Stressful Events in Old Age: Who are Most Exposed and Who are Most Likely to Overcome Them

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Abstract

Objectives: This study investigated self-reported events that were rated as stressful and being affecting wellbeing among older people. It also examined the variables associated with the perception of overcoming these stressful events. **Methods:** Face-to-face survey on a representative sample of 1,431 older people in Santiago-Chile. Instruments included open-ended questions for distinguishing events as losses, problems, conflicts, and others' difficulties. The associations between the occurrence and overcoming of events with individual and social characteristics were examined through multivariate logistic regression. **Results:** 39.5% mentioned at least one stressful event, being mostly perceived as solvable problems rather than losses. Higher-income, better health, self-efficacy, and social support were associated with a higher perception of event overcoming. **Conclusion:** The occurrence and the probability of events' overcoming does not increase in old-old age in this sample group. Better health and individual and social resources such as self-efficacy and social support, are protective resources for overcoming the stressful events, but they are not generally considered in public policies.

Keywords

Stressful events, older, overcome, quality of life

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Introduction

Chile is one of the Latin American countries with the highest demographic aging (United Nations, 2015). This process is accompanied by a negative cultural image of old age, perceived as a stage with increasing losses and deterioration, for example, in the year 2015 the 73% of the Chilean people had the perception that the elderly are not able to sustain by themselves (Thumala et al., 2015).

To what extent does this perception reflect a reality experienced by older people? It motivated the interest to investigate the declaration of the prevalence of stressful events and the perception of having overcome them by older people.

This paper has a very descriptive goal, to answer the following research questions: How many older adults in Santiago-Chile report a stressful event that has consequences for their wellbeing? How do they interpret it in terms of four broad types (problems, losses, conflicts, other's difficulty)? How many of those events are perceived as having been overcome? What factors are associated with this perceived overcoming?

Understanding these issues is of interest to both gerontology and geriatric medicine, since different studies have shown that the accumulation of stressful events has an effect on the mental and physical health of older people (Kahana et al., 2012; Lim et al., 2015; Tibubos et al., 2020; Vardaxi et al., 2018).

Nevertheless, the starting point is to say that old age should not imply inevitable deterioration in individual wellbeing (De Raedt & Ponjaert-Kristoffersen, 2006; Leist et al., 2009; Neubauer et al., 2015). People can adjust to threatening events through proactive behavioral adaptations in ameliorating the adverse effects of stressors (Kahana et al., 2014) or through cognitive adaptive strategies, as search for meaning, efforts to regain mastery, and attempts to enhance the self (Taylor, 1983).

In this article, we are interested in events that generate tension or psychological stress, known as stressful events. Psychological stress is conceptualized in terms of the relationship between individuals and their environment—specifically when individuals' resources are

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insufficient for managing their environmental demands, and their wellbeing is put at risk (Folkman, 1984). It is a relational concept because it links the demands of the stressful event with the resources of the person who experiments it, mediated by the meaning attributed to the situation.

According to the authors of the cognitive theory of psychosocial stress (Folkman, 1984; Folkman & Moskowitz, 2004; Lazarus, 1968, 2006), what is crucial is not so much the circumstances of the individuals or the stressful events that they experience, but rather their ability to cope and to adapt to these stressful events (De Raedt & Ponjaert-Kristoffersen, 2006; Garofe et al., 2008). Here, coping processes can be conceived as "reality constructions," whereas attentive, comparative, and interpretative processes mediate between the event and the elaboration of the response (Ferring & Filipp, 2000). It gives individuals an active role in determining the quality of their aging, as part of the interplay between social conditions and individual factors across their life course (Rowe & Kahn, 2015).

