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Opiniones: End of Life Care Preferences and Planning Among Older Latinos

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Abstract

Objectives—Latinos aged greater than 60 years are the fastest growing segment of the U.S. population. Understanding older Latinos' preferences and beliefs is essential to inform provision of culturally competent care at the end of life (EOL). The objective of this study was to measure EOL care preferences and advance care planning (ACP) among older Latinos and examine the relationship between culture-based attitudes and extent of ACP.

Design—Cross-sectional interview.

Participants—147 Latinos aged 60 years and older recruited from 22 senior centers in Greater Los Angeles.

Measurements—EOL care preferences, extent of ACP, attitudes regarding patient autonomy, family-centered decision making, trust in health care providers, health and sociodemographic characteristics.

Results—If seriously ill, 84% of participants would prefer medical care focused on comfort rather than care focused on extending life, yet 47% had never discussed such preferences with their family or doctor and 77% had no advance directive. Most participants favored family-centered decision making (64%) and limited patient autonomy (63%). Greater acculturation, education, and desire for autonomy were associated with having an advance directive (p values <0.03). Controlling for sociodemographic characteristics, greater acculturation (Adjusted Odds Ratio 1.6, 95% Confidence Interval 1.1–2.4) and preferring greater autonomy (AOR 1.6, 95% CI 1.1–2.3) were independently associated with having an advance directive.

Conclusions—The majority of older Latinos studied prefer less aggressive, comfort-focused EOL care. Yet few have documented or communicated this preference. This discrepancy places older Latinos at risk of receiving high-intensity care that is inconsistent with their preferences.

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Key Words/Terms

Advance Care Planning; Latino/Hispanic Population; Medical Decision Making

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INTRODUCTION

Latinos aged greater than 60 years are the fastest growing segment of the U.S. population, yet there is still much to learn about older Latinos' preferences for care at the end of life (EOL). Cultural competence in health care requires "understanding the importance of social and cultural influences on patients' health beliefs and behaviors."⁽¹⁾ In order to provide culturally competent EOL care, it is critical to understand older Latinos' attitudes about how, when and with whom these preferences should be discussed, as well as barriers to communicating and advocating for these preferences within the U.S. healthcare system.⁽¹⁾

EOL care in the U.S. is based upon Western ideals of patient autonomy, self-determination, and, when necessary, surrogate decision-making.⁽²⁾ Federal and state legislation promotes the use of written advance directives, the most formal aspect of advance care planning (ACP), to implement these principles. Since the 1990s, numerous interventions have attempted to increase advance directive completion by encouraging patients to specify preferences and designate an agent to make medical decisions when the patient is unable.^(3,4) Such interventions have had limited success among non-Hispanic white Americans and even less among other ethnic groups.^(4–6) Recent efforts to increase Latinos' completion of advance directives include providing culturally-sensitive educational materials and creating Spanish advance directive templates.⁽⁷⁾ Encouragingly, initial evaluation suggests that these culturally-tailored interventions increase advance directive completion;⁽⁸⁾ nonetheless, few Latinos complete advance directives, and the reasons for this remain unclear.

Prior survey and interview-based studies have demonstrated that older Latinos, compared to non-Hispanic whites, are more accepting of aggressive care at the EOL.^(9,10) Older Latinos are less likely to use hospice services and more likely to die in the hospital than non-Hispanic whites.^(11,12) Qualitative analyses have suggested that these differences may be related to culture-based attitudes including trust in medical providers, preference for limited patient autonomy in medical encounters and preference for family-oriented decision-making.^(9,10,13,14) The investigators hypothesized that these culture-based attitudes, which run counter to mainstream EOL care patterns in the U.S., may lead to older Latinos receiving aggressive EOL care that may be at odds with their wishes. To increase understanding of factors influencing EOL treatment intensity and ACP among older Latinos, the study team conducted in-person interviews with 147 urban Spanish-speaking older Latinos. This study aimed to examine attitudes regarding trust in medical providers, patient autonomy and family-centered decision-making, and how these attitudes relate to EOL care preferences and ACP.

METHODS

Conceptual Framework

Drawing upon existing empiric literature^(5,6,9,10,13–19) and the authors' collective clinical experience, the study team developed a conceptual model of factors contributing to ACP. [Figure available by request] ACP as a broad activity aims "to ensure that clinical care is shaped by the patient's preferences when the patient is unable to participate in decision-making" and encompasses discussions with loved ones and health care providers, as well as written advance directives.⁽¹⁶⁾ The conceptual framework can be used to study ACP inclusively, or written advance directives as a specific subset of ACP.

