

Impact of Arts-Related Activities on the Perceived Quality of Life*

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By

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1. Introduction

The first two sentences of an exploratory study published a few years ago reported the fact that

“The impact of the arts broadly construed on the overall quality of people’s lives is without a doubt the most understudied and possibly the most under-rated issue in the field of social indicators research. In all of the 1085 papers of the 63 volumes of *Social Indicators Research* published since the first issue in March 1974, there is *not even one* focused precisely on this question” (Michalos 2005a, p.11).

At the time of writing this sentence, 19 volumes with a total of 361 articles (completing volume 82) have been added to the journal series, and there is now *one article* focused precisely on this question, the article from which the quoted passage is taken. Three articles were cited in the exploratory study as related but not quite on target. Another three should be mentioned here. Fanariotu and Skuras (2004) reported results of a contingent valuation study using a “Scenic Beauty Estimation technique” on a sample of undergraduate economics students at the University of Patras (Greece) showing that “the inclusion of. . .respondents’ aesthetic indicators improves the explanatory power of the models used to approximate a demand curve and provides more accurate welfare estimates”. Baker and Palmer (2006) undertook a survey in a city in the southwest of the USA to assess the impact of “recreation participation” on the quality of life. Among other things, 352 respondents were asked “to rate the level of participation of their household on 22 activities”, including participation in “performance art activities”, “viewing art”, “visiting museums/historic sites” and “studio art activities”. Their findings did “not support the literature that suggests that recreation activity participation. . .predicts quality of life”, but the authors speculated that this result “may be due to the fact that this study measured recreation participation at the household level”. Iwasaki (2007) reviewed the research literature drawn mainly from China, India and Japan to assess the impact of culture and leisure on the quality of life, using a broad definition of ‘leisure’ that included many of the arts-related activities in our survey as well as things like shopping, sports, socializing with friends and family, and outdoor adventures.

As in Michalos (2005a), the term ‘arts’ is used here in a very broad sense to include such things as music, dance, theatre, painting, sculpture, pottery, literature (novels, short stories, poetry), photography, quilting, gardening, flower arranging, textile and fabric art. Although we regard ‘culture’ as a term with a broader connotation than ‘arts’ and many people seem to treat the two terms as synonyms, such distinctions should not create any confusion here because we will give a complete list of everything we consider to be an arts-related activity for the purposes of this study. Again following the strategy of the exploratory study, we are not attempting any distinction between high/fine and low/popular art or culture.

Given earlier explorations of our study-question, the relatively short supply of material from *Social Indicators Research* was not surprising. However, it was surprising to read in a very thorough literature review of “the benefits of the arts” undertaken by McCarthy, Ondaatje, Zakaras and Brooks (2004, p.16) that the group of studies “developing new concepts and methods for assessing how the arts impact the quality of life in communities” is “small and still in its infancy”, though these reviewers thought “it may eventually provide some promising methods”. Besides the relative scarcity of studies on the quality-of-life impact of the arts,

following DiMaggio (2002), these reviewers cited four “fundamental weaknesses” in the benefits literature. The first three were called “fallacies” by DiMaggio. In his own words,

“The first fallacy is that of *homogeneity of ‘treatment.’* We often talk as if ‘the arts’ were a single thing, and that exposure to ‘the arts’ represents a single ‘treatment’ (to use the lingo of medical research) on the individual or community. In fact, ‘the arts’ can mean arts education, adult participation in making art, arts attendance, [etc.]. . . *There is no reason to assume that these things have similar effects on persons or communities.* . . . A second fallacy is that of *homogeneity of effects.* We also often speak as if the arts. . . have undifferentiated effects on people and communities, whatever these effects may be. . . Effects may be heterogeneous due to interactions with other factors. . . or effects may be path-dependent. . . [depending] on small but decisive intervening events. . . A third fallacy is that of *linearity of effects* – the idea that the effects of increments in arts inputs are invariant to scale and that their relationship to community-level outcomes are thus linear in form (DiMaggio, 2002, pp.1-2).

The fourth “weakness of the research on instrumental benefits” according to the reviewers was

“the failure to examine the comparative advantage of the arts over other means of achieving the same effects. Cognitive benefits can, for example, be promoted by better schooling, social benefits by forms of community activity other than arts involvement, and economic benefits by public investments in alternatives to the arts” (McCarthy, Ondaatje, Zakaras and Brooks (2004, p.20).

Although the present investigation is focused on the respondent-perceived quality-of-life impact of diverse arts-related activities, it is important to notice that we do not commit the first two of DiMaggio’s “fallacies”, explicitly search for linear versus nonlinear relationships, and have some new and important things to say about the comparative advantage of arts-related activities. We avoid the first two fallacies by (1) specifying 66 distinct arts-related activities and examining the associations between respondents’ time invested in and satisfaction obtained from each kind of activity, (2) examining associations between the time invested in and satisfaction obtained from these activities on the one hand and seven different measures of the overall quality of people’s lives on the other, and (3) examining all associations in the presence of a number of other features of respondents’ lives, e.g., features concerning demographics, motives, participation in non-arts-related activities and satisfaction obtained from a variety of domains of life, like family relations, friendships, housing and a sense of meaning in life. Regarding his third fallacy, we recognize the fact that there may be nonlinear *as well as* or *rather than* linear relationships among all our variables, but we have limited our investigation here to linear relationships merely to simplify the task. Explorations in search of nonlinear relationships will be undertaken later. Our findings regarding the comparative advantage of arts-related activities are mixed, complicated and modest at best. Although we appreciate all arts-related activities as important expressions of humanity, this is not a work of advocacy and we have no more interest in boosting the arts with our research than Anaxagoras had in moving the planets with his astronomical investigations.

On one quite basic point, we take issue with the fine review of McCarthy, Ondaatje, Zakaras and Brooks. It is a point they made twice. First, they wrote

“Intrinsic benefits of the arts are intangible and difficult to define. They lie beyond the traditional quantitative tools of the social sciences, and often beyond the language of common experience” (p.37).

Later on they added,

“The greatest challenge [to those interested in promoting the arts] will be to bring the policy community to explicitly recognize the importance of intrinsic benefits, which can only be done by making that community aware of the need to look beyond quantifiable results and examine qualitative issues. Intrinsic effects may not ultimately be susceptible to rigorous quantitative analysis, . . .(p.72).

We do not doubt that “the policy community” may have difficulty recognizing “the importance of intrinsic benefits”, but we believe that our work here demonstrates the facts that the investigation of the intrinsic benefits of diverse arts-related activities is not at all “beyond the traditional quantitative tools of the social sciences” and thoroughly “susceptible to rigorous quantitative analysis”. The investigation of the experienced, perceived, remembered and reported levels of satisfaction obtained from diverse features of life has flourished over the past 40 years (Michalos 2005), and such satisfaction is a perfect example of an intrinsic benefit. As McCarthy, Ondaatje, Zakaras and Brooks (2004, pp.37, 47) wrote,

“ . . .intrinsic benefits refer to effects inherent in the arts experience that add value to people’s lives. Obvious examples are the sheer joy one can feel in response to a piece of music or to movements in dance or to a painting. . .However, it is misleading to say that pleasure, at least in the normal sense of the word, is a necessary element in the appreciation of art. As Levinson points out: ‘Much art is disturbing, dizzying, despairing, disorienting – and is in fact valuable in virtue of that. We are glad, all told, that we have had the experience of such art, but not. . .because such experience is, in any natural sense, pleasurable’ (1996, p.12)”.

To these important observations concerning the relative unimportance of pleasure-production as a necessary feature of great art, one might add the following from Gombrich’s 1950 classic, *The Story of Art*,

“ . . .the Expressionists felt so strongly about human suffering, poverty, violence and passion, that they were inclined to think that the insistence on harmony and beauty in art was only born out of a refusal to be honest. The art of the classical masters, of a Raphael or Correggio, seemed to them insincere and hypocritical. They wanted to face the stark facts of our existence, and to express their compassion for the disinherited and the ugly” (Gombrich 2006, p.437).