This research is based on a national representative survey that included open-ended questions that allowed to differentiate between the various types of stressful events, according to the interpretation of the individuals of their ability to exert personal control over it or the possibility of changing it (Folkman & Moskowitz, 2004). Depending on the meaning attached to them, stressful events can be broadly categorized as problems or losses. Problems refer to events that people interpret as possible to solve if they effort to achieve it by utilizing different individual or societal resources. Losses are stressful events perceived as causing irreversible harm, and that can only be resolved through acceptance or avoidance. According to the results of a previous study (Herrera et al., 2018), it is important to identify two other types of stressful events: conflicts and difficulties faced by others. Conflicts are disturbing social relationships of disagreement, divergence of interests, or confrontations, whereas one of the parts wants to impose itself. Difficulties that another suffers can have direct effects on the individual exposed to that suffering. The same event—for example, illness- could be interpreted differently by the diverse subjects surveyed as a problem or as a loss.

It is hypothesized that there is heterogeneity among aging people in interpreting stressful events and that the majority would not perceive them as losses, in contrast with the other types of stressful events, mainly, the own problems and of others.

We could expect that if people cope successfully with the stressful event, they would have more probabilities to interpret them as being overcome. In such a way, the same variables that are associated with better coping should be associated with higher perceived closure of the reported stressful events. So, although this study does not deal with the effects of stressful events and coping or adaptation strategies on wellbeing, the following hypotheses are derived mainly from studies that correlate stressful events, coping, and wellbeing. As we expect that health stressful events increase with age (Dumitrache et al., 2017; Ong et al., 2013), it is hypothesized that the occurrence of stressful events would increment with age, because we expect that one of the main stressful events would be new health problems or physical deterioration.

Various studies have shown that women tend to experience higher stress than older men (Djundeva et al., 2014; Ong et al., 2013; Pinquart & Sorensen, 2001), so we could expect that women would report more stressful events and less perception of having overcome them. However, some studies have found that there are no differences in the number of reported events by gender (Morote et al., 2014; Tibubos et al., 2020).

People with better psychological resources -measured by self-efficacy-, with more social resources -measured by education and social support-, and with better health perception, should report less stressful events and higher perception of overcoming them (Chou & Chi, 2001; Falcón et al., 2009; Herrera et al., 2011; Leist et al., 2009; Ong et al., 2013). The socioeconomic background should not be associated with the probability of reporting events but should contribute to increasing the probabilities of overcoming them (Kok et al., 2017; Thoits, 2006).

Methods

This study is based on data from the survey "Stressful events that occur while growing old: how family relationships and social resources impact elderly people's wellbeing" of the FONDECYT project 1120331. All data were collected from a survey administered via faceto-face interviews with a representative sample of 1,431 people aged 60 years or over (response rate: 75% of 1,908 visited dwellings; 14% refused and 11% could not be contacted) and who were living in private homes in Santiago, Chile, in 2013. It used a multistage random sampling design, with systematic randomization of geographic blocks and private housing and then a random selection of older people. People aged 75 years old or over were oversampled and then weighed the data according to population estimates. Of the entire sample, 63% were women; 63% were aged 60-74 years, and 37% were 75+ years; most had primary education or less (62%) and only 11% had higher education; 51% were married/ cohabiting, and 28% widowed; 90% had children, and 12% lived alone.

All the respondents gave their informed consent. The project had an ethical follow-up at all stages, being approved by the Ethical Committee of the Pontificia Universidad Católica de Chile.

Instruments

i) We identified the occurrence of stressful events using an open question: 'What difficult or complicated situations, which have occurred to you, have affected your wellbeing in the last year,

