y, finalmente, personas prejubiladas con jubiladas.

### 3.2.3. Variables e instrumentos

Las variables valoradas en este estudio fueron socio-demográficas, psicológicas y de uso de los recursos sanitarios. Los instrumentos utilizados para medirlas fueron:

- *Cuestionario de variables socio-demográficas*. Recogía datos sobre la edad, el sexo, el nivel de estudios completados, el estado civil y la situación laboral.
- *Cuestionario de consumo de servicios sanitarios*. Las variables relativas al consumo sanitario (siempre en los últimos dos meses) fueron: (a) el número de veces que la persona acudió al médico; (b) el número de veces que consultó a un especialista; (c) el número de pruebas diagnósticas o analíticas realizadas; y (d) si la persona acudió a un servicio de rehabilitación, el número de sesiones a las que asistió.
- *Inventario de Perspectiva Temporal de Zimbardo (Zimbardo Temporal Perspective Inventory, ZTPI)* (Zimbardo y Boyd, 1999). En este estudio se utilizó la versión española de Díaz-Morales (2006), aunque ha sido adaptada para otras poblaciones (Anagnostopoulos y Griva, 2012; Ortuño y Gamboa, 2009). La escala está compuesta por 56 ítems. La forma de respuesta es de tipo Likert, desde muy en desacuerdo (1) hasta muy de acuerdo (5), con un punto intermedio - ni de acuerdo ni en desacuerdo- (3). La escala comprende cinco sub-escalas: pasado negativo (14 ítems); presente hedonista (14 ítems); futuro (11 ítems); pasado positivo (8 ítems); y presente fatalista (9 ítems). Se calculó el índice de fiabilidad alfa de Cronbach, y se obtuvieron los siguientes coeficientes para cada sub-escala) siguiendo el orden que se acaba de explicar en

este párrafo: 0,85, 0,89, 0,91, 0,80 y 0,82. Por lo tanto, la fiabilidad media fue de 0,85, que se considera muy adecuada.

- *Escala de Locus de Control Multidimensional (internalidad-externalidad, IE)* (Levenson, 1973). Utilizamos la versión en español de Romero-García (1983). Esta escala está compuesta por 24 ítems. La forma de respuesta es también tipo Likert pero con cuatro alternativas de respuesta, desde "nunca" (1) hasta siempre (4); no tiene alternativa de respuesta neutra. La escala comprende cuatro sub-escalas: control interno (8 ítems); control externo por azar (8 ítems); control externo por otros poderosos (8 ítems); y control externo global (suma de los ítems de control externo por azar y por otros poderosos). Se calculó el índice de fiabilidad alfa de Cronbach, y se obtuvieron los siguientes coeficientes para cada subescala) siguiendo el orden que se acaba de explicar en este párrafo: 0,79, 0,85, 0,85 y 0,92 Por lo tanto, la fiabilidad media fue de 0,85, que se considera muy adecuada.
- *Escala de reactancia psicológica* (Hong y Page, 1989). Basada en la teoría de la reactancia de Brehm (1966), en su versión traducida por Pérez (1984): Tiene dos dimensiones, el componente afectivo y el componente cognitivo. Esta escala está compuesta por 14 ítems. La forma de respuesta también es tipo Likert y también tiene cuatro alternativas de respuesta, desde "nunca" (1) hasta siempre (4); no tiene una alternativa de respuesta neutra. La escala comprende dos sub-escalas: un componente afectivo (8 ítems) y un componente cognitivo (6 ítems). Se calculó el índice de fiabilidad alfa de Cronbach y se obtuvieron los siguientes coeficientes para cada sub-escala siguiendo el orden que se acaba de explicar en este párrafo: 0,81 y 0,83. Por lo tanto, la fiabilidad media fue de 0,82, que se considera muy adecuada.

- *Inventario de respuestas de afrontamiento (Coping Responses Inventory, CRI)* (Moss, 1993; Moss, 1995). En la adaptación de Ongarato et al. (2009). Muchos son los instrumentos creados desde la psicología para evaluar estrategias de afrontamiento de cara de estrés, la mayoría de ellos derivan de la teoría de Lazarus y Folkman (1984). Hemos utilizado uno de los más habituales.
- *Escala de autoeficacia aplicada a la salud (SEH)* (Gandoy-Crego et al., 2016). Descrita previamente.
- *Inventario de respuestas de afrontamiento* (Sandín y Chorot, 2003). Se trata de una medida de autoinforme que consta de 42 ítems que miden siete dimensiones, cada una de ellas compuesta por seis ítems: enfoque en la resolución de problemas, autoenfoco negativo, revaloración positiva, expresión emocional abierta, evitación, búsqueda de apoyo social y religión. La forma de respuesta también es de tipo Likert y también tiene cuatro alternativas de respuesta, desde "nunca" (1) hasta siempre (4); no tiene una alternativa de respuesta neutral. El índice de fiabilidad alfa de Cronbach fue calculado, y se obtuvieron los siguientes coeficientes para cada sub-escala) siguiendo el orden que se acaba de explicar en este párrafo: 0,75, 0,79, 0,83, 0,81, 0,82, 0,88 y 0,83 Por tanto, la fiabilidad media fue de 0,81, que se considera muy adecuada.



### **3.3. Variables de personalidad como predictoras del consumo de servicios de salud**

#### **3.3.1. Muestra**

El presente estudio se realizó con una muestra conformada por 1.124 personas, sin enfermedad repentina grave, deterioro cognitivo, o situación de dependencia relacionada con la edad. El porcentaje de hombres y mujeres de cada uno de estos grupos fue el mismo: 50% en cada uno de ellos. Sus edades estuvieron comprendidas entre los 18 y 65 años, siendo la edad media de 37,53 años (DE = 17,91). Rodas las personas participantes residían en la Comunidad Autónoma de Galicia. En España, la población supera los 47 millones de habitantes, de los cuales 46,5 millones son mayores de edad (18 años o más). Por este motivo, se utilizó el criterio de superar los 1.111 sujetos de la muestra. Se calculó el coeficiente  $d$  para determinar el tamaño del efecto, obteniendo un valor de la prueba  $t$  de 0,81 (muy adecuado).

#### **3.3.2. Procedimiento**

Los cuestionarios se aplicaron individualmente en los domicilios de los participantes. Luego de recolectar la información a través de los cuestionarios, se creó una base de datos con el programa estadístico SPSS versión 22. Los datos fueron sometidos a las siguientes pruebas estadísticas relevantes: (1) utilizamos el alfa de Cronbach para determinar la confiabilidad de todas las pruebas; (2) se determinó la normalidad de las variables a fin de elegir la técnica de regresión más apropiada -  $t$  su se calculó con el test de Chi-cuadrado; (3) determinamos una tasa global de consumo de recursos sanitarios compuesta por la suma total de los valores recogidos en el cuestionario correspondiente; y

(4) determinamos la regresión, utilizando como variable criterio el mayor o menor uso de los recursos sanitarios, con todas las variables de personalidad como predictoras.

La variable criterio fue dicotomizada (menor consumo de recursos sanitarios vs. mayor consumo); los participantes cuyo nivel de consumo de atención médica estaba en el primer tercil formaron el primer grupo, y los participantes con un mayor nivel de consumo de recursos (tercer tercil) formaron el segundo grupo. Los participantes que obtuvieron puntuaciones intermedias (segundo tercil) fueron eliminados de los análisis.

Explicamos la investigación a cada participante individualmente y todos dieron su consentimiento informado firmado. Ninguno se negó a participar. Previo a esto, también solicitamos autorización para realizar la investigación al Comité de Ética de la Universidad de La Coruña, recibiendo un informe positivo. Esta investigación respeta los principios establecidos por la Declaración de Helsinki.

### **3.3.3. Variables e instrumentos**

Las variables valoradas en este estudio fueron socio-demográficas, psicológicas y de uso de los recursos sanitarios. Los instrumentos utilizados para medirlas fueron:

- *Cuestionario de variables socio-demográficas y consumo sanitario.* En cuanto a las variables socio-demográficas, se consideraron edad, sexo, nivel de estudios terminados y estado civil. Las variables relativas al consumo sanitario (siempre dentro de los dos últimos meses) fueron las siguientes: el número de veces que la persona acudió al médico; la cantidad de veces que la persona consultó a un especialista; el número de pruebas de diagnóstico o analíticas

realizadas; y, si la persona acudió a un servicio de rehabilitación, el número de sesiones a las que asistió.

- *Inventario de paradojas del tiempo de Zimbardo (ZTPI)*. Descrita previamente.
- *Escala de Locus de Control Multidimensional (IE)*. Descrita previamente.
- *Escala de Reactancia Psicológica*. Descrita previamente.
- *Inventario de respuestas de afrontamiento (CRI)*. Descrita previamente.
- *Escala de autoeficacia aplicada a la salud (SEH)*. Descrita previamente.
- *Symptom Checklist-90-R* (Derogatis y Cleary, 1977; Derogatis et al, 1976). Es un instrumento que se desarrolló para evaluar y los individuos cuantificar patrones de síntomas, que pueden ser utilizados tanto en la comunidad y las tareas de diagnóstico clínico. La lista de verificación de síntomas-90-R (SCL-90-R) es un síntoma instrumento de cuantificación diseñado en la Universidad Johns Hopkins que permite la evaluación de una amplia gama de síntomas psicológicos y psicopatológicos. Puede evaluar la presencia de muchos síntomas y determinar su intensidad.

# 4. RESULTADOS

## 4. RESULTADOS

A continuación se expone un resumen de los resultados obtenidos en cada uno de los estudios realizadas en el marco de este trabajo de doctorado.

### 4.1. Impacto de la autoeficacia y las quejas cognitivas subjetivas en el uso de la asistencia sanitaria entre los adultos de mediana edad.

Se examinó la relación entre la autopercepción y las QCS en la salud percibida, y el vínculo potencial entre la naturaleza subjetiva de las quejas de memoria y la percepción de la autoeficacia. Se buscó responder a las siguientes cuestiones: ¿es la autoeficacia una variable subjetiva relevante para predecir las QCS en adultos de mediana edad y mayores que viven en la comunidad? ¿Son la autoeficacia y de las QCS variables predictivas del uso de la servicios de atención sanitaria en esta población?

Hemos valorado el papel de la autoeficacia en la predicción de las quejas cognitivas subjetivas mediante un modelo de regresión lineal. El mismo incluyó las puntuaciones de las QCS como variables dependientes y la autoeficacia junto con la edad y el rendimiento cognitivo como variables predictoras. Los resultados demostraron que la percepción de autoeficacia ( $t = -3,30$ ;  $p < 0,01$ ), la edad ( $t = 2,85$ ;  $p < 0,01$ ) y el rendimiento cognitivo ( $t = -3,48$ ;  $p < 0,01$ ) son predictores significativos.

El modelo de regresión logística mediante el cual se evaluó el papel de la autoeficacia y las quejas cognitivas subjetivas en la predicción del uso de los servicios sanitarios fue significativo ( $\chi^2 = 42,41$ ;  $p < 0,01$ ). En el análisis univariante, las edades de 55 a 59 años ( $6,83$ ;  $p < 0,05$ ), las edades de

60 a 64 años (6,69;  $p < 0,05$ ), el estado cognitivo (3,81;  $p < 0,05$ ), la percepción de autoeficacia (23,08;  $p < 0,01$ ) y las QCS (5,34;  $p < 0,05$ ) fueron estadísticamente significativos. El análisis multivariante mostró una mayor probabilidad de uso de los servicios sanitarios en el grupo de 60 a 64 años en comparación con el grupo de 55 a 59 años, en el grupo con deterioro cognitivo en comparación con el grupo de sin deterioro, y un aumento de 0,88 por cada punto disminuido en la prueba de percepción de autoeficacia. Las puntuaciones del QCS no siguieron siendo predictoras significativas en el análisis multivariante.

