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The Enabling Potential of Constraints

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Abstract

The purpose of this brief note is to share findings of an exploratory study focusing on a new measurement instrument. This article describes a 13-item scale, Enabling Outcomes Scale (EOS), designed to measure the enabling potential of constraints. The content of the scale was shaped by theoretical discussions in Kleiber, McGuire, and Aybar-Damali (2004) and Kleiber, McGuire, Aybar-Damali, and Norman (2008), which suggest that constraints have enabling potentials. Data on the psychometric properties of the scale are presented including its factor structure, internal consistency, and validity. The findings indicate that the scale shows promise as a tool for extending our insight regarding how to expand the use of constraints as a construct in leisure research.

KEYWORDS: Leisure constraints, choice, confirmatory factor analysis

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The pure form of leisure is described as a freely chosen behavior accompanied by a sense of enjoyment and intrinsic motivation (Kleiber, 1999). This notion implies that constrained behavior is inhibited and thus in need of negotiation before meaningful and free involvement is possible. Conceptual factors based on early typologies shaped by researchers' beliefs about reality have given constraints research a direction. The blueprint for constraints research appears to be designed with the notions that constraints are inevitably negative, that barriers are blockages to engagement, and that fewer constraints translate into more leisure. As Jackson (2000) explains, earlier research investigated "factors that are assumed by researchers and/or perceived or experienced by individuals to limit the formation of leisure preferences and/or to inhibit or prohibit participation and enjoyment in leisure" (Jackson, 2000, p. 62).

Although the term *constraint* is a recognized term in the leisure studies field, there have been inquiries regarding the meaning of the terminology and constraint's other possible relations to behavior or experience. For example, Shogan's (2002) conceptual work discussed possible effects of constraints. Shogan (2002) described constraints as factors that "…make possible activities and the experiences within them, …enable skill acquisition and …produce bodily comportment and expectations that may enable or restrict experiences of leisure" (p. 36). Elster (2000) indicated that in most cases, in the "standard case," more is better whether this refers to money, time, or leisure options; there are also "nonstandard cases" in which less is more. Katz (2000) echoed the same statement, and research in psychology and economics discussed how complex a relationship could be between availability of choice and agents' performance (see Markus & Schwartz, 2010; Schwartz, 2004). Markus and Schwartz (2010) proposed that the meaning of the concepts of intrinsic motivation and choice is contextual and shaped by customs. One inquiry based on this proposition is that although preferences are sometimes accompanied with sense of regret, leaving things undecided or having one's choice made by others can be preferred over making choices. In other words, having many options to choose from is related to the sense of freedom and well-being; it is anticipated that agents will benefit from being provided strictly limited choice sets in some situations—what might then be called "nonstandard cases" (Elster, 2000). Whenever choice may be about tangible or intangible gains (Gottlieb, 2011; Wallace, 2010) such as career paths, romantic relationships, or parenting, constraints can be viewed as "enabling" (Shogan, 2002) in those situations.

The relationship of constraints to leisure behavior and experience in general is far more complex than researchers have typically believed (for discussion see Kleiber, McGuire, Aybar-Damali, & Norman, 2008; Kleiber, Wade, & Loucks-Atkinson, 2005; McGuire & Norman, 2005). One of the most recent examples of those conceptual works was by Kleiber, McGuire, Aybar-Damali, and Norman. Considering examples from research and the general popular literature, Kleiber et al. (2004, 2008) proposed the existence of at least five mechanisms through which constraints are beneficial to people. These categories are (I) resilience and deepened commitment, (II) attention to other goals, (III) discovery of previously unattended capacities, (IV) changes in attitude toward life and leisure, and (V) goal achievement and well-being. Categories I and V are based on a different view

of constraints than the other three categories (II, III, and IV) in that the goals constrained are maintained. Category I refers to a constraint negotiation process resulting in recommitment to and continuation of activities. Use of other means enables one to partake in an activity; the process of resource use reflects persistence and deepens one's commitment in his or her pursuit. Category V reflects intentional self-constraints, that is, constraints that are selected to achieve specific benefits. Based on this category, situations are purposefully structured in a way that a desired behavior or set of behaviors or experiences becomes more likely. Category II, III, and IV reflect neither an intention to achieve a certain goal nor active and purposeful efforts to overcome constraints, but rather they posit that benefits accrue from a shift in activities or attitudes. This shift is not a mere substitution process (although related to cognitive dissonance and activity replacement), but rather a personal reflection of a life experience (see Kleiber et al., 2008, for theoretical discussion), and the transformation of personal values and the discovery of inner potential are conceivable. Redistribution of valuable resources is also likely to happen because of an experience. It is expected that foreseen benefits are all interrelated.