Herrera and Fernández 3

Table 1. The Occurrence of Stressful Events by Older People's Interpretation of the
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	Stressful event in		Interpreta	tion of stressfu	l event	
Events	open question ^a	Problem	Loss	Conflict	Others' difficulty	
Economic difficulties	3.7% (4.1%)	95.0%	0.0%	0.0%	5.0%	100%
Loss of employment	2.6% (3.7%)	78.6%	21.4%	0.0%	0.0%	100%
Retirement/pension	0.7% (1.4%)	100.0%	0.0%	0.0%	0.0%	100%
Health problems/diseases	21.0% (20.8%)	89.5%	10.5%	0.0%	0.0%	100%
Accident	2.8% (2.7%)	100.0%	0.0%	0.0%	0.0%	100%
Physical limitations	7.7% (7.0%)	38.1%	61.9%	0.0%	0.0%	100%
Close person's illness	15.3% (15.1%)	47.0%	7.2%	2.4%	43.4%	100%
Interpersonal conflicts	6.5% (6.4%)	2.9%	14.3%	82.9%	0.0%	100%
Someone close has gone to live far away	0.9% (1.1%)	40.0%	60.0%	0.0%	0.0%	100%
Housing change	0.7% (0.6%)	100.0%	0.0%	0.0%	0.0%	100%
Close person's death	22.9% (22.3%)	0.0%	100.0%	0.0%	0.0%	100%
Other event	15.1% (14.8%)	43.9%	12.2%	7.3%	36.6%	100%
Total	38.1% (39.5%) mentioned at least one stressful event $N = 543$	45.9% (47.0%)	34.9% (33.8%)	6.8% (6.8%)	12.4% (12.4%)	100%

Note. In parentheses weighted data.

- whether it was because they have worried you, made you feel bad, or you found it difficult to adapt to them?' (1 = yes; 0 = no).
- ii) We assessed participants' interpretation of stressful events by coding the data from three open questions: "Explain why this situation was or is stressful for you," "What emotions did you feel," and "How did you do." The stressful events were classified according to participants' interpretations as losses, problems, conflicts, and other's difficulties. We performed a double coding process such that when we failed to reach an agreement, the research team agreed a code.
- iii) Perception of stressful event overcoming (or "perceived clossure"), from the question: "Do you feel that the situation you have just mentioned continues to affect you or it has been overcome?"
 (1 = overcome and 0 = continues to affect).
- iv) Associated variables:
- Socio-demographic characteristics: gender, age (60–74 or 75+), and education (primary, secondary, or higher).
- Perceived adequacy of income: participants' subjective perception of whether they have enough money to meet their needs, with three categories: generous, enough, and insufficient income.
- The 8-item Medical Outcomes Study Social Support Survey (Moser et al., 2012) was used to measure the availability of social support. The Items were rated on a 3-point scale, total score ranging from 8 to 24 (from lowest to highest support; *mean* = 20.33; *S.D.* = 5.71; Cronbach's alpha =0.93). We used the Spanish translation validated in Granada (De la Revilla et al., 2005).

- Chen's self-efficacy scale (Chen et al., 2001) was used to measure participants' capacity to deal with new and difficult tasks. The original 8-item scale was reduced to four items to eliminate redundancy of content. Items were rated on a 3-point Likert scale, with a total score ranging from 4 to 12 (*mean* = 9.77; *S.D.* = 2.33; Cronbach's alpha = 0.94.
- Self-rated health was measured from the question: 'Do you consider your health: excellent, very good, good, regular, or poor?', categorized as follows: excellent/very good/good, regular, and poor. This question is highly correlated with several health indicators (Wong et al., 2005).

Results

The 38.1% (CI = 35.6%–40.1%) of the sample identified the occurrence of any stressful event from the open question, with the most frequently mentioned is the death of somebody close (22.9%), health problems (21.0%), a close person's illness (15.3%), and other events (15.1%). The majority of these stressful events were interpreted as problems (45.9%) followed by losses (34.9%), others' difficulties (12.4%), and conflicts (6.8%).

Although the same event might have been interpreted differently by each participant, there was a clear tendency for events to be classified consistently as one type (Table 1). For example, economic difficulties, loss of employment, retirement, health problems, accidents, and housing changes were mostly perceived as problems; physical limitations, close person's death, and someone close has gone to live far away, were mostly perceived as losses. The more ambiguous event was a

^alt includes only the most important stressful event mentioned.

close person's illness, which could be perceived in a similar proportion as a personal problem or as a difficulty of another person.

Table 2 displays bivariate relationships. Men reported less stressful event occurrence (34.1%) than did women (40.3%); by age, there were no differences. People with higher education reported more stressful events (57.9%) than did those with primary or secondary education while having insufficient income was associated with higher events' occurrence (42.7%). Respondents with poor self-rated health reported more stressful events (54.0%) than did those with regular (41.7%) or good health (30.5%).