The different measures used here to operationalize the concept(s) of a perceived good life or a life perceived to have a relatively good quality capture different degrees of positive and negative affect, and generally have different mixtures of cognition and affect. That is why it is vitally important for researchers in this field to use more than one measure to assess the overall perceived quality of life, as some of us have stressed for over 30 years (Michalos 2003). Still, the main point we want to make is just that although social indicators researchers have neglected the question of the impact of arts-related activities on the quality of life, a great deal of the thoroughly quantitative tools and methods of social indicators research is directly applicable to this question and to the problem of measuring the intrinsic benefits of such activities.

The structure of this paper is fairly standard. In the next section (2) we describe our sampling technique and questionnaire, and in the section after that (3) we summarize the characteristics of the sample. The descriptive statistics resulting from the substantive items in the questionnaire are reviewed in section (4). In section (5) the results of a variety of bivariate analyses are presented, and variables shown to have statistically significant bivariate associations are used in multivariate analyses in section (6). The concluding section (7) provides a brief overview and general discussion of the investigation.

2. Sampling Technique and Questionnaire

The 10-page questionnaire used in the surveys undertaken for this investigation was a revised version of one used for the Prince George exploratory survey described in Michalos (2005a). In October and November 2006, questionnaires were mailed out to residents of five British Columbia communities that had shown some interest in participating in the study, namely, Comox Valley, Kamloops, Nanaimo, Port Moody and Prince George. A random selection of 2000 households in each community received questionnaires, making a total of 10,000 distributed.

The first three pages of the questionnaire listed 66 activities that are related in one way or another to the arts, e.g., listening to music, teaching painting or drawing, singing in a group, attending live theatre performances. Because people participate in different artistic activities in very different time periods, from daily (e.g., listening to music) to a few times per year (e.g., attending live theatre performances), to properly estimate the amount of time committed to such activities, two different questions were included. For activities involving frequent participation, respondents were asked to estimate the average amount of time per week that they spent on them, in hours. If they never engaged in some particular activity, they were asked to write 0 for *hours per week*. For activities involving infrequent participation, respondents were asked to estimate the number of times per year that they participated in them. If they never engaged in some particular activity, they were asked to write 0 for *times per year*. For those activities in which they participated, they were asked to rate the average level of satisfaction obtained on a 7-point scale running from 1 = very dissatisfied, 2 or 3 = dissatisfied, 4 = even balance of satisfaction and dissatisfaction, 5 or 6 = satisfied, to 7 = very satisfied.

The Appendix attached to this paper has a complete list of all the activities sorted and ordered by (1) the numbers of people participating in each, (2) the average number of hours per week people engaged in each and (3) the average number of times per year that people engaged in each. Copies of the questionnaire and detailed responses to all items, for all communities are available from the corresponding author on request.

Frequency-of-participation questions formatted as we have them here are fairly demanding and can be troublesome. Ogrodnik (2000, p.9) was right when she wrote that

“The GSS survey collects information on the respondent’s stated behaviour. Due to errors in recall and the tendency to present ourselves in a favourable light, verbal reports are an imperfect indicator of actual behaviour whether it be reading, attending theatrical performances or watching television. For example, reading is a socially desirable behaviour and consequently may be exaggerated, while an activity such as television viewing is generally seen as less desirable behaviour and consequently may be somewhat underreported.”

Nevertheless, our formatting is more suitable for present purposes than any available alternative. In a good review of the use of time diary studies, Harvey (1990, p.312) reported that “The comparison of time diary and activity list information [our approach] has led to the conclusion that as long as care is taken in definition, the two approaches exhibit a high degree of correspondence of comparable dimensions (Cosper and Shaw, 1982)”. Most importantly, our formatting provides more of a continuous type of variable that is particularly useful for exploring linear relationships. In a fine review of issues surrounding such questions, Schwarz, Groves and Schuman (1998, pp.155-156) claimed that “the available evidence suggests that respondents are likely to under-report behaviours and events”, but

“To avoid systematic influences of response alternatives, it is advisable to ask frequency questions in an open response format, such as “How many hours a day do you watch TV? ___ hours per day.” . . .As another alternative, researchers are often tempted to use vague quantifiers, such as “sometimes,” “frequently,” and so on. This, however, is the worst possible choice (see Pepper, 1981, for an extensive review).”

The question used by the Louis Harris polling firm in several national surveys undertaken for the American Council for the Arts and the National Assembly of Local Arts Agencies was “In the past 12 months, have you gone to [the movies, live performances of a play, etc.] often, once in a while, not at all, not sure” (American Council for the Arts, 1996, p.26). In its national survey of Americans in 2004, the Institute for Innovation in Social Policy (now at Vassar College) used the question “Approximately how often during the past twelve months have you [listened to music at home, read any books for pleasure, etc.], Very often, Fairly often, Not very often, Not at all, Not sure” (Institute for Innovation in Social Policy, 2005, p.58). The question used by the U.S. National Endowment for the Arts in five surveys since 1982 asked respondents if they “had read a book [gone to a musical play, art museum, etc.] during the previous twelve months” (National Endowment for the Arts, 2003, p.3).

A question used by the University of Chicago’s National Opinion Research Center in its 1993 General Social Survey was described first as “crude” by DiMaggio (1996, p.174) since it only asked respondents if they had “visited an art museum [etc.] one or more times during the previous year” and then he described it as “an extraordinarily blunt instrument”. The main problem with such questions is that

“the 40 percent of respondents who replied affirmatively constitute a heterogeneous group, ranging from the person dragged by a companion to a single blockbuster exhibit to the connoisseur for whom museum visiting is a weekly treat. Therefore, one would not be surprised if we failed to find significant differences between visitors and non-visitors; but, if we were to find significant effects of our visitor measure, we would expect that a more refined measure (e.g., a reliable measure of visit frequency, or one that distinguished between attendance at different kinds of exhibits. . . would exhibit stronger effects” (DiMaggio, 1996, p.164).

As it turned out, DiMaggio did find significant effects, in spite of his measurement tools. In particular, he found that “after adjusting for the effects of age, education, income, race and gender”, compared to non-visitors,

“Art-museum visiting appears to be associated with an open, tolerant, trusting orientation, an expansive cosmopolitanism reflected in more positive attitudes towards political and social non-conformists, multiple artistic forms, and racial and international ‘others’, as well as less punitive attitudes towards criminals” (DiMaggio, 1996, p.175).

The Canadian General Social Survey in 1998 was a bit more sophisticated than any of those just cited, using more than one format for infrequent and frequent participation. For relatively infrequent events it asked “During the past 12 months did you go to a movie theatre [watch a video, etc.] Yes, No, Don’t know” and then, following an affirmative answer, “How often? 1-4 times a year, 5 or more times, but not every month, at least once every month, don’t know.” For relatively frequent events it asked “Last week, how many hours did you listen to the radio. . .? None at all, 0.25-99.00, Don’t know” (Ogrodnik, 2000, pp.99-101). Unfortunately, no information was gathered concerning how respondents evaluated their arts-related experiences.

Following the frequency-of-participation items, there was a page of questions designed to get more information about the arts-related activity (out of the 66) that respondents perceived as “most important”. For examples, there were questions about levels of satisfaction with their access to the activity, with the price of engagement and with the usual venue, and questions about where they first learned about the activity, e.g., in school, watching television, listening to a friend, and how old they were at the time.

The next two pages listed 45 statements culled from the literature describing people’s beliefs and feelings about the arts, usually phrased in personal terms, e.g., My artistic activities help me preserve my cultural heritage, I engage in artistic activities to express my spirituality, I enjoy art for its own sake. Sometimes the phrasing was impersonal, e.g., Artistic activity strengthens a community, Good art needs no justification beyond itself. Respondents were given a 5-point Likert scale and asked to indicate for each item their level of agreement or disagreement, with “strongly disagree = 1” and “strongly agree = 5”.