The study team hypothesized that sociodemographic characteristics, including younger age, higher income and advanced education, would be associated with advance directive completion and ACP.(15) The team anticipated that poor health and functional status would increase one's odds of ACP,(6,15,17) and similarly, expected greater healthcare utilization, as well as experience with a family member's death in the hospital or personal preference for comfort-focused EOL care, would increase the likelihood of ACP.(15,17) Greater acculturation (i.e. the process of changes in behavior and values that occurs when immigrants come in contact with a new nation or culture) was expected to be associated with more ACP.(18) Finally, the team hypothesized that select culture-based attitudes, including: 1) high levels of trust in medical providers, 2) preference for limited patient autonomy in medical care, and 3) preference for family-oriented decision-making, would be associated with less ACP.(5,9,10,13,14,19)

Recruitment and Enrollment

Potential participants were selected from a cohort of 572 participants in a randomized controlled trial of a behavioral intervention with self-identified older Latinos to raise physical activity levels conducted in 22 senior centers throughout greater Los Angeles (*¡Caminemos!*, clinicaltrials.gov identifier: NCT00183014). Randomly selected Caminemos participants received a letter describing the study and offering a toll-free telephone number that they could call to request not to be contacted. Bilingual research associates then contacted potential participants by telephone to invite participation and schedule in-person interviews. In private settings at the senior centers, the research associates described the study, obtained written informed consent, and then conducted the interview in either English or Spanish per the participants' preference. The University of California Los Angeles Office for the Protection of Research Subjects approved the study.

Data Collection

The 40-item *Opiniones* interview measured EOL care preferences and extent of ACP, as well as attitudes toward three culture-based constructs: family-centered decision-making, (10) patient autonomy,(20) and trust in health care providers.(21) Previously tested instruments with demonstrated reliability and validity were selected when available. EOL care preferences were measured by an item from the Study to Understand Prognoses and Preferences for Outcomes and Risks of Treatments (SUPPORT) that asks participants, "*If you were seriously ill and had to make a choice at this time, would you prefer a course of medical treatment that focuses on extending life as much as possible, even if it means having more pain and discomfort, or would you want a plan of care that focuses on relieving pain and discomfort as much as possible, even if that means not living as long?*"(22) Preferences were also measured using Blackhall's Personal Desire for Life Support scale, including, "*Suppose that you were permanently unconscious (in a coma) and would never regain awareness, but that you might live a long time in this state. No treatments could get you out of this state. Would you want cardiopulmonary resuscitation (CPR: The way doctors re-start the heart and lungs if they stop, using artificial breathing, pumping on the chest and electrical shock) if it was needed to keep you alive? If not provided, you would die.*"(10) In addition, the interview included the SUPPORT Willingness to Tolerate Adverse Outcomes scale, which asks participants how willing they are to accept living in an adverse state, such as constant pain. Responses range from "very willing" to "rather die."(22)

To evaluate ACP participants were asked: "*Are you familiar with the term Living Will or Durable Power of Attorney for Health Care?*" "*Have you ever signed a Living Will or Durable Power of Attorney for Health Care?*" "*Has a doctor ever talked to you about your wishes for medical care in the event that you become severely ill with a life-threatening illness?*" and "*Have you ever talked to the person you would want to make decisions for you*

about the types of medical treatments or life-sustaining measures you would want if you were unable to make medical decisions yourself?”(23)

The Autonomy Preference Index includes 4 items, such as “*The important medical decisions should be made by my doctor, not by me,*” with response options from strongly agree to strongly disagree.(20)The Trust in Healthcare Providers scale includes 3 items ranging from trust “completely” to “not at all.”(21) Finally, preference for family-centered decision-making was measured in two ways. First, in a vignette-based item, participants were asked who should be involved in making a decision about life-sustaining therapy: the patient, the family, and/or the physician.(10,23) The second measure asked participants “*Would you want a single individual or a group of family and/or friends to help in making medical decisions for you?*”(23) The draft interview was forward- and back-translated by certified professional Spanish translators and iteratively modified using cognitive and pilot interviews. The interview required 25 minutes, on average, to complete (range 13–58 minutes).

