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Associations between Mastery of Life and Everyday Life Information-Seeking Behavior among Older Adults: Analysis of the Pew Research Center's Information Engaged and Information Wary Survey Data

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Abstract

Given the aging world, it is important to understand older adults' everyday life information seeking (ELIS), which plays a vital role in healthy aging in later life. The present study analyzed national survey data collected by the Pew Research Center in 2016 based on Savolainen's (1995) ELIS model. The model's core concept, mastery of life, was measured in terms of general coping style to find information (cognitive vs. affective) and expectations about the findability of necessary information (optimistic vs. pessimistic). Weighted multiregression analyses were conducted to examine the associations between mastery of life and ELIS behavior of older Americans (65 years or older) in terms of breath and depth of interest in everyday topics, holding other sociocultural and demographic factors constant. The results showed a cognitive, as opposed to affective, coping style was associated with a wider range of ELIS topics and a deeper level of interest in political and cultural topics. However, whether an individual had an optimistic or pessimistic perspective toward information seeking was not associated with the variety or depth of interest in everyday topics. Neither dimension was related to the depth of interest in sports topics. Practical, theoretical, and methodological implications of the findings are provided.

Keywords: mastery of life, coping, self-efficacy, everyday life information seeking, information behavior, older adults, survey, Pew data

Associations between Mastery of Life and Everyday Life Information-Seeking Behavior among Older Adults: Analysis of the Pew Research Center's Information Engaged and Information Wary Survey Data

Population aging is a global phenomenon; 9.3% of the world population (or 727 million) was 65 years old or older as of 2020, and the number is projected to reach 16% (or 1.5 billion) in 2050 (United Nations, 2019). People aged 65 or older will outnumber youth and adolescents aged 15–24 (1.5 billion vs. 1.3 billion) in 2050, meaning that older adults will become the majority of the world population (United Nations, 2019). Such an unprecedented shift in the global age distribution is expected to affect many aspects of our current social systems such as health care, housing, social security, and work and retirement (United Nations Department of Economic and Social Affairs, 2020). Healthy aging, defined as "adopting healthy habits and behaviors, staying involved in [the] community, using preventive services, managing health conditions, and understanding medications" (U.S. Department of Health & Human Services, n.d., Healthy Aging section, para. 1), has emerged as an overarching theme for multiple sectors to improve active engagement in and well-being during later life.

Information behavior, defined as "the ways that individuals perceive, seek, understand, and use information in various life contexts" (Case & Given, 2016, p. 3), may play an essential role in promoting healthy aging among older adults. Research evidence shows that actively seeking and using information can motivate older adults to be involved in a healthy lifestyle (e.g., preparing food, cooking), physical exercise, and cognitive tasks (e.g., maintaining foreign language skills; Niemelä et al., 2012). Active health information seeking is related to an adequate level of health literacy among older adults, which enables them to find and comprehend health information (Cutilli et al., 2018; Jeong & Kim, 2016). Actively sharing health information with others, especially close contacts (e.g., spouses, partners, family), is related to having an optimistic rather than pessimistic attitude toward problem solving (Choi, 2019).

Everyday life information seeking (ELIS) is a subordinate concept of information behavior that focuses on nonwork information seeking, in which people acquire information to make sense of various topics concerning their daily lives rather than those related to job-related tasks (Savolainen, 1995). As an approach to understanding complex human information behavior, ELIS considers that individuals' value structures and everyday life practices, such as setting a daily routine and coping with problematic situations, are shaped by the sociocultural

characteristics of their environments (Savolainen, 1995; Spink & Cole, 2006). Thus, the ELIS approach is distinct from traditional approaches that attribute human information behavior mainly to cognitive and affective features such as needs, motivation, and coping style (Pettigrew et al., 2000). Given its focus on the ordinary context and holistic view of human information behavior, ELIS is a relevant theoretical lens to understand the information behavior of older adults, who generally spend much more time on leisure activities than work and work-related activities (Federal Interagency Forum on Aging-Related Statistics, 2016).

Despite the increasing older adult population, promising associations between active information behavior and healthy aging, and relevance of ELIS as an approach, older adults remain understudied in the literature on information behavior (O'Brien et al., 2017). This warrants further investigation of their information behavior in the ELIS context. In the present study, we used Savolainen's (1995) ELIS model to analyze national survey data (Pew Research Center, 2016), exploring the role of mastery of life, "a general preparedness to approach everyday problems" (Savolainen, 1995, p. 264), in older adults' ELIS behavior. We used 65 as the starting point of older adulthood, the common age used to define older adults (e.g., United Nations, U.S. Census). Applying the ELIS model to the older population yielded findings regarding older adults' ELIS behavior, which is rare in the literature. Also, we used the model's core concept, mastery of life, to understand the target population's ELIS, another unique aspect of this study. Although the ELIS model has informed many studies in recent decades, mastery of life has been used rarely and "lightly"—mentioning the overall idea of mastery of life at the conceptual level, as opposed to using its underlying dimensions at the operational level, to understand ELIS behavior (González-Teruel & Pérez-Pulido, 2020). Only recently have scholars attempted to operationalize and measure mastery of life. For example, Choi (2019) used the typology of mastery of life suggested by Savolainen (1995) as a coding scheme to analyze qualitative interview data about older Americans' health information behavior. Heinström et al. (2020) developed a measure for everyday information mastering, a broader construct that includes mastery of life and two other concepts, information mastering and information attitudes. In addition, given that the ELIS approach in general and in Savolainen's (1995) model typically has been used in qualitative studies, our quantitative approach using a nationally representative sample will contribute to the methodologies used in ELIS research. We expect that insight gained from the study will supplement the findings of existing qualitative investigations.

Theoretical Framework

Savolainen's (1995) ELIS model is a widely used theoretical framework in ELIS research (González-Teruel & Pérez-Pulido, 2020). Savolainen's (1995) ELIS model includes cognitive and sociocultural factors influencing people's information behavior in the everyday life context. The fundamental assumption underlying the ELIS model is that individuals' ordinary activities performed in their daily lives are related to their behaviors in seeking information, which is a core function for dealing with everyday problems. The ELIS model, therefore, posits that people's information seeking in the ELIS context occurs not only in conscious ways, seeking necessary information to solve specific problems, but also in unconscious ways, acquiring information incidentally or receiving unsolicited information during mundane, habitual activities such as watching television, reading newspapers, and chatting with friends (Savolainen, 1995).