There were then two pages of standard questions about respondents’ health and quality of life. These included questions about life as a whole and about specific domains and aspects of life, e.g., family relations, friendships, sense of meaning in life. Seven overall assessments of life were used as dependent variables in this study: (1) self-reported general health using a 5-point scale from poor to excellent, (2) satisfaction with life as a whole using a 7-point scale from very dissatisfied to very satisfied, (3) satisfaction with the overall quality of life using a 7-point scale from very dissatisfied to very satisfied, (4) happiness with life as a whole using a 7-point scale from very unhappy to very happy, (5) satisfaction with life as a whole using a 5-item index drawn from Diener, Emmons, Larson and Griffin (1985), (6) contentment with life using a 5-item index drawn from Lavalley, Hatch, Michalos and McKinley (2007) and (7) subjective wellbeing using a 4-item index (Michalos, Thommasen, Read, Anderson and Zumbo, 2005). All measures of satisfaction with particular domains or aspects of life were formatted as 7-point scales running from very dissatisfied to very satisfied and these measures have been used around the world for over 30 years (Michalos 2005).

Following these standard questions, there were two pages of questions designed to test some of the basic hypotheses of Multiple Discrepancies Theory (MDT, Michalos 1985), e.g., Considering your life as a whole, how does it measure up to your general aspirations or what you want out of life?, How does it measure up to the best in your previous experience? These questions were not included in the exploratory study. In fact, this is the first survey allowing some testing of MDT in the context of a wide variety of information about arts-related activities and the perceived quality of life.

Finally, there were 2 pages of demographic questions about, e.g., age, sex, marital status, income and education.

3. Sample Characteristics

The response rate was relatively poor, compared to other surveys conducted by the Institute for Social Research and Evaluation. The earlier exploratory study in Prince George produced the worst response rate encountered in over 10 years of survey research in the city, until this second survey focused on the arts. We speculated then that the topic probably created the problem. McCarthy, Ondaatje, Zakaras and Brooks (2004, p.38) wrote that

“‘Art for art’s sake’ in its various forms has been profoundly influential, and although the intent was to insulate art from demands that it be useful, the unintended consequence has been to make art seem remote, esoteric, and removed from life. In effect, the predominance of this aesthetic theory has inhibited research into the ways that arts experiences enhance ordinary life.”

Maybe this is part of our problem, but it is inconsistent with findings from other research. According to a national survey by Decima Research in October 2001, with a representative sample of N = 2603,

“Canadians express strong sentiments about the contribution of arts and culture to the quality of life. Nearly three-quarters (74%) of respondents believe the arts are important in terms of enhancing the quality of their lives. Furthermore, 72% disagree with the statement that “having arts and cultural performances, exhibits and festivals does little or nothing for the well-being of a community” (Decima, 2002, p.3).

DiMaggio and Pettitt (1999, p.32) reported that “Majorities of close to ninety percent routinely agree that the arts are vital to the good life, that they are important to the development of children, and that they enhance the quality of communities”.

A total of 1027 (10.3%) useable questionnaires were returned, which form the working data-set for the survey. Exhibit 1 summarizes the main features of the respondent sample for the whole group and for each of the five communities. Of the five communities, the largest sample came from Comox Valley (Comox, 239 = 23.4% of the total) and the smallest sample came from Port Moody (PM, 165 = 16.2%).

Nearly two-thirds of all respondents were female (5 Comm, 655 = 64.0%), with Comox Valley and Nanaimo having the largest percentages of female respondents (Comox = 66.1%, Nan = 66.0%) and Port Moody and Prince George having the smallest (PM = 61.8%, PG = 61.9%). Women are generally more supportive than men of the arts (Decima 2002, p.50, DiMaggio and Pettitt, 1999, p.34).

The mean age of respondents for the whole group was 53, ranging from 18 to 93. The Nanaimo sample had the highest mean age (Nan = 57) and the Prince George and Port Moody samples tied for the lowest mean age (PG, PM = 49).

For the group as a whole, 33.7% held a university degree and another 24.0% held a diploma or certificate from a trade, technical, business or community college. Kamloops had the lowest percentage of respondents with a university degree (27.6%) and Port Moody had the highest percentage (46.1%). Port Moody had the lowest percentage of respondents whose highest academic credential was a diploma or certificate from a trade, technical, business or community college (21.8%), and Prince George had the highest percentage (27.5%).

Thirty-six percent of all respondents were employed full-time, with Prince George having the highest percentage (PG = 50.0%) and Comox Valley the lowest (Comox = 25.0%).

For the group as a whole, 32.1% were retired, ranging from 18.5% in Prince George to 41.4% in Nanaimo.

Sixty percent of all respondents were married, ranging from a low of 55.2% in Nanaimo to a high of 66.1% in Port Moody.

The mean household income for the whole group was \$72,799, with the highest mean appearing in Port Moody (PM = \$92,723) and the lowest in Nanaimo (Nan = \$61,351).

The mean Body Mass Index for respondents in the total sample was 26.1, which was very similar to the mean in every community. The means ranged from a low of 25.6 in Port Moody to a high of 26.7 in Prince George. A BMI of 26 is around the lower boundary for being

overweight for adults in general, but given the average age of our respondents, these scores are probably just about where one would expect them to be.

For the group as a whole, 67.3% completed the questionnaire on a sunny day, with only 34.6% of Prince George respondents enjoying such a day while they completed the questionnaire, compared to a high of 83.4% of Comox Valley respondents.

The mean Celsius temperature at the time of completing the questionnaire for all respondents was 14.7°, with a low of 10.0° in Prince George and a high of 17.1° in Port Moody.

Because the sampling frames were specific to each community, the total aggregated sample was not intended to be representative of the whole province. (In April and May 2007 a province-wide survey was undertaken to obtain a representative sample for the province. As this is being written, results of the province-wide survey are still being calculated.) However, a visit to Statistics Canada's website in August 2006 revealed clearly that the community samples are certainly not representative of any of the communities. To take two simple examples, according to the 2001 census, the percentage of female residents in each of the communities ran from 50.0% in Prince George to 52.0% in Kamloops, while the percentage of residents over the age of 20 with university degrees ran from 11.0% in Nanaimo to 24.0% in Port Moody. Thus, it is probably best to regard the total and individual community samples as merely representative of some British Columbian residents who had some interest in the arts. While one cannot generalize results reported here to any of the community populations, there is no reason to think that the results are not valid for the 1027 respondents. Furthermore, because no other study has considered as broad an array of questions concerning as broad an array of arts-related activities, with as large a sample, we have good reasons for taking our results very seriously.

4. Descriptive Statistics

Exhibit 2 lists the top 10 arts-related activities by percent of participants, with average *hours per week* participation and mean levels of satisfaction, for the whole group and each of the five communities. For the total sample and for each community, the activity with the highest percentage of participants was listening to music, followed by reading novels, short stories, plays or poetry. For the total sample, 89.3% reported listening to music an average of 13.3 hours per week with a mean level of satisfaction of 5.9. The Port Moody sample reported the highest percentage of music listeners (94.6%), listening on average 13.1 hours per week with a mean level of satisfaction of 5.9. The lowest percentage of music listeners came from the Nanaimo sample (81.4%), averaging 13.7 hours per week with a mean level of satisfaction of 6.0. Generally speaking, with the 7-point satisfaction scale and sample sizes of about 500, differences between mean scores of 0.3 or fewer percentage points are not statistically significant at the modest level of 0.05 percent, i.e., 19 times out of 20 one might find such differences appearing merely by chance.

For the total sample, 68.7% reported reading novels, etc. an average of 8.5 hours per week with a mean level of satisfaction of 6.2. The Port Moody sample reported the highest percentage of such readers (72.7%), reading on average 7.1 hours per week with a mean level of satisfaction of 6.2. The lowest percentage of readers came from the Nanaimo sample (64.7%), averaging 9.8 hours per week with a mean level of satisfaction of 6.3.

