

休閒參與的個人背景差異： 社會人口因素、人格特質、社會需求

Differentiating Personal Facilitators of Leisure Participation: Socio-demographics, Personality Traits, and the Need for Sociability

傅仰止*
Yang-Chih Fu

陸洛**
Luo Lu

陳素燕***
Su-Yen Chen

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摘要

休閒活動普遍與否，隨著眾多個人及社會因素而異，而同樣的背景因素對不同人口群體的作用又未必一致。本文分析基本特徵、人格特質、對社會性的需求這三大個人背景，各自對了解不同型態的休閒參與有何助益，三者的效應又有什麼異同。最後並以性別區分樣本後進一步分析，揭示背景因素在不同群體的差異功能。實證資料取自台灣社會變遷基本調查 2007 年的第五期第三次調查問卷二 ($n = 2144$)。文中藉由階層迴歸分析，發現獨處式休閒（例如聽音樂、看書）的參與程度，幾乎取決於個人的社會人口基本特徵，尤其是年齡和教育程度。而社會互動比較頻繁的休閒（包括和朋友聚會、從事體能活動），則因為人格特質和社會需求而有明顯的參與落差，不是個人基本特徵所能決定。如果個別衡量單一特徵的統計檢定結果是否顯著，大多可以清楚區辨什麼樣的個人背景有助於獨處式或社會式的休閒參與。但是細究這些背景的統計效應大小，進一步發現三大項個人背景在兩個類型的休閒參與中扮演相當不同的角色。此外，部分個人背景所產生的效應相當一致，其他背景的效應則因休閒類型而異，也隨著性別等基本的人群分類原則而有變化。

【關鍵詞】：休閒參與、人格特質、社會需求

* 中央研究院社會學研究所研究員
Research Fellow, Institute of Sociology, Academia Sinica.
E-mail: fuyc@sinica.edu.tw

** 國立台灣大學工商管理學系教授
Professor, Department of Business Management, National Taiwan University.

*** 國立清華大學師資培育中心副教授
Associate Professor, Center for Teacher Education, National Tsing-Hwa University.

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Abstract

This paper first compares the extent to which socio-demographics, personality traits, and the need for sociability each facilitates different kinds of leisure participation with the general population in Taiwan. It then distinguishes how some of these factors differ in facilitating leisure for men and women. By means of hierarchical regression analyses of data from the Taiwan Social Change Survey ($n = 2144$), we found that the participation in solitary leisure activities, including music listening and book reading, was overwhelmingly determined by socio-demographic factors, particularly age and education. In contrast, both personality traits and the need for sociability help explain who are engaged more often in mostly-social leisure such as gathering with friends and doing physical activities. Such intrapersonal and interpersonal forces also accounted for a larger proportion of the total explained variance. Although most measures of an individual's background were significant in differentiating who participated more in both solitary and mostly-social leisure, the activities differed markedly in the size effects of these measures. Furthermore, some of these personal measures facilitated leisure participation consistently, whereas others exerted somewhat contradictory or inconsistent effects, particularly within male and female subpopulations.

Keywords: leisure participation, personality traits, sociability

Introduction

Research on leisure constraints has attracted significant attention for the past two decades. More recently, however, studies have extended the constraint approach to also inquire about what facilitates leisure participation, particularly how facilitators function differently amid diverse subpopulations. Leisure facilitators refer to factors that encourage or enhance participation in various leisure activities (Jackson, 1991, 1997, 2000; Raymore, 2002). Like leisure constraints, such facilitators can be divided into three types: (1) intrapersonal facilitators that involve an individual's demographic and socio-economic attributes, as well as psychological states, (2) interpersonal facilitators that stem from social interactions, and (3) structural forces that intervene between preference and participation.

These categories can form a hierarchical relationship as researchers evaluate how different factors help people engage in leisure activities. Among these, intrapersonal facilitators may be the most proximal and the most powerful, while structural facilitators tend to be the most distal and the least powerful (Crawford and Godbey, 1987; Crawford,

Jackson, and Godbey, 1991). That is, while structural factors help take into account cost, physical facilities, as well as social institutions to understand leisure participation, the personal factors that boost leisure activities have been fundamental in understanding the extent and pattern of leisure participation. Further, such intrapersonal and interpersonal factors play more critical roles in different types of leisure activities. Among the numerous personal factors that help identify who engages more often in leisure, this paper focuses on socio-demographics, personality traits, and the need for sociability, as they represent three major dimensions in the individual approach of studying leisure participation (Crawford et al., 1991; Raymore, 2002). It has been difficult to differentiate how significantly and substantially leisure participation varies on the basis of all three kinds of factors. By employing this research framework with nationwide survey data from Taiwan, the current paper examines the extent to which socio-demographic background (particularly gender, age, and education), personality traits (i.e., extraversion and sensation-seeking), and the need for sociability (e.g., the wish to make friends from leisure and the wish to be with others while engaging in leisure) facilitate leisure participation. In addition to identifying which of these factors exert more consistent effects and which factors tend to be contradictory in their influences, the paper also aims to highlight how these effects vary under different circumstances.

While it is valuable to examine how these forces help identify who participates more often in general, it may also be critical and revealing to focus on how the same forces vary in their contribution to the understanding of participation in *different activities*. The same personal background factors may play different roles amid diverse subpopulations along the age, gender, and ethnicity lines (Jackson, 2005). Although these factors reflect individual characteristics, they reveal how these individuals are located within a social hierarchy. As such, the socio-demographics identify people's social positions and help researchers examine how other personal factors function in different subpopulations. Thus, although the study of individual characteristics may be less innovative or inspiring in the recent literature of leisure research, socio-demographics remain essential factors that help reveal how people in various social groups differ in leisure participation.