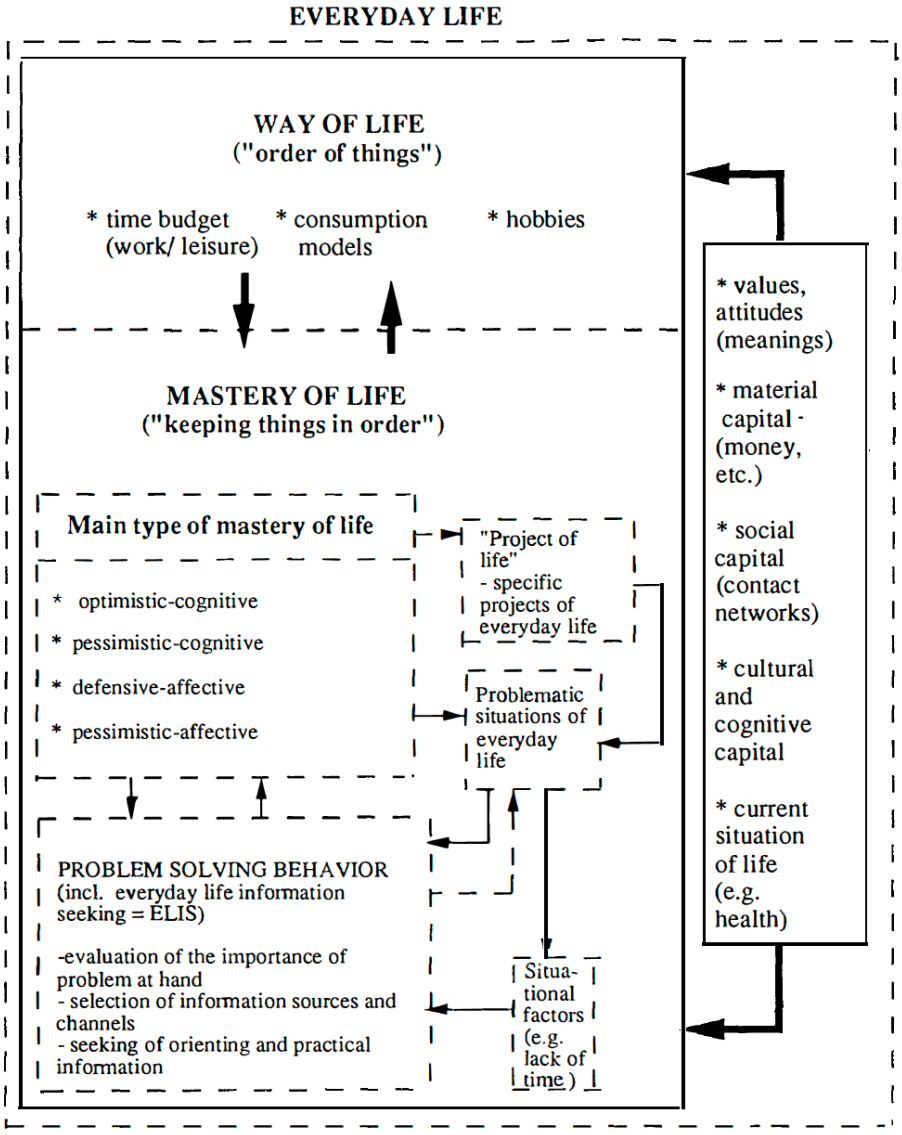
The ELIS model features two concepts that are useful to understanding the influences of the everyday life context on individuals' information behavior: way of life and mastery of life. Way of life—defined as "order of things" (Savolainen, 1995, p. 259)—refers to how individuals prioritize their daily activities. For example, whether someone spends more time on cognitive activities such as reading books or newspaper articles or prefers affective activities such as listening to music and watching sports can affect their information behavior. Mastery of life—defined as "keeping things in order" (Savolainen, 1995, p. 259)—refers to how individuals maintain their way of life, taking actions to keep things in the desired order. People perform such organizing activities in either a passive or active way (Savolainen, 1995). When things are normal—the state in which individuals perceive no significant dissonance between "how things are at this moment" and "how they should be"—they perform the passive mode of mastery of life, monitoring how their daily lives go on, which involves mainly orienting information seeking (Savolainen, 1995). When their way of life is threatened with disorder (i.e., they perceive dissonance between current and desired states), they go into the active mode of mastery of life, intervening in abnormal situations, which requires practical information seeking (Savolainen, 1995).

Savolainen (1995) posited that mastery of life, rather than way of life, is directly related to individuals' problem-solving behavior, which includes information seeking as an integral component. However, he noted that although way of life and mastery of life are conceptually distinctive, they do not independently determine individuals' information-seeking behavior;

rather, they are interconnected. These conceptual relationships are depicted in Figure 1. The ELIS model is built on the broader concept of habitus by Bourdieu (1984), which is formed by personal dispositions and sociocultural influences. That is, an individual's choice and preference of making order of daily activities in a way that is natural and desirable are imposed by the social class and cultural group to which the individual belongs (Savolainen, 1995). The ELIS model, therefore, identifies various sociocultural factors such as material, social, and cultural capital, as well as the current situation of life (e.g., health status), as important building blocks of individuals' way of life and mastery of life (Figure 1).

Figure 1

Everyday Life Information Seeking Model (Savolainen, 1995, p. 268)[1]



Mastery of Life

Savolainen (1995) suggested two underlying dimensions of mastery of life—cognitive vs. affective and optimistic vs. pessimistic. The first dimension, cognitive vs. affective, references "the degree of rational considerations in a problem-solving situation" (Savolainen, 1995, p. 265). Characteristics of people who take cognitive strategies toward ELIS include willingness to

[1] Reprinted from Savolainen (1995), with permission from Elsevier.

engage in, and appreciation of, systematic searching of multiple sources and channels to find the optimal solution for a given problem. Characteristics of those who use affective strategies include wishful thinking instead of realistic consideration, emotional instead of cognitive reactions, and avoiding seeking useful information to improve a problematic situation (Savolainen, 1995). The second dimension, optimistic vs. pessimistic, is defined as "the expectancy towards the solvability of the problem" (Savolainen, 1995, p. 265). The ELIS model posits that people with an optimistic perspective tend to be more confident and active in information-seeking situations than their pessimistic counterparts.