The third and fourth activities with the highest percentages of participants for the total sample were watching films on dvd or video and singing alone, respectively. Forty-one percent of all respondents reported watching films on dvd or video on average 4.7 hours per week with a mean level of satisfaction of 5.5. Thirty-seven percent of all respondents reported singing alone

on average 4.9 hours per week with a mean level of satisfaction of 5.7. Such film watching was the activity in third place for the samples from Port Moody (46.7%), Prince George (45.7%) and Kamloops (41.5%), while singing alone was the activity in third place for the samples from Comox Valley (41.3%) and Nanaimo (35.3%). On the other hand, singing alone was the activity in fourth place for Kamloops (37.8%), Port Moody (36.4%) and Prince George (32.3%), while watching films on dvd or video was the activity in fourth place for Comox Valley (39.7%) and Nanaimo (32.8%). Regarding watching films on dvd or video, Nanaimo respondents reported the highest average of 5.6 hours per week with a mean level of satisfaction of 5.7 and Prince George respondents reported the lowest average hours per week, 3.9, with a mean level of satisfaction of 5.7. For singing alone, Prince George respondents reported the highest average of 6.1 hours per week with a mean level of satisfaction of 5.8, while Kamloops respondents reported the lowest average hours per week, 3.5, with a mean level of satisfaction of 5.5.

For the total sample and for four communities, the activity with the fifth highest percentage of participants was reading to others. For the total sample, 23.1% reported reading to others an average of 3.8 hours per week with a mean level of satisfaction of 6.1. The Kamloops sample reported the highest percentage of such readers (26.4%), reading on average 3.1 hours per week with a mean level of satisfaction of 5.9. The lowest percentage of such readers came from the Comox Valley sample (21.9%), averaging 4.2 hours per week with a mean level of satisfaction of 6.1. For Nanaimo, the activity with the fifth highest percentage of participants was gourmet cooking. Seventeen percent of respondents reported spending an average of 6.5 hours per week on gourmet cooking, with a mean level of satisfaction of 6.4.

Casual observation of the rows summarizing the top five and the next five activities reveals that there are 6 kinds of activities mentioned in the top five and 9 kinds mentioned in the next five activities. Besides having a couple more activities mentioned, there is greater variety in each of the second five rows. It would be difficult to articulate that variety here, but it is worth noting that for the total sample, the order of appearance of activities in the second five rows runs from gourmet cooking (18.4%) to telling stories (16.3%), painting or drawing (15.5%), playing a musical instrument (14.3%) and singing in a group (13.9%). In this set of activities, painting and drawing involves the greatest amount of time on average, 5.9 hours per week, and singing in a group involves the least amount of time, 3.6 hours per week. The highest mean level of satisfaction came from gourmet cooking, 6.2, and the lowest came from singing in a group, 5.8.

Exhibit 3 lists the top 10 arts-related activities by percent of participants, with average *times per year* participation and mean levels of satisfaction, for the whole group and each of the five communities. For the total sample and for four communities, the activity with the highest percentage of participants was going to films (cinema, movie theatres). For the total sample, 64.0% reported going to films an average of 5.9 times per year with a mean level of satisfaction of 5.4. The Port Moody sample reported the highest percentage of film attendees (76.4%), averaging 7.3 times per year with a mean level of satisfaction of 5.5. The lowest percentage of film attendees came from the Prince George sample (61.9%), averaging 4.7 times per year with a mean level of satisfaction of 5.5. For Comox Valley, the activity with the highest percentage of participants was attending art museums and galleries. Sixty percent of respondents reported attending art museums and galleries on average 3.6 times per year, with a mean level of satisfaction of 5.9.

For the total sample and each of the five communities, the activity with the second highest percentage of participants was going to concerts. Sixty percent of the total sample reported going to concerts an average of 4 times per year, with a mean level of satisfaction of

6.1. The Port Moody sample reported the highest percentage of concert attendees (68.5%), going to concerts an average of 3.4 times per year, with a mean level of satisfaction of 6.1. The lowest percentage of concert attendees came from the Prince George sample (56.1%), averaging 3.5 concerts per year, with a mean level of satisfaction of 6.0.

For the total sample and three communities, the activity with the third highest percentage of participants was attending community festivals. Fifty-four percent of all respondents reported attending community festivals an average of 2.8 times per year, with a mean level of satisfaction of 5.6. Port Moody respondents reported the highest percentage of festival attendees (67.9%), attending an average of 2.8 times per year with a mean level of satisfaction of 5.7. Nanaimo respondents reported the lowest percentage of festival attendees (53.4%), attending an average of 3.0 times per year with a mean level of satisfaction of 5.6. For Kamloops, the activity with the third highest percentage of participants was going to historic, heritage sites. Fifty-three percent of respondents reported going to such sites an average of 3.5 times per year, with a mean level of satisfaction of 5.9. The activity with the third highest percentage of participants in Prince George was visiting the public library (53.4%), with visits averaging 8.8 times per year and a mean level of satisfaction of 5.7. People visit public libraries for a variety of reasons, some of which are not arts-related, e.g., for job hunting information, internet access and business information. However, a city survey in Prince George in June 1998 revealed that the most frequently mentioned reason for attending the public library was for “recreational reading”. Fifty-two percent of 643 respondents mentioned this reason, with an average of 10.1 visits per year. The second most frequently mentioned reason for visiting the library was access to CDs and videos (Michalos, 2005b).

For the total sample and for two communities, the activity with the fourth highest percentage of participants was going to historic, heritage sites. For the total sample, 53.0% reported going to such sites an average of 3.3 times per year, with a mean level of satisfaction of 5.9. The Port Moody sample reported the highest percentage of such visitors (58.8%), attending on average 4.0 times per year with a mean level of satisfaction of 5.8. The lowest percentage of such visitors came from the Prince George sample (51.1%), averaging 2.3 times per year with a mean level of satisfaction of 5.9. For Kamloops and Nanaimo, the activity with the fourth highest percentage of participants was going to art museums and galleries. Fifty-three percent of Nanaimo respondents reported making an average of 3.8 visits per year to art museums and galleries with a mean level of satisfaction of 5.7, compared to 48.2% of Kamloops respondents who reported an average of 3.2 visits per year with a mean level of satisfaction of 5.6. For Comox Valley, the activity with the fourth highest percentage of participants was going to films. Fifty-seven percent of respondents reported going to films on average 5.6 times per year with a mean level of satisfaction of 5.3.

For the total sample and for one community, the activity with the fifth highest percentage of participants was going to art museums and galleries. For the total sample, 51.8% reported going to art museums and galleries an average of 3.5 times per year, with a mean level of satisfaction of 5.8. Fifty-six percent of the Port Moody sample reported going an average of 4.2 times per year with a mean level of satisfaction of 5.9. For Kamloops and Prince George, the activity with the fifth highest percentage of participants was going to community festivals. Forty-eight percent of Kamloops respondents reported going to such festivals an average of 2.5 times per year with a mean level of satisfaction of 5.6, compared to 46.2% of Prince George respondents who reported going an average of 2.4 times per year also with a mean level of satisfaction of 5.6. Attendance at amateur live theatre performances occupied fifth place for

Comox Valley. Fifty-seven percent of respondents from this community reported attending such performances an average of 2.8 times per year with a mean level of satisfaction of 6.0. For Nanaimo, fifth place was occupied by visits to other kinds of museums, i.e., non-art museums such as science and technology museums, natural history museums and special-interest museums for automobiles, trains and aircraft. Fifty percent of Nanaimo respondents reported visiting other museums an average of 2.8 times per year with a mean level of satisfaction of 5.8.

There are 8 kinds of activities mentioned in the top five and in the next five rows of Exhibit 3. For the total sample, the order of appearance of activities in the second five rows runs from visiting a public library (48.6%) to going to professional live theatre performances (45.2%), going to amateur live theatre performances (44.9%), going to other (non-art) museums (43.1%) and home decorating (35.2%). In this set of activities, public libraries attract the greatest number of visits, on average 10.3 visits per year with a mean level of satisfaction of 5.7, and going to other museums attracts the fewest number of visits, on average 2.5 visits per year with a mean level of satisfaction of 5.8. The highest mean level of satisfaction came from going to professional and amateur live theatre performances, 5.9 in both cases, and the lowest came from home decorating and visiting a public library, 5.7 in both cases.