The roles such socio-demographics play can vary widely. People who share the same socio-demographic characteristic, for example, may participate more actively in a wide range of leisure activities in a consistent manner. In contrast, those who share another socio-demographic feature may engage in a specific type of leisure often, but spend less time in another type. This study examines such a variation in the leisure activities that range

from mostly solitary, such as music listening and book reading, to the ones that are more social, such as getting together with friends and engaging in physical activities. Whether consistent or contradictory in how they facilitate leisure participation, each background factor at the personal level may also play dissimilar roles in terms of their magnitude of influence.

Data were drawn from the Taiwan Social Change Survey (TSCS), which incorporated all survey items of the 2007 module on Leisure Time and Sports from the International Social Survey Programme (ISSP). This international module measured structural background and the frequencies of participating in 13 leisure activities, from which we selected the 6 most frequently practiced activities as the indices of leisure participation. In addition, the Taiwanese survey contained supplemental items that tapped both intrapersonal and interpersonal factors. By means of hierarchical regression analyses, we first examine whether and how socio-demographic factors, personality traits, and the need for sociability help explain why individuals differ in their leisure participation. We then explore and compare how each of these three forces contributes to understanding different leisure activities.

Individuals' Positions in Social Hierarchy: Socio-demographic Factors

The demographic and socio-economic facilitators of leisure participation refer to a broad category of individual characteristics that reflect one's social position. Some of such factors have to do with the family, such as the stage of the life cycle and family financial resources, or with work, such as the scheduling of work hours. Others are limited to the individual, such as gender, age, and education. Many of these factors determine the opportunities for leisure and are essential in explaining leisure participation (Crawford et al., 1991; Crawford and Godbey, 1987).

As strong and reliable measures, which indicate where one is positioned in the social hierarchy, some socio-demographic characteristics have remained basic and powerful predictors for leisure participation. The evidence of such links is consistent and well established. For example, compared with men, women tend to be less involved in physical leisure activities (Bennett, 1998; Scott and Willits, 1998; Barnett, 2006), but they engage more heavily in social, creative/artistic, and intellectual leisure activities (Scott and Willits, 1998; Skaliotis, 2002; Menec, 2003; Avlund et al., 2004; Barnett, 2006). Even though the findings are relatively consistent, however, it remains to be seen how widely such a gender

pattern prevails in non-Western cultural contexts.

Further, age may help account for why people participate in different leisure activities. For example, a large-scale comparative study among European Union (EU) countries found that females under age 25 comprised the major audiences who listened to music programs on the radio (Skaliotis, 2002). In fact, age has such a profound effect on the extent and types of leisure participation that researchers need to explore such a relationship in terms of how biological, psychological, cultural, and social forces interact with each other as background factors. As such exploration takes a further step by incorporating historical events that are associated with the passage of time, one can advance the understanding of how structural opportunities shape leisure participation (Freysinger and Ray, 1994; Freysinger, 1995). Finally, better-educated adults tend to participate more in team sports, join programs that focus on exercise and health, and engage in and attend creative/artistic as well as intellectual activities, such as reading, using the Internet/PCs, concerts, theater performances and exhibitions, and other fine arts activities (Shinew, Floyd, McGuire, and Noe, 1996; Scott and Willits, 1998; van Eijck, 1999; Skaliotis, 2002; DiMaggio and Mukhtar, 2004; Lu and Chen, 2009). Studies about fine arts and reading activities also borrow Bourdieu and Nice's (1984) concept of cultural capital in an attempt to identify a distinctive class of people who participate in "high culture" activities.

While such a wide range of studies has examined how socio-demographic factors help identify patterns of leisure participation in general, recent research explores leisure activities within more specific social groups. In particular, researchers investigate whether disadvantaged minorities are more vulnerable to the constraints to leisure. Fear of crime and violence, as well as self-consciousness about physical appearance, prevents many women and adolescent girls from engaging in leisure, especially in public places or after dark (James, 1998; James and Embrey, 2001; Bialeschki, 2005). It is thus worth examining whether and how other socio-demographic factors play different roles for men and women. While overall socio-demographic effects are essential to leisure studies, the further exploration among diverse subpopulations should reveal the socio-demographic forces behind leisure participation more precisely.

Psychological Traits as an Intrapersonal Force

Many intrapersonal forces result from psychological traits and beliefs about how leisure functions in life, although stress, depression, anxiety, religiosity, and perceived skills also

may form intrapersonal barriers to leisure activities (Crawford and Godbey, 1987; Crawford et al., 1991). As enduring characteristics of individuals, personality traits have been associated with a broad spectrum of human behaviors. Western research has found limited evidence linking particular personality traits with specific choices of leisure, but seems to suggest that the extraversion type of personality (E) and sensation seeking (SS) are associated with a variety of leisure pursuits. For example, E has been positively related to participation in sports and social activities, though negatively related to reading (Furnham, 1981; Eysenck, Nias, and Cox, 1982; Argyle and Lu, 1990; Kirkcaldy and Furnham, 1991; Finn, 1997). Extraverts are also more engaged in "social" leisure activities (Barnett, 2006).