By building on the conceptual work of Kleiber et al. (2008), this study aims to provide leisure researchers a new measurement instrument that would extend our insight regarding the use of constraints as a construct in leisure research and conceivably contribute to scholarly discussions among researchers. We investigated three categories of benefits in relation to the domain of leisure. The scale developed in this study focuses only on Category II, III, and IV. Category II was divided into two subcategories: activity and social relations. The theoretical explanations of these five categories are based on the Selective Optimization With Compensation model (SOC). The decision to divide Category II into two subcategories was based on current research findings regarding Socioemotional Selectivity Theory (SES), which is considered an application of the Selection, Optimization, and Compensation model to social context (Carstensen, 1991). SES suggests that social connectedness is important for human survival and that social interactions provide situations for human development. Subcategory IIa was titled "increased attention to other activities," and subcategory IIb was labeled "increased attention to close relationships."

Method

Description of the Respondents' Characteristics

The sampling strategy used in this study focused on convenience and diversity of the respondents. We were interested in examining the enabling potential of constraints in a diversified sample of community-dwelling older adults. Researchers recommend maximum variance sampling (MVS, or maximum diversity sampling; for description see List, 2004; Patton, 2001; Vitku, Lungu, Vitcu, & Marcu, 2007) when a wide range of extremes is included or if sample size is very small (the range is from 20 to 50; List, 2004) and/or not enough information about the target population is available. Guidelines regarding how to achieve MVS are limited. In this study, the data came from diverse groups through multiple data

collection strategies; the surveys were self-administered and collected online, in person, and through mail (Dillman, 2000), ending with a study sample of 345. We recruited the participants for the study from older adults who attended activities and/or classes provided by various organizations within the same state (i.e., senior centers, lifelong learning institutes, and an emeritus college). The members of the lifelong learning institutes and emeritus college have generally high incomes and are highly educated, and the countywide programs offered through senior centers, usually operated by county level offices on aging, are generally populated by individuals with lower incomes and/or comparatively lower education. This diversity provided opportunities for maximizing the variance in income and education levels. This is particularly important because losses and their perceived impact would vary by resources such as education and income.

The majority of respondents were female (N_{Total} = 345, N_{Usable} = 252, female = 174, 72.1%; age range: 57–94), were retired and not working (n = 211, 88.3%), and were White (n = 226, 94.5%). The majority reported being married and living with a spouse (n = 171, 70.1%), and almost half of the respondents (n = 100, 41.8%) had attended graduate school or had a similar level of education. The data showed an even distribution in terms of income level (n = 222, Range: ≤ $20,000 to ≥ $100,000). Nearly half of the respondents (n = 105, 43.8%) reported having a "very good" condition of health, 33% (n = 80) reported having a "good" condition, and 12.5% (n = 30) reported having an "excellent" condition.

Item Pool

The initial item generation process was based on the approach suggested by Noar (2003). Given the multiple categories considered theoretically (Kleiber et al., 2008), the scale was designed as a multidimensional instrument including four categories of mechanisms. Measurement models having more than one factor are recommended to have at least three indicators per factor. The critical caveat, preferred for numerous practical reasons, is finding the optimal number of good indicators over having the maximum number of indicators (for discussion of this issue in relation to confirmatory factor analysis, see Kline, 2005; Little, Lindenberger, & Nesselroade, 1999, p. 197). According to Little et al. (1999, p. 206), a small number of indicators may be sufficient to identify a construct precisely when a given domain is clearly delineated. The scale items were based on precise examples derived from popular literature, previous research, and case material reported and categorized in Kleiber et al. (2004) and Kleiber et al. (2008). For each of the first three categories (see Table 1), three items were written, and for the last category, six items were written, resulting in a total of 15 items in the initial item pool.