The two dimensions of mastery of life can be further elaborated based on well-established concepts such as coping (Carver et al., 1989; Folkman & Lazarus, 1980) and self-efficacy (Bandura, 1977, 1997). Coping is defined as "the cognitive and behavioral efforts made to master, tolerate, or reduce external and internal demands and conflicts among them" (Folkman & Lazarus, 1980, p. 223). Folkman and Lazarus (1980) classified ways of coping (or coping style) into two categories, problem focused and emotion focused. Problem-focused coping involves altering or managing the source of the problem, whereas emotion-focused coping concentrates on reducing or managing emotional distress (Folkman & Lazarus, 1980). Coping is closely related to the first dimension of mastery of life—cognitive vs. affective strategies toward information seeking. Those who generally use cognitive strategies in information-seeking situations (e.g., systematically checking multiple sources to find the best possible solution) can be considered to have a problem-focused coping style. In contrast, those using affective strategies (e.g., relying on a source that has the same perspective as theirs) are more likely to have an emotion-focused coping style. Coping style has been considered a determinant of different types of human information behavior in the ELIS context, such as prompt information seeking and information avoidance (Barahmand et al., 2019; Lu, 2010). Wilson's (1999) information behavior model—although not focused on the ELIS context—identifies coping style as a factor motivating people to initiate a search for desired information.

The second dimension of mastery of life—optimistic vs. pessimistic perspective on information seeking—can be connected with self-efficacy, a fundamental concept of social cognitive theory (Bandura, 1977, 1997). Defined as "the conviction that one can successfully execute the behavior required to produce the outcomes" (Bandura, 1977, p. 193), self-efficacy refers to individuals' perceptions (or judgments) of what they can do with their capability rather

than their capability to attain the desired outcomes per se. This concept has been adopted in many theoretical and empirical investigations on information behavior (Case & Given, 2016), in which self-efficacy is considered an "activating mechanism" encouraging people to pursue the information search process (Wilson, 1999) based on the belief that they can find the desired information (Johnson & Meischke, 1993). In other words, the strength of people's convictions about their effectiveness in information-seeking situations is likely to determine whether they will try to find the necessary information and how long and deeply they are willing to engage in the process. Scales measuring self-efficacy have been developed in specific contexts such as computer use (Compeau & Higgins, 1995), information literacy (Kurbanoglu et al., 2006), and decision making (Bunn & O'Connor, 1996). These scales have been used in empirical investigations on older adults' information behavior, especially health information seeking, to show that stronger perceptions of self-efficacy are related to more frequent use of the internet to seek health information (Campbell, 2004; Chang & Im, 2014).

By cross-mapping these dimensions, Savolainen (1995) suggested four types of mastery of life: optimistic-cognitive, pessimistic-cognitive, defensive-affective (also known as optimistic-affective), and pessimistic-affective. Optimistic-cognitive mastery of life is characterized by a firm belief in the likelihood of solving a given problem and systematic seeking of information from multiple sources and channels. Pessimistic-cognitive mastery of life is akin to optimistic-cognitive mastery of life in that it is based on a systematic approach toward a problem-solving situation; however, this type lacks strong confidence about the solvability of the problem. Opposite to the pessimistic-cognitive type, defensive-affective mastery of life has optimistic views on the solvability of the problem, despite the lack of systematic strategies. One typical characteristic of those with defensive-affective mastery of life is treating the problem lightly and wishfully thinking that they could solve the problem, without realistic considerations. Pessimistic-affective mastery of life is characterized by emotional and short-sighted problem-solving behavior (Savolainen, 1995).

An individual's mastery of life is, however, neither solely cognitive nor affective (first dimension) and neither exclusively optimistic nor pessimistic (second dimension). People may employ both cognitive and affective strategies to solve a problem and have both optimistic and pessimistic perspectives on the solvability of the problem. Folkman and Lazarus (1980) looked at individuals' coping patterns, "the combined proportion of problem- and emotion-focused

coping" (p. 227), and the consistency of the coping pattern across situations. Based on this approach, determining the dominant types of coping and self-efficacy in the context of ELIS can be a useful way to operationalize mastery of life for empirical investigations.

Cultural, Social, and Material Capital

Savolainen (1995) noted that an individual's choice and preference for prioritizing daily activities in a way that is natural and desirable might have been determined by the person's social class and cultural group. To acknowledge this theoretical tenet, his ELIS model includes cultural, social, and economic factors (i.e., cultural, social, and material capital) as critical external factors affecting individuals' way of life and mastery of life (Savolainen, 1995). Hence, Savolainen's (1995) ELIS model is considered to have a multifaceted viewpoint, accommodating both cognitive and social approaches toward human information behavior (Pettigrew et al., 2001). Previous research showed that individual capital influences information behavior among older adults—for example, older adults with higher education levels tend to obtain information on more varied topics from various channels than their less-educated counterparts (Choi, 2019; Wicks, 2004). Social networks are important information sources for older adults (Asla & Williamson, 2015; Wicks, 2004). Close family members or friends, for example, often serve as caregivers for adults in the last years of their lives and search for information on their behalf (i.e., proxy information seeker; Asla & Williamson, 2015). Low income is a predictor of higher levels of effort and frustration associated with retrieving health information among older adults (Chaudhuri et al., 2013).