Representing a specific dimension of personality traits, SS has been important in leisure studies. Originally defined as a "desire for varied, novel, complex, and intense sensations and experience" (Zuckerman, 1994, p. 27), SS reflects the extent to which one is willing to take risks for various kinds of leisure, particularly those activities that may be exciting yet unsafe or hazardous. Empirical research has confirmed the widely assumed link between SS and such risky leisure as "dangerous sports" (Zuckerman, 1979, 1994). Somewhat surprisingly, empirical studies have also revealed that those with a strong tendency of SS participate more in less risky leisure activities, such as arts and music, as documented in a recent review of the relevant literature (Furnham, 2004).

One possible explanation for SS's robust, across-the-board effect on leisure participation may lie in one set of often overlooked characteristics of people with high SS -- an openness to experiences and actively seeking out psychological novelty rather than mere physical stimulation. Such characteristics are implied in the dimension of "experience seeking" in Zuckerman's (1993) original conceptualization of the SS personality. If this particular component of SS is gauged in a study, it makes sense that the so-called SS personality acts like a general facilitator for participation across a wide variety of leisure activities. Leisure activities such as reading books and listening to music are obviously instrumental in stimulating one's intellect, and extending and enriching one's experiences, while social activities, such as getting together with friends provide opportunities for sampling second-hand experiences. All these forms of leisure thus serve to satisfy needs of experience seeking in people with a high SS tendency, without exposing them to physical danger or requiring a high skill level. To corroborate this reasoning, a recent Taiwanese study confirmed that SS, measured as "experience seeking," was positively associated with greater overall leisure participation, an aggregate of 22 diverse activities (Lu and Kao, 2009). The same "experience seeking" aspect of SS was positively associated with greater

use of the Internet/PC as a form of leisure, which mainly fulfills the need of learning/developing new skills for Taiwanese adults (Lu and Chen, 2009). We thus focus on this particular component of the SS personality in the present study.

In sum, the existing research has linked both E and SS with various leisure activities. As recent studies in Taiwan have demonstrated, these two personality traits have been correlated with more active participation in many leisure activities (Lu and Hu 2002, 2005; Lu and Chen, 2009; Lu and Kao, 2009). Extraverts tend to actively pursue diverse activities to maximize opportunities for physical and social excitement because they normally are low in cortical arousal, according to personality theory (Eysenck, 1967). As a variant of extraversion, SS often leads to activities that satisfy such a need for excitement as well.

Sociability in Leisure: Interpersonal Situations

The relationship between sociability and participation in leisure activities has not received as much attention as that between personality traits and leisure participation. However, such an important connection between sociability and leisure has been apparent since Simmel's seminal work. Unlike the social forms in "the political, the economic, the purposive society of any sort," leisure exemplifies a form of sociable gathering that is "society without qualifying adjectives, because it alone presents the pure, abstract play of form" (Simmel, 1971, pp. 127-129). Joining in activities with others reflects the social organization of leisure, strengthens interpersonal relationships, and enhances a sense of belonging among the participants (Burch 1969; Cheek and Burch, 1976; Iso-Ahola and Park, 1996).

People often behave the way their friends do, according to the "like-me" or "homophily" principle, a core concept about how social networks function (Laumann, 1973; McPherson and Smith-Lovin, 1987). In addition, human behaviors are often conditioned by family and friends' preferences, beliefs, and behaviors, which may inhibit or promote leisure participation. For example, adolescents tend to participate in the same types of leisure activities as their close friends. Likewise, one spouse may affect a couple's joint preference for specific leisure activities in a profound way, as spousal interaction plays a major role in determining the extent to which a husband and wife participate in any leisure activities (Crawford and Godbey, 1987; Crawford et al., 1991).

Like many other activities, in other words, leisure activities often involve the people who surround the actor. For example, people rarely go to a festival or fair alone. Instead,

being with one's family and friends, or to socialize, remains the main reason why many people visit and revisit fairs (Kyle and Chick, 2002, 2004). Similarly, how much female adolescents participate in physical activities largely depends on how many of their peers also participate, whether the peers encourage them to do so, and how much these friends share with them their own positive experiences in a specific activity (Bungum and Vincent, 1997).

Studies on aging also shed light on how leisure contributes to the elderly's well-being by means of sociability. In particular, participating in personal networks leads to greater life satisfaction and successful aging, as friends remain a major source of enjoyment. As verified in Western societies, leisure activities *per se* may enhance physical and subjective well-being among older adults, but the sociability aspect of such activities makes a more substantial difference (Litwin, 2000; Duay and Bryan, 2006; Harahousou, 2006). Likewise, a recent study in Taiwan also suggested that daily contact, being with others during one's free time, and having a desire to making friends through leisure activities were all linked to more leisure participation and leisure enjoyment among the elderly (Chen and Fu, 2008). Furthermore, not only does such a close linkage exist in the activities that are "social" by nature, but it also applies to leisure activities that are largely "solitary" (such as reading books and listening to music). Thus, the tendency of or the preference for being with others or making friends with fellow participants should also help explain participation in many leisure activities.

Indeed, some leisure activities can be instrumental in enabling people to join and maintain social networks. For instance, early research noted that to have a common theme of conversation with friends was an initial motive to become a fan of popular singers (Ju and Lu, 2000). Likewise, Parker and Plank (2000) found that the Internet served the same social needs as reported for other media in the literature. The same can be said about reading books, which overlaps substantially with using the Internet for educational purposes (Lu and Chen, 2009). We may thus reason that reading, listening to music, and using the Internet are also instrumental to making and keeping friends in the sense that these leisure activities help create common interests and make it possible to share experiences within existing social networks. Therefore, in addition to socio-demographics and personality traits, it is important to take the need for sociability into account when explaining leisure participation with differential personal factors.