#### **4.2. Perfil psicológico y consumo de recursos sanitarios en personas con empleo activo, prejubilados y jubilados**

En este estudio se consideró la inclusión laboral como variable predictor, en lugar de la edad o el estado funcional. Las preguntas clave en la investigación: ¿en qué medida la situación laboral de una persona conlleva la presentación de una serie de variables psicológicas que nos permiten definir un perfil psicológico? y ¿es posible establecer una relación con un mayor o menor consumo de servicios sanitarios?

La primera regresión logística utilizó como variable de criterio el hecho de estar empleado activamente frente a la prejubilación. Las pruebas arrojaron un valor  $X^2$  de 69,602 ( $df = 22$ ), con una significación muy alta ( $p = 0,001$ ). Las variables significativas del análisis ( $p < 0,05$ ), dos se refieren a la dimensión temporal de la personalidad (pasado positivo y presente fatalista), una al control interno, y dos de las variables están relacionadas con el afrontamiento (afrontamiento conductual y evitación cognitiva). Los resultados indican que, en comparación con los trabajadores activos, los prejubilados

estaban más orientados hacia el futuro, buscaban menos apoyo social y tenían una autopercepción menos negativa.

La segunda comparación fue entre trabajadores activos y jubilados. Las pruebas sobre el modelo arrojaron un valor  $X^2$  de 117,1 (df = 22), que fue un dato altamente significativo ( $p = 0,001$ ). En cuanto a las variables significativas del análisis ( $p < 0,05$ ), dos se refieren a la dimensión temporal de la personalidad (pasado positivo y presente fatalista), una al control interno, y dos de las variables están relacionadas con el afrontamiento (afrontamiento conductual y evitación cognitiva). Los resultados indican que, en comparación con las personas que trabajan activamente, los jubilados conceden menos valor a los elementos positivos de su pasado, pero también ven su presente de forma menos fatalista. También puntúan más bajo en control interno y muestran mayores niveles de afrontamiento conductual y evitación cognitiva.

La última de las comparaciones fue entre prejubilados y jubilados. Las pruebas arrojaron un valor de  $X^2$  de 80,959 (df = 22), que fue altamente significativo ( $p = 0,001$ ). Las variables significativas del análisis ( $p < 0,05$ ) fueron el control interno, la reactancia cognitiva, el afrontamiento cognitivo de evitación, la búsqueda de apoyo social y la revalorización positiva. Los resultados indican que los jubilados, comparados con los prejubilados, presentan menor control interno, menor reactancia cognitiva, mayor afrontamiento cognitivo de evitación, menor búsqueda de apoyo social y mayor revalorización positiva.

### **4.3. Variables de personalidad como predictoras del consumo de servicios de salud**

El tercer estudio buscó dar respuesta a la siguiente pregunta: ¿qué variables psicológicas y psicosociales nos permiten identificar a las personas que pueden ser consideradas grandes consumidoras de recursos sanitarios?

Todos los cuestionarios aplicados presentaron niveles de fiabilidad totalmente aceptables (entre 0,81 y 0,99). Además, todas las variables predictoras mostraron un ajuste satisfactorio a la curva normal. En consecuencia, se decidió utilizar una técnica estadística de regresión logística binaria. Las variables significativamente predictoras ( $p \leq 0,05$ ) del modelo fueron las siguientes: un pasado negativo (positivamente, es decir, predice un alto consumo de servicios sanitarios); un presente fatalista (positivamente); la reactancia cognitiva psicológica (negativamente, es decir, los sujetos con baja reactancia cognitiva consumen más recursos sanitarios); el afrontamiento conductual (positivamente, aunque hay que tener en cuenta que puntuaciones más altas en la escala implican mayores déficits de afrontamiento, es decir, niveles más bajos de afrontamiento conductual corresponden a un mayor consumo de servicios sanitarios); autoeficacia sanitaria (negativamente, es decir, niveles más bajos de autoeficacia sanitaria implican un mayor consumo de recursos sanitarios); y nivel de somatización (un mayor nivel de somatización corresponde a un mayor consumo de recursos sanitarios).



# 5. DISCUSIÓN

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Los hallazgos del primer estudio realizado permitieron confirmar que la autoeficacia es un predictor significativo de las QCS e inferir que un aumento en la percepción de la autoeficacia contribuiría a una disminución de las QCS. Por otra parte, el análisis univariante indicó que ambas variables son predictoras del uso de recursos sanitarios, aunque sólo la autoeficacia demostró ser significativa también en el análisis multivariante. De acuerdo con estos resultados, se infiere que las personas que podrían ser identificadas como grandes consumidoras presentan cierta tendencia a la baja autoestima y a sentimientos negativos respecto a sus capacidades. Los resultados están en consonancia con las interpretaciones anteriores sobre los efectos en el uso de la atención sanitaria (Gandoy-Crego et al., 2016). Asimismo, los hallazgos coinciden con lo señalado por Hill et al. (2017) respecto al aumento de los síntomas afectivos, la reducción de la participación en una serie de actividades y más problemas funcionales en comparación con los individuos sin QCS. En suma, la influencia de las QCS en el uso de la asistencia sanitaria parece estar mediada por estimaciones subjetivas, como las que mide la autoeficacia.

Los resultados de la segunda investigación señalan que las personas jubiladas se centran en sus recuerdos positivos (pasado positivo) y percibían su presente de forma negativa. A la vez, mostraron poseer un mayor grado de control interno que las personas con empleo activo: se atribuían a sí mismas lo que ocurría en sus vidas y no evitaban estos pensamientos. En cambio, las personas con empleo activo utilizaron más estrategias de afrontamiento conductual y evitación cognitiva frente a las situaciones problemáticas. Consideramos que esta diferencia podría relacionarse con el hecho de pertenecer o no a una organización laboral. Además, los resultados señalan que el grupo de personas

prejubiladas concedió más valor a su futuro, buscó menos apoyo social de los demás y se centró menos en los aspectos negativos de sus vidas. En comparación, presentaron resultados más favorables que los otros dos grupos. Este hallazgo permite afirmar que estar en situación de prejubilación aumentaría el estado de salud psicológica. Cabe destacar que no se detectaron diferencias significativas en variables como la religión, la reactancia afectiva u otras. En general, se encontró un perfil limitado a unas pocas variables y con alto poder explicativo. Asimismo, llama la atención que no se encontraron diferencias significativas en medidas como la autoeficacia relacionada con la salud o el consumo de servicios sanitarios, lo que contradice estudios como los de Wiener y Tilly (2002), Osorio-Parraguez y Espinoza (2016) o Veras (2002). En suma, los resultados de nuestra segunda investigación señalan que el hecho de ser trabajador activo, prejubilado o jubilado implicaría un perfil psicológico diferencial. Es probable que el aporte más sustancial sea el hecho de que se consideró a un grupo que, tal como se anticipó en el marco teórico, no se suele tener en cuenta en estudios de cohorte: el grupo de personas prejubiladas. Además, tiene la ventaja de identificar las variables que intervienen en cada uno de los perfiles, tal como recomiendan Cooper et al. (2011), Cha et al. (2012) o Windsor et al. (2013).

El objetivo de la tercera investigación realizada en el marco de este doctorado fue establecer qué variables psicológicas y psicosociales nos permiten identificar a las personas que podrían ser consideradas grandes consumidoras de recursos sanitarios. Los resultados confirman que (1) un pasado negativo; (2) un presente fatalista, (3) una baja reactancia cognitiva psicológica, (4) un bajo nivel de afrontamiento conductual, (5) una baja autoeficacia en salud, y un (6) mayor nivel de somatización son variables predictivas. Estos hallazgos indican que dos variables de menor

importancia en la literatura, la reactancia psicológica y el afrontamiento, también predicen de manera adecuada el nivel de consumo de los servicios de salud. En cuanto a la reactancia, es necesario señalar que la variable que entra en la ecuación es la cognitiva. La misma se refiere a personas que tienden a desobedecer las recomendaciones de los médicos cuando tienen un problema de salud, y asocian a dicha actitud un valor afectivo irrelevante. En cuanto al afrontamiento, la variable que entra en la ecuación es la del conductual. La misma señala que una persona no estaría dispuesta a afrontar un problema de salud y, por tanto, tampoco estaría dispuesta a actuar en consecuencia. Es decir, identifica a las personas que enfrentan problemas de salud de manera negativa: personas que desobedecen las instrucciones de los profesionales de la salud y no se ocupan de superar el problema. Este perfil se relaciona con una mayor demanda de recursos sanitarios. En suma, la evidencia señala que sería posible establecer un perfil diferenciador en el que variables relacionadas fundamentalmente con la autoeficacia y una visión optimista del mundo identifiquen a personas con menor probabilidad de consumo de recursos sanitarios. El perfil obtenido es consistente con las investigaciones realizadas hasta la fecha.

Cabe destacar que la hipótesis sobre la autoeficacia se confirma tras la implementación de la escala SEH de Gandoy-Crego et al. (2016); sus resultados indican que las personas con menor autopercepción de capacidades de afrontamiento frente a posibles problemas de salud consumen más recursos sanitarios. Se confirmó también que los cuestionarios de Zimbardo y Derogatis son adecuados para detectar variables de personalidad que pueden predecir el consumo de servicios de salud. Precisamente son dos las variables a incorporar en el perfil: un pasado negativo y un presente fatalista, ambas de forma negativa: es decir, las personas que tienden a percibir y valorar

negativamente su pasado, o ser fatalistas en la interpretación de su presente, consumirían más recursos sanitarios. Con respecto al cuestionario de Derogatis, el nivel somático se convierte en una variable explicativa clave, en tanto las personas con niveles más altos de somatización consumen más atención sanitaria. Cabe señalar, sin embargo, que las variables claramente identificadas en la literatura como predictoras, como la depresión o la ansiedad, no son significativas a la hora de crear el perfil.

Los resultados obtenidos permiten dar un paso más a la hora de concebir las estrategias educativas destinadas a una gestión más eficaz de los recursos sanitarios. Como ya señalaron Kessler y Maclean (2015) y Schoormans et al. (2016) entre otros, las variables psicológicas deben incluirse entre los indicadores que permitan incrementar la calidad de la salud de la población y reducir el gasto en salud. Asimismo, se aporta evidencia de utilidad para la elaboración de programas diseñados a medida según cada perfil diferencial a partir de las cuales entrenar capacidades específicas que favorezcan una actitud más activa respecto a los problemas de salud. Estas iniciativas no sólo beneficiaría a las personas destinatarias sino también a la sociedad en general, dado que a mediano plazo favorecerían la reducción de costos sanitarios. En resumen, los hallazgos de las investigaciones realizadas en el marco de este trabajo de doctorado demuestran:

- El avance de la ciencia para determinar el perfil de las personas que son grandes consumidores de servicios de salud frente a las que no lo son, independientemente de su respectivo estado de salud.