A quarter (25.7%) of respondents perceived and declared that they had overcome their stressful event; this did not differ by age. The perceived closure of the reported stressful event was more frequent in men than in women (31.4% vs. 22.8%), and it was higher with superior education (41.7%) than with primary (20.7%) or secondary education (26.6%). The most considerable differences were between those with generous income (44.3%) and those with insufficient income (16.8%) and between those with good health (33.5%) and those with poor health (9.3%).

Table 3 shows the three logistic regression models, the first estimating the odds ratios (OR) of reporting a stressful event, and the remaining two estimating the OR of event overcoming (model 2 did not contain respondents' perceptions of the event, while model three did). All models were significant at p = .000.

Being male decreased the odds of stressful event occurrence (OR = .766; p = .029), while gender differences were not statistically significant on the event perceived closure. Age was not statistically significant in any model. Higher education was associated with higher odds of event reporting (secondary education vs. primary: OR = 1.372, p = .021: higher education vs. primary: OR = 4.152, p = .000) but not with odds of perceived closure of the reported stressful events. Conversely, in Model 3, having generous income (vs. insufficient) increased the odds of event perception of overcoming it (OR = 2.292, p = .025), but it was not associated with stressful event occurrence.

Both stressful event occurrence and perceived closure were associated with health, self-efficacy, and social support. Specifically, lower odds of event occurrence and higher odds of perceived closure were associated with good health (vs. poor) (OR = 0.413, p = .000; OR = 0.721, p = .021, respectively), higher self-efficacy (OR = 0.920, p = .001; OR = 0.920, p = .001;

Finally, the odds of event perceived closure were higher for problems and the difficulties faced by others than for losses (OR = 1.945, p = .012; OR = 1.320, p = .000, respectively).

Discussion

The Occurrence of Stressful Events and Perception of Overcoming Them as People Get Older

We found that age did not increase the odds of stressful event occurrence or of overcoming them, as Kessing et al. (2003) found in a Danish population, where the impact of significant life stressors on depression did not change throughout the life span. Tibubos et al. (2019), in a 5-year prospective cohort study in Germany did not find increased effect of accumulated events on depressive symptoms.

This evidence supports a conceptual approach that does not focus on the impairments that occur while aging, but on how aging people face what happens to them (Baltes, 1993; Bandura et al., 1999; Kahana et al., 2014). The prevailing belief that old age is characterized by losses further contrasts with our findings, as the events were mostly perceived as solvable problems. According to Vasunilashorn et al. (2014), this phenomenon might be an adaptive coping strategy that emerges to alleviate the impact of difficulties in old age that are considered unavoidable. Another potential explanation is that older adults acquired experience over time influence the way they evaluate adverse events (Brennan et al., 2012). Thoits (2006) had a similar view with this concept of personal agency, but he also emphasized the context in which it occurs.

Variables Associated with Event Occurrence and Perception of Overcoming Them

As other studies had shown (Ong et al., 2013; Rubio et al., 2016), more women reported stressful event occurrences, but gender had no association with the perception of overcoming them. Instead, the latter was more determined by how people fit within society's structure and their resources, such as income level, self-efficacy, and available social support.

The results mainly show that socioeconomic factors are more important than are demographic variables for explaining the differences in the perception of event overcoming. More specifically, those who reach old age with a disadvantaged social position and lower-income (and, indirectly, lower health) have a weaker capacity to solve the stressful events in their lives (Kok et al., 2017; Thoits, 2006).

Self-efficacy is an immediately available internal resource that dictates to what extent individuals believe they can cope with an event (Bandura, 1997). This kind of control over one's life is associated with higher latelife wellbeing and less severe rates of late-life decline (Carmel et al., 2017; Gerstorf et al., 2014; Tovel & Carmel, 2014). Similarly, those who have higher social support might be able to better overcome the events

Table 2. Bivariate Associations Between the Occurrence of Stressful Events and the Perception of Having Overcome Them According to Possible Correlated Variables.