Data and Methods

Data for this paper were drawn from the 2007 TSCS module on Leisure Time and Sports. As a member of both the ISSP and the East Asian Social Survey (EASS), the TSCS has followed a rigor procedure in questionnaire design, sampling, face-to-face interview, data cleaning, and data dissemination. The routine survey design includes nationwide, three-stage, stratified, probability proportional to size (PPS) sampling based on household registration data. With more than 93,000 face-to-face interviews completed between 1984 and 2009, the TSCS has become the largest survey series of all general social surveys in the world (cf. Smith, Kim, Koch, and Park, 2006). The response rate for the 2007 survey was 50.7%, which fell within the stable range of response rates throughout the recent survey years of the TSCS (Chang and Fu, 2004).

Sample

The sample ($n = 2,144$) consisted of 50.2% males, with a mean age of 45.7 ($SD = 17.2$, ranging from 18 to 94, Table 1). Most respondents (75.5%) were married, 75.8% lived in urban areas, and 62.3% worked during the time of the interview. About 38.8% received no formal education or were educated up to middle school only (0-9 years of schooling), 27.5% were educated above middle school but not beyond high school (10-12 years of schooling), and 33.7% had ever attended college.

Table 1. Summary of Variables ($n = 2,144$)

VARIABLES	Means	SD	Min.	Max.
Dependent variables (Leisure Participation)				
1. Watching TV/DVD/Videos	4.678	.719	1	5
2. Spending time on the Internet/PC	2.882	1.812	1	5
3. Listening to music	3.519	1.505	1	5
4. Reading books	2.655	1.433	1	5
5. Taking part in physical activities	3.189	1.416	1	5
6. Getting together with friends	2.645	.989	1	5
Independent Variables				
7. Gender (1=male, 2=female)	1.498	.500	1	2
8. Age	45.702	17.192	18	94
9. Education	1.838	.766	1	3
10. Extraversion	5.137	1.433	2	8
11. Sensation seeking	9.093	3.843	4	20
12. Wish to make friends through leisure activities	2.804	1.022	1	4
13. Preference to be with others in free time	2.667	.976	1	4

Notes: Numbers in Min. and Max. indicate both ends of the scale for each variable. For leisure participation, the scale ranges from 1 (*never*) to 5 (*daily*); education ranges from 1 (*up to middle school*) to 3 (*college and above*); both extraversion (2 items) and sensation seeking (4 items) are composite scores; both wish and preference items range from 1 (*lowest*) to 4 (*highest*).

Dependent Variable: Leisure Participation

The survey module measured how frequently the respondents participated in 13 different leisure activities, a common battery administered in 41 member countries of the ISSP. Since the target of the surveys was the general adult population over age 18 all over the world, these activities covered wide-ranging patterns of leisure. To avoid cultural biases against the usage of the term “leisure”, the question items used “during your free time” when referring to leisure activities. Six activities turned out most popular in Taiwan: watching TV, DVDs or videos; listening to music; taking part in physical activities such as sports, going to the gym, or going for a walk; spending time on the Internet/PC; reading books; and getting together with friends, in that order. Other activities in which respondents participated less frequently included: going to the movies; going shopping; attending cultural events, such as concerts, live theater, and exhibitions; getting together with relatives; playing cards or board games; attending sporting events as a spectator; and doing handicrafts such as needlework, woodwork, etc. (Chang and Liao, 2008). Respondents chose one from five ordinal categories that indicated how often they took part in each leisure activity, ranging from 1 (*never*) to 5 (*daily*).

Independent Variables

The independent variables closely follow what the research framework suggests. In sum, one’s socio-demographic background was estimated by three individual characteristics; intrapersonal factors included two sets of personality traits (E and SS); and the need for sociability, which exemplified interpersonal factors, was measured by two items that closely reflected key concepts of sociability.

Socio-demographic background. As basic in most leisure studies, the demographics included gender (with males being the comparison group) and age (on an interval scale). The socioeconomic status was roughly measured by education in three pooled, ordinal categories: from none to middle school, high school, and college and above.

Personality traits. The module measured the Ten-Item Personality Inventory (TIPI) for the Big-Five used in a previous ISSP survey (Gosling, Rentfrow, and Swann, 2003). The inventory, with one positive item and one negative item in each dimension, tapped these Big Five dimensions: Openness (O), Conscientiousness (C), Extraversion (E), Agreeableness (A), and Neuroticism (N). Since existing theories and empirical findings indicate a close relationship between E and leisure participation, we adopted E as the first

measure for personality. It is not realistic to expect a high internal consistency reliability with only two items, but the Cronbach Alpha coefficient between the two E items was relatively high at 0.60 (the correlation coefficient was 0.43, $p < .001$), indicating a reliable construct.

The module also measured sensation-seeking (SS) by adopting four items from the Sensation-Seeking Scale (SSS) (Zuckerman, 1993). The items mainly tapped the “experience seeking” component of the SSS, such as looking forward to taking an adventure (both by oneself and with others) or getting bored seeing the same old faces. All the items on these personality traits used 5-point scales (1 = *not at all like me*, 5 = *very much like me*). The items were correlated with one another closely (all significant at .001 level). The Cronbach Alpha coefficient of the SSS was 0.74, confirming that the items measured the concept of SS in a consistent and coherent manner. After verifying reliability of the scale, we created a composite score for E and SS, respectively, by adding up the items.