- La posibilidad de crear políticas de promoción de la salud dirigidas a las personas mayores en función de su situación laboral, priorizando a aquellas que trabajan activamente y las jubiladas forzosas.
- La facultad de crear programas que, sin restringir el acceso al sistema de salud para todos los ciudadanos, moderen y/o limiten su uso cuando no sea necesario.
- La facultad de crear protocolos para los profesionales de la salud que les permitan distinguir de forma más adecuada cuándo una persona demanda una prueba o medicación innecesaria debido a su tipo de personalidad.

Como ya se ha dicho, las variables con mayor peso a la hora de determinar el uso del sistema de salud dependen de la organización de cada gobierno y de su capacidad para asegurar la atención de la salud a todos los ciudadanos, especialmente a los colectivos que requieren más asistencia. En cualquier caso consideramos que este trabajo, al centrarse en las variables psicológicas, nos permite completar el estudio de los factores que explican que dentro de los mismos grupos de personas adultas y adultas mayores, algunas personas utilicen estos servicios en exceso, mientras que otras apenas los utilicen.

# 5. CONCLUSIONES

## 6. CONCLUSIONES

La autoeficacia es un predictor de las QCS e inferir que un aumento en la percepción de la autoeficacia contribuiría a una disminución de las mismas. Además, aportaron evidencia para aproximarnos al perfil psicológico de aquellas personas que podrían ser identificadas como grandes consumidoras de servicios sanitarios, caracterizadas por una tendencia a la baja autoestima y a sentimientos negativos respecto a sus capacidades. La segunda investigación realizada en el marco de este doctorado se incorporó la situación laboral como variable predictor, en lugar de la edad. Este aporte resultó central, en tanto permitió confirmar que el subgrupo de personas prejubiladas es el que presenta el perfil más saludable. Con esto, podemos concluir en que el hecho de ser trabajador activo, prejubilado o jubilado implicaría un perfil psicológico diferencial. Los datos de los análisis estadísticos realizados en la tercera investigación muestran cómo crear un perfil psicológico de altos consumidores de recursos sanitarios, en el que variables relacionadas fundamentalmente con la autoeficacia y una visión optimista del mundo identifiquen a personas con menor probabilidad de consumir recursos sanitarios.

Este trabajo posee también implicaciones importantes a nivel práctico. La evidencia recogida indica que las intervenciones de educación sanitaria pueden contribuir a un aumento de la autoeficacia en personas adultas con la consiguiente disminución de las QCS, lo que tendría un efecto relevante en la reducción de gastos asociados a los servicios sanitarios. Dado que la autoeficacia es potencialmente modificable, los enfoques que se centran en aumentarla son prometedores a efectos de mejorar los resultados de las enfermedades crónicas y pueden ofrecer evidencia para diseñar nuevas intervenciones más eficaces. La reducción del impacto negativo experimentado y la



información a los pacientes sobre las estrategias para gestionar sus problemas de salud modificarán el uso futuro de la asistencia sanitaria. Sostenemos que si las personas utilizaran estrategias de afrontamiento adecuadas para superar los problemas de salud, dependerían menos de los servicios sanitarios. Por otra parte, nuestros hallazgos también sugieren que los programas de salud cognitiva deben enfatizar no sólo la importancia de evaluar la cognición actual y de referencia según las herramientas de evaluación cognitiva debidamente normalizadas y validadas (Perry et al., 2018), sino también el vínculo dinámico entre los factores afectivos y cognitivos.

Asimismo, este trabajo presenta aportes importantes al campo de investigación, en tanto la segunda investigación condujo a un hallazgo sin precedentes: la submuestra de personas prejubiladas presenta un perfil psicológico más saludable. Creemos que la identificación de estos perfiles constituye una evidencia valiosa para el desarrollo de programas específicos de promoción de la salud dirigidos a personas mayores, pero diferenciados según su situación laboral. Consideramos que los próximos estudios podrían profundizar en estos hallazgos y valorar las implicancias de, por ejemplo, idear procedimientos para que la transición de trabajador activo a jubilado sea progresiva e incluso valorar los beneficios de la jubilación progresiva en este sentido.

Queremos hacer énfasis en que, si bien las variables de personalidad son estables, pueden modificarse mediante programas de entrenamiento. Este trabajo de doctorado se aporta evidencia para incorporar indicadores a considerar en la planificación de programas de educación para la salud y en la gestión eficaz de recursos sanitarios. Esto los beneficiaría a ellos y a la sociedad en general al reducir los costos de salud. Sin duda, las variables de personalidad deben incluirse entre los indicadores que permitan incrementar la calidad de la salud de la población y reducir el gasto público.

Por otra parte, hay que destacar que tanto las variables psicológicas como el estilo de vida son fundamentales a la hora de explicar el bienestar que muestran las personas mayores, tal como se expuso al inicio de este documento. Por lo tanto, es necesario proporcionar intervenciones para las personas mayores dirigidas a identificar estrategias eficaces para aumentar la proporción de la población que muestra un envejecimiento saludable.

Dicho todo lo anterior, cabe recordar que este trabajo cuenta con algunas limitaciones derivadas de cada uno de los estudios empíricos realizados. En primer lugar, tenemos que señalar que los estudios futuros podrían incluir medidas más exhaustivas del estado afectivo (Hill et al., 2016), la percepción subjetiva de la salud, la soledad o el apoyo social. Asimismo es será interesante especificar el papel potencial del nivel educativo y de la reserva cognitiva ya que esto podría ayudar a comprender mejor esta relación. En segundo lugar, respecto a la diferenciación de grupos en función de su integración laboral, no hemos tenido en cuenta a personas activas con edades muy avanzadas (incluyendo a los mayores de ochenta años) ni tampoco a personas prejubiladas con edades de 45 años por delante. Por otra parte, nuestra muestra fue de carácter incidental. Consideramos que los estudios futuros deberían tratar de obtener muestras aleatorias y considerar una extensión del rango de edades. Por último, consideramos que sería provechoso que los estudios futuros tengan en cuenta también aspectos como el diagnóstico de cada enfermedad, el tiempo transcurrido en la verificación de dicho diagnóstico mediante pruebas médicas, los tratamientos posibles y la evolución subsiguiente.

Creemos que, de aquí en adelante, se debe trabajar en la creación de protocolos destinados a profesionales de la salud a efectos de distinguir de forma más adecuada cuándo la demanda de una persona por una prueba o medicación innecesaria puede ser producto de su tipo de personalidad. No

obstante, como hemos resaltado previamente, somos conscientes que el uso de los servicios de salud no sólo depende de las variables psicológicas que tengan los usuarios del sistema. La elección de un tipo de sistema de salud por parte de cada gobierno tiene un peso determinante. La asistencia sanitaria debe organizarse de acuerdo con el peso demográfico de cada grupo y sus respectivas necesidades asistenciales. Por tanto, todo sistema debe poder atender especialmente a diversos colectivos, incluidas personas mayores, discapacitadas o con problemas de salud mental.

## **6. BIBLIOGRAFÍA**

## 7. BIBLIOGRAFÍA

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# 7. ANEXO



## 8. ANEXO

### 8.1. Artículo 1

Facal, D., Gandoy-Crego, M., Taboada-Vázquez, A., & Rodríguez-González, R. (2020). The Impact of Self-Efficacy and Subjective Cognitive Complaints on Health Care Use Among Middle-Aged Adults. *Research in gerontological nursing*, 13(5), 228–232. <https://doi.org/10.3928/19404921-20200115-01>

- Datos de impacto con base 2019:
  - Índice de Impacto: 0.930
  - Cuartil: Q4, posición 95 de 123 revistas
- Datos de la revista:
  - Editorial: Healio
  - ISSN: 1938-2464

## The Impact of Self-Efficacy and Subjective Cognitive Complaints on Health Care Use Among Middle-Aged Adults

David Facal, PhD; Manuel Gandoy-Crego, PhD; Antonio Taboada-Vázquez, RN; and Raquel Rodríguez-González, PhD, RN

### ABSTRACT

Self-efficacy (SE) has been shown to be a remarkable cognitive factor affecting health. Subjective perception of memory and other cognitive failures (i.e., subjective cognitive complaints (SCC)) have been associated with self-perception. The authors studied whether SE is a relevant subjective variable in predicting SCC in middle-aged adults living in the community ( $N = 438$ ) and explored the role of SE and SCC in predicting health care use. SE, age, and cognitive performance predicted SCC. SE, age group, cognitive status, and SCC were predictors of health care use in univariate logistic regression analysis, although only SE, age group, and cognitive status remained significant in the multivariate analysis. The influence of SCC in health care use seems to be mediated by subjective estimations, such as those measured by SE. The authors suggest that well-implemented health education interventions might contribute to an increase in SE in middle-aged adults with a subsequent decrease in SCC, which would have a relevant effect in reducing the burden of care. [*Research in Gerontological Nursing*, 13(5), 228-232.]

The perception of self-efficacy (SE) denotes a process that influences the performance of behavior (Bandura, 1989). The expectation of SE is one's personal estimation of being capable of carrying out a specific behavior (Bandura, 1977, 2004). The concept was initially used to refer to *expected self-efficacy* (Bandura, 1977, 1992, 2004), which focuses on feeling confident in one's capability to manage life stressors, but a more in-depth meaning of SE embraces a sense of mastery of the demands of life overall. As people face life events, specifically managing health-related mat-

ters, which involve the maintenance of a healthier lifestyle (Gebhardt, van der doef, & Paul, 2001; Smith, Wallston, & Smith, 1995), SE is a key component of health promotion programs. Individuals with high-perceived SE are considered more likely to initiate preventive health care and seek earlier treatment (Grembowski et al., 1993; Olivari & Urrea, 2007).

Subjective perception of memory and other cognitive failures expressed by individuals are frequently called cognitive complaints. *Subjective cognitive complaints* (SCC)

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*The authors have disclosed no potential conflicts of interest, financial or otherwise. The current study was supported by Xunta de Galicia (ED431C 2017/27; Red Gallega de Investigación en Demencias IN607C-2017/02).*

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*Received: June 27, 2019; Accepted: October 15, 2019*

*doi:10.3928/19404921-20200115-01*

have been related to objective cognitive performance and perceived health status and affective state (Hill et al., 2016). Assessment of SCC is currently gaining attention, as it has been related to perceived health and objective cognitive status (Montejo et al., 2013). Emerging diagnostic categories in the field of cognitive health include SCC as a key diagnostic criterion (Jessen et al., 2014). There is a growing recognition of the importance of SE in regulating cognitive health and applying successful cognitive strategies (West, Bagwell, & Dark-Freudeman, 2008). A close association has been established between SCC and affective factors, including subclinical symptoms of depression, anxiety, and personality traits (Amariglio et al., 2012; Balash et al., 2013); however, the role of dementia in cognitive performance and SCC remains to be fully explained (García-Ptacek et al., 2016). According to the relationship between self-perception and SCC in perceived health and the potential link between the subjective nature of memory complaints and the perception of SE, the objectives of the current study were: (a) to study whether SE is a relevant subjective variable in predicting SCC in middle-aged and older adults living in the community; and (b) to explore the role of SE and SCC in predicting health care use in this population.

## METHOD

### Study Design

A cross-sectional observational and correlational study was conducted with data collected between January and May 2018. Questionnaires were administered in the homes of each study participant. The current study was approved by the Ethical Committee of the Galician Health System.