Statistical Analysis

The *Opiniones* interview data were merged with sociodemographic and health status data collected at the baseline interview for the larger study, *¡Caminemos!*. Sociodemographic data included age, income, highest completed education level, marital status, place of birth, years living in the U.S., and religiosity (24). Acculturation was assessed with the Marin Short-Acculturation Scale,(18)which ranges from 1 (no evidence of acculturation) to 5 (most acculturation). Health status data included one’s ability to complete activities of daily living without difficulty,(25) comorbidities,(26) number of doctor visits and hospitalizations in the past 6 months, and SF 12 physical and mental health related quality of life subscales.(27) The mean time between the baseline interview and the *Opiniones* interview was 23 months (range 10–33 months).

Analyses began with the examination of descriptive statistics. The primary outcome, completion of a written advance directive (i.e., living will or durable power of attorney for health care), was modeled as a dichotomous variable. In addition, ACP was evaluated and included written advance directives and discussion of preferences with a physician or potential surrogate. Bivariate statistics were calculated using t-test and chi-squared distribution, as appropriate.

Next the study team examined the relationship between each outcome (completion of a written advance directive and ACP) and participant characteristics, including the three culture-based attitudes, by building multivariate logistic regression models based upon the conceptual model. Five characteristics (age, sex, education, income, and acculturation) were selected *a priori* for inclusion in all models. All other candidate variables from the conceptual model having a bivariate association with the outcome at the level of $p < 0.1$ were also entered into the models. In order to select the most parsimonious model, backwards selection was used to limit the final model to only those variables significant at the level of $p < 0.1$, while always including age, sex, education, income and acculturation. Multivariate models were adjusted for clustering at the level of the senior center ($n=22$). SAS 9.1 was used for all statistical analyses and procedures.

RESULTS

One hundred seventy-eight *¡Caminemos!* participants were randomly selected to receive recruitment letters. 147 individuals (83%) agreed to participate (Table 1). Of the 31 recruited individuals who did not participate, 17 were unavailable, 10 refused, and 4 were too ill; on average, they were similar to respondents in terms of age, gender, self-rated health, and

number of comorbidities. Mean participant age was 73 years. The majority of participants was female, of Mexican nativity, had less than an 8th grade education, and reported an annual household income below \$15,000. Nearly half had 3 or more medical conditions, 14% had been hospitalized within the past 6 months, and 53% rated their health fair or poor. Forty-six percent of the sample scored the lowest possible score on the acculturation scale, indicating minimal or no acculturation.

End of Life Care Preferences

If unable to make medical decisions, nearly two-thirds of participants would favor family-centered decision-making (64%) rather than a single surrogate decision maker (Table 2). Forty-six percent of respondents thought family should be involved in making medical decisions about life-sustaining therapies for patients with the capacity to make an independent decision. Most participants preferred limited autonomy for medical decisions. For example, 59% of participants agreed with the statement “The important medical decisions should be made by my doctors, not by me,” and 62% agreed that “I should go along with my doctor’s advice even if I disagree with it.” Fifty-three percent of participants trust health care providers “mostly or completely.”

If seriously ill, 84% of participants would prefer medical care focused on comfort (Table 2). If permanently unconscious, 78% would not want cardiopulmonary resuscitation, 73% would not want mechanical ventilation, and 81% would not want a feeding tube. Most participants would “rather die” than be attached to a ventilator or feeding tube for the remainder of life (74% and 71%, respectively).

Advance Directive Completion

Twenty-four percent of participants had an advance directive. In bivariate analyses (Table 2), participants with more income and education, as well as those having experienced a family member dying in the hospital were more likely to have completed an advance directive (p values ≤ 0.02). Respondents with any evidence of acculturation, a preference to complete the interview in English, or who were born in the U.S. were more likely to have completed an advance directive ($p \leq 0.01$). Participants who rated their health as “fair” or “poor” and those who preferred limited autonomy were less likely to have completed an advance directive ($p \leq 0.05$).

After adjusting for sociodemographic characteristics (i.e. age, sex, education and income) and clustering by senior center, participants with higher levels of income (Adjusted Odds Ratio 1.2, 95% Confidence Interval 1.0–1.4), acculturation (AOR 1.6, CI 1.1–2.4), and preference for greater autonomy (AOR 1.6, CI 1.1–2.3) were more likely to have completed an advance directive. The other candidate variables lacked sufficient strength of association and were excluded from the final model (Table 3).