Demographic Factors

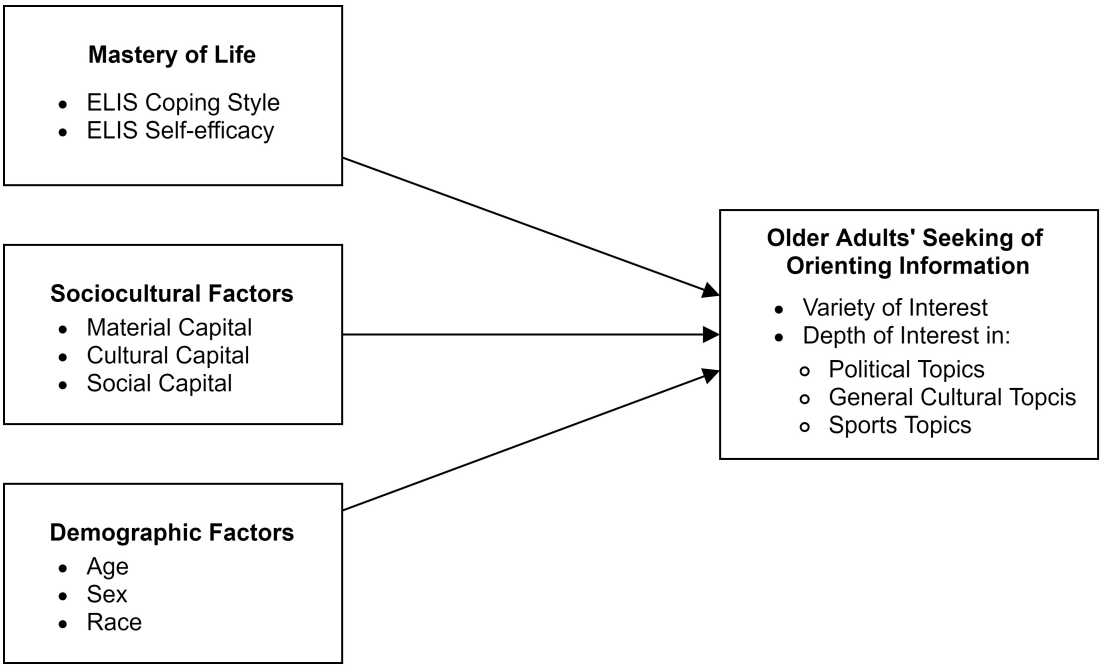
Although not identified in the original ELIS model (Savolainen, 1995), demographic factors, such as age, sex, and race, are known to be related to older adults' information behavior as well. We note that older adults are a complex group that has heterogeneity among age subgroups due to the different pace of decline in cognitive and physical abilities (Fisk et al., 2009) and varied environmental and socioeconomic conditions such as living arrangements (Tomassini et al., 2004), size of social networks (Bruine de Bruin et al., 2020), and employment status (U.S. Bureau of Labor Statistics, 2019). Aging researchers, therefore, suggest subdividing this highly diverse group—for example, young-old (65–74 years), old-old (75–84 years), and oldest-old (85+ years) adults (Chuang et al., 2016; Lavrencic et al., 2018) or young-old (60–69 years), middle-old (70–79 years), and very-old (80+ years) adults (Forman et al., 1992). Such

age subsets can be a useful marker to explore differences in older adults' ELIS behavior by age. For example, Williamson (1998) reported that the oldest cohort in the sample (aged 85+ years) tended to need information on fewer topics but more frequently needed information on health-related topics than younger cohorts in the study. Among older couples, men tend to play a passive role in information seeking, relying on their spouse or partner to provide information on everyday topics, including health and wellness (Choi, 2019).

Based on the ELIS model (Savolainen, 1995) and previous research on the older adults' information behavior, the present study examined the relationships among the variables depicted in the conceptual framework in Figure 2. We focused on American older adults' seeking of orienting information rather than practical information (or both) as the dependent variable of the study, given the available data. More details about the dataset and measures are provided in the Method section. The present study aimed to answer the following research questions: What is the role of mastery of life in older Americans' seeking of orienting information on everyday topics? How are older Americans' sociocultural and demographic backgrounds associated with their orienting information seeking?

Figure 2

Conceptual Framework of the Study



Method

Data Source and Sample

This study analyzed data from the Pew Research Center's Information Engaged and Wary Survey conducted in 2016. The survey used a nationally representative sample of 3,015 adults in the United States aged 18 years old or older. The survey collected information on people's engagement with information such as topics of interest for day-to-day information seeking, attitudes toward learning, use of information technology, use of public libraries, and trust in sources of information. A detailed description of the survey methods, such as sampling technique, data collection procedures, and weight calculations, is available online (Pew Research Center, 2016). In the present study, we analyzed a subset of the data focusing on people aged 65 years or older (N = 740). Excluding those with missing data (n = 81; 10.9%), we analyzed a dataset of 659 complete cases. Given plausible heterogeneity in older adults (e.g., different functional abilities) as an age group, we adopted three subgroups—young-old (65–74), old-old (75–84), and oldest-old (85+) adults—to explore potential differences in older adults' ELIS behavior by age, when considered with other demographic (e.g., sex, ethnicity) and sociocultural (e.g., education, income, marital status) characteristics of the target population.

Measures

Dependent Variables

We constructed four dependent variables—variety of interest and depth of interest in three topic domains, political, general cultural, and sports—using survey questions about the respondents' interest in nine topics for ELIS (business and finance, government and politics, sports, local events, education, health, science and technology, arts, and foreign affairs or foreign policy). The respondents answered these questions on a 4-point scale (1 = *very interested*, 2 = *somewhat interested*, 3 = *not too interested*, and 4 = *not at all interested*). We used variety and depth of interest in everyday topics as proxy measures of people's ELIS behavior, especially regarding orienting information seeking, based on research evidence that personal interests can be a valid means of gauging people's information behavior (Arapakis et al., 2014; Chu et al., 2009; O'Brien et al., 2014). Using eye movements as measures of engagement (e.g., total fixation duration, fixation count, and visit count), Arapakis et al. (2014) and Chu et al. (2009) showed that interest triggers active engagement in information seeking. For example, Arapakis et al. (2014) reported that people spent a significantly longer time and had much more focused

attention when reading articles on interesting topics compared with reading articles on uninteresting topics. Also, O'Brien et al. (2014) found that personal interests, along with intellectual curiosity, played an important role in people's selection of articles to share with others. Therefore, although we recognize that individuals' interest in everyday topics does not necessarily lead to their actual seeking of related information, we considered interest as a valid proxy measure of ELIS behavior.

Variety of Interest. The first dependent variable, variety of interest in everyday topics, was measured by calculating the proportions of topics in which participants reported being "very interested" or "somewhat interested" among the nine surveyed topics.