### Questionnaire and Variables

The questionnaire included SE, cognitive (i.e., objective and subjective), and sociodemographic variables, as well as items asking about the use of health care resources. To study SE, the assessment protocol included a coping SE scale of health problems applied to health (SEH), which contains 10 items referring to health issues with a 4-point Likert response format: *totally disagree*, *disagree*, *agree*, and *totally agree* (Gandoy-Crego et al., 2016). To assess cognitive status, the Montreal Cognitive Assessment (MoCA) was used. The MoCA is a time-effective test comprising 22 items widely used to screen patients with suspected mild cognitive impairment (MCI) (Nasreddine et al., 2005). Regional normative scores considering age and educational level (Pereiro et al., 2017) were followed to construct three cognitive status groups: normal, pos-

sible MCI, and possible dementia. The Memory Failures of Everyday (MFE) test (Sunderland, Harris, & Gleave, 1984) was used to assess memory and cognitive failures in daily life. Different studies have used the MFE to compare SCC across different age groups and cognitive status (Montejo Carrasco, Montenegro-Peña, & Sueiro-Abad, 2012a,b). The authors used the validated Spanish version of the questionnaire, which includes 28 items and a three-point scoring system (0 = *never/rarely*, 1 = *sometimes/not often*, 2 = *often/frequently*). Questions about health care use included the number of times in the past 2 months the person visited: (a) a general practitioner; (b) a medical specialist; (c) a rehabilitation service; and (d) had a medical diagnostic or analytical test. A dichotomous variable was created as follows: (a) "without health use," for participants who did not use any of these health services in the past 2 months, and (b) "with health use," for participants who used at least one of these health services in the past 2 months.

### Sample and Data Collection

The current study was conducted in 438 community-dwelling middle-aged adults (247 women, 56.4%). Recruitment of participants was undertaken by investigators (M.G.C., R.R.G.) from the Nursing School of Santiago de Compostela (Spain). Participants were informed of the aims of the study prior to signing an informed consent form. There were only two inclusion criteria, which were age 55 to 69 years and living in the community. This age range is supported by the International Association of Geriatrics and Gerontology (IAGG) recommendations for cognitive impairment screening (Morley et al., 2015). Exclusion criteria were: (a) diagnosis of dementia; (b) diagnosis of major mental impairment including toxic consumption; and (c) injuries, brain damage, or other health circumstances that prevent evaluation.

Sociodemographic data of the sample are indicated in **Table 1**. According to cut-off scores in the MoCA, participants living in the community were divided into three groups: (a) 308 (70.3%) participants were cognitively unimpaired (CU); (b) 49 (11.2%) participants were at risk of MCI; and (c) 81 (18.5%) participants were at risk of dementia.

### Data Analysis

A specific database was created with the statistical program SPSS version 20. For group comparisons, the nonparametric Kruskal-Wallis and Mann-Whitney U tests were used due to differences in group sizes. The

**TABLE 1**  
**Participant Sociodemographic Characteristics (N = 438)**

Item	n(%)
Age range (years)	
55 to 59	188 (42.9)
60 to 64	117 (26.7)
65 to 69	133 (30.4)
Educational level	
Primary education	151 (34.5)
Secondary education	169 (38.6)
Higher education	118 (26.9)
Civil status	
Married	328 (74.9)
Divorced	30 (6.8)
Single	28 (6.4)
Widow/awidower	4 (0.9)
Other (e.g., living as a couple, other situations)	48 (11)
Living arrangement	
In their own house	408 (93.2)
In their family's house	30 (6.8)

predictive value of SE, age, and cognitive status in SCC was calculated through linear regression. The predictive value of age, cognitive status, SE, and SCC in non-use or use of health services was calculated through logistic regression, using age and cognitive status as categorical variables (i.e., age 55 to 59, 60 to 64, 65 to 69; and CU, MCI, and dementia, respectively) and SE and SCC as continuous variables.

## RESULTS

### Descriptive Statistics

Table 2 presents data about SE; objective cognitive performance measured with the MoCA; SCC measured with the MFE; and health care use in the groups with CU, at risk of MCI, and dementia, as well as in the total sample. As expected, group differences were found in cognitive performance ( $\chi^2 = 254.08, p < 0.01$ ). Significant differences were also found in SCC ( $\chi^2 = 11.63, p < 0.01$ ), but not in the SE test ( $\chi^2 = 0.55, p = 0.76$ ). Although the percentage of participants without health care use in the past 2 months tended to decrease in groups with lower cognitive performance, differences did not reach statistical significance ( $\chi^2 = 4.61, p = 0.1$ ).

### Role of Self-Efficacy in Predicting Subjective Cognitive Complaints

The linear regression model including SCC scores as dependent variables and SE, age, and cognitive performance as predictors was significant ( $F = 14.45, p < 0.01$ ), although variance explained was low (corrected  $R^2 = 0.09$ ). All predictors were significant (SE [ $t = -3.30, p < 0.01$ ]; age [ $t = 2.85, p < 0.01$ ]; cognitive performance [ $t = -3.48, p < 0.01$ ]).

### Role of Self-Efficacy and Subjective Cognitive Complaints in Predicting Health Care Use

The logistic regression model including non-use/use of health services as a dichotomous variable predicted by age, cognitive status, SE, and SCC was significant ( $\chi^2 = 42.41, p < 0.01$ ). Cox and Snell's  $R^2$  was 0.09 and Nagelkerke's  $R^2$  was 0.13. In univariate analysis, ages 55 to 59 years (6.83,  $p < 0.05$ ), ages 60 to 64 years (6.69,  $p < 0.05$ ), cognitive status MCI (3.81,  $p < 0.05$ ), SE (23.08,  $p < 0.01$ ), and SCC (5.34,  $p < 0.05$ ) were statistically significant. Multivariate analysis (Table 3) showed an increased probability of use of health services in the 60 to 64 age group compared to the 55 to 59 age group, in the MCI group compared to the CU group, and an increase of 0.88 for each point decreased in the SE test. SCC scores did not remain significant predictors in the multivariate analysis.

## DISCUSSION

The current study has displayed the role of SE and SCC as predictors of health care use. SE and SCC were significant predictors in the univariate analysis; however, only SE remained significant in the multivariate analysis. Therefore, the influence of SCC in health care use seems to be mediated by subjective estimations such as those measured by SE. Results are in line with previous interpretations about SE effects in health care use (Gandoy-Crego et al., 2016), such as increased affective symptoms, reduced engagement in a range of activities, and more functional problems when compared to individuals without SCC (Hill et al., 2017). People with poor expectations tend to have low self-esteem and negative feelings regarding their abilities.

The perception of SE facilitates cognition concerning one's own abilities, with thoughts acting as motivators of action. In this context, people who feel efficacious choose more challenging tasks, set higher goals, and are more persistent. If people used adequate coping strategies to overcome health problems, they would be less reliant on health services. Regarding cognitive health, an increase in SE would contribute to a decrease in SCC, which would lead to reduction of the burden of care, with considerable savings in overstretched health care

**TABLE 2**  
**Self-Efficacy, Cognitive Status, Subjective Cognitive Complaints, and Health Care Use**

Item	Mean (SD) (Range)			
	CU Group	MCI Group	Dementia Group	Total
SEH <sup>a</sup>	28.58 (3.92) (17 to 40)	28.24 (4.29) (19 to 37)	28.21 (4.56) (17 to 40)	28.47 (4.08) (17 to 40)
MoCA <sup>b</sup>	26.72 (1.99) (23 to 31)	23.10 (0.87) (22 to 24)	20.09 (2.38) (12 to 23)	25.08 (3.30) (12 to 31)
MFE <sup>c</sup>	13.44 (7.81) (0 to 44)	16.33 (7.43) (3 to 31)	16.26 (9.42) (2 to 48)	14.28 (8.17) (0 to 48)
Item	n (%)			
Without health use	210 (68.2)	31 (63.3)	45 (55.6)	286 (65.3)
With health use	98 (31.8)	18 (36.7)	36 (44.4)	152 (34.7)

Note. CU = cognitively unimpaired; MCI = mild cognitive impairment; SEH = Self-Efficacy Health scale; MoCA = Montreal Cognitive Assessment; MFE = Memory Failures of Everyday test.

<sup>a</sup> Scores range from 10 (lowest self-efficacy) to 40 (greatest self-efficacy).

<sup>b</sup> Scores range from 0 (lowest cognitive status) to 31 (highest cognitive status).

<sup>c</sup> Scores range from 0 (lowest level of memory complaints) to 56 (highest level of memory complaints).

**TABLE 3**  
**Multivariate Logistic Regression Model**

Item	B	Self-Efficacy	Wald $\chi^2$	p Value	OR	95% CI
Age (years)						
55 to 59			8.71	0.01		
60 to 64	-0.72	0.27	7.27	0.01	0.49	[0.29, 0.82]
65 to 69	-0.17	0.30	0.32	0.57	0.85	[0.47, 1.51]
Cognitive status						
Cognitively unimpaired			8.97	0.01		
Mild cognitive impairment	0.83	0.28	8.82	0.03	2.30	[1.33, 3.99]
Dementia	0.52	0.40	1.72	0.19	1.68	[0.77, 3.66]
Self-efficacy	-0.13	0.003	21.76	< 0.001	0.88	[0.83, 0.92]
Subjective cognitive complaints	0.02	0.01	2.62	0.11	1.02	[0.00, 1.05]

Note. OR = odds ratio; CI = confidence interval.

resources (Morley et al., 2015). Accordingly, the role of SE as a significant predictor of SCC supports the well-established link between affective factor and subjective, self-reported perceptions about cognitive function (Amariglio et al., 2012; Balash et al., 2013; Garcia-Ptacek et al., 2016). In addition, development and implementation of well-designed health education programs can help improve SE and health behaviors.

## CONCLUSION

Cognitive health programs should emphasize not only the importance of assessing current and baseline cogni-

tion according to cognitive assessment tools appropriately normalized and validated (Perry et al., 2018), but also the dynamic link between affective and cognitive factors throughout older adults' lifespans. Although regression models are significant, the percentage of variance explained is relatively low—9% in the linear regression model and 9% to 13% in the logistic regression model. Future studies might include more exhaustive measures of affective state (Hill et al., 2016), subjective perception of health, loneliness, or social support. Specifying the type and number of SCC (Amariglio, Townsend, Grodstein, Sperling, & Rentz,

2011), as well as the potential role of educational level and other cognitive reserve proxies (Garcia-Ptacek et al., 2016), could help better understand this relationship.

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## 8.2. Artículo 2

Taboada-Vazquez, A., Gonzalez-Rodriguez, R., Gandoy-Crego, M., & Clemente, M. (2021). Psychological Profile and Consumption of Healthcare Resources in Actively Employed People, Pre-Retirees, and Retirees. *Sustainability*, 13(8), 4415. MDPI AG. Retrieved from <http://dx.doi.org/10.3390/su13084415>

- Datos de impacto con base 2020:
  - o Índice de Impacto: 3.251
  - o Cuartil: Q3, posición 160 de 302 revistas.
- Datos de la revista:
  - o Editorial: MDPI
  - o ISSN: 2071-1050

Article

# Psychological Profile and Consumption of Healthcare Resources in Actively Employed People, Pre-Retirees, and Retirees

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**Abstract:** Research on personality variables and consumption of health services in actively employed people or retirees has been extensive, but the group of pre-retirees has hardly been studied. This work attempts to determine the mental health and use of health resources of the three groups, hypothesizing that, as the group of pre-retirees does not receive the social stigma of work exclusion, it will present better mental health. A sample of 1332 Spanish participants aged between 51 and 69 years was randomly chosen, and various personality tests were applied, and consumption of healthcare resources was determined. Pairwise analysis of the three work situations using binary logistic regressions showed that pre-retirees present better mental health, although there were no differences in the consumption of healthcare resources. The implications of this study for the creation of health promotion policies targeting older people, depending specifically on their employment status, are discussed.