Considering the results displayed in Exhibits 2 and 3, as well as the complete array of results displayed in the Appendix, there can be no doubt that DiMaggio (2003) was right. It is a mistake to assume that all arts-related activities provide the same sort of ‘treatment’ (causes) and the same sort of effects.

Because, among other things, the specific arts-related activities listed, the formatting of questions, the nature of the survey method (telephone versus mailout), and the nature of the samples in the Canadian GSS of 1992 and 1998 were different from ours, it is impossible to make close comparisons between our results and those of the two Statistics Canada surveys. However, here are six rough comparisons that suggest the sort of differences between what one finds in the two surveys of representative samples of Canadians and ours. (The GSS statistics are taken from Ogrodnik, 2000, p.17, Table 3.) For the GSS 1992 and 1998, 66% and 61.3%, respectively, reported that they “read a book” for leisure in the past twelve months, compared to 68.7% of our respondents who read novels, short stories, plays or poetry. For the GSS 1992 and 1998, 48.6% and 59.1%, respectively, reported that they “went to a movie” in the past twelve months, compared to 64.0% of our respondents who went to a movie. For the GSS 1992 and 1998, 80.6% and 76.8%, respectively, reported that they “listened to cassettes, records, CDs” in the past twelve months, compared to 89.3% of our respondents who listened to music. For the GSS 1992 and 1998, 39.6% and 35.5%, respectively, reported that they went to a “theatrical performance” or “other popular stage performance” in the past twelve months, compared to 45.2% of our respondents who went to live professional theatre performance. Finally, for the GSS 1992 and 1998, 27.6% and 30.6%, respectively, reported that they went to a “public art gallery, art museum” or “commercial art gallery” in the past twelve months, compared to 51.8% of our respondents who went to an art museum or gallery.

Besides our 66 listed arts-related activities, 127 respondents wrote in some others, 70% of which had only one entry. Paper crafts were mentioned most, with N = 18. It was followed by gardening (9), exercise of some sort (yoga, golf, 9), woodworking and craft fairs (5 each), stained glass (4), down to several single entries, e.g., performing dance, Saturday radio opera and, of course, beer drinking.

Exhibit 4 lists the percent of respondents indicating the first thing they think of when they hear the word ‘arts’ or the phrase ‘artistic activity’ and respondents’ most important arts-related

activity, with mean levels of satisfaction with nine aspects of that activity, for the whole group and 5 communities. A quick look at the first four rows of this exhibit reveals a remarkable level of consistency.

For the total sample and for each of the five community samples, the most frequently mentioned activity that respondents think of when they hear the word ‘arts’ or the phrase ‘artistic activity’ is painting and/or drawing. Twenty-eight percent of the total sample gave that response, with a high of 33.3% in the Comox Valley sample and a low of 22.1% in the Prince George sample. Decima (2002, p.37) found the same first choice. Thirty-three percent of their representative national sample mentioned ‘painting’ when they were asked “what comes to mind when they think of ‘the arts’”.

The most frequently mentioned “most important” arts-related activity in the total sample and in each community is music in some form. Thirty-four percent of the total sample gave that response, with a high of 41.8% in Kamloops and a low of 26.2% in Comox Valley.

The most frequently mentioned place where respondents first learned about their most important arts-related activity is in school. Fifty-one percent of the total sample gave that response, with a high of 55.8% in Kamloops and a low of 47.1% in Prince George.

The mean age at which respondents first learned about their most important arts-related activity was 12.7 years for the whole sample, ranging from 11.7 years in Port Moody to 14.1 years in Comox Valley. This is consistent with a great deal of other research indicating that “early exposure is often key to developing life-long involvement in the arts” (McCarthy, Ondaatje, Zakaras and Brooks, 2004, p.xviii).

Ogrodnik (2000, p.9) correctly remarked that “Level of interest does not necessarily translate directly into participation in a culture activity. Lack of opportunity, inaccessibility, lack of time and economic restrictions all can result in non-participation”. Exhibit 4 shows that for the total sample and for every community sample, mean satisfaction levels reported for respondents’ access to information about their most important arts-related activity, access to the activity itself, access to the place where the activity occurs and about the place itself were all on the positive side (5 or higher) of the 7-point satisfaction scale. For the remaining five items in the list, three communities had mean satisfaction levels on the positive side for a single aspect and all other mean satisfaction levels were below the positive side. Mean satisfaction levels reported for the price (\$) paid for participating in respondents’ most important arts-related activity were 5.2 for the Comox Valley sample, and 5.0 for Kamloops and Prince George. For the total sample, the mean satisfaction level reported for the price paid for participating in respondents’ most important arts-related activity was 4.9; for the amount of city government support for that activity, it was 4.1; for the amount of provincial government support, 3.6; and for the amount of federal government support, 3.5. The mean satisfaction level with support from other sources (e.g., donors, students and clients) was 4.6. Mean satisfaction with city support (4.4), provincial support (3.9) and federal support (3.8) was highest for the Comox Valley sample. The lowest mean level of satisfaction with city support came from the Nanaimo sample (3.9); with provincial support, it came from Nanaimo and Port Moody (3.4); and with federal support, from Kamloops and Port Moody (3.3). Regarding support from other sources, the Prince George sample reported the highest mean satisfaction level (4.8) and Kamloops, the lowest (4.4).

To give some context to these government support figures, it is worthwhile to notice that the 2001 Decima poll found that “Most (85%) strongly or somewhat agree that ‘governments should provide support for arts and culture’, compared with just 13% who disagree” (Decima,

2002, p.3). The sensitivity of government-support items to question wording was illustrated by DiMaggio and Pettit.

“...when asked if they approved of federal funding for the arts, two out of three [American] respondents agree. But when asked in sequence if they approve of public arts funding at the city, county, state, and federal level (or at all levels), respectively, fewer than two in five say ‘yes’ to federal support” (DiMaggio and Pettit, 1999, p.33).

Near the end of her review of results from Statistics Canada’s General Social Surveys of 1992 and 1998, Ogrodnik (2000, p.89) wrote,

“In the Ninth report of the Federal Standing Committee on Canadian Heritage, mention was made that one should find out the ‘whys’ of the consumer, audience or participant in cultural events. Similarly, Ernst and Young indicated that while, on one hand, we could look at an audience simply through demographics, we also need to examine the underlying reasons why these different groups consume or do not consume certain cultural outputs. Beyond asking: Who goes to the theatre, the opera, our museums, who buys books, who goes to the movies, the next step is to ask Why? Motivation for participating and purchasing a culture product is not tapped through the GSS.”

We did ask ‘Why?’. Twenty-seven of the 45 statements in our questionnaire about beliefs and feelings about art were used to construct five indexes of beliefs and feelings that might motivate people to engage in arts-related activities. Since correlation coefficients cannot identify the direction of causality between significantly related variables, it is possible that significant correlations arise because the experience with arts-related activities leads to certain beliefs and feelings about the activities. Most likely, the causal arrows run in both directions although we are using the general label of ‘motivational indexes’ for the five. McCarthy, Ondaatje, Zakaras and Brooks (2004, p.56) captured this two-way causality with the comment that “Those individuals who are most engaged by their arts experience are the ones who are the most attuned to the intrinsic benefits, and those benefits create not only positive attitudes toward the arts, but also the motivation to return”.

Only the total sample was used for the construction of these indexes. Exhibit 5 lists each of the indexes by name, and gives the statements included in each, the percent of the total sample agreeing or strongly agreeing with each statement, the item-total correlation of each statement with the index and Cronbach’s Alpha Coefficient of Reliability. Each index is formed by simply summing the values of the variables included in it.

Exhibit 5a describes the *Index of Arts as Self-Health Enhancers*, which has six items and an Alpha Coefficient of $\alpha = 0.88$. A good representative item is ‘My artistic activities contribute to my emotional wellbeing’, which has an item-total correlation of $r = 0.82$. Eighty-nine percent of respondents agreed or strongly agreed with this statement.

Exhibit 5b describes the *Index of Arts as Self-Developing Activities*, which has six items and an $\alpha = 0.89$. A good representative item is ‘My artistic activities contribute to my self-esteem’, which has an item-total correlation of $r = 0.76$. Seventy-four percent of respondents agreed or strongly agreed with this statement.