Depth of Interest. The other three dependent variables reflected depth of interest in three common domains underlying the nine topics, which were identified by exploratory factor analysis (EFA). We calculated the mean scores of these three domains as measures of the three dependent variables. Before conducting the EFA, we reverse coded the data on the nine items for more intuitive interpretation (i.e., higher scores indicated more interest in the given topic)—ranging from 1 (*not at all interested*) to 4 (*very interested*). We used the weighted least squares extraction technique with promax rotation to identify the factor structure underlying the nine topics for ELIS (Table 1). The results of the Kaiser-Meyer-Olkin measure of sampling (.82) and Bartlett's test of sphericity (< .001) indicated that the data we used were adequate for EFA (Thompson, 2004). Overall, the three-factor model (political, general cultural, sports) accounted for 49.1% of the variance. Using Cronbach's α, the internal consistency coefficients were .77 for political topics and .70 for general cultural topics, indicating acceptable reliability (Gliem & Gliem, 2003). The third factor, sports, was identified as a single-item factor. Cross-factor correlations (*r*) between the three factors were .66 between political and general cultural topics, .18 between political and sports topics, and .35 between general cultural and sports topics.

Table 1

Standardized Factor Loadings and Descriptive Statistics of Ratings on Everyday Topics

Indicator	Political	General Cultural	Sports	*M*	*SD*
Foreign affairs or foreign policy	.83	--	--	2.98	1.02
Government and politics	.98	--	--	3.22	0.95
Health or medical news	--	.72	--	3.39	0.81
Schools or education	--	.63	--	3.12	0.98
Arts or entertainment	--	.57	--	2.72	0.98

Science and technology	--	.47	--	2.91	0.92
Events in your local community	--	.40	--	3.14	0.88
Business and finance	--	.38	--	2.92	0.96
Sports	--	--	.88	2.60	1.14

Independent Variables

We included two dimensions of mastery of life and six sociocultural and demographic factors as independent variables based on the conceptual framework in Figure 2.

ELIS Coping Style. Based on the definition of coping by Folkman and Lazarus (1980), ELIS coping style refers to the cognitive and behavioral efforts made to seek orienting and practical information from selected sources and channels as part of everyday problem-solving. Based on Savolainen's (1995) conceptualization of mastery of life, ELIS coping style is on a continuum of cognitive vs. affective. In the present study, we measured the respondents' ELIS coping style dichotomously (mainly cognitive or affective) using two yes-or-no questions in the survey: (a) "I usually take into consideration evidence that goes against my views" and (b) "I make an effort to gather information on a regular basis on topics that matter to me." We coded cases with affirmative answers to both questions as 1 (*cognitive*) and cases with negative answers for either or both questions as 0 (*affective*).

ELIS Self-Efficacy. Based on the definition of self-efficacy by Bandura (1997), ELIS self-efficacy refers to individuals' conviction that they can successfully seek orienting and practical information from selected sources and channels as part of everyday problem solving, on a continuum of optimistic to pessimistic. In the present study, we used one survey question to measure ELIS self-efficacy: "Which of the following statements is closer to your view, even if you do not entirely agree with it?" Respondents answered the question by choosing between two alternatives: (a) "The availability of so much information these days makes it easier for me to make decisions" and (b) "I often feel stressed by the amount of information I need to consider in making decisions." Those who chose the first alternative were coded as 1 (*optimistic*); those who chose the second were coded as 0 (*pessimistic*).

Cultural Capital. Cultural capital refers to "cognitive resources acquired through education and life experience" (Savolainen, 1995, p. 269). We used education (dummy coded for three groups: *high school graduate or less*, *some college*, and *college graduate or more*) for this measure.

Social Capital. Social capital refers to "the nature of contact networks" (Savolainen, 1995, p. 269). We used marital status (coded dichotomously: 0 = *unmarried*, 1 = *married or partnered*) as an important indicator of older adults' social capital based on a recent study on older adults' ELIS that a spouse or partner plays a critical role in older couples' information behavior in terms of seeking, using, and sharing information on everyday topics, including health and wellness (Choi, 2019). Specifically, married or partnered older adults considered their spouse or partner as either the most credible interpersonal source of information (i.e., the primary information provider) or the information receiver, the person in need of information (Choi, 2019).

Material Capital. Defined as "purchasing power" (Savolainen, 1995, p. 269), we used income (dummy coded categorically for four groups: *under $50,000*, *$50,000–$99,999*, *$100,000 or more*, or *don't know or decline to answer*) to measure material capital. We set a separate category for those who did not know or declined to answer the income question, given the relatively large size of the group (11.9%).

Demographic Factors. We used age (dummy coded for three subgroups: 0 = *young-old* [65–74 years], 1 = *old-old* [75–84 years], 2 = *oldest-old* [85+ years] adults), gender (dummy coded dichotomously: 0 = *male*, 1 = *female*), and race (dummy coded dichotomously: 0 = *White*, 1 = *non-White*) as demographic factors affecting older adults' ELIS behavior.

Data Analysis

We analyzed the profiles of the study sample using frequency and percentages. Differences in the mastery of life dimensions—ELIS coping style and self-efficacy—by demographic and sociocultural characteristics were compared using a Rao-Scott chi-square test for complex samples. The main analysis, examining the associations among mastery of life, different types of capital (i.e., cultural, social, and material capital), and older adults' ELIS behavior, was conducted using Gaussian regression models, which applied the survey's population weights (Pew Research Center, 2016). All statistical analyses were conducted using R (version 3.6.1) with the survey package.

Results

Characteristics of Study Sample

Table 2 presents descriptive information for the study sample (N = 659) by the two dimensions of mastery of life. The average age of the study sample was 73.7 years (SD = 7.0);

59.9% were young-old (65–74 years), 31.2% were old-old (75–84 years), and 8.9% were oldest-old (85+ years) adults. The average age for each group was 68.9 years (S*D* = 2.8), 78.7 years (*SD* = 2.8), and 88.6 years (*SD* = 3.1), respectively. About 54.9% of participants were female, and 87.1% were White. About 28% had a 4-year college or university degree; 26.8% attended a college but never graduated or had a 2-year associate degree; and 45.2% had no higher education. About 54.7% were married or partnered; 45.3% were never married, divorced, or widowed. As for material capital (income), 49.6% had an annual household income of $50,000 or less, 24.3% had between $50,000 and $100,000, and 10.8% had $100,000 or more; 15.2% answered "don't know" or declined to answer the income question.