**Keywords:** mental health; personality; older people; retirees; workers



**Citation:** Taboada-Vazquez, A.; Gonzalez-Rodriguez, R.; Gandoy-Crego, M.; Clemente, M. Psychological Profile and Consumption of Healthcare Resources in Actively Employed People, Pre-Retirees, and Retirees. *Sustainability* **2021**, *13*, 4415. <https://doi.org/10.3390/su13084415>

Received: 6 March 2021  
Accepted: 13 April 2021  
Published: 15 April 2021

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## 1. Introduction

Western societies have seen how their citizens' life expectancy has increased considerably in recent years. Globally, although there are still important health inequalities, life expectancy has increased by 5 years since 2000 [1]. According to the European Commission [2], among the reasons for this situation are increased longevity due to medical advances and improvements in quality of life, low birth rates because of difficulties to find work, the cost of housing, the delay in having children, and the incorporation of women in the labor market, among others.

The aging process itself can lead to the decline of physical fitness and functional capacity [3]. With the aging of the population, fragility, chronicity, and long-term care need to increase [4]. To the variable age should be added other social determinants of health, such as demographic dispersion, which implies a limited access to more specific health services. Therefore, they frequently suffer physical or emotional conditions that contribute to reducing their capacity to adapt and defend themselves [5].

Older people use more health services, their hospital admissions are more frequent, and their hospital stays are longer in comparison with other age brackets [6]. This situation represents a growing public health problem [4,7].

Population ageing, coupled with the global crisis, has led to the emergence of three social groups: that of older workers (older people still working because no generational replacement has occurred [8]), poor workers (people who receive very low wages due to the economic crisis, and who are defined as workers whose incomes fall below the poverty line [9]), and pre-retired workers (people who were expelled from the labor market due to companies closing, and because, at their age, they cannot rejoin the productive system, they



have access to retirement before the regulative age [10]). We are faced with the paradox that society is becoming populated by increasingly older active workers, older people who have lost their jobs and have managed to obtain early retirement (so that, socially, they are not considered retired), and retired people. Ultimately, all these phenomena are related to age.

Various studies have examined the relationship between unemployment and mortality as a function of various causes [11], including behavioral and social risk factors [12]. Thus, some jobs involve an increased risk of death among the unemployed population, due to several causes: mental pathology [13], cardiovascular pathology [14], or cancer [15]. There is practically no research analyzing the role of pre-retirees, but some studies of unemployment (such as the last one of those mentioned) include situations of forced or obliged unemployment (different from retirement due to illness or disability). Similarly, early retirement is also considered an important variable when determining the use of health services [16].

Schoormans et al. [17] pointed out that, in some cases, the use of healthcare is not only determined by the complexity of the health process or by the patient's functional status, but also by the patient's psychological characteristics. Specific psychological characteristics may be associated with different stages of disability and, in turn, may be affected by the disability itself [18]. Hence, there is growing interest in determining how different psychological characteristics can influence older people's health [18–20], and one of those factors is integration in the working world.

One of the most studied theoretical concepts is that of self-efficacy, as it is considered an excellent predictor of many behaviors [21]. Individuals with high perceived self-efficacy are more likely to perform preventive behaviors, seek treatments earlier, and to be more optimistic about its effects [22,23]. Although self-efficacy has somewhat carelessly been associated with a decrease in survival, functional impairment, and increased risk of institutionalization of older people [24].

Has been shown to be associated with an increase of self-care among older persons [25], and with active ageing [19] and good health in general [22]. Similarly, individuals or patients who perform physical activity obtain better scores in self-efficacy compared to sedentary individuals [26]. It has also been shown to be a mediator of health-related behavioral changes and healthcare resource consumption [27,28]. Self-efficacy can be trained and improved [29,30].

Personality has been associated with physical functioning [31], with neuroticism being one of the factors with higher incidence on good performance [32]. There is also a clear link between personality and health-related quality of life [33]. Low levels of neuroticism are important predictors of successful aging [34].

We also note concepts such as subjective age, also predictive of mental and physical health in aging [35,36]. It is known that negative perceptions of aging (in the form of self-perceptions) are also a risk factor for some dimensions of physical deterioration associated with age [37]. Subjects with higher subjective age tend to be more sedentary [36], which increases the risks of developing or worsening chronic pathologies [38].

Old-old people, a group in transition between the community (residing in their homes or with relatives) and the institution (living in nursing homes), should be the potential recipients of psychological prevention measures and health promotion aimed at improving their quality of life [25].

This work aims to determine the extent to which a person's work situation leads to the presentation of a series of psychological variables that allow us to define a psychological profile, and its possible consistency with greater or lesser consumption of health services. We considered employee inclusion as a predicting variable instead of age, which is a significant contribution of this study. Our hypothesis is that actively working older people will present healthier personality variables, and lower consumption of health services, followed by pre-retirees, with retirees being those who present the least healthy values in personality variables, and higher consumption of health services.

This research is of great relevance in Spain, where the percentage of the population of people aged 65 or over (which is made up of retirees) is 34.11%, and the percentage of people in the range between 55 and 64 years (those considered as pre-retirees) is 13.28%. In other words, the population of pre-retirees plus that of retirees reaches almost half of the total population, being, therefore, a very old country.

## 2. Materials and Methods

### 2.1. Participants

A total of 1332 individuals participated, of whom 596 were men (44.7%) and 736 women (55.3%), age ranging between 51 and 69 years ( $M = 61.16$ ,  $SD = 4.557$ ). Of them, 809 were active workers (61%), 140 pre-retirees (10.5%), and 379 retirees (28.5%). The sample was randomly selected from the population of people older than 50 years, according to the percentages of active workers, pre-retirees, and retirees that was provided by the official agency that collects this information in the region of Galicia (NW Spain). The data of how many people make up the population of each group appear in the previous paragraph. We selected a sample of 1500 individuals, and 1416 agreed to participate, of whom 1332 fell within the indicated quotas. Therefore, the level of participation was 88.8%. For the three samples, the percentage of men and women was equal (50% in each of them). Besides, in all of them, it was verified that their health was good. In the sample of active workers, 25% had preuniversity studies, in the second (pre-retirees) this proportion was 22%, and in the third (retirees) it was 31%; the rest had university studies. In Spain, for workers in private companies, the mandatory retirement age is 65 years. However, companies in need of reducing their workforce ask the government to use early retirement, and if the government approves it, it is possible to retire early, usually between 55 and 64 years of age. Therefore, in the first of the subsamples (active workers) subjects between 50 and 64 years of age were included; in the second of the subsamples (pre-retirees) subjects between 55 and 64 years of age were included; and in the third of the samples (retirees), subjects aged 65 years or more were included.

### 2.2. Scales Used

The following questionnaires were applied:

- A questionnaire of sociodemographic variables that collected data about age, sex, level of completed studies, marital status, and employment status.
- A questionnaire of consumption of health services. The variables concerning health consumption (always within the last two months) were: the number of times that the person went to the medical practitioner; the number of times that the person consulted a specialist; the number of diagnostic or analytical tests carried out; and, if the person went to a rehabilitation service, the number of sessions attended.

The Zimbardo Time Perspective Inventory (ZTPI) [39]: In this study, we used the Spanish version of Díaz-Morales [40], although it has been adapted for other populations [41–43]. The scale is made up of 56 items. The form of response is the Likert type, from strongly disagree (1) to strongly agree (5), with an intermediate point (neither agree nor disagree, (3)). The scale comprises five subscales: negative past (14 items); hedonistic present (14 items); future (11 items); positive past (8 items); and present fatalistic (9 items). An example of an item is “I think that getting together with friends at a party is one of the most important pleasures in life”. This is the first item on the scale, which is integrated into the “hedonistic present” personality dimension. Cronbach’s alpha reliability index was calculated, and the following coefficients were obtained for each subscale) following the order just explained in this paragraph: 0.85, 0.89, 0.91, 0.80, and 0.82. Therefore, the mean reliability was 0.85, which is considered very adequate.

The multidimensional locus of the control scale (internality–externality, I–E) of Levenson [44]: We used the version in Spanish by Romero-García [45]. This scale is made up of 24 items. The response form is also a Likert type but with four response alternatives, from “never” (1) to always (4); it does not have a neutral response alternative. The scale

comprises four subscales: internal control (8 items); external control by chance (8 items); external control by powerful others (8 items); and global external control (sum of the external control items by chance and by other powerful ones). An example of an item is “Whether I become a leader depends mainly on my abilities”. This is the first item on the scale, which is integrated into the “internal control” dimension. Cronbach’s alpha reliability index was calculated, and the following coefficients were obtained for each subscale) following the order just explained in this paragraph: 0.79, 0.85, 0.85, and 0.92. Therefore, the mean reliability was 0.85, which is considered very adequate.

The scale of psychological reactance (PR) of Hong and Page [46], based on the theory of reactance of Brehm [47], in its translated version by Perez [48]: It has two dimensions, the affective component and the cognitive component. This scale is made up of 14 items. The form of response is also Likert type and also has four response alternatives, from “never” (1) to always (4); it does not have a neutral response alternative. The scale comprises two subscales: an affective component (8 items) and a cognitive component (6 items). An example of an item is “The existence of rules and regulations trigger in me a tendency to resistance”. This is the first item on the scale, which is integrated into the cognitive component. Cronbach’s alpha reliability index was calculated, and the following coefficients were obtained for each subscale following the order just explained in this paragraph: 0.81 and 0.83. Therefore, the mean reliability was 0.82, which is considered very adequate.

The coping responses inventory (CRI) of Moos [49,50], in the adaptation of Ongarato et al. [51]. This scale is made up of 22 items. The form of response is also Likert type and also has four response alternatives, from “never” (1) to always (4); it does not have a neutral response alternative. An example of an item is “Do you say words to yourself to refresh yourself?”. This is the first item on the scale. Cronbach’s alpha reliability index was calculated, and the alpha Cronbach coefficient was 0.82, which is considered very adequate.

A scale of self-efficacy applied to health (SEH), based on the test of self-efficacy of Baessler and Schwarzer [52], created by Gandoy-Crego et al. [53]. This scale is made up of 10 items. The form of response is also the Likert type and also has four response alternatives, from “never” (1) to always (4); it does not have a neutral response alternative. The scale does not include subscales. An example of an item is “Do you say things to yourself to encourage yourself?”. This is the first item on the scale. Cronbach’s alpha reliability index was calculated, and a reliability coefficient of 86 was obtained, which is considered very adequate.

Coping responses inventory (CRI) of Sandín and Chorot [54]. This is a self-report measure consisting of 42 items, measuring seven dimensions, each one made up of six items: problem-solving focus, negative self-focus, positive reappraisal, open emotional expression, avoidance, social support seeking, and religion. The form of response is also a Likert type and also has four response alternatives, from “never” (1) to always (4); it does not have a neutral response alternative. An example of an item is “I tried to analyze the causes of the problem in order to deal with it”. This is the first item on the scale, and it is included in the subscale “Problem-solving focus”. Cronbach’s alpha reliability index was calculated, and the following coefficients were obtained for each subscale) following the order just explained in this paragraph: 0.75, 0.79, 0.83, 0.81, 0.82, 0.88, and 0.83. Therefore, the mean reliability was 0.81, which is considered very adequate.