			ŏ	currenc	Occurrence of stressful event	vent			Perc	Perception of stressful event overcoming	ul event overco	ming	
		°N	Yes	z	Chi-square	дĮ	sig	Affecting	Overcome	N with event	Chi-square	ДĘ	sig.
Gender	Female	29.7%	40.3%	864	5.286	_	0.021	77.2%	22.8%	346	4.414	_	0.036
	Male	62.9%	34.1%	211				%9.89	31.4%	172			
Age	60–74	%6.19	38.1%	198	0.017	_	968.0	74.3%	25.7%	327	0.000	-	0.993
	75+	62.3%	37.7%	514				74.3%	25.7%	161			
Education	Primary	65.1%	34.9%	850	27.963	7	0.000	79.3%	20.7%	295	15.182	7	0.001
	Secondary	62.9%	37.1%	380				73.4%	26.6%	139			
	Higher	42.1%	22.9%	145				58.3%	41.7%	84			
Perception of income		65.5%	34.5%	177	6.541	7	0.038	22.1%	44.3%	19	19.650	7	0.000
	Enough	64.1%	35.9%	746				72.2%	27.8%	266			
	Insufficient	57.3%	42.7%	452				83.2%	%8·91	161			
Perception of health	Good	69.5%	30.5%	633	36.032	7	0.000	%5'99	33.5%	161	18.238	7	0.000
	Regular	58.3%	41.7%	581				74.7%	25.3%	241			
	Poor	46.0%	54.0%	191				%2'06	9.3%	98			
Interpreta-tion of	Problem							71.7%	28.3%	240	22.478	m	0.000
stressful event	Loss							84.3%	15.7%	178			
	Conflict							77.1%	22.9%	35			
	Others' difficulty							55.4%	44.6%	92			
					ţ	df S	Sig. (bilateral)				t	df	Sig. (bilateral)
Support	mean	20.65	19.66		3.16	1421	0.002	19.23	20.99		-3.061	919	0.002
Scale	st.dev.	5.70	5.81					60.9	4.63				
Self-Efficacy	mean	9.79	9.20		4.60	1412	0.000	8.86	10.23		-5.768	919	0.000
Scale	st.dev.	2.32	2.39					2.43	2.00				
Total		62.0%	38.0%	1375				74.3%	25.7%	518			

Note. Non-weighted data. The sample was restricted to valid cases included in the regression models of Table 3. N has been reduced from 1,431 to 1,375 cases when the dependent variable was "perception of overcoming stressful events" as it included only persons who had experienced them.

Table 3. Logistic Regression Analysis of Odds of the Occurrence and Overcoming of Stressful Events.

	Occur	Occurrence of stressful event	sful event			Overcoming the	Overcoming the stressful event		
		Model I			Model 2a			Model 2b	
	OR/Exp (B)	Sig. (p)	95% C.I. EXP (B)	OR/Exp (B)	Sig. (p)	95% C.I. EXP (B)	OR/Exp (B)	Sig. (p)	95% C.I. EXP (B)
Male	0.766	.029	0.603-0.973	1.423	711.	0.916–2.210	1.514	.072	0.963–2.380
75+ years	0.967	.790	0.759-1.234	181.1	.472	0.750-1.860	1.241	.359	0.782-1.970
Secondary education ¹	1.372	.021	1.049-1.793	1.035	.893	0.623-1.721	1.134	.637	0.673-1.909
Higher education ^l	4.152	000	2.784-6.193	1.340	.347	0.728–2.466	1.322	.382	0.707-2.471
Enough income ²	0.883	.336	0.686-1.138	1.563	.073	0.959–2.549	1.509	801.	0.914–2.492
Generous income ²	0.699	980.	0.464 - 1.053	2.277	.023	1.123-4.618	2.292	.025	1.110-4.734
Regular health³	0.706	.059	0.492-1.014	2.356	.039	1.045-5.312	2.451	.033	1.077-5.575
Good health ³	0.413	000	0.283-0.604	2.688	.021	1.161-6.228	2.721	.021	1.163-6.365
Self-efficacy scale	0.920	100.	0.873-0.968	1.218	000.	1.096-1.353	1.200	100.	1.079-1.335
Social Support Scale	0.976	.015	0.957-0.995	1.047	.026	1.005-1.091	1.046	.037	1.003-1.090
Problem⁴							1.945	.012	1.155–3.277
Conflict ⁴							1.143	.273	0.900-1.453
Others' difficulty ⁴							1.320	000	1.152-1.512
Constant	3.653	000		0.005	000		0.003	000	
Z		1375			518			518	
Likelihood logarithm – 2		1728.174			527.947			511.033	
Cox-Snell R ²		0.072			0.113			0.142	
Nagelkerke's R ²		0.098			0.166			0.208	