The items were assessed on a 5-point Likert response scale to increase the likelihood of capturing the variance in responses, that is, the extent of subjects' agreement with each item. To ensure content and face validity, two specialists in the field reviewed these items across the construct domains. The item evaluation process was not blind; the specialists were aware of which items were intended to measure which construct. The initial item pool was pilot tested twice, and thus the review process was repeated at least three times: before and after the first pilot study and after the second pilot studies. As a result of this review, the number of items was kept constant, as it is optimal to have three indicators per factor for

identification (Kline, 2005); some items were rewritten to make them clearer to the reader. At the end of second pilot study, the researchers discussed the results with the specialists and modified the wording of several items accordingly. The sample size of the second pilot study was not large enough to test via confirmatory factor analysis (total sample size = 36), and thus the researcher reviewed zero-order correlation values and exploratory factor analysis (EFA) results, but did not rely on EFA results because the final data were going to be analyzed via confirmatory factor analysis. Validation of a factor structure across different samples is preferred, but the use of the same method in analysis is advised (see Kline, 2005, p. 205 for discussion).

The Scale Purpose and the Stem Question

In leisure constraints literature, events such as the death of a spouse or a

Table 1

Enhancement Outcomes Scale Items and Raw Standard Deviations and Means

Categories and items	*N*	*M*	*SD*
Category IIa. Increased attention to other activities:			
IIa_1: Focus on an activity that was/is more satisfying than I expected.	248	4	1.53
IIa_2: Do leisure activities that I have been neglecting for a while.	247	3.81	1.47
IIa_3: Devote myself to leisure activities that matter the most to me.	249	4.15	1.44
Category IIb. Increased attention to family and close friends:			
IIb_1: Spend more time with my family or close friends.	249	3.9	1.51
IIb_2: Increase involvement with my family or close friends.	250	3.99	1.53
IIb_3: Become closer with people I like.	247	4	1.50
Category III. Discovery of new capacity/acquisition of skills:			
III_1: See how well I can do other leisure activities.	247	3.88	1.44
III_2: Discover leisure abilities I did not know I had.	245	3.56	1.45
III_3: See myself learning new leisure skills.	248	4.04	1.41
Category IV. Change in attitude toward leisure:			
IV_1: Decrease my activity level. (item excluded after CFA)	247	3.53	1.59
IV_2: Do less and enjoy it. (item excluded after CFA)	245	2.93	1.42
IV_3: Find joy in little things.	251	4.29	1.38
IV_4: Relax without scheduling my time.	249	3.88	1.50
IV_5: Start meaningful leisure activities that I wouldn't have done otherwise.	246	3.99	1.49
IV_6: Enjoy my time alone.	245	4.19	1.50

decrease in physical energy are often viewed as life forces because they require adjustments in patterns of older adults' daily lives. The literature indicates that older adults specifically identify these events as reasons for reducing or ceasing participation to activities (McGuire, 1985; McGuire & Norman, 2005; McGuire, Boyd, & Tedrick, 1999). The major concern of the researchers in developing this type of questionnaire was how to determine whether people recognize enabling possibilities in the circumstances (natural losses in life) that are often perceived as "constraints to leisure." A sense of new opportunity acquired as a result of a loss rather than a mere change in the level of participation in activities was critical for the purpose of this study. Thus, the stem question preceding the enhancement outcomes scale required special attention. The following sections explain how we structured the questionnaire.

In the first pilot study, the director of a lifelong learning institute sent members an electronic invitation letter. A total of 39 individuals who were participants of this institute responded positively to the email. After scheduling the meeting time and place, the researchers met with the two groups and administered the survey instrument. The researchers followed Dillman's (2000) guidelines for group administration; the volunteers gathered in a quiet room where they could concentrate on the survey. After explaining the purpose of the meeting, the researchers provided standard instructions for filling out the survey:

> In a minute I'm going to hand you a questionnaire and an envelope and I'd like you to fill it out. I'll stay here in the room while you fill it out, but please don't ask me any questions; just do it like you were sitting at home and I wasn't there. I will be taking some notes while you fill out the form. Please don't let this distract you. When you have finished please let me know and then I would like to ask some questions. Okay? (Adapted from Dillman, 2000)