### 2.3. Procedure

We located the participants, first, sending them a postal explanatory letter, and then, through a home visit. The questionnaires were applied in each household. The information was collected between September and November of 2019. The data of each individual were entered in a sheet, and subsequently exported and analyzed using the statistical program.

We created an informed consent form, which explained the reason for the research, provided data of the researchers, and the possibility of the participants’ requesting the deletion of his/her data from the sample set, after having facilitated it. This authorization was signed by all participants. None of them refused consent.

All of them authorized the inclusion of material pertaining to themselves, which they acknowledged that they cannot be identified via the paper, and the researchers fully anonymized them.

The committee of ethics of the university of the corresponding author approved this research. Hence, this research complied with the requirements of the Declaration of Helsinki, and those established by the American Psychological Association.

#### 2.4. Data Analysis

In addition to calculating the corresponding statistics to determine the composition of the sample, logistic binary regressions were conducted, using personality and health resource consumption as predictor variables and variables related to the participants' employment status as dependent variables. Three logistic regressions were performed, comparing occupationally active people with pre-retirees, occupationally active people with retirees, and pre-retirees with retirees.

### 3. Results

The first logistic regression used being actively employed versus pre-retirement as the criterion variable. The omnibus tests on the model yielded a Chi-square value of 69.602 ( $df = 22$ ), with very high significance ( $p = 0.001$ ). After six iterations, the  $-2\log$  likelihood value was 510.418, with a  $R^2$  value of 0.055, and a  $R^2$  value of .147. The classification table shows 93.4% of correct classifications, which is very high.

As can be seen in Table 1, the significant variables of the analysis ( $p < 0.05$ ) referred to the temporal dimension of personality (future), and to social support seeking and negative self-focus. In short, compared with active workers, pre-retirees were more oriented toward the future, seek less social support, and had less negative self-perception. All these results can be observed in Table 1.

**Table 1.** Binary logistic regression comparing active workers with pre-retirees.

	B	S.E.	Wald	df	Sig.	Exp(B)
Negative past	0.366	0.298	1.509	1	0.219	1.442
Hedonist present	0.089	0.301	0.087	1	0.769	1.093
Future	−0.566	0.269	4.412	1	0.036 *	0.568
Positive past	−0.435	0.239	3.296	1	0.069	0.647
Fatalist present	0.044	0.272	0.026	1	0.871	1.045
Internal control	0.587	0.371	2.505	1	0.113	1.798
Random external control	0.035	0.373	0.009	1	0.926	1.035
External control through power	0.026	0.327	0.006	1	0.937	1.026
Emotional reactance	0.389	0.310	1.574	1	0.210	1.475
Cognitive reactance	0.502	0.312	2.596	1	0.107	1.652
Cognitive coping	−0.598	0.337	3.157	1	0.076	0.550
Behavioral coping	0.203	0.299	0.460	1	0.498	1.225
Cognitive avoidance coping	0.142	0.305	0.218	1	0.640	1.153
Behavioral avoidance coping	0.477	0.265	3.237	1	0.072	1.611
Health-related self-efficacy	−0.130	0.339	0.146	1	0.703	0.878
Social support seeking	0.355	0.170	4.361	1	0.037 *	1.426
Open emotional expression	−0.270	0.251	1.163	1	0.281	0.763
Religion	0.204	0.126	2.617	1	0.106	1.226
Problem-solving focus	−0.225	0.213	1.115	1	0.291	0.799

Table 1. Cont.

	B	S.E.	Wald	df	Sig.	Exp(B)
Avoidance	−0.312	0.227	1.892	1	0.169	0.732
Negative self-focus	0.561	0.254	4.852	1	0.028 *	1.752
Positive reappraisal	−0.406	0.263	2.387	1	0.122	0.667
Constant	−4.089	1.895	4.656	1	0.031 *	0.017

Note: S.E.: Standard error; B: Beta coefficient; df: degrees of freedom; sign: significance; \*  $p < 0.05$ .

The second comparison was between active workers and retirees. The omnibus tests on the model yielded a  $X^2$  value of 117.1 ( $df = 22$ ), which was highly significant ( $p = 0.001$ ). After six iterations, the  $-2\log$  likelihood value was 211.941, with a Cox and Snell  $R^2$  of 0.094, and a  $R^2$  value of 0.388. The classification table shows 97.45% of correct classifications, higher than the previous comparison.

As can be observed in Table 2, concerning the significant variables of the analysis ( $p < 0.05$ ), two refer to the temporal dimension of personality (positive past and fatalistic present), one to internal control, and two of the variables are related to coping (behavioral coping and cognitive avoidance). Therefore, compared with people who are actively employed, retirees grant less value to the positive elements of their past, but they also view their present in a less fatalistic way. They also score lower in internal control, and show higher levels of behavioral coping and cognitive avoidance. The complete data are presented in Table 2.

Table 2. Binary logistic regression comparing active workers with retirees.

	B	S.E.	Wald	df	Sig.	Exp(B)
Negative past	0.096	0.511	0.035	1	0.851	1.101
Hedonist present	−0.101	0.525	0.037	1	0.847	0.904
Future	−0.515	0.483	1.136	1	0.286	0.598
Positive past	−0.971	0.367	6.995	1	0.008 **	0.379
Fatalist present	−1.643	0.489	11.304	1	0.001 **	0.193
Internal control	−2.259	0.580	15.145	1	0.000 **	0.105
Random external control	0.080	0.629	0.016	1	0.899	1.083
External control through power	0.210	0.561	0.140	1	0.708	1.234
Emotional reactance	−0.821	0.532	2.382	1	0.123	0.440
Cognitive reactance	−0.321	0.546	0.345	1	0.557	0.726
Cognitive coping	−0.308	0.635	0.235	1	0.628	0.735
Behavioral coping	1.144	0.535	4.567	1	0.033 *	3.140
Cognitive avoidance coping	1.178	0.508	5.376	1	0.020 *	3.248
Behavioral avoidance coping	0.403	0.454	0.785	1	0.376	1.496
Health-related self-efficacy	−0.015	0.553	0.001	1	0.978	0.985
Social support seeking	−0.381	0.324	1.379	1	0.240	0.683
Open emotional expression	−0.024	0.449	0.003	1	0.957	0.976
Religion	−0.057	0.238	0.058	1	0.810	0.944
Problem-solving focus	−0.463	0.361	1.644	1	0.200	0.629
Avoidance	−0.014	0.371	0.001	1	0.970	0.986
Negative self-focus	−0.595	0.463	1.654	1	0.198	0.551
Positive reappraisal	0.766	0.511	2.249	1	0.134	2.151
Constant	9.619	2.794	11.855	1	0.001 **	15054.030

Note: S.E.: Standard error; B: Beta coefficient; df: degrees of freedom; sign: significance. \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

The last of the comparisons was between pre-retirees and retirees. The omnibus tests on the model yielded a Chi-square value of 80.959 ( $df = 22$ ), which was highly significant ( $p = 0.001$ ). After seven iterations, the  $-2\log$  likelihood value was 63.521, with a  $R^2$  value of 0.505, and a  $R^2$  value of 0.707. The classification table shows 89.6% of correct classifications, somewhat lower than the previous comparisons.

As can be seen in Table 3, the significant variables of the analysis ( $p < 0.05$ ) were internal control, cognitive reactance, cognitive avoidance coping, social support seeking, and positive reappraisal. It can be stated that retirees, compared with pre-retirees, present lower internal control, lower cognitive reactance, more cognitive avoidance coping, less social support seeking, and more positive reappraisal. The complete data are presented in Table 3.

**Table 3.** Binary logistic regression comparing pre-retirees with retirees.

	B	S.E.	Wald	df	Sig.	Exp(B)
Negative past	−2.003	1.250	2.568	1	0.109	0.135
Hedonist present	0.849	1.182	0.516	1	0.473	2.338
Future	−1.687	1.001	2.842	1	0.092	0.185
Positive past	0.453	0.696	0.424	1	0.515	1.573
Fatalist present	−2.096	1.079	3.772	1	0.052	0.123
Internal control	−4.212	1.310	10.339	1	0.001 **	0.015
Random external control	0.766	1.109	0.478	1	0.490	2.152
External control through power	0.553	1.015	0.297	1	0.586	1.738
Emotional reactance	−0.734	1.120	0.430	1	0.512	0.480
Cognitive reactance	−2.821	1.243	5.156	1	0.023 *	0.060
Cognitive coping	1.653	1.136	2.117	1	0.146	5.221
Behavioral coping	1.073	0.839	1.637	1	0.201	2.924
Cognitive avoidance coping	1.813	0.914	3.940	1	0.047 *	6.131
Behavioral avoidance coping	0.789	0.898	0.772	1	0.380	2.202
Health-related self-efficacy	−0.642	1.166	0.303	1	0.582	0.526
Social support seeking	−1.411	0.711	3.941	1	0.047 *	0.244
Open emotional expression	0.151	1.092	0.019	1	0.890	1.163
Religion	−0.117	0.440	0.070	1	0.791	0.890
Problem-solving focus	−0.155	0.784	0.039	1	0.843	0.856
Avoidance	−1.197	0.958	1.561	1	0.212	0.302
Negative self-focus	−0.997	0.826	1.458	1	0.227	0.369
Positive reappraisal	2.645	1.128	5.495	1	0.019*	14.078
Constant	17.937	6.482	7.657	1	0.006 **	61670336.735

Note: S.E.: Standard error; B: Beta coefficient; df: degrees of freedom; sign: significance; \*  $p < 0.05$ ; \*\*  $p < 0.01$ .

#### 4. Discussion and Conclusions

The objective of this work was to determine to what extent the employment situation of a person translates into the manifestation of different psychological profiles, depending on whether the individuals are active workers, pre-retirees, or retirees. To this end, the hypothesis was raised that older people who actively work will present healthier personality variables, followed by early retirees, with retirees presenting the least healthy values in personality variables. The data found allowed us to affirm that the hypothesis was fulfilled when comparing active workers with retired ones, but the introduction of a subsample of pre-retired subjects did not conform to what was expected, but it totally changed the meaning of the expected profiles. The population of pre-retired subjects is the one that

presents the healthiest profile, allowing one to affirm that being in a pre-retired situation increases the state of psychological health.

The comparison between actively working individuals and retirees showed that retirees focus on their positive memories (positive past) and perceive their present in a fatalistic way. That is, they missed the past, when they were not retired. Strange to say, retirees had a higher degree of internal control than did actively employed people; that is, they attributed what goes on in their life to themselves, perhaps because they did not belong to work organizations. On the other hand, actively employed people used more behavioral coping strategies and cognitive avoidance of problematic situations, whereas retirees did not avoid thinking about such situations. Ultimately, retirees blamed themselves for their problems, they did not avoid these thoughts, and they also reinforced themselves personally by thinking about their past, and were annoyed by their present.

It is noteworthy that pre-retirees granted more value to their future, sought less social support from others, and focused less on their negative aspects than did active workers. That is, active workers presented worse mental health than did pre-retirees. When comparing pre-retirees with retirees, the data indicate that retirees presented greater internal control, greater cognitive reactance, and more social support seeking than pre-retirees; however, pre-retirees avoided thinking about negative issues and performed positive reappraisals of their situation. That is, once again, pre-retirees had better quality of health than retirees.

It is interesting that no significant differences were detected in variables such as religion, affective reactance, or other variables. In general, we found a profile very limited to a few variables, with high explanatory power. No significant differences were found in measures such as health-related self-efficacy or the consumption of health services, which contradicts studies like those of Wiener and Tilly [4], Osorio-Parraguez and Espinoza [5], or Veras [6].