Need for sociability. We measured the degree of sociability with two related questions that tapped the need for sociability, which represents an important concept pertaining to leisure participation. First, how strongly did the respondents wish to make friends through leisure activities (1 = *did not wish at all*, 4 = *wished very strongly*)? Second, did the respondents prefer to be with other people or prefer to be by themselves in their free time (1 = *most of the time alone*, 4 = *most of the time with other people*)? Both items showed the extent to which one was willing to become more closely connected with fellow participants when undertaking leisure. While an actual better connection is supposed to lead one to more active participation, having a strong intention may play a key role in motivating and keeping one more rigorously engaged in leisure activities. To avoid the fallacy of circular reasoning, we avoided items that asked about actual patterns of sociability and used only those that revealed individuals' intention.

Results and Discussion

As in many other societies, watching TV (including DVDs or videos) turned out to be the most popular leisure activity in Taiwan by far. About 78% of the respondents watched TV every day, while 93% watched it at least several times a week. Among the six most popular leisure activities included in the current study, “getting together with friends” ranked last in terms of frequency, but still more than half (51.7%) of the Taiwanese adults met their friends at least several times a month. The other four activities ranked in between these two

extremes. These activities covered different types of leisure. They also varied in terms of leisure participation and the participants' background. Although some of the dependent variables were skewed, we kept them to preserve "mundane reality," rather than create near-perfect statistical conditions. Thus, we take the dependent variables as they were measured for the analyses without transforming them to fit the mathematical requirements of a normal distribution.

At first glance, how often individuals participated in leisure activities was highly correlated with socio-demographic factors. For example, people who read books, met friends, listened to music, and used the Internet/PC more often all shared the same socio-demographic background: They were all younger and better educated (Table 2). In contrast, those who spent more time watching TV were older and less educated, while older and more educated people tended to take part in physical activities more frequently.

Table 2. Pearson Correlations among Variables

Variable	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.
1. Watching TV/DVD/Videos	1												
2. Spending time on the Internet/PC	-.060*	1											
3. Listening to music	-.006	.448**	1										
4. Reading books	-.056*	.490**	.413**	1									
5. Taking part in physical activities	.054*	.060*	.178**	.216**	1								
6. Getting together with friends	.032	.255**	.211**	.175**	.125**	1							
7. Gender	-.028	-0.066*	-.004	.023	-.041	-.149**	1						
8. Age	.046*	-.668**	-.430**	-.369**	.108**	-.218**	.021	1					
9. Education	-.080**	.705**	.400**	.550**	.114**	.213**	-.074**	-.603**	1				
10. Extraversion	.021	.148**	.178**	.162**	.085**	.254**	.042	-.147**	.130**	1			
11. Sensation seeking	-.059*	.541**	.333**	.385**	.055*	.244**	-.114**	-.583**	.522**	.167**	1		
12. Wish to make friends through leisure activities	.044*	.261**	.264**	.237**	.159**	.244**	-.040	-.289**	.230**	.234**	.257**	1	
13. Prefer to be with others in free time	.022	.039	.053*	-.031	.041	.202**	-.047*	-.048*	.030	.235**	.056*	.217**	1

* $p < .05$, ** $p < .01$.

Zero-order correlation coefficients also indicated that leisure participation was highly associated with personality traits and sociability. Those with a strong E and SS tended to participate more often in all types of leisure activities except watching TV, so did those who wished to make friends through leisure activities. The intention to be with others during their free time was also positively correlated with leisure participation, though not as comprehensively as the wish to make friends through leisure.

Watching TV and Using the Internet

Some of these initial signs of association held when other background factors were also taken into account; other associations became insignificant. For example, a hierarchical regression showed that the frequency of watching TV/DVDs/videos varied only on education and the wish to make friends from leisure. While holding demographic background, personality traits, and sociability measures constant, the more-educated Taiwanese apparently watched TV less often (Model 1, Table 3). In addition to education, only the wish to make friends seemed to explain well why this hobby differed among people. Since watching TV has been such a widespread daily routine, it is difficult to identify who actually watches it more often. The total variance that all the independent variables were able to explain was only 0.014. When personality and sociability factors were added in Steps 2-3, respectively, none of the steps resulted in noticeable changes in *R*-squares.

Like watching TV, using the Internet and PC in one's free time has become a popular activity to kill time (the third most popular in this study). Whereas watching TV was nearly universal among the whole population, the use of the Internet remained more popular among certain age groups and educational levels. For example, overall, 46% of the respondents used the Internet for leisure at least several times a week. While that percentage dropped to only 2% for people who only went to elementary school, it rose to 90.1% for those who had attended college. Very obviously, then, Internet use is widespread within younger and more educated groups (Model 2, Table 3).

Like TV watchers, net surfers are barely distinguishable by factors beyond socio-demographic background. Among personality and sociability factors, only "sensation seeking" clearly helped identify who went online more often. Just like the adventurers who used to explore the wild frontiers, those who showed a strong wish to seek more sensation by taking more risks and breaking apart from the daily routine also tended to surf cyberspace more frequently ($p < .001$, Model 2, Table 3).