Note. Non-weighted data (given that we controlled for sex, age, and educational level). The sample was restricted to valid cases included in the regression models of Table 3. N has been reduced from 1,431 to 1,375 cases when the dependent variable was "stressful event overcoming" as it included only persons who had

experienced stressful events.

Bold entries represent OR with p < .05 Reference categories: 'Primary education. ²Insufficient income. ³Poor health. ⁴Loss.

Herrera and Fernández 7

because they can seek out friends and relatives to feel encouraged and comforted, or to obtain help and practical advice (Chou & Chi, 2001; Dumitrache et al., 2017; Falcón et al., 2009; Mao, 2018; Thoits, 2011).

An unexpected result of the regression analysis which demands more research- was that higher education was associated with higher odds of stressful event occurrence. Tibubos et al. (2020) also found that the sum of aggregated stressful life events between the 65 and 74 years increased with higher socioeconomic status. Nevertheless, the sum of events is not equivalent to the intensity of them. Another unexpected result was that self-efficacy was not associated with higher perception of overcoming the events. A possible explanation is that the effect of education is indirect—that is, it provides higher cognitive and coping ability, which in turn would be directly associated with overcoming the events. Higher education has also been found to be highly correlated to higher self-efficacy in other studies (Herrera et al., 2011), and the latter is also directly associated with event overcoming.

Strengths and Limitations of the Study

This article has provided valuable information about the subjective perception of stressful events. It has the advantage that it is based on a large sample of the Chilean older adult population that lives in the Metropolitan Area (Santiago), estimating the frequency of the stressful events that they perceived as the most significant occurred in the last year. It also allowed deepening in the interpretation of these events from open questions. It showed that the events were mostly perceived as problems than losses. In this way, an issue not addressed in Latin America has been studied in population terms.

The main limitation of this study is its cross-sectional design. The analysis of stressful events and coping processes related to wellbeing need measurement at different points in time, understanding wellbeing as a continuous process across the life span (Carmel et al., 2017; Luhmann et al., 2012; Neubauer et al., 2015). Furthermore, we collected information about stressful events retrospectively. As such, individuals could introduce bias into their answers, as their immediate interpretations and responses could have been lost by the time of the survey (De Beurs et al., 2001; de Paula-Couto et al., 2011). By this way, the life event lists could be more reliable to establish comparable conditions across surveyed subjects for descriptive purposes (Leist et al., 2010), but it does not allow to deepen into the interpretation of the events, which was one of the objectives of this study.

Conclusion

This study has revealed that the occurrence and the probability of events' overcoming does not increase in old-old age (75+ years) in comparison with 60 to

74 years. Better health and individual and social resources such as self-efficacy and social support, are protective resources for overcoming the stressful events, but they are not generally considered in public policies.

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Authors' contribution

All authors contributed to the study conception and design, material preparation and data collection, statistical analysis, and redaction of this article.

Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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Ethics approval

All procedures, including the informed consent process, were conducted following the ethical standards of the research with humans in Chile and with the 1964 Helsinki Declaration of 197, as revised in the 64^a Asamblea General, Fortaleza, Brasil, October 2013.

The project had an ethical follow-up at all stages, being approved by the Ethics Committee of the Pontificia Universidad Católica de Chile.

Consent

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

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Data and/or Code availability

Data and Software Code (in Stata Software) are available on request to mherrepo@uc.cl.

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Herrera and Fernández 9

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