The results of this research clearly show that being an active worker, a pre-retiree, or a retiree led to creating a differential profile of these three groups. We wished to introduce a group of pre-retirees, who are not usually taken into account in other studies because, even though they are not occupationally active, their social image is more positive because they have had to access retirement but do not present the usual retiree characteristics. Additionally, in fact, the data confirm this fact.

In summary (see Table 4), pre-retirees had a higher quality of mental health than did active employees and forcibly retired persons. All this shows that the preventive measures required to care for the health of older persons must be maximized in actively working older people and in forced retirees. This work is consistent with the approach of authors like Schoormans et al. [17]. Moreover, it has the advantage that it identifies the variables involved in each of the profiles, as recommended by Cooper et al. [18], Cha et al. [19], (2011), or Windsor et al. [20].

This work has a series of limitations. Perhaps the first of them is that we considered age groups of elderly people, but there are also people who are active at work with very advanced ages (including those over eighty years old), pre-retirement people with ages of 45 years in advance, and even people retired since the sixties (especially in the public sector). We considered the inclusion of employees as a predictor variable instead of age, which is a significant contribution of this study and we considered that future research should include the aforementioned groups. On the other hand, the sample was incidental in nature; obviously, it is very difficult to obtain random samples, especially from active and labor-intensive people, but we considered that future studies should try to obtain random samples.

However, we also considered that this work presents important contributions to this field of research. We believe that the identification of these profiles may allow us to develop specific programs of health promotion targeting older people, but differentiated according to their employment situation. Furthermore, the main finding of this work, that the subsample of pre-retirees is the one that presents a more suitable psychological profile

that can lead to the development of public policies that promote progressive retirement, that is, to devise procedures so that the transition from active worker to retired person is progressive.

**Table 4.** Overview of significant results.

	Active Worker/Pre-Retiree	Active Worker/Retiree	Pre-Retiree/Retiree
Negative past			
Hedonist present			
Future	Pre-retiree		
Positive past		Retiree	
Fatalist present		Retiree	
Internal control		Retiree	Retiree
Random external control			
External control through power			
Emotional reactance			
Cognitive reactance			Retiree
Cognitive coping			
Behavioral coping		Active worker	
Cognitive avoidance coping		Active worker	Pre-retiree
Behavioral avoidance coping			
Health-related self-efficacy			
Social support seeking	Active worker		Retiree
Open emotional expression			
Religion			
Problem-solving focus			
Avoidance			
Negative self-focus	Active worker		
Positive reappraisal			Pre-retiree

We also need to highlight that the main idea of this work, to emphasize the idea that lifestyles, and therefore psychological variables, are fundamental when it comes to explaining the well-being shown by older people, and is not something new, without this it has already been asserted for years by authors such as Rowe and Kahn [55,56], who indicated the study of non-pathological ageing, which was produced by the mere increase in age. Therefore, it is necessary to provide interventions for the elderly, aimed at identifying effective strategies to grow the proportion of the population showing successful ageing.

**Author Contributions:** All authors have contributed equally to the development of this research and to the elaboration of the manuscript. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** This research has been approved by the Ethic Committee of the Universidad de A Coruña (Spain), the organizational unit responsible for the protection of human participants.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.



**Data Availability Statement:** The data that support the findings of this study are available from the corresponding author upon reasonable request.

**Conflicts of Interest:** The authors declare no conflict of interest.

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### 8.3. Artículo 3

Taboada-Vázquez, A., Gonzalez-Rodriguez, R., Gandoy-Crego, M., & Clemente, M. (2021). Personality Variables as Predictors of Health Services Consumption. *International Journal of Environmental Research and Public Health*, 18(10), 5161. <http://dx.doi.org/10.3390/ijerph18105161>

- Datos de impacto con base 2020:
  - Índice de Impacto: 3.390
  - Cuartil: Q1, posición 41 de 176 revistas.
- Datos de la revista:
  - Editorial: MDPI
  - ISSN: 1660-4601



Article

# Personality Variables as Predictors of Health Services Consumption

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**Abstract:** Expenditure on healthcare and services can be a serious problem for public health. Personality variables should be included as indicators to be considered when studying the consumption of health resources and their planning. This study aims to identify the psychological and psychosocial variables that identify people who can be considered high consumers of health resources versus those who barely consume such resources. The sample was made up of a total of 1124 subjects; one half were men, and one half were women, all of legal age and residents in Spain. A battery of tests was created that included a questionnaire of sociodemographic variables and of healthcare consumption, as well as several psychological variables (Zimbaro Time Paradox Inventory, Multidimensional Locus of Control Scale, Psychological Reactance Scale, Coping Responses Inventory, self-efficacy scale applied to health, and the Symptom Checklist-90-R). The following variables of the model were significant predictors ( $p \leq 0.05$ ): a negative past, a fatalistic present, psychological cognitive reactance, behavioral coping, health self-efficacy, and the level of somatization. Data from the statistical analyses show how to create a psychological profile of people who are high consumers of healthcare resources that will allow for the creation of intervention programs in this regard.

**Keywords:** environment and public health; health services; personality; personal health services; public health



**Citation:** Taboada-Vázquez, A.; Gonzalez-Rodriguez, R.; Gandoy-Crego, M.; Clemente, M. Personality Variables as Predictors of Health Services Consumption. *Int. J. Environ. Res. Public Health* **2021**, *18*, 5161. <https://doi.org/10.3390/ijerph18105161>

Academic Editor: Joanna Mazur

Received: 17 March 2021

Accepted: 9 May 2021

Published: 13 May 2021

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## 1. Introduction

Healthcare services are those aimed at the diagnosis and treatment of diseases as well as at the maintenance of health. The provision of health services to the population is itself a public health problem, as it usually involves an expense that is becoming increasingly more difficult for countries to maintain. This paper focuses on the reality of the existence of certain groups that consume more health services (general or specialist consultations, surgery, diagnostic tests, and pharmaceutical expenditure), whereas others consume fewer. Similarly, due to their personality traits, some people are more likely to consume health services and, contrarily, others consume less. The determination of the psychological typology that implies higher or lower consumption of health services can help to create mechanisms that, without undermining healthcare, would lead to savings in such assistance; for example, through collective campaigns and individual training to promote the existence of a profile of a low consumer of health services.

We are aware that the use of health services does not only depend on the psychological variables that the users of the system have. We believe that the choice of a type of health system by each government has a determining weight and that healthcare should be organized according to the demographic weight of each group and their respective healthcare needs. Thus, every system must be able to specially attend to various groups, including older people, disabled people, or those with mental health problems. This work,

given its orientation, only focuses on the psychological part of the problem, an issue that, in our opinion, is little investigated.

Various studies have linked the consumption of health services to variables inherent to human development, such as age, physical or mental health status, destructive over-dependence (DO), or dysfunctional detachment (DD) [1–4].

Our interest is focused on the determination of the psychological predictor variables that can explain higher or lower consumption of resources. One of the most commonly investigated aspects is the pattern of behavior, which studies the person's vulnerability to surrounding stressors and the short and long-term consequences for health. Cardiologists Friedman and Rosenman [5] identified the Type A behavioral pattern, typical of young men with ischemic heart disease. The appropriate intervention would be to try to help the person to evolve from acute Type A behavior to Type B, as subjects with a Type B personality pattern consume far fewer health resources. Subsequently, Morris and Greer [6] labelled the Type C personality, characterized by emotional inhibition; diseases associated with this personality type are rheumatism, infections, allergies, skin disorders, and cancer. Finally, Denollet and Brutsaert [7] labelled the Type D (distress) personality pattern. It is also characterized by inhibition, but in this case of a social nature, not emotional. A Type D personality predisposes one to anxiety and depression and is a predictor of long-term mortality from cardiovascular disorder. There are multiple studies that relate a Type D personality pattern to increased consumption of health resources [8–10].

Another variable studied in the relationship between people's health and their use of healthcare resources is the perception of self-efficacy. This variable [11] is considered an excellent predictor of many behaviors [12]. In general, research has verified that individuals with high perceived self-efficacy are more likely to perform preventive behaviors, to seek treatments earlier, and to be more optimistic about their effects [13–16]. A specific instrument (the Self-Efficacy Health [SEH] scale) that measures self-efficacy in situations of health has even been created [17]. The relation of healthcare consumption with personality variables has also been studied, especially with the Zimbardo Time Paradox Inventory [18], Derogatis' Symptom Check-List [19–22], through the locus of control or internalization-externalization [23–26], as well as through psychological reactance [27–31], or coping [32–34].

This research follows the work of Schoormans et al. [35], who pointed out that, in some cases, the use of healthcare is not only determined by the complexity of the health process or by patients' functional status, but also by their psychological characteristics. Kessler and Maclean [36] found associations between the Big Five test of personality factors and measures of alcohol consumption and abuse, which is an important cardiovascular risk factor. Powers et al. [37] analyzed people with personality pathologies, verifying that they are an important predictor of increased consumption of health resources.

We think that personality variables should be included as indicators to be considered when studying the consumption and planning of health resources. For this reason, the present study aims to identify which psychological and psychosocial variables allow us to identify people who can be considered high consumers of health resources compared to those who barely consume such resources, in periods when there is no existence of a sudden severe disease, a cognitive decline due to age, or a situation of age-related dependence. We hypothesize that a differentiating profile can be created in which variables related to self-efficacy and an optimistic view of the world will load more on the profile of the low consumer of health resources, and in contrast, people with a lower degree of self-efficacy regarding health problems and who are more pessimistic about life will be higher consumers of health resources.

Access to public health systems must be free, universal, and independent of the personal characteristics of each user. However, we believe that from the point of view of scientific knowledge, it is good to determine which personality variables are manifested by those who use the health services the most and which are manifested by those who use the system the least. The aim is to avoid that the professionals who serve users use knowledge based solely on experience and can instead use scientific knowledge in this regard.

## 2. Materials and Methods

### 2.1. Participants

The sample was made up of a total of 1124 people, of whom one half were men and one half were women. All were 18 years or older, with an average age of 37.53 years (SD = 17.91; range 18 to 65 years). All participants lived in the region of Galicia (Spain) and were located in their homes, used for their recruitment surveyors who were enrolled in university studies in psychology and nursing. We explained to the participants the reason for the study and all of them signed an informed consent form.

Since we are all users of health services, the population is very large. In the case of Spain, the population is over 47 million, about 46.5 million of whom are legal age (18 years or more, that is, those selected in the study). For this reason, the criterion of exceeding 1111 subjects in the sample was used. In any case, the coefficient  $d$  was calculated to determine the effect size, obtaining a  $t$ -test value of 0.81 (very suitable).

### 2.2. Scales Used

We created a battery of tests that included the following questionnaires:

A questionnaire of sociodemographic variables and healthcare consumption. Regarding the sociodemographic variables, we considered age, sex, level of completed studies, and marital status. The variables concerning healthcare consumption (always within the last two months) were as follows: the number of times that the person went to the medical practitioner; the number of times that the person consulted a specialist; the number of diagnostic or analytical tests carried out; and, if the person went to a rehabilitation service, the number of sessions attended.

The *Zimbardo Time Paradox Inventory* [18]. In this study, we used the Spanish version of Diaz-Morales [38], although it was adapted for other populations [39–41]. The perception of time represents an essential element of cognition, given that the experiences that people live through daily have significance, regulating their behavior and impacting the future. The present of the subjects is associated with the experiences lived in the past, and it is understood that the present will be to a greater or lesser extent linked to what is projected in the future and to the expectations and goals that each subject intends to achieve. That is, what the subjects decide to do in the present will be associated both with the experiences they have already lived as well as the future they project.