Table 3. Hierarchical Regression of Leisure Participation ($n = 2,011$)

	Model 1 Watching TV/DVD/ Videos	Model 2 Spending time on the Internet/PC	Model 3 Listening to music	Model 4 Reading books	Model 5 Taking part in physical activities	Model 6 Getting together with friends
Step 1						
Gender (female)	-.047	-.062	.067	.201***	-.044	-.259***
Age	.000	-.035***	-.020***	.004	.031***	-.002
Education	-.083*	1.041***	.376***	.890***	.432***	.091*
R-Square	.010	.586	.210	.303	.067	.073
Step 2						
Extraversion	.010	.015	.082***	.077***	.058*	.117***
Sensation seeking	-.006	.051***	.022*	.054***	.036***	.027***
R-Square Change	.001	.008***	.013***	.021***	.017***	.060***
R-Square	.011	.594	.223	.324	.084	.133
Step 3						
Wish to make friends	.035*	.050	.191***	.139***	.219***	.107***
Preference to be with others	.010	-.011	-.017	-.127***	.005	.134***
R-Square Change	.003	.001	.014***	.013***	.022***	.032***
R-Square	.014	.595	.237	.337	.106	.165
F Value	4.046***	420.583***	89.010***	145.325***	33.850***	56.580***
df	(72,003)	(72,003)	(72,003)	(72,001)	(72,003)	(72,003)

* $p < .05$, ** $p < .01$, *** $p < .001$.

Notes: Numbers are unstandardized regression coefficients.

As two of the most frequently engaged leisure activities, net surfing and TV watching differed in one major aspect. All independent variables combined to account for only 1.4% of the total variance in TV watching, but they explained 59.5% of the use of the Internet. In other words, while one can hardly explain why some people watch TV more often than others by examining socio-demographic background, personality traits, and the need for sociability, these same factors are informative about who tends to surf the Internet and who

does not.

With further scrutiny, these two activities have one more thing in common. Although Internet use varied on the three groups of factors, age and education predetermined nearly all of this variation. Of the total explained variance (0.595), Step 1 alone contributed 0.586. In contrast, the other two steps added up to account for only 0.009, regardless of the significant addition by personality traits ($p < .001$, Step 2, Model 2). Thus, even though the *R*-square change in Step 2 was statistically significant, the size and the relative proportion of its effect was too limited for us to make any substantial and meaningful inference. In this sense, TV watching and the use of the Internet represent two polar and contrasting common leisure activities from which researchers gain relatively little knowledge by attempting to explain them in terms of personality and sociability.

Listening to Music and Reading Books

Participation in the other leisure activities varied more noticeably on more background factors, and the steps of hierarchical regression revealed substantial changes to the variance that each model aimed to explain. Two of such activities that are usually regarded as solitary, listening to music and reading books, showed consistent patterns in how they varied on background factors and how significantly each step of the forces added to the total variances explained (although people may listen to music or reads book with other people, these two activities have become “a modern phenomenon” that people usually do by themselves (cf. Argyle, 1996, pp. 196-202). When the sample was split by gender, however, some of the factors reveal differing effects between males and females.

Take the second-most-popular activity of all, listening to music, as example. Not only did the frequency vary markedly on age and education, but it also differed by intrapersonal and interpersonal forces. For example, younger and more-educated people were apparently more likely to listen to music during their free time ($p < .001$, Model 3, Table 3), just like the net surfers. Both intrapersonal and interpersonal forces revealed significant effects on how often individuals listen to music. When other factors were held constant, extraverts clearly tended to listen to music more frequently ($p < .001$, Model 3, Table 3). Likewise, after taking socio-demographic background and personality traits into account, those who wished to make friends from leisure activities in general also tended to listen to music more. Thus, even among the Taiwanese who shared the same demographics and educational levels and showed the same need for sociability in leisure activities, *E* still played a significant role in facilitating music listening. Similarly, even among those who

shared personality and other background features, the need for sociability also helped explain why some people listened to more music than others.

The variation in book reading shared some of findings in common with music listening, though it differed in other aspects. Education again played a pivotal role: The more educated apparently read books more often ($p < .001$, Model 4, Table 3), as did female respondents. Unlike listening to music, the sample as a whole did not vary by age as to how often people read books (Table 3). After the sample was divided into males and females, however, the age effect emerged among males. Older men tended to read books more often than their younger counterparts ($p < .01$, Model 1, Table 4), even though as a group men read less often than females, and overall age was not a significant background factor in differentiating who read more. Thus, only when we separated subpopulations by gender did such a fundamental demographic effect emerge for men.

Table 4. Hierarchical Regression of Leisure Participation by Gender

	Model 1 Reading books (males)	Model 2 Reading books (females)	Model 3 Getting together with friends (males)	Model 4 Getting together with friends (females)
Step 1				
Age	.008**	-.002	-.006**	-.003
Education	.947***	.803***	.025	.179***
R-Square	.302	.318	.044	.072
Step 2				
Extraversion	.115***	.035	.122***	.116***
Sensation seeking	.054***	.056***	.016	.037***
R-Square Change	.031***	.006	.058***	.063***
R-Square	.333	.324	.102	.136
Step 3				
Wish to make friends	.135**	.138**	.102**	.113***
Preference to be with others	-.115**	-.138**	.175***	.091***
R-Square Change	.007	.017	.043***	.022***
R-Square	.340	.341	.145	.158
F Value	86.49***	85.14***	28.45***	30.83***
df	(61,007)	(6,988)	(61,008)	(6,989)

* $p < .05$, ** $p < .01$, *** $p < .001$.