Exhibit 5c describes the *Index of Arts as Community Builders*, which has six items and an $\alpha = 0.86$. A good representative item is ‘Artistic activity strengthens a community’, which has an item-total correlation of $r = 0.71$. Eighty percent of respondents agreed or strongly agreed with this statement.

Exhibit 5d describes the *Index of Arts and Arts-Related Activities as Ends in Themselves*, which has five items and an $\alpha = 0.77$. A good representative item is ‘I enjoy art for its own sake’, which has an item-total correlation of $r = 0.67$. Eighty-seven percent of respondents agreed or strongly agreed with this statement.

Exhibit 5e describes the *Index of Arts as Spirit-Building*, which has four items and an $\alpha = 0.78$. A good representative item is ‘Art is important for expressing my religious feelings’, which has an item-total correlation of $r = 0.61$. Twenty-one percent of respondents agreed or strongly agreed with this statement.

Exhibit 6 summarizes responses to questions about individuals’ health status, memberships in organizations (e.g., school groups, sports groups, church social groups, ethnic clubs) and time spent participating in such organizations. Fifty percent of the total sample reported that they were in excellent or very good health, compared to a high of 58.0% for the Port Moody sample and a low of 45.8% for the Nanaimo sample. Fifty-seven percent of the total sample reported that they were members of at least one organization, with the Comox Valley sample reporting the highest percentage (64.8%) and the Prince George sample reporting the lowest (49.3%). For the total sample, respondents participated in meetings or activities of their organizations an average of 5.6 times per month, with the Comox Valley respondents reporting the highest value of 6.5 times per month and the Prince George sample reporting the lowest, 4.6. Considering only religious services or meetings, apart from special occasions like weddings, funerals or baptisms, respondents as a whole participated an average of 5.0 times per month, with Kamloops respondents reporting the highest value of 5.9 times per month and Prince George respondents reporting the lowest value of 4.1 times per month. For the total sample, respondents reported serving as a volunteer an average of 4.3 hours per week, with Kamloops respondents reporting the highest value of 4.9 hours per week and Prince George respondents reporting the lowest value of 3.3 hours per week.

Exhibit 7 summarizes mean levels of domain and overall life satisfaction and happiness for the whole group and five communities. There are plenty of numbers to chew on, but here we will only make a few general observations and highlight a few interesting specifics. (Readers should keep in mind the rough general rule regarding differences in score values of 0.3 percentage points or less, and the fact that our community samples are considerably smaller than 500.) First, of the 204 entries in the exhibit, 153 (75%) are on the positive side of the 7-point satisfaction and happiness scales. Second, of the 18 entries concerning satisfaction with government officials, none is on the positive side and only 3 community scores reach as high as the middle point (4) of the scale. This is fairly typical for such measures, so typical in fact that Cummins (1996) recommended not including such measures in standardized tests of reported life satisfaction on the grounds that they would usually depress test scores. Third, a simple count of the percent of entries of 5.5 or higher in each column reveals that the Comox Valley sample has the highest percentage of such entries (55.9%), followed by Nanaimo (44.1%), Kamloops and Port Moody (38.2%), and finally by Prince George (35.3%). Considering the comprehensiveness of the total array of satisfaction and happiness scores in this exhibit, one might want to use these percentages as very general measures of the perceived overall quality of life in the five communities according to our non-representative samples.

Although most scores are rather similar, there are some big differences between the total sample scores and some community sample scores. For example, the total sample mean level of satisfaction for respondents’ city, town or rural area is 5.7, compared to the Prince George sample score of 5.1. The total sample mean level of satisfaction with local air quality is 4.9,

compared to 3.4 for the Prince George sample. Similar results are found for satisfaction with drinking water quality (5.4 total vs 4.6 Prince George) and land pollution (4.8 total vs 4.2 Prince George). Remarkably, but not surprisingly for anyone familiar with these kinds of satisfaction items (Michalos 2003, 2005), such discrepancies do not have much impact on people's overall assessments of their lives. For example, for the total sample, the mean level of satisfaction with life as a whole is 5.7 and the mean level of happiness with life as a whole is 5.9, and these are, respectively, precisely the same scores for the Prince George sample.

Exhibit 8 lists mean scores on respondents' lives compared to seven different self-assessment standards. For the total sample, mean scores reveal that respondents were on the positive side of two of the seven scales. On average, respondents scored 5.6 on the have-want scale, indicating that all things considered, their lives provided more than half of what they wanted. They also thought that their lives provided more than the lives of the average person of their sex and age in their local area (5.3). This is a very typical finding for samples taken from people all over the world (Michalos 1991). Regarding the other 5 standards, their scores were still in the middle range, though on the favourable side. Comparing their lives to what they need and expect to have in 5 years, they scored 4.8; compared to what they thought 3 years ago they would have at the time they completed the questionnaire, they scored 4.7; and compared to what they deserve and the best they had in their previous experience, they scored 4.6. A calculation of the average score for each column indicates considerable similarity among the five communities. Three have an average score of 4.8 (Kamloops, Nanaimo and Port Moody), Prince George had an average score of 4.9 (which equals that of the total sample), and Comox Valley had an average score of 5.0.

5. Bivariate Relationships

Because of the very reduced sample sizes resulting from moving from the total sample to any of the community samples and the fact that the larger the sample, the better the chances of discovering any statistically significant correlations, all of the analyses in the remaining sections of this paper are only based on the total sample. The main task of this section is to review 11 sets of correlational studies to discover connections among all our survey variables that seem to be interesting in themselves, suggestive of other likely relationships and potentially useful for the even more interesting multivariate investigations in the following section. Usually variables share some variance with many more other variables than are examined in any piece of research, including this one. Many associations that appear large when examined from the point of view of only a pair of variables, shrink in size and in statistical significance when examined in a context of several variables. The world of paired comparisons is a useful statistical artifact, but the real world in which we live is a world of complex contexts connected in complex ways. The multivariate techniques applied in the next section also create statistical artifacts, but the latter provide a more nuanced and hopefully more accurate view of the real world.

McCarthy, Ondaatje, Zakaras and Brooks (2004, pp.21-22) claimed that

“The arts are claimed to have cognitive, attitudinal, and behavioral benefits for children who are exposed to the arts in school. The treatment variable is typically arts education, which comes in a number of forms. We know of no studies that examine whether these benefits accrue to adults involved in creating, appreciating, or supporting the arts”.

Granting the limits of correlational analyses, Exhibits 9,10, 13 and 14 provide evidence that such benefits do “accrue to adults involved in creating, appreciating, or supporting the arts”.

Exhibit 9 lists results of correlating the average number of *hours per week* engaged in each of 29 arts-related activities *and* each activity's corresponding mean level of satisfaction *with* mean scores on our seven overall assessments of life, i.e, self-reported general health (GH), satisfaction with life as a whole (Lsat), happiness with life as a whole (Hap), satisfaction with the overall quality of life (qolsat), satisfaction with life as a whole index (SWLS), contentment with life assessment scale (CLAS), and subjective wellbeing (SWB). As well, the average number of *hours per week* engaged in each of the arts-related activities is correlated with each activity's corresponding mean level of satisfaction (Act. Sat. in column one of the exhibit). We arbitrarily selected $N = 25$ as a cutoff figure and examined all zero-order linear associations (Pearson Product Moment Correlations) for activities involving that many respondents or more. The last column in the exhibit gives the minimum sample size involved in each of the correlations for each row. The first four rows of the exhibit give the results of correlating 4 demographic variables (age, education, household income and Body Mass Index) with the seven overall life assessments. Correlations of these demographic variables with arts-related activities and their corresponding satisfaction levels are given below in separate exhibits.

Our review of the results in Exhibit 9 will begin with a discussion of correlations between the demographic and life assessment variables. Second, we will consider correlations between the time invested in arts-related activities and the obtained satisfaction from that investment. Third, we will examine correlations between time invested and satisfaction obtained for each arts-related activity on the one hand with each of the seven life assessment variables on the other, taking each of the latter variables one at a time. Finally, we will give special attention to some of the variables for time invested and satisfaction obtained that had a relatively extensive impact on most of the seven life assessment variables.