The *Multidimensional Locus of Control Scale* (internality-externality, I-E) [42]. We used the Spanish version of Romero-García [43]. The variable locus of control, or internal-external control of reinforcement, has been one of the most common in social psychology. The construct is part of Rotter's theory of social learning and refers to how people explain a posteriori the events that happen to them either internally (they are responsible) or externally (they are not responsible, but everything is due to external forces such as the environment, others, etc.).

The *Psychological Reactance Scale* (RP) [44] based on Brehm's theory of reactance [45] in the version translated by Perez [46] considers two dimensions: the affective component and the cognitive component. The theory of psychological reactance proposes that reactance is a motivational force that is activated when perceived behavioral freedoms are eliminated or threatened with elimination. This motivation is aimed at restoring those freedoms and can be expressed through a number of direct and indirect ways.

The *Coping Responses Inventory* (CRI) [47,48], in the adaptation of Ongarato et al. [49]. Many are the instruments created from psychology to evaluate coping strategies in the face of stress, majority of them derived from the theory of Lazarus and Folkman (1984). We have used one of the most common.

A scale of self-efficacy applied to health (SEH) based on the test of self-efficacy of Baessler and Schwarzer [50], but with the items referring only to issues about the health status. The scale consisted of 10 items, rated on a four-point Likert format: strongly disagree to strongly agree. Reliability studies of this scale yielded Cronbach alpha values of 0.771 and reported positive results concerning its validity [17]. The SEH is a brief instrument

that allows for the determination of individuals with high levels of coping with health problems that may arise.

The Symptom Checklist-90-R [19–22] is an instrument that was developed to assess and quantify individuals' patterns of symptoms, which can be used both in community and clinical diagnostic tasks. The Symptom Checklist-90-R (SCL-90-R) is a symptomatic quantification instrument designed at Johns Hopkins University that allows the evaluation of a wide range of psychological and psychopathological symptoms. It can assess the presence of a lot of symptoms and determine their intensity.

### 2.3. Procedure

The questionnaires were applied individually in the homes of the participants. After gathering the information, the database was created with the statistical program SPSS version 22, and after reviewing it, the data were subjected to the following relevant statistical tests: (1) we used Cronbach's alpha to determine the reliability of all the tests; (2) we determined the normality of the variables in order to choose the most appropriate regression technique. This was calculated with the Chi-square test; (3) we determined a global rate of consumption of healthcare resources composed of the total sum of the values that were collected in the corresponding questionnaire; and (4) we determined the regression, using the greater or lesser use of health resources as the criterion variable, with all of the personality variables as predictors. The criterion variable was dichotomized (lesser consumption of health resources vs. greater consumption); participants whose level of healthcare consumption was in the first tercile made up the first group, and participants with a higher level of consumption of resources (third tercile) formed the second group. Participants who obtained intermediate scores (second tercile) were eliminated from the analyses.

We explained the research to each participant individually, and all of them gave their signed informed consent. None of them refused to participate. We also previously requested authorization to conduct the research from the Ethics Committee of the University of Coruna, receiving a positive report. This research respects the principles laid down by the Declaration of Helsinki.

### 3. Results

All the applied questionnaires presented fully acceptable levels of reliability (between 0.81 and 0.99). In addition, all the predictor variables showed a satisfactory fit to the normal curve. As a result, we decided to use a statistical technique of binary logistic regression. The estimation of the model ended at the fourth iteration, because the estimates of the parameters changed less than 0.001. The likelihood value of  $-2 \log$  was 1123.258; Cox and Snell's  $R^2$  was 0.37; and Nagelkerke's  $R^2$  was 0.183. The classification table shows an improvement of 14.6%.

The significantly predictive variables ( $p \leq 0.05$ ) of the model were as follows: a negative past (positively, i.e., predicting high consumption of health services); a fatalistic present (positively); psychological cognitive reactance (negatively, i.e., subjects with low cognitive reactance consume more health resources); behavioral coping (positively, but it should be taken into account that higher scores on the scale imply larger coping deficits, i.e., lower levels of behavioral coping correspond to higher consumption of health services); health self-efficacy (negatively, i.e., lower levels of health self-efficacy imply increased consumption of health resources); and somatization level (higher level of somatization corresponds to increased consumption of health resources). These results can be found in Table 1, which presents both the significant and nonsignificant predictive variables as well as main statistics of each variable.

**Table 1.** Personality variables as predictors of consumption of health services.

Predictor Variable	B	SE	Wald	df	p	Exp(B)
Negative Past	0.446	0.164	7.352	1	0.007	1.562
Hedonist present	0.104	0.169	0.379	1	0.538	1.109
Future	0.204	0.169	1.443	1	0.230	1.226
Positive past	−0.022	0.169	0.017	1	0.897	0.978
Fatalistic present	0.450	0.168	7.214	1	0.007	1.568
Internal control	0.278	0.231	1.450	1	0.229	1.321
External control by chance	0.016	0.227	0.005	1	0.945	1.016
External control by power	−0.055	0.204	0.072	1	0.788	0.947
Emotional reactance	0.026	0.188	0.020	1	0.889	1.027
Cognitive reactance	−0.378	0.185	4.178	1	0.041	0.685
Cognitive coping	0.140	0.174	0.651	1	0.420	1.150
Coping behavior	0.306	0.140	4.793	1	0.029	1.358
Cognitive avoidance coping	−0.274	0.152	3.271	1	0.070	0.760
Behavioral avoidance coping	0.035	0.137	0.066	1	0.797	1.036
Health self-efficacy	−0.925	0.221	17.479	1	0.000	0.397
Somatizations	0.780	0.179	19.033	1	0.000	2.181
Obsession-compulsion	−0.213	0.189	1.281	1	0.258	0.808
Interpersonal Sensitivity	−0.167	0.204	0.669	1	0.413	0.846
Depression	0.091	0.124	0.540	1	0.462	1.096
Anxiety	−0.022	0.118	0.034	1	0.853	0.978
Hostility	0.052	0.151	0.120	1	0.729	1.054
Phobic Anxiety	0.315	0.219	2.069	1	0.150	1.370
Paranoid Ideation	−0.318	0.180	3.112	1	0.078	0.728
Psychoticism	0.143	0.255	0.316	1	0.574	1.154
Constant	−2.053	1.151	3.183	1	0.074	0.128

Note: SE: Standard error; B: Beta coefficient; df: degrees of freedom; sign: significance.

#### 4. Conclusions

Data from the statistical analyses show how to create a psychological profile of high consumers of health resources, thereby confirming the proposed first hypothesis.

On the other hand, the obtained profile is consistent with the investigations to date. We confirmed that Zimbardo and Derogatis' questionnaires are both suitable to detect personality variables that can predict the consumption of health services. Two variables from Zimbardo's questionnaire load on the profile: a negative past and a fatalistic present. Out of the five variables contemplated by the instrument, these are negative; that is, people who tend to perceive and assess their past negatively, or to be fatalistic in the interpretation of their present consume more healthcare resources. With regard to Derogatis' questionnaire, the somatic level becomes a key explanatory variable (people with higher levels of somatization consume more healthcare). It should be noted, however, that variables clearly identified in the literature as predictors, such as depression or anxiety, are not significant when creating the profile.

The hypothesis regarding self-efficacy is also confirmed. The Health Self-Efficacy (SEH) scale of Gandoy-Crego et al. [17] shows that subjects with a lower perception of knowing how to face possible health problems are major consumers of health resources.

Two variables of minor importance in the literature, psychological reactance and coping, also adequately predict the level of consumption of health services. However, it is necessary to note that regarding reactance, the variable that enters the equation is cognitive reactance (individuals who consider disobeying doctors' recommendations when they have a health problem, and the affective value of such disobedience is irrelevant), and that regarding coping, only behavioral coping is significant (people who are unwilling to deal with a health problem, and therefore unwilling to act accordingly). That is, people who face health problems negatively (they disobey health professionals' instructions and do not deal with overcoming the problem, eventually obtaining what they do not desire) become



high consumers of the health system. The initial hypotheses are confirmed in these two variables, but not in the case of cognitive coping or emotional reactance.

This paper presents a series of limitations that open the door to future research. For example, we note the inclusion of variables that refer to behavioral patterns. These variables were not included as behavioral patterns refer to very specific diseases, and their types are closely related to heart problems. However, future works could investigate whether there is a personality pattern of a “disobedient” person from the point of view of health, and how this would impact the consumption of health services. This idea is consistent with the work of Powers et al. [37], who considered personality pathologies as important predictors of increased consumption of medical resources at advanced ages, proposing their consideration as a risk factor to take into account in order to reduce the overuse of health resources among older adults.

We want to point out that although personality variables are stable, they can be modified through training programs. Thus, this work allows for the preparation of treatment programs for people who are high users of health services, in order to empower populations to deal more actively with their health problems. This would benefit them and society in general by lowering health costs. No doubt, as already noted by Kessler and Maclean [36] and Schoormans et al. [35] among others, personality variables should be included among the indicators that allow for the increase in the quality of the population’s health and reducing expenditure on health. In summation, there are a number of advantages. The first is the advancement of science to determine the profile of people who are high consumers of health services versus those who are not, regardless of their respective health status. The second is the power to create programs that, without barring access to the health system for all citizens, prevent its use when it is not necessary. Finally, the power to create protocols for health professionals that allow them to distinguish in a more adequate way if when a person demands an unnecessary test or medication, it may be due to his personality type.

We want to remember what was already expressed in the Introduction of this work. The variables with the greatest weight when determining the use of the health system depend on the organization of each government and their ability to ensure healthcare for all citizens, especially for groups that require further assistance. In any case we consider that this work, by focusing on psychological variables, allows us to complete the study of the factors that explain that within the same groups, some people use these services excessively, while others hardly use them.

On the other hand, we consider that future studies should take into consideration aspects such as the diagnosis of each disease, the time elapsed when verifying said diagnosis through medical tests, the treatment followed, and the evaluation after possible treatments.

**Author Contributions:** All authors have contributed equally to the development of this research and to the elaboration of the manuscript. CRediT author statement: Conceptualization, M.G.-C. and M.C.; methodology, M.G.-C. and M.C.; software, M.C.; validation, M.C.; formal analysis, M.G.-C. and M.C.; investigation, A.T.-V., R.G.-R., M.G.-C. and M.C.; resources, A.T.-V., R.G.-R., M.G.-C. and M.C.; data curation, A.T.-V., R.G.-R., M.G.-C., and M.C.; writing—original draft preparation, A.T.-V., R.G.-R., M.G.-C. and M.C.; writing—review and editing, R.G.-R., M.G.-C. and M.C.; visualization, M.C.; supervision, A.T.-V., R.G.-R., M.G.-C. and M.C.; project administration, R.G.-R., M.G.-C. and M.C.; funding acquisition, not applicable. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** This research has been approved by the Ethic Committee of the Universidad de A Coruna (Spain), the organizational unit responsible for the protection of human participants. Approved date 14 April 2020.

**Informed Consent Statement:** Informed consent was obtained from all subjects involved in the study.

**Data Availability Statement:** <http://dx.doi.org/10.17632/vyhjbn9kn1> (accessed on 12 May 2021) and can also be requested from the corresponding author.

**Conflicts of Interest:** The authors declare no conflict of interest.

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