The survey package included the questionnaire booklet, the informational letter, a self-adhesive envelope, and a pencil. After everybody had finished, the researchers asked the following questions: (a) On a scale of 1 to 5, where 1 means *very easy* and 5 means *very difficult*, how easy or difficult was it for you to figure how to answer the questions? (b) Was there any time that you wanted to stop answering? Why? (c) What do you think about the font size (too big, too small)? (d) Is there any section that you had difficulty in filling out? What are your concerns? (e) Was it interesting? (f) Did you skip an item/leave it blank? Was there a particular reason for that? (g) Do you have anything else you would like to tell us that you haven't had a chance to mention? At the end, the participants were given extra time to make changes or comments on the survey. The survey took an average of 25 to 30 min to fill out. The age range of the participants at the first meeting was 65 to 81 ($n = 6$), and the age range of those who attended the second meeting was 65 to 79 ($n = 5$). Initially, the participants were asked to report an important negative life event that they had experienced in the previous 10 years and answered this question before they filled out the enhancement outcomes scale. The results showed that the majority of the participants skipped this section; they reported that they did not experience a "negative" life event. The participants who skipped

this part had to skip the scale as well.

For the second pilot study (n = 36, age range: 61–78), the survey instrument was modified based on the feedback obtained in the first pilot study. The directions were clarified and items were reworded; some items were rewritten to help with clarity and reading level. The stem question was reconstructed by providing specific examples from gerontology literature. When responding to the scale, individuals were asked to think about a life event that had a significant impact on the way they did things. The participants of the study were asked to read the following script before the scale: "Everyone experiences significant life events which affect the way we do things and feel about things. Some of these events include illness, employment, marriage, divorce, death, or accidents. They might be negative or positive." Then they were asked whether they had experienced any of the following life events during the last 10 years and to indicate their answer by circling the number: (a) death of a spouse, (b) decrease in physical energy, (c) decrease in mental energy, (d) illness, (e) no longer having an opportunity to live in the same neighborhood, (f) decrease in financial resources, (g) new or increased care-giving responsibility, (h) other (please specify). Then, they were asked the following: "Which event among those you have selected above was most important for you? Please write its number here:(___)." Later, the participants were asked to complete the enhancement outcomes scale. The instruction for this scale was as follows: "Please indicate your agreement with each statement given below by circling the appropriate number – My life event provided me an opportunity to…." The scale ranged from 1 to 6 (1 = *strongly disagree*, 6 = *strongly agree*).

The researcher administered the modified version of the survey to three groups of people. The first group included volunteers from the lifelong learning institute (n = 10, age range: 61–78), the second group included 10 individuals from a senior center (age range: 62–75), and the third group included 16 members of a church group (age range: 70–88). The groups received the surveys in person but were provided the opportunity to return it the following day. All surveys were usable; none of the respondents skipped a section. After the researchers modified the scale items, the entire questionnaire was put into a large booklet (with 8.5 in. x 11 in. dimensions).

Final Data Collection Procedure

The instrument was distributed online and in person. An invitation email including a link to the web survey (structured and distributed by Select Survey Software) was sent to lifelong learning institute members and a county-wide program for older individuals. Invitation emails were sent to the institute members by the director. Those who experienced a technical problem were encouraged to contact the researchers. In addition, the researchers visited various classes and activities to introduce the study by explaining the purpose as provided in the informational letter, to describe the tasks required to complete the questionnaire, and to explain how to return the surveys. Volunteering participants received a copy of the questionnaire, a self-adhesive envelope, and a pencil. Participants had an option of either (a) taking the survey home and bringing it back the next time they came

to the facility or mailing it to the researcher or (b) completing it at the time of distribution and returning it to the researcher. Those who chose to take the survey home and mail it after filling it out were provided a self-adhesive prepaid return envelope. The researcher visited the sites once a week to remind the respondents to bring the survey back or mail it. Out of 350 surveys distributed (349 distributed in person, one in mail), 174 surveys were dropped off and 10 surveys were mailed back, resulting in a 52% return rate.