Twenty-eight (4 x 7) associations between the demographic and life assessment variables were measured, and 23 (82.1%) were found to be statistically significant at the $p < 0.05$ level. (To simplify the discussion, we arbitrarily decided to use a single level of significance throughout the study.) Only the household income variable was significantly correlated with every life assessment variable, averaging $r = 0.17$, with a high of $r = 0.22$ for Subjective Wellbeing (SWB) and a low of $r = 0.11$ for the Contentment with Life Assessment Scale (CLAS). Education and the Body Mass Index were each significantly correlated with six of the seven life assessment variables, and in each case the insignificant association was with what is perhaps the most frequently used overall life assessment variable, life satisfaction (Lsat). On average, education correlated $r = 0.11$, with a high of $r = 0.18$ for general health (GH) and a low of $r = 0.06$ for CLAS. On average, the Body Mass Index had a negative correlation of $r = -0.11$ with the six life assessment variables, with a high of $r = -0.27$ for general health (GH) and a low of $r = -0.07$ for CLAS. Age was significantly associated with four of the seven life assessment variables. As expected, age had a negative correlation with GH ($r = -0.16$). The average correlation between age and Lsat, CLAS and SWB was $r = 0.10$, with a high of $r = 0.14$ for CLAS and a low of $r = 0.08$ for Lsat and SWB.

The Body Mass Index has often been found negatively correlated with a variety of health status measures, e.g., see Michalos, Thommasen, Read, Anderson and Zumbo, 2005, and Cornelisse-Vermaat, Antonides, Van Ophem and Van Den Brink, 2006. This is the first time it has been used in a study with our seven overall life assessment variables, and its uniformly negative association with six of the seven is an important finding.

Turning to the remaining variables listed in Exhibit 9, if every measurement had produced a statistically significant result then there would have been 435 cells with numerical

values, rather than the 76 values displayed in the exhibit. Nine of the displayed values are measures of the correlation of the average number of hours per week engaged in an arts-related activity with the mean level of satisfaction obtained from that engagement. Thus, for our sample of 1027 respondents who probably had more interest than the general population in arts-related activities, only 67 of 406 (16.5%) of the time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with our seven life assessment variables.

Since a person's engagement in arts-related activities is usually voluntary, one might expect a statistically significant positive correlation between the time spent engaged in arts-related activities and the level of satisfaction obtained from the engagement. Indeed, Madden (2005, p.31) claimed that "Arts participation is a proxy for arts appreciation, as the more people appreciate the arts, the more they are likely to participate in the arts". Although there are no negative correlations in the Activity Satisfaction (Act.Sat.) column, 6 associations were not statistically significant. However, because the average number of hours per week engaged in 9 of the original 29 arts-related activities did not have statistically significant associations with any other variables, including their corresponding measures of satisfaction, these 9 activities are not listed in the exhibit. There were, then, a total of 15 (51.7%) statistically insignificant correlations. In all these cases, apparently the average satisfaction obtained from participation in arts-related activities cannot be the sole or even primary motivator of engagement. A similar anomaly appears in Exhibit 10 regarding arts-related activities with engagement measured in number of times per year. It is possible that people only think of their highest or lowest and most recent levels of satisfaction when they calculate an average and that this peculiarity of their calculations reduces the correlations between time engaged and average levels of satisfaction. Kahneman, Fredrickson, Schreiber and Redelmeier (1993) found that people's pain memories are based on such peak and end experience averages. In any case, the mean value of the significant correlations in the Act.Sat. column is $r = 0.22$, ranging from a high of $r = 0.33$ for the average number of hours per week spent making quilts to a low of $r = 0.13$ for the average number of hours per week spent singing alone.

Since, as already mentioned, correlation coefficients cannot identify the direction of causality between significantly related variables, what are here regarded as dependent and independent variables are simply our own constructions. Still, it does seem reasonable to assume that one quilts or sings for satisfaction rather than that one finds oneself feeling satisfied and subsequently connects it to quilting or singing. The squares of these correlation coefficients measure the percent of variation or variance explained by each variable in the pair. Thus, given our constructions of the directions of causality and lacking any other information, one may suppose that the average number of hours per week making quilts explained 10.9% of the variation in satisfaction scores connected to quilt-making and that the average number of hours per week spent singing alone explained 1.7% of the variation in satisfaction scores connected to such singing. As one would expect, there were many more respondents singing alone ($N \geq 377$) than making quilts ($N \geq 48$), although on average the time spent quilting accounted for a much greater share than the time spent singing alone of its corresponding satisfaction. Perhaps even more importantly, one would have to look beyond the average hours per week engaged in these arts-related activities to account for the nearly 90% to 98% of unexplained variation in corresponding satisfaction scores. (A historical overview of attempts to answer such questions may be found in Michalos, 2005.)

A casual glance at Exhibit 9 suggests that there is a great variety of relationships between the average number of hours per week engaged in the 29 arts-related activities and the 29 corresponding mean levels of satisfaction resulting from that engagement on the one hand, and the seven life assessment variables on the other. If one tried to measure the impact of arts-related activities on the perceived quality of people's lives using only one of these seven scales as one's dependent variable, one would inevitably underestimate that impact. Close inspection of the seven life assessment columns in Exhibit 9 reveals that the life satisfaction index (SWLS) had the fewest number of significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 6 significant correlations in the column have an average of $r = 0.14$, with a high of $r = 0.26$ for the satisfaction obtained from playing a musical instrument to a low of $r = -0.09$ for the average number of hours per week spent reading novels, short stories, plays or poetry. It is unclear why the latter correlation is negative. There is a significant positive correlation of $r = 0.15$ between the average number of hours per week spent reading novels, etc. and the mean level of satisfaction obtained from such reading. What is perhaps even more interesting and unexplainable is the fact that the average number of hours per week spent reading novels, etc. are negatively correlated with five of the seven life assessment variables, ranging from $r = -0.08$ for SWB and happiness to $r = -0.12$ for GH and satisfaction with the overall quality of life (qolsat). More interesting still, examination of the whole exhibit shows that besides the satisfaction obtained from playing a musical instrument, only the satisfaction obtained from reading novels, etc. is significantly positively correlated with every one of the life assessment variables. On average the satisfaction obtained from reading novels, etc. has a correlation of $r = 0.10$ with the life assessment variables, ranging from a high of $r = 0.15$ for SWB and qolsat to a low of $r = 0.08$ for the CLAS. Reporting results from a study of teenagers, Csikszentmihalyi and Hunter (2003, p.193) found a negative correlation between time spent reading and happiness, and suggested that it might have been "due to the fact that young people who read more are less often in the company of their peers". Alternatively, we would suggest that time spent reading is best regarded as an investment, a cost, for the satisfaction obtained directly from it in the first place and indirectly for the health, happiness and so on in the second place.

Examination of all the entries in the row for the satisfaction obtained from playing a musical instrument reveals that such satisfaction is significantly positively correlated with every one of the life assessment variables. On average the satisfaction obtained from playing a musical instrument has a correlation of $r = 0.25$ with the life assessment variables, ranging from a high of $r = 0.31$ for SWB to a low of $r = 0.16$ for the CLAS. Unlike the satisfaction obtained from playing a musical instrument, which is enjoyed by relatively few people ($N \geq 141$), the satisfaction obtained from reading novels, etc. is enjoyed by relatively many people ($N \geq 682$).

Satisfaction with the overall quality of life (qolsat) had the largest number of significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 13 significant correlations in the column have an average of $r = 0.16$, with a high of $r = 0.30$ for the satisfaction obtained from playing a musical instrument to a low of $r = -0.22$ for the average number of hours per week spent knitting or crocheting. The time spent knitting or crocheting is peculiar because it has no significant relation to satisfaction that might be obtained from time invested in such activities, but it has significant negative correlations with general health ($r = -0.28$) and with satisfaction with one's overall quality of life.