Advance Care Planning (ACP)

Forty-seven percent of participants had never discussed their preferences with their family or doctor. Bivariate analyses of characteristics associated with the more broadly defined outcome of any ACP yielded different results than the analyses focused on advance directive completion (Table 2). Sociodemographic characteristics, including income and education, were not associated with this more inclusive outcome, nor were acculturation, language of interview, or birth in the U.S. However, characteristics reflecting level of interaction with the health care system were associated with ACP. Participants with more doctor visits, hospital admission, and having experienced a family member dying in the hospital were more likely to have engaged in ACP ($p \leq 0.03$). None of these relationships remained

statistically significant after adjusting for sociodemographic characteristics by multivariate logistic regression.

DISCUSSION

The older Latinos in this urban sample overwhelmingly expressed preferences for comfort-focused, non-aggressive EOL care. This finding contradicts prevailing notions of aggressive care preferences for this group,(28) and suggests that the observed high rates of aggressive EOL care among older Latinos may not represent true preferences. Despite a predominant preference for comfort-focused EOL care, less than one quarter of participants had completed an advance directive, and only 63% of those reporting a preference for comfort-focused EOL care had engaged in any form of ACP. These findings highlight the inadequacy of advance directives as a sole means of capturing EOL care preferences of older Latinos.

The majority of older Latinos in this sample also preferred a family-centered, group decision-making model and limited patient autonomy. Even if able to make medical decisions independently, almost half of participants would prefer to include family. These preferences are notably at odds with guiding principles of EOL care in the U.S., namely protection of patient autonomy and legal recognition of a single surrogate decision maker. Indeed, a preference for less autonomy was associated with lower rates of advance directive completion in this sample. This discord may place older Latinos at risk of receiving undesired aggressive and burdensome EOL care.

These findings also identify potential opportunities for improving EOL care among older Latinos. First, a large number of older Latinos had discussed EOL care preferences with a family member or physician; indicating that this is unlikely to be culturally taboo and that it might be possible to move from discussions to written directives. While in-person discussions are an important element of ACP, without documentation such discussions may be less likely to guide care. For example, a patient may express a preference for comfort-focused care to one adult child without designating this individual as legal surrogate or discussing this preference with her spouse or other children. Faced with making a difficult surrogate decision about life-sustaining therapies, this patient's family may be unable to reach consensus, resulting most often in the patient receiving the "default" of more aggressive and invasive care.

Although unassociated with advance directive completion, number of physician visits, having had a hospital admission, and death of a family member in the hospital were all significantly associated with having engaged in some element of ACP. Healthcare encounters may stimulate discussion of EOL care preferences without leading to the completion of a written directive. This is a missed opportunity. Physicians should not only document such discussions in the medical record, but might use the discussion as a "teachable moment" to encourage completion of an advance directive. For seriously ill patients who desire comfort-oriented care, the physician might also suggest use of the Physician Orders for Life-Sustaining Treatment (POLST) form (www.polst.org). Furthermore, counseling about advance directives could be instituted as a standard part of hospital discharge planning in order to accommodate those patients who were unable or uninterested in completing an advance directive at the time of admission.

Finally, studies of family members and surrogate decision makers have repeatedly identified group decision-making and consensus building among family members as an integral component of EOL decision-making, particularly in non-majority ethnic groups.(29,30) Though Latinos represent a diverse group and clinicians should never make assumptions

about patients' beliefs or preferences based on ethnicity or race, clinicians must recognize the prevalent desire for family-centered decision-making and provide patients the opportunity to make decisions together with their families when preferred. Health care institutions should develop policies to facilitate family decision-making in the acute care setting. Such policies may include offering routine family meetings throughout the hospitalization, providing private space for family discussions, or involving a social worker or other non-physician member of the medical team with specialized communication and consensus building skills.