Table 2

Characteristics of the Study Sample by Two Dimensions of Mastery of Life (N = 659)[a]

Variable	Overall	ELIS Coping Style			ELIS Self-Efficacy		
		Cognitive	Affective		Optimistic	Pessimistic	
		(n = 530)[a]	(n = 129)[a]		(n = 428)[a]	(n = 231)[a]	
	%[b]	%[b]	%[b]	p	%[b]	%[b]	p
Education				**< .01**			**< .001**
⩽ High school	45.2	32.1	13.2		23.9	21.3	
Some college	26.8	20.4	6.3		17.7	9.1	
⩾ College graduate	28.0	24.3	3.7		20.5	7.5	
Income				**< .001**			**< .01**
⩽ $50,000	49.6	34.2	15.5		28.0	21.6	
$50,000–$99,999	24.3	20.8	3.6		17.4	6.9	
⩾ $100,000	10.8	9.9	0.9		8.2	2.6	
Don't know or declined	15.2	11.9	3.3		8.6	6.7	
Marital status				.10			.57
Married or partnered	54.7	43.6	11.1		33.4	21.3	
Unmarried	45.3	33.2	12.1		28.8	16.5	
Age				.06			.67
Young-old (65–74)	59.9	47.4	12.5		37.8	22.1	
Old-old (75–84)	31.2	23.8	7.3		18.5	12.7	
Oldest-old (85+)	8.9	5.5	3.4		5.9	3.1	
Sex				.78			**< .05**
Male	45.1	34.3	10.8		30.7	14.4	

Variable	Overall	ELIS Coping Style			ELIS Self-Efficacy		
		Cognitive	Affective		Optimistic	Pessimistic	
		(n = 530)[a]	(n = 129)[a]		(n = 428)[a]	(n = 231)[a]	
	%[b]	%[b]	%[b]	p	%[b]	%[b]	p
Female	54.9	42.5	12.5		31.5	23.5	
Race				.13			.57
White	87.1	68.0	19.2		53.7	33.4	
Non-White	12.9	8.8	4.1		8.4	4.4	

[a]Unweighted *N*.
[b]Weighted percentage.

The two columns labeled "*p*-value" in the table show whether significant associations existed between the sample characteristics and the two dimensions of mastery of life, ELIS coping style and self-efficacy. Education was associated with the proportions of ELIS coping style ($p < .01$) and ELIS self-efficacy ($p < .001$); so was income with ELIS coping style ($p < .001$) and ELIS self-efficacy ($p < .01$). No significant associations among the demographic factors and ELIS dimensions were found, except for between sex and ELIS self-efficacy ($p < .05$).

Mastery of Life and ELIS Behavior

Table 3 presents the results of weighted multiregression analyses of the associations between mastery of life and older Americans' ELIS behavior. The proportion of the topics in which participants reported being "very interested" or "somewhat interested" among nine topics (i.e., variety of interest in everyday topics; $M = 75.2$, $SD = 22.9$) was associated with ELIS coping style but not with ELIS self-efficacy. On average, the proportion was 9.7% higher for those with the cognitive ELIS coping style than those with the affective style ($p < .001$), after controlling for other variables. There was no statistically significant difference in the proportion between the optimistic and pessimistic ELIS self-efficacy groups ($p > .05$).

Table 3

Results of Weighted Multiple Regression Analyses

Variable	Variety of Interest		Depth of Interest					
			Political		General Cultural		Sports	
	Coef.	*SE*	Coef.	*SE*	Coef.	*SE*	Coef.	*SE*
ELIS coping style								

Variable	Variety of Interest		Depth of Interest					
			Political		General Cultural		Sports	
	Coef.	*SE*	Coef.	*SE*	Coef.	*SE*	Coef.	*SE*
Cognitive	**9.72*****	2.64	**0.35*****	0.10	**0.27*****	0.07	-0.14	0.13
ELIS self-efficacy								
Optimistic	-0.42	2.07	0.08	0.08	-0.03	0.05	-0.09	0.11
Education								
Some college	4.99	2.71	**0.28****	0.10	0.11	0.07	0.05	0.13
⩾ College graduate	**9.81*****	2.41	**0.52*****	0.09	**0.27*****	0.06	-0.13	0.12
Marital status								
Not married	-0.50	2.33	0.16	0.08	-0.08	0.06	0.02	0.12
Income								
$50,000–$99,999	2.56	2.65	**0.22***	0.10	-0.02	0.07	0.11	0.14
⩾ $100,000	**8.80****	2.88	**0.42*****	0.10	**0.17***	0.07	0.30	0.16
Don’t know or declined	-0.41	3.12	-0.02	0.11	-0.03	0.08	0.08	0.16
Age								
Old-old (75–84)	0.95	2.24	0.06	0.09	0.03	0.06	0.17	0.13
Oldest-old (85+)	2.87	4.23	0.12	0.13	0.06	0.11	0.06	0.19
Sex								
Female	3.64	2.21	0.05	0.08	**0.15****	0.06	-0.14	0.11
Race								
Non-White	-0.19	3.73	-0.10	0.12	0.09	0.10	0.03	0.17

Note. SE = standard error. The unit for variety of interest was the percentage of topics in which participants reported being “very interested” or “somewhat interested” among nine topics. The unit for depth of interest was the average score measured on a 4-point Likert-type scale: 1 = *not at all interested*, 2 = *not too interested*, 3 = *somewhat interested*, 4 = *very interested*. Reference categories were affective for coping style; pessimistic for self-efficacy; high school or less for education; married or partnered for marital status; $50,000 or less for income; young-old for age; male for sex; and White for race.
$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

The average rating (i.e., depth of interest) of political topics ($M = 3.10$, $SD = 0.89$) was significantly different between ELIS coping style groups. Those with the cognitive coping style had a significantly higher average rating on political topics than their affective counterparts by 0.35 points ($p < .001$) on a 4-point scale. However, the depth of interest in political topics was not significantly different between the optimistic and pessimistic ELIS self-efficacy groups ($p > .05$). The same pattern was found regarding the depth of interest in general cultural topics ($M = 3.03$, $SD = 0.59$)—it was associated with ELIS coping style but not with ELIS self-efficacy. On average, the ratings of those with the cognitive coping style were significantly higher than their

affective counterparts by 0.27 points ($p < .001$). The depth of interest in sports topics ($M = 2.60$, $SD = 1.14$) was not associated with either dimension of mastery of life at the $p < .05$ level.