Data Analysis Process

Data analysis proceeded in two major steps. The first step was data screening by examining descriptive statistics and handling outliers and missing values. Confirmatory factor analysis (CFA) is inefficient when there are missing data (for discussions see Allison, 2003; Cohen, Cohen, West, & Aiken, 2003; Little & Rubin, 2002; West, 2001). Therefore a missing value analysis (MVA) procedure in SPSS was employed, which helped to test the randomness of the pattern of the missing data on the scale. Little's MCAR test, which is a chi-square test for MCAR (i.e., missing completely at random), was conducted with EQS version 6.1 software. Little's MCAR test was significant for the scale ($p < .05$), meaning that the missing values were random (MAR); separate variance t test confirmed the presence of MAR as well. The data for the scale were inputted for missing values by using the maximum likelihood estimation method with the expectation maximization (EM) algorithm procedure (Cohen et al., 2003). The second step involved analyses concerning the structures of the measurement instrument by using maximum likelihood CFA with EQS version 6.1 software. This step also yielded information about the internal consistency and the validity of the scale. For discriminant validity, the correlations within a group of items expected to explain the same factor should be higher than these items' correlation with the indicators of other factors. For convergent validity, indicators of one construct should have moderate correlation with each other. Table 2 presents the calculation of the item loadings, R^2 values (Squared Item Loadings), average variance extracted (AVE; Average of Squared Item Loadings), and the correlations among the factors.

Results

Structure of the Scale

CFA was undertaken with the data for the 15 items. CFA was preferred over EFA for two major reasons. CFA requires a researcher to specify a specific number of factors and the pattern of loadings of the measured variables (Fabrigar, Wegener, MacCallum, & Strahan, 1999, p. 277), whereas EFA is primarily a data-driven approach that is appropriate when researchers are interested in exploring the number of factors and the pattern of factor loadings primarily from the data. In addition, according to Little et al. (1999), selecting indicators for modeling with latent variables is a critical concern and "confirmatory analyses provide less biased—in fact, nearly unbiased—estimates of the construct correlations than do exploratory analyses" (p. 206).

Table 2

Convergent and Discriminant Validity Information

Factors	Items	Loadings	R^2	AVE	IIa	IIb	III	IV
	IIa_1	.814	.663					
IIa	IIa_2	.820	.673	0.68	0.83			
	IIa_3	.843	.711					
	IIb_1	.916	.839					
IIb	IIb_2	.903	.815	0.79	0.72	0.89		
	IIb_3	.854	.729					
	III_1	.810	.656					
III	III_2	.833	.694	0.68	0.86	0.67	0.83	
	III_3	.836	.699					
	IV_3	.667	.445					
	IV_4	.615	.378					
IV				0.46	0.79	0.67	0.96	0.68
	IV_5	.903	.815					
	IV_6	.470	.221					

Note. R^2 : Squared Item Loadings; AVE: Average of Squared Item Loadings. The right side of the table displays "square root of average variance extracted" values (the diagonal, shaded area) and "the correlations among the factors" (the body of the table). The internal consistency reliability of the scale was evaluated by examining Cronbach's index of internal consistency. A value greater than 0.70 signals reliability (Nunnally & Bernstein, 1994). Cronbach's alpha values: Overall (13 items) = .93; Factor IIa = .86; Factor IIb = .92; Factor III =.86, Factor IV = .79.

The LaGrange multiplier test was also done, the parameter variances for the factors were fixed to 1, and the variance of the indicators was freely estimated. The root mean square error approximation (RMSEA), standardized root mean square residual (SRMR), non-normed fit index (NNFI), and comparative fit index (Bentler Comparative Fit Index, CFI) were also examined. SRMR (Steiger, 1990) values are between 0 and 1, where 0 indicates *perfect fit* and 1 indicates *poorest fit*. Values less than or equal to .05 indicate a well-fitted model. NNFI compares the improvement of the model to a baseline model (Bentler, 1990). Value .95 indicates *good fit* and value .98 indicates *excellent fit*. According to Hu and Bentler (1999), suggested combination rules are (a) NNFI or CFI is larger than .95 and SRMR is smaller than 0.09 and (b) RMSEA is smaller than .05 and SRMR is smaller than 0.06. Table 3 presents the fit indices and model chi-squares. The results showed that the 15-item, four-factor model had a poor fit according to the measures of absolute and relative fit indices. Upon further investigation, three items (i.e., IV_1, IV_2, and IV_4; see Table 1 for the scale items) were suspected to be problematic because of cross loadings and weak correlations. The Lagrange multiplier function within CFA helps identify sources of misfit (Kline, 2005). Changes in chi-square statistics help determine if removal of a particular item has an impact on the model and if it causes harm to a model fit. This is a statistical consideration. Modeling and estimation should incorporate known theoretical knowledge. Little et al. (1999)