This study has several limitations. First, the cross-sectional design does not allow us to evaluate causality. The study recruited volunteers from senior centers in a single metropolitan area, and while the majority of participants had lived more than 30 years or were born in the U.S., the group's level of acculturation was quite low. Also, by the nature of the study's design, hospitalized and severely ill older adults, as well as those who were very physically active, were excluded from participation. These factors limit the generalizability of the results. Non-response may also introduce selection bias. Additionally, some items used in the *Opiniones* interview were originally designed for self-administered questionnaires.(20,21,23) This difference in delivery, as well as sometimes using specific items rather than entire instruments,(22) may affect the psychometric characteristics of the measure. Finally, several survey items had not been previously tested among older Latinos; though internal consistency reliability (α) of the newly translated scales was reassuring (Table 1). These instruments should be tested further in other groups of older Latinos.

In conclusion, the great majority of older Latinos in this urban sample recruited from community senior centers prefer non-aggressive, comfort-focused EOL care, yet they have not completed advanced directives, placing them at risk of receiving care inconsistent with their preferences. Preferences for limited patient autonomy and family-centered decision-making may hinder older Latinos' ability to receive desired care in the existing U.S. health care system. Policy initiatives and culturally-appropriate interventions should aim to facilitate culturally competent care for older Latinos.

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Table 1**Participant Characteristics (n=147)**

Age in years, mean (SD)	73 (7)
Female, %	78
Education, %	
< 8th grade	59
8th grade–11th grade	14
High school or higher	27
Income < \$15,000/year, %	65
Marital Status, %	
Never married	14
Married	31
Separated/Divorced	19
Widowed	36
Living Arrangement, %	
Live with spouse	32
Live with other relative/friend	36
Live alone	33
Duration in U.S., %	
Born in U.S.	33
> 30 years in U.S., born elsewhere	50
< 30 years in U.S., born elsewhere	17
Non-U.S. Country/Region of Birth, %	
Mexico	51
South America	5
Central America	8
Caribbean	2
Acculturation*, mean (SD)	1.9 (1.2)
No evidence of acculturation, %	46
Any acculturation, %	54
Language of interview, %	
English	28
Spanish	72
Religiosity, [†] mean (SD)	3.3 (0.6)
Strongly religious, %	80
Minimally to moderately religious, %	20
Number of medical conditions, mean (SD)	2.7 (1.5)
0, %	5
1, %	16

2, %	31
3 or more, %	48
Self rated health, %	
Excellent	6
Very Good	16
Good	25
Fair	46
Poor	7
Activities of Daily Living, No Difficulty, %	68
SF-12, Physical Health Subscale, [‡] mean (SD)	42.7 (9.7)
SF-12, Mental Health Subscale, [‡] mean (SD)	49.8 (11.2)
Number of doctor visit in 6 months, mean (SD)	3.1 (2.1)
Admitted to hospital in 6 months, %	14
Experienced family member's death in hospital, %	62
Familiar with advance directives, %	58
End of Life Care Preferences and Advance Care Planning:	
"If seriously ill, I would prefer medical treatment to..."	
Extend life as much as possible, %	16
Relieve pain or discomfort as much as possible, %	84
"If permanently unconscious..."	
I would not want CPR, %	78
I would not want a breathing machine, %	73
I would not want a feeding tube, %	81
Willingness to Tolerate Adverse Outcomes Scale, [§] mean (SD)	1.7 (0.7)
Rather die than be in pain all of the time, %	55
Rather die than be attached to a breathing machine all of the time, %	74
Rather die than be fed through a tube all of the time, %	71
Rather die than be unconscious or in a coma all of the time, %	86
Rather die than be confused all of the time, %	53
Rather die than live in a nursing home all of the time, %	46
Advance care planning	
Completed an advance directive, %	24
Discussed end of life care preferences with potential surrogate, %	35
Discussed end of life care preferences with physician, %	27
No advance care planning, %	39
Trust in physicians, [¶] mean (SD)	2 (1.0)
Completely/Mostly Trust, %	53
Family-centered decision-making	
Prefer 2 or more decision makers, if unable to participate in decisions, %	64
Prefer to include family, even if able to make medical decisions, %	46

Patient Autonomy [#]	
Prefer greater autonomy, API ≤ 3 , %	37
Prefer limited autonomy, API > 3 , %	63

* Marin Short Acculturation Scale: range 1 to 5, 1 indicates no acculturation and 5 the most acculturation.

[†] Religiosity Scale: range 1 to 4, 4 indicates very strongly religious.

[‡] SF-12, Physical and Mental Health Subscales, range 1–100.