Sociocultural and Demographic Backgrounds and ELIS Behavior

Overall, education and income were significantly associated with the variety and depth of interest in everyday topics among older Americans (Table 3). The variety of interest significantly differed by education (college graduate or more > high school graduate or less, $p < .001$) and income ($100,000 or more > $50,000 or less, $p < .01$). As for depth of interest, the average ratings on political topics significantly differed by education (some college or more > high school or less, $p < .01$; college graduate or more > high school or less, $p < .001$) and income ($50,000–$99,999 > $50,000 or less, $p < .05$; $100,000 or more > $50,000 or less, $p < .001$). Likewise, the ratings on general cultural topics differed by education (college graduate or more > high school or less, $p < .001$) and income ($100,000 or more > $50,000 or less, $p < .05$); in addition, sex was associated with this outcome variable (female > male, $p < .01$). The ratings on sports topics did not differ by any examined sociocultural or demographic factors at the $p < .05$ level.

Discussion

Using a nationally representative sample of Americans from the Information Engaged and Wary Survey conducted by Pew Research Center in 2016, this study investigated ELIS behaviors of older adults in the United States ($N = 659$). Based on Savolainen's (1995) ELIS model, we examined how two dimensions of mastery of life (ELIS coping style and ELIS self-efficacy) were associated with the variety and depth of interest in everyday topics among older Americans, controlling for sociocultural (education, income, and marital status) and demographic (age, sex, and race) factors. We found that ELIS coping style (cognitive vs. affective), but not ELIS self-efficacy (optimistic vs. pessimistic), was significantly related to the variety of interest in everyday topics and the depth of interest in political and general cultural topics. Individuals with the cognitive coping style—characterized as seeking information on topics of interest regularly and systematically and considering evidence that goes against their views—kept up to date on a wider range of topics than their affective counterparts. Also, this cognitive coping group was more deeply engaged with political (e.g., government, politics, foreign affairs, foreign policy) and general cultural topics (e.g., health, education, local events, science and technology) than the affective coping group. However, individuals' ELIS self-

efficacy—measured as whether the availability of a large volume of information is considered helpful (i.e., optimistic) or overwhelming (i.e., pessimistic)—was not significantly related to their interest in everyday topics.

Our findings imply that coping style plays a more critical role in older Americans' ELIS than self-efficacy. This is generally in line with what Savolainen (1995) found in his interview study with 22 Finish industrial workers and teachers (aged 29–61 years) when validating his ELIS model. He reported that ELIS coping style (cognitive vs. affective) was related consistently to the nature of the participants' ELIS behavior, whereas ELIS self-efficacy (optimistic vs. pessimistic) was less so, possibly being influenced more strongly by the nature of a given problem, such as its perceived difficulty (Savolainen, 1995). Although the profile of participants in Savolainen's (1995) was not directly comparable to that in the present study, it is noteworthy that both studies found a relatively more direct and consistent role of the coping dimension, rather than self-efficacy, in characterizing the nature of people's ELIS behavior.

However, findings in the literature indicating the salient role of self-efficacy in ELIS (Choi, 2019; Pálsdóttir, 2008) should not be neglected. For example, Choi (2019) reported that among married or partnered older adults, having optimistic attitudes toward information-seeking situations (i.e., optimistic ELIS self-efficacy) was a common characteristic of those who served as the information provider in their relationship, actively seeking health information for themselves and their spouse or partner, who served as the information receiver. We speculate that the insignificant associations of self-efficacy and ELIS behavior found in the present study may come from the measures of ELIS behavior. We note that the wording of the survey question used to measure ELIS behavior in the present study ("How interested are you in keeping up-to-date on the following topics?") was more relevant for eliciting information about the respondents' orienting information seeking (i.e., monitoring of everyday topics) rather than practical information seeking (i.e., seeking information to fulfill a specific need) based on two modes of ELIS suggested by Savolainen (1995). The associations of ELIS self-efficacy with the outcome variables might have been more prominent if the survey question was geared toward the context of practical information seeking regarding a specific topic, as found in previous studies focused on health information (Choi, 2019; Pálsdóttir, 2008). Although orienting and practical information seeking are likely to be interconnected (Savolainen, 1995), future research

separating and comparing the associations between the two dimensions of mastery of life and these two modes of ELIS will help explicate the findings of the present study.

Furthermore, such variability in the relationships between mastery of life and ELIS need to be understood along with findings of the original studies used to operationalize the two dimensions of mastery of life in the present study—coping style (Folkman & Lazarus, 1980) and self-efficacy (Bandura, 1977, 1997). Folkman and Lazarus (1980), for example, found that their middle-aged participants' (45–64 years) coping patterns—the relative proportions of problem- and emotion-focused coping—were significantly associated with the context of the coping episode, whether related to work, health, or family. They argued that an individual's coping pattern is "best understood as being determined by the relationship between the person and the environment" (Folkman & Lazarus, 1980, p. 227), rather than as a fixed individual attribute. Therefore, context, defined as "a spatial and temporal background which affects all thinking and a selective interest or bias which conditions the subject matter of thinking" (as cited in Dervin, 2003, p. 111), should be considered when understanding the role of mastery of life in people's information behaviors such as information needs and related information-seeking behaviors in everyday settings.