Notes: Numbers are unstandardized regression coefficients.

These two solitary activities also shared certain common personality and sociability features among their frequent participants. Like music listeners, for example, book readers were actually more likely to be extraverts ($p < .001$, Model 4, Table 3), although such a positive association between extraversion and book reading remained significant only among males when the sample was split (Model 1, Table 4). Furthermore, even after taking other background features into account, particularly the degree of extraversion, those who sought more sensation still overwhelmingly tended to be avid book readers. More than music listening, then, book reading seemed to provide an opportunity from which the sensation seekers explored knowledge and adventure in an unknown world.

When socio-demographic and personality traits were held constant, furthermore, book reading was again like music listening in its positive association with the intention of making friends from leisure activities. In other words, even among the same extraverts, who also shared similar socio-demographic background and degree of sensation seeking, those who wished to befriend other leisure participants were more likely to read books as well as listen to music. Like extraversion, such a wish to make friends was closely and positively associated with these solitary activities.

The linkage may be hard to understand. When examining the other sociability variable, however, the sense of being “solitary” in book reading may make more sense. For those who expressed a general preference for being with others during leisure activities, book reading is a rare hobby. For every ordinal step toward being with others, all else equal, the regression coefficient decreased 0.127 in the frequency of reading books ($p < .001$, Model 4, Table 3).

In other words, a stronger wish to be alone (the direct opposite of being with others in the original question item) during free time was highly associated with more book reading. Being an extravert, seeking sensation, and wishing to make friends did not prevent one from reading; rather, they actually contributed to more frequent book reading. Only a stronger intention to be with others seemed to discourage people from reading. In terms of *R*-square changes, each additional step in personality traits and sociability proved significant, thus showing a valid, incremental power in explaining the overall participation in solitary music listening and book reading.

Physical Activities and Getting Together with Friends

Many of the background factors that helped explain the variation in solitary leisure also played significant roles in understanding how frequently individuals were engaged in

mostly-social leisure, such as taking part in physical activities and getting together with friends. While “getting together with friends” is “social” by its nature, “physical activities” like sports and exercise are less clear. One can exercise alone, but many people do it in groups or with another person. Although the data give no obvious indication whether one is engaged in “social” physical activities, it may be closer to the fact to use “mostly-social” for such activities because they contain a very strong social component (Argyle, 1996, p. 221).

For example, the better educated not only listened to more music and read more books, but they also took part in physical activities and met with friends more often. When we separated males from females to examine the socio-demographic effects, however, education helped getting together with friends more often only among women, not men (Models 3-4, Table 4). In other words, the overall strong education effect on spending time with friends needs to be modified if we take different subpopulations into account. Education plays a very limited role when we try to understand why some men spend time with friends more often.

Like book reading, nonetheless, the frequency of getting together with friends varies on age among men, not women. Even though age seemed insignificant in explaining this particular leisure activity, men actually get together with their friends less often as they get older (Model 3, Table 4). Thus, behind the overall picture of how socio-demographic background factors contribute to such leisure activities as reading books or spending time with friends, men and women differ markedly in terms of how such factors play out.

Holding other factors constant, both measures of personality traits showed strong effects on engaging in physical activities and getting together with friends. The extraverts and sensation seekers participated in physical activities and meet friends more aggressively, even if they shared similar socio-demographic background and conveyed the same need for sociability. Not surprisingly, extraverts showed the greatest signs of meeting friends ($p < .001$, Model 6, Table 3), even though they also listened to music, read books, and engaged in physical activities more frequently.

The need for sociability was again remarkable in separating who engages in these two mostly-social leisure activities, particularly meeting friends. Like other leisure activities (except netsurfing), those who met with friends more frequently tended to be the ones who wished to make friends through leisure. Unlike other activities, however, those who expressed a strong desire to be with others in their free time did in fact meet friends more often ($p < .001$, Model 6, Table 3). In terms of personality traits and the need for sociability,

both intrapersonal traits and interpersonal situations play important roles in identifying who participates more in such mostly-social leisure activities.

Other things being equal, the Taiwanese who are more outgoing and more social apparently participate more often in both solitary and mostly-social activities. While some previous studies have linked E, SS, and the need for sociability with physical activities, the present analyses show clear evidence that the same intrapersonal and interpersonal forces also lead to more frequent participation in a solitary hobby. At first glance, the finding appears to put equal weights of such forces on the two diverging types of activities. A further comparison reveals a key difference between the two.

In terms of the statistical significance of individual variables, many factors within each of the socio-demographic, personality, and sociability forces served to distinguish the respondents well. The sporadic results of the significance test confirmed that these independent variables were indeed valid in separating who participated more in these activities. More consistent findings within each of the three forces further showed that, as a group, these categories are indeed reliable and coherent forces that help explain the variation in each dependent variable. But neither of the findings tells much about the magnitude of the variance, which reflects more to what extent each of these forces adds to the understanding of leisure participation.

One effort to look beyond “statistical significance” is to examine the *R*-squares’ change in each step of the hierarchical regression analysis. For solitary leisure such as listening to music, Step 1 (socio-demographic factors) accounted for 0.210 (88.6%) out of 0.237 (Model 3, Table 3), the total variance explained by the model. Each of the other steps (from Step 2 to Step 3) produced an *R*-square change that turned out statistically significant. However, in light of the size of the total explained variance, the size of each incremental *R*-square remained small (the largest being only 0.014, from the sociability measures in Step 3). Therefore, although each of personality traits and the need for sociability served to distinguish who listened to music more often, the combination of these forces (the sum of *R*-square changes was a mere 0.027) adds little to our understanding of this particular hobby beyond socio-demographic background. By checking with age and education alone, in particular, one will learn who listened to music more.