[§] Willingness to Tolerate Adverse Outcomes Scale: range 1 to 5, 1 is would rather die and 5 is very willing ($\alpha = 0.76$).

^{||} Trust in Healthcare Providers Scale: range 1 to 5, 1 denotes complete trust and 5 not trusting at all ($\alpha = 0.82$).

[#] Autonomy Preference Index (API): range 1 to 5, 1 strongly prefers autonomy and 5 strongly prefers limited autonomy ($\alpha = 0.69$).

Table 2

Patient Characteristics and Attitudes Associated with Having a Written Advance Directive and Advance Care Planning

Variable	Completed Advance Directive, n=35 (%)	p-value	Any Advance Care Planning*, n=89 (%)	p-value
Age				
75 or greater	25	0.93	58	0.78
Less than 75	23		62	
Gender				
Female	22	0.45	58	0.31
Male	30		70	
Education				
8th grade or higher	43	<0.01	69	0.12
Less than 8 th grade	10		55	
Income				
Less than \$15000/year	18	0.01	58	0.10
Greater than or equal to \$15000/year	39		73	
Marital status				
Married	24	0.93	62	0.93
Not Married	24		60	
Living arrangement				
Live alone	33	0.10	60	0.93
Live with others	19		61	
Duration in U.S.				
Born in U.S.	41	<0.01	71	0.11
>30 years in U.S., born elsewhere	18		58	
< 30 years in U.S., born elsewhere	8		48	
Acculturation				
None	13	0.01	55	0.30
Any	33		65	
Language of interview				
English	41	<0.01	66	0.53
Spanish	17		58	
Religiosity				
Strongly religious	26	0.20	63	0.26
Minimally to moderately religious, %	13		50	
Number of medical conditions				
Less than 3	22	0.75	55	0.16
3 or more	26		67	
Self-rated health				

Variable	Completed Advance Directive, n=35 (%)	p-value	Any Advance Care Planning *, n=89 (%)	p-value
Fair or Poor	17	0.05	55	0.21
Good, Very Good, or Excellent	32		67	
Activities of Daily Living				
No Difficulty	26	0.46	62	0.96
Difficulty with 1 or more	19		60	
SF-12, Physical Health Subscale				
Score less than 50	23	0.59	60	0.78
Score greater than or equal to 50	27		62	
SF-12, Mental Health Subscale				
Score less than 50	20	0.32	64	0.48
Score greater than or equal to 50	27		58	
Healthcare experience				
Doctor visits in 6 months, less than 3	22	0.57	51	0.03
Doctor visits in 6 months, equal or greater than 3	26		68	
Admission to hospital in 6 months	29	0.78	86	0.02
No admission to hospital in 6 months	23		56	
Family member died in hospital	31	0.02	68	0.03
No family member death in hospital	13		48	
Advance care planning discussions				
Discussed EOL wishes with surrogate	27	0.93	NA	
Never discussed EOL wishes with surrogate	25		NA	
Discussed EOL wishes with physician	41	0.01	NA	
Never discussed EOL wishes with physician	18		NA	
If seriously ill, prefer comfort-focused care	25	0.60		0.26
Trust in physicians				
Completely or Mostly	28	0.26	60	0.93
Somewhat, A little, Not at all	19		61	
Prefer to include family in decisions	22	0.79	59	0.82
Prefer 2 or more decision makers	25	0.96	57	0.25
Patient autonomy				
Prefer limited autonomy	18	0.03	59	0.75
Prefer greater autonomy	36		64	

* "Any Advance Care Planning" includes written advance directives and/or discussion of EOL wishes with surrogate or physician.

Table 3

Multivariable Model of Characteristics Associated with Having an Advance Directive

	Unadjusted Odds Ratio	95% Confidence Interval	Adjusted* Odds Ratio	95% Confidence Interval
Age	1.0	(1.0–1.1)	1.0	(1.0–1.1)
Female	0.6	(0.3–1.5)	0.6	(0.2–1.7)
Education	1.3	(1.1–1.6)	1.1	(0.8–1.4)
Income	1.2	(1.1–1.4)	1.2	(1.0–1.4)
Acculturation	2.0	(1.4–2.7)	1.6	(1.1–2.4)
Prefer more autonomy	2.5	(1.2–5.4)	1.5	(1.0–2.3)

* Multivariable Model adjusted for clustering by senior center (p=0.82).