Among the six sociocultural and demographic factors, cultural capital—measured by education—and material capital—measured by income—had significant associations with both the variety and depth of interest in everyday topics, except for sports (Table 3). Participants with higher education and income levels tended to be interested in a wider range of topics more deeply than their less educated and lower-income counterparts, respectively. However, marital status and other demographic factors were not statistically associated with the outcome variables, except for sex being associated with depth of interest in general cultural topics, such as health, education, and local events (female > male, $p < 0.05$; Table 3). Our findings regarding the significant differences in older adults' ELIS behavior by education, income, and gender supported the findings of prior studies (Wicks, 2004; Williamson, 1997, 1998). However, our findings regarding age—having no significant associations with the variety or depth of interest in everyday topics—are not congruent with previous research (Williamson & Asla, 2009). For example, in her research with 202 Australian older adults (60+ years), Williamson (1998) found that older age was related to fewer topics for information seeking. Such distinguishable (or inconsistent) findings, however, need to be interpreted with caution given the different

characteristics of samples (e.g., sample size, participant profile), as well as the time lapse between the current study and Williamson's research. For example, the Pew survey data we used in the present study were collected by interviewing respondents either on a landline telephone or cellphone. Although our sample included older adults in long-term care facilities (e.g., nursing home, assisted living), their participation could have been restricted by physical and cognitive limitations. Therefore, the sample might not represent the general older cohorts, especially the oldest-old subgroup (85+ years), which could have caused the differences in age-related findings between our study and Williamson's (1998) study. Also, most members of the youngest age group (60–74 years) in Williamson's (1998) study sample now belong to the oldest age group (85+) in the sample used in the current study, and this cohort's (oldest-old adults) interest in everyday topics may be as diverse and strong as that of the current younger cohorts (young-old and old-old adults). We suggest that investigating such changes in older adults' information needs and associated information behaviors in recent decades, during which web and mobile technologies have been widely adopted by older adults, is a meaningful agenda for future research.

Of note, the depth of interest in sports topics was the only outcome variable not associated with either dimension of mastery of life or other sociocultural and demographic factors examined in the study (Table 3). It appears that older adults' general approaches and attitudes toward everyday information seeking are more closely related to intellectually demanding topics, such as political and cultural topics, but less so to entertainment-focused topics, such as sports. Given research evidence that active involvement in intellectual and cultural activities, including seeking information on cognitive topics such as health-related topics, is beneficial to promoting healthy aging among older adults (Adams et al., 2011; Cutilli et al., 2018; Jeong & Kim, 2016; Niemelä et al., 2012), our findings highlight the potential benefits of lifelong education aiming to improve older adults' literacy and self-efficacy for information seeking. Public libraries or senior centers could provide such services to equip older adults with cognitive coping strategies and positive attitudes toward ELIS. Also, despite the relatively lower interest in sports (Table 1) and nonsignificant associations between mastery of life and sports in the older population (Table 3), it can be beneficial to help them have interest and engage in sports, which is a leisure activity that can benefit physical and mental well-being in later life (Heo et al., 2013; Kelly et al., 1987). Potentially, such efforts could lead them to explore more

varied topics, including both intellectual and physical topics, which could contribute to healthy aging (Kelly et al., 1987).

Limitations

Several limitations of our analysis should be noted. First, the validity of the survey items used to measure the key concepts of the study, especially mastery of life, may be limited. Because the objectives of the original study (Pew Research Center, 2016) do not perfectly correspond to those of the current study, the items selected may be imprecise measures of the concepts we used in the current study. Second, people's report of their interest in particular topics does not always equate to actual engagement in information seeking. Thus, the findings regarding ELIS behavior reported here should be understood as their interest in or intention to search for information on everyday topics as opposed to actual ELIS behavior. Third, although the three-factor model of everyday topics—political, general cultural, and sports—was useful to understand the characteristics of the study sample's interest in ELIS, the EFA was conducted on only nine items and sports was identified as a single-item factor (Table 1). Therefore, future studies should include more items that could be grouped with sports (i.e., entertainment-focused topics) and refine or confirm the underlying structure of everyday topics through confirmatory factor analysis. Building on such studies, future research could further examine the associations between mastery of life and older adults' behaviors for seeking information on different topics. These limitations, however, are intrinsic to the survey method and secondary analysis of survey data (Kiecolt & Nathan, 1985). Therefore, our findings should be interpreted with the understanding of the limitations of this secondary and exploratory analysis of cross-sectional survey data. Future studies with a longitudinal approach may help explicate the directional relationship between mastery of life and ELIS.

Conclusion

In this study, we explored how individuals' mastery of life, a core concept of Savolainen's (1995) ELIS model, is associated with the variety and depth of interest in everyday topics among older Americans, considering demographic and sociocultural factors. This study contributes to the literature on information behavior by focusing on a rarely studied user group in the ELIS context, older adults. We operationalized two underlying dimensions of mastery of life based on widely used psychological concepts, cognitive vs. affective coping (Folkman & Lazarus, 1980) and optimistic vs. pessimistic self-efficacy (Bandura, 1977, 1997). The findings

of this study show that the cognitive coping style, as opposed to affective, was associated with interest in a wider range of topics for ELIS and a deeper level of interest in political and general cultural topics. However, the self-efficacy dimension of mastery of life was not associated with either breadth or depth of interest in everyday topics examined in the study. Neither coping style nor self-efficacy was associated with the depth of interest in sports.

We consider mastery of life in terms of ELIS coping style and self-efficacy to be an intrinsic capability related to dealing with everyday problems that can be improved by interventions (Xie, 2011). Therefore, one practical implication of our findings is that resources at the family, community, and broader society levels should be devoted to fostering a positive mastery of life that is cognitive as opposed to affective, which can enable older adults' healthy aging (Jeong & Kim, 2016; Niemelä et al., 2012). The present study also makes methodological and theoretical contributions to the literature on information behavior. To the best of our knowledge, this study is the first to use nationally representative survey data to examine older adults' information behavior using Savolainen's (1995) ELIS model. Despite the inevitable limitations of secondary data analysis, this study demonstrated how existing theoretical frameworks can guide quantitative research, generating more generalizable findings on the target population's ELIS behavior. Thus, the quantitative approach employed in the present paper—analyzing publicly available national survey data containing various cognitive, sociocultural, and demographic variables—shows the potential to diversify the methodologies of research on information behavior. Also, our operationalization and measurement of the two underlying dimensions of mastery of life in a quantitative way, along with previous qualitative methods (e.g., Choi, 2019), can guide the construction of research instruments (e.g., questionnaires for quantitative surveys, coding schemes for qualitative interviews) focused on mastery of life or other ELIS-related concepts. Such efforts to develop quantitative approaches to ELIS can supplement existing methodologies and findings that are primarily qualitative, which can scale the ELIS viewpoint from the case level to a national or even global level.

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