states the common temptation is to maximize homogeneity, but the drawback of this attempt often is representation of constructs that are sharply defined (p. 207), highly intercorrelated indicators. The theoretical knowledge was strong enough to guide selection of indicators with plausible loading patterns. Besides possessing cross loadings with weak correlations, the first item (IV_1) had a negative correlation value, which was unexpected, and the second item (IV_2) was a double barrel item and thus was excluded from the model for further investigation. The results showed (Table 3) the model fit indices improved significantly after excluding problem items. The results with 13 items showed an adequate fit (Satorra-Bentler Scaled $\chi^2 = 146.37$, $df = 59$, $p = .00$ with CFI = .94, RMSEA = .07, NNFI = .94, SRMR = .05). The last item (IV_4) was not excluded because it spans the domain along with other indicators rather than be highly targeted.

Table 3

Summary Results of Confirmatory Factor Analysis with EOS (N = 244)

Number of indicators	Model[(a)]	CFI	RMSEA	NNFI	SRMR
15[(b)]	$x^2 = 277.14$, $df = 84$, $p = .00$	.89	.09	.80	.081
14 (IV_1 excluded)	$x^2 = 199.38$, $df = 71$, $p = .00$	.93	.08	.90	.064
13 (IV_2 excluded)	$x^2 = 146.37$, $df = 59$, $p = .00$	.95	.07	.90	.058
12 (IV_4 excluded)	$x^2 = 135.43$, $df = 48$, $p = .00$	.95	.08	.94	.055

Note. (a) Goodness of fit summary for method robust, Satorra-Bentler Scales results are reported; (b) the initial model includes 15 items.

The results showed that the 13-item, four-factor model overall had a reliability value of .93 and the subscales had good internal consistency with Cronbach's alpha values ranging from .79 to .92 (see Table 2).

The zero-order correlations among items also give a preliminary idea about discriminant and convergent validity (Kline, 2011). As expected, according to Pearson correlation analysis, the subcategories were moderately correlated (correlation range: .60 to .73). For discriminant validity, the correlations within a group of items expected to explain the same factor should be higher than these items' correlation with the indicators of other factors. For convergent validity, indicators of one construct should have moderate correlation with each other. Based on bivariate Pearson correlations, there was neither a discriminant nor a convergent validity problem in the first three factors. However, the first and the second indicators of the fourth factor were problematic; the correlations within the factor were relatively low. This problem showed up after we ran the CFA and screened the results as explained earlier, and those two items (IV_1 and IV_2) were excluded from the model.

Multicollinearity test results indicated no visible multicollinearity (i.e., signal of potential existence of redundant information), and none of the tolerance levels (tolerance = 1 - R^2) was equal to or less than .20 (see Cohen et al., 2003).

The next step was to test convergent and discriminant validity through CFA, which provided further information about unidimensionality (see Table 2 for

the calculation of the item loadings, R^2 values (Squared Item Loadings), average variance extracted (AVE; Average of Squared Item Loadings), and the correlations among the factors. The item loadings inform about convergent validity, and the comparison of a factor's square root of AVE value to its correlation with other factors describes discriminant validity. The results show that Factor IIb has discriminant validity (see Table 2; the square root of AVE = 0.89 is higher than the factor correlations on its left and below). The discriminant validity is low for Factor III (square root of AVE = 0.83 is lower than its correlations with IIa, 0.86, and IV, 0.96). All the loadings are above 0.70, which supports convergent validity. The loadings of the three indicators of Factor IV are lower than 0.70, indicating lower convergent validity.

Discussion

The purpose of this study was to provide leisure researchers a new measurement instrument based on the conceptual work of Kleiber et al. (2004) and Kleiber et al. (2008) that would extend our insight regarding the use of constraints as a construct in leisure research and conceivably contribute to scholarly discussions among researchers. The results showed that there is evidence validating the self-report approach to the measurement of potential benefits. As expected, there was no perfect correlation among the items, indicating that the scale items are distinct. Factor IV (change in attitude toward leisure) had only modest loadings, suggesting a place for improvement with further development, but the overall factor structure appeared to be sound.