The same limit applies to book reading: Gender, age, and education together accounted for 0.303 (89.9%) out of the total explained variance of 0.337. In contrast, both personality and sociability explained only 10.1% (the sum of *R*-square changes in Steps 2-3

is a mere 0.034) of the variance explained in Model 4.

For an active leisure activity such as taking part in sports, going to the gym, or going for a walk, in contrast, socio-demographic background (Step 1) accounted for only slightly more than half of the total explained variance (0.067 out of 0.106). Explaining about 36.8% of the total explained variance, thus, personality traits and the need for sociability turned out to be substantial and important factors for comprehending the whole picture behind physical activities.

These two forces contributed even more to understanding what kinds of backgrounds help explain who gets together with friends often and who does not. While socio-demographic background is again basic to such an understanding, the two groups of forces combined to account for more than half of the total explained variance (the sum of *R*-square changes reaches 0.092, or 55.8%, out of 0.165, Model 6, Table 3). Among the six leisure activities, how often one gets together with friends varied the most on personality traits and the need for sociability. Relative to the total variance explained by the model, the pooled *R*-square changes from Steps 2-3 were quite substantial, particularly because its sizable proportion outweighed that of solitary leisure (which ranged from 10.1% for book reading to 11.4% for music listening).

Therefore, not only does each of these forces provide a significant addition to understanding mostly-social leisure, but they also combine to make a relatively important and considerable contribution. Even though personality traits and the need for sociability are significant in explaining leisure participation in most activities, the results clearly indicate that these activities differ from one another in how substantially and remarkably the forces beyond socio-demographic background help unravel the variation. Such a difference is the most apparent between solitary and mostly-social leisure.

Conclusion

This paper disentangled three major forces at the individual level that facilitated leisure participation. It also showed some divergent socio-demographic effects between subpopulations. With the help of systematic data taken from a nationally representative sample in Taiwan, this study analyzed how the participation in different leisure activities varied on socio-demographics, personality traits, and the need for sociability. While these three groups of factors showed little variation among widespread leisure activities, such as watching TV and using the Internet, they diverged on how much each contributed to two

other common types of leisure.

For solitary leisure activities, such as music listening and book reading, the variance of participation was predominantly determined by socio-demographic background, especially age and education. Even though each of the incremental changes resulting from personality and sociability was statistically significant, their magnitudes and relative proportions were limited. In light of the total variance explained by all factors included in the hierarchical regression, the combined variance explained by these two forces was quite small. Thus, while both intrapersonal and interpersonal factors helped identify who engaged more often in solitary leisure, they added little to understanding such activities beyond the more fundamental socio-demographic determinants.

It was a very different story for mostly-social leisure. Not only did personality and sociability help identify who took part in physical activities and met friends more frequently, but they also combined into major forces that accounted for a larger proportion of the total explained variance. That is, intrapersonal and interpersonal factors turned out more important and substantial to the participation of mostly-social leisure activities, toward which socio-demographic background played a much lesser role. By including these two forces into the statistical models, we enhanced considerably our understanding of what kinds of forces promote participation in mostly-social leisure. Since the total variance explained by all independent variables is small, however, many more forces remain unknown. Future studies should continue to explore what kinds of forces beyond socio-demographic characteristics help bring still more insight into mostly-social leisure activities. Since some surprising results emerge from exploring each of the subpopulations divided by gender, further analyses with other diverse subpopulations should be also revealing.

Nearly all of the personality traits and sociability measures were significant in distinguishing who participated more, in solitary and mostly-social leisure activities alike. But such a finding is based on checking the level of the statistical significance for each independent variable in the models, and that of the specific *R*-square changed after each step of the hierarchical regression analysis. The finding is consistent, but not necessarily enlightening or compelling. In terms of the magnitude of statistical effects, the regression analyses revealed more information about the nature of leisure participation.

According to the most recent arguments urging social scientists to pay more attention to other fundamental matters in statistical analyses (Firebaugh, 2008; Ziliak and McCloskey, 2008), the magnitude of statistical effects should be brought back to the core of substantive

inquiries into social phenomena. Not only has this paper explored how significantly and validly each variable reflects the respective forces that shape leisure participation, but it also has focused on the relative size of statistical effects. In terms of what proportion of the total explained variance to which different forces contribute, solitary and mostly-social leisure activities differ markedly in the roles that socio-demographics, personality traits, and the need for sociability play. With such additional scrutiny, size effects help advance our knowledge about what facilitates leisure participation.

Overall, the findings of this paper suggest that personal factors are fundamental to revealing what facilitates leisure participation. While more recent literature on leisure research has focused more on exploring both facilitators and constraints amid diverse subpopulations, particularly minorities, an individual's demographic and socioeconomic background remains a starting point to researching leisure. By adding personality traits and sociability to personal factors, this paper expands into two very different dimensions of individuality. The significance of these two additional factors may be limited by their small incremental powers in explaining the variations in leisure participation, but they help identify how Taiwanese adults participate in different types of leisure activities. Since some surprising results emerge from exploring each of the subpopulations divided by gender, more analyses with other diverse subpopulations should be also revealing, and thus further contribute to the current literature.

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