The third factor (discovery of previously unattended capacity/acquisition of skills) seemed to have only modest discriminant validity, when correlated with other two factors (IIa: increased attention to other activities and IV: change in attitude toward leisure), as was also observed in the zero-order correlations. Theoretically, it could be a product of or motivation for attitude change (Category IV) and selective attention (Category IIa and IIb); thus this category (discovery of previously unattended capacity/acquisition of skills) was the most challenging category for which to write items. But, it is theoretically correct to accept that this correlation is logical but needs further investigation.

As theorized by Kleiber et al. (2008), Category IIb refers to increased attention to family and close friends and Category III focuses on how loss of leisure companions, functional abilities, expressive opportunities, or other losses can serve as motivation for personal transformation, which may be expected to result in enhanced social skills and enhanced relationships. The results of this study are consistent with how researchers' viewed constraints and theorized constraints. These two categories were modestly correlated, but they were different according to the CFA discriminant analysis results.

Current research on how and whether life circumstances limiting actions in some contexts (particularly leisure) provide opportunities that enable human growth is in its infancy, and thus this scale is limited with our understanding. However, our findings indicate that the scale shows promise as a tool for exploring the beneficial nature of constraints and conceivably has potential to contribute to scholarly discussions among researchers on the subject matter. How will this study help further research on this topic?

Kleiber et al. (2008) stated, "The paradoxical link between benefits and constraints is difficult to relate to the provision of recreation opportunities." It is necessary to provide support and arrange environments so that leisure behaviors and experiences are more likely to occur naturally. Constraints perhaps can play a role in providing support, arranging environments, and ultimately enriching life; removal of some constraints to leisure may be inessential and perhaps harmful. The model tested in this study incorporates a different way of looking at constraints consistent with the propositions of Kleiber et al. (2008). The scale presented here is intended to be used as a stepping-stone. With this scale, we hope to encourage not only a strength-based approach to constraints construct as proposed earlier (Jackson, 2005), but also the advancement of methodology applied in related literature.

First, the research described here focused on only three mechanisms proposed by Kleiber et al. (2004) and Kleiber et al. (2008). Categories II, III, and IV reflect an adaptation process through which one does not intend to achieve a predetermined goal. These three categories suggest that the mere facts of life trigger a process that is needed in most cases. Although benefits of such a process may be needed and/or wanted in certain situations, the process is not self-initiated. In constraints and gerontology literature, natural losses of the aging process are conflated with barriers; this confusion is one limitation to our understanding of the relationship of constraints to leisure behavior and experience. The present study intended to address this issue by modifying the stem question. Inclusion of other categories (I: resilience and deepened commitment; V: goal achievement and well-being) can help test the connection among the theoretical propositions. However, inclusion of the other categories (Category I and V) will perhaps demand significant variations of the stem question.

Second, the conceptual understanding of constraints and psychometric properties of this scale merit attention, and thus additional research is necessary to further test and validate the scale. As Kline (2005) suggests, we recommend testing the factor structure across different and diverse samples through the use of the same method, confirmatory factor analysis (see Kline, p. 205, for discussion). In addition, testing of this scale's relation to existing constraint models such as the models identified by Hubbard and Mannel (2001) and other scales focusing on positive consequences of losses such as the Silver Lining Questionnaire (SLQ; Sodergren, Hyland, Singh, & Sewell, 2002) is advised. A diversity of theoretical reasons for positive consequences of constraining conditions is reflected in various literature. Investigation of possible correlations can help test conceptual completeness and discuss implications for practice.

Last, Chick and Dong (2005) previously discussed the role of culture in constraining leisure and how it has received little attention in leisure studies. We agree with Chick and Dong's argument that cross-cultural research can provide insights for developing a more inclusive understanding of the constraints. For example, investigating this scale in relation to cultural dimensions and their relation to perception of constraints to leisure can offer direction for researchers regarding stem questions and theoretical explanations of constraint construct. The naturally dissimilar character of cultures in terms of availability of free time and options and

perceived freedom to engage in available options can help researchers investigate other benefits.

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