Considering the relative number of arts-related activities engaged in fairly frequently that were significantly correlated with SWLS and qolsat, it seems that if one were looking for associations between such activities and the perceived quality of life and if one could only have a single dependent variable, then one's chances for finding such associations would be maximized by using qolsat and minimized by using SWLS as that single variable. Still, one's best strategy would be to use several dependent variables.

After qolsat, happiness with life as a whole had the largest number of significant associations with the average hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 12 significant correlations in the column have an average of $r = 0.03$, with a high of $r = 0.41$ for the satisfaction obtained from teaching creative writing to a low of $r = -0.44$ for the average number of hours per week spent attending art classes. The most remarkable thing about the correlations in this column of the exhibit is the mixture of negative and positive values. One begins by wondering why there would be a negative correlation of $r = -0.44$ between the average number of hours per week spent in some kind of art class (or perhaps more than one) and happiness, and then one immediately notices that such time investments are also negatively correlated with Lsat ($r = -0.47$) and SWB ($r = -0.52$). Since Lsat and happiness are both constituents of SWB, if either of the former were negatively related to time spent in art class(es) then a negative correlation with SWB would have appeared. Our first thought was that maybe a bunch of unlucky respondents were all attending the same dreadful class, but a quick look at the art class attendance variable revealed that the attendees were spread fairly evenly across the five communities and the lowest mean level of satisfaction connected to the average number of hours per week spent in such class(es) in any of the five communities was 5.7. So, the source of these negative correlations remains a mystery.

Considering the comparatively high positive correlation between happiness scores and mean levels of satisfaction obtained from teaching creative writing, one is immediately struck by the even higher positive correlations between the satisfaction obtained from such teaching and life satisfaction ($r = 0.50$) on the one hand, and SWB on the other ($r = 0.45$). While there was no significant correlation between the average number of hours per week spent teaching creative writing and satisfaction obtained from such teaching, there was clearly a huge payoff from the correlations between the satisfaction obtained from such teaching and happiness, life satisfaction and subjective wellbeing. This shows quite clearly the importance of measuring diverse effects of engagement in arts-related activities, i.e., DiMaggio was right about the diversity of paths to effects.

After happiness, SWB had the largest number of significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 11 significant correlations in the column have an average of $r = 0.13$, with a high of $r = 0.45$ for the satisfaction obtained from teaching creative writing to a low of $r = -0.52$ for the average number of hours per week spent attending art class(es). The contrast between these positive and negative correlations is impressive, but the column does not have the variety of positive and negative correlations found in the happiness column. Here we have 2/11 (18.2%) negative correlations, while in the happiness column we have 5/12 (41.7%).

Perhaps the most frequently used general life assessment variable in the field of quality of life studies, the single item life satisfaction scale (Lsat) has 9 statistically significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 9 significant

correlations in the column have an average of $r = 0.13$, with a high of $r = 0.50$ for the satisfaction obtained from teaching creative writing to a low of $r = -0.47$ for the average number of hours per week spent attending art class(es). General health (GH) also has 9 statistically significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 9 significant correlations in the column have an average of $r = 0.10$, with a high of $r = 0.29$ for the average number of hours per week spent watching concerts on television to a low of $r = -0.28$ for the average number of hours per week spent knitting or crocheting. The Contentment with Life Assessment Scale (CLAS) has 7 significant correlations in the column, with an average of $r = 0.16$, a high of $r = 0.22$ for the average number of hours per week spent telling stories to a low of $r = 0.08$ for the satisfaction obtained from reading novels, etc. Regarding the telling of stories, according to Csikszentmihalyi (1996, p.257), one of his interviewees thought that “telling stories is an important way to keep people from falling away from one another and to keep the fabric of civilized life from unraveling”.

While only two arts-related variables had significant and positive associations with each of the seven overall life assessment variables, another three had significant and positive associations with six of the seven. In each of the three cases it was a satisfaction variable associated with the overall life assessment variables. The mean levels of satisfaction obtained from singing alone and from telling stories were significantly positively correlated with each of the overall life assessment variables with the exception of general health. Satisfaction obtained from singing alone had an average correlation of $r = 0.14$ with six life assessment variables, with a high of $r = 0.18$ for qolsat and a low of $r = 0.11$ for Lsat. Satisfaction obtained from telling stories had an average correlation of $r = 0.22$ with six life assessment variables, with a high of $r = 0.28$ for qolsat and a low of $r = 0.17$ for happiness and SWLS. The third case, satisfaction obtained from singing in a group, had an average correlation of $r = 0.20$ with six life assessment variables (excluding Lsat), with a high of $r = 0.24$ for SWLS and a low of $r = 0.18$ for qolsat and SWB. It is worth noticing that of these five particularly influential arts-related variables, four involved producing artistic works (singing alone and in a group, playing a musical instrument and telling stories) and one involved consuming such works, reading novels, etc. This is roughly consistent with Csikszentmihalyi’s (1996, p.342) claim that “consuming culture is never as rewarding as producing it”.

Exhibit 10 lists results of correlating the average number of *times per year* engaged in each of 19 arts-related activities and each activity’s corresponding mean level of satisfaction with mean scores on our seven overall assessments of life, and correlating the average number of times per year engaged in each of the 19 activities with each activity’s corresponding mean level of satisfaction (Act.Sat.). Our cutoff figure for measuring associations was $N = 52$ simply because the activity with the next lowest number of participants had only $N = 14$. Our review of the results in this exhibit will follow the pattern established for Exhibit 9, with two notable additions concerning the last two rows of this exhibit.

Because one may engage in many of the activities listed in Exhibit 9 at the same time that one is engaged in others (e.g., listen to music or watch television while one knits, quilts or sings alone), it seemed hazardous to try to add any average number of hours per week engaged in one activity to any number engaged in another activity. However, activities that one engages in only a few times per year usually preclude engagement in others at the same time, e.g., usually one cannot visit an art museum at the same time one is attending a live professional theatre performance. Accordingly, it seems legitimate to and we did sum the average number of *times*

per year that respondents engaged in seven key arts-related activities, namely, going to films, concerts, historical or heritage sites, art museums, other museums, live professional and amateur theatre. We call this summed variable Sumattend. On average, respondents (N = 867) attended such arts-related events or facilities 16 times per year, with a minimum of one and a maximum of 111 times per year. Following a suggestion of Csikszentmihalyi (1996, p.124) that “it is much easier to be happy when one’s life has been enjoyable”, we thought that there might be some advantage in summing the average levels of reported satisfaction corresponding to the time invested in attending these seven arts-related events or facilities. We call this variable Sumattend Sat. The last two rows of Exhibit 10 contain results of correlating these two summative variables with our seven life assessment variables. We also use these two summative variables in other analyses below, with some advantage, although not as much as we hoped for.

If every measurement for Exhibit 10 had produced a statistically significant result then there would have been 285 cells with numerical values, rather than the 78 values displayed in the exhibit. Ten of the displayed values are measures of the correlation of the average number of times per year engaged in an arts-related activity with the mean level of satisfaction obtained from that engagement. Thus, for our sample of 1027 respondents, only 68 of 266 (25.6%) time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with our seven life assessment variables. Although this is not a particularly high percentage, it is larger than that concerning arts-related activities with frequency of participation counted in *hours per week*. What is perhaps even more interesting is the fact that there are no negative correlations in Exhibit 10. All the time spent on and the satisfaction obtained from the arts-related activities listed in this exhibit make a positive contribution to one or more of the overall assessments of life.

There are 10 out of a possible 19 (52.6%) statistically significant correlations in the Act.Sat. column, with an average value of $r = 0.17$, ranging from a high of $r = 0.23$ for the average number of times per year respondents went dancing to a low of $r = 0.09$ for the average number of times per year going to concerts. About twice as many respondents went to concerts (N ≥ 595) as went dancing (N ≥ 285).

There is again (as in Exhibit 9) a great variety of relationships (i.e., heterogeneity of effects) between the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement on the one hand, and the seven life assessment variables on the other. Inspection of the seven life assessment columns in Exhibit 10 reveals that the happiness variable had the fewest number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 4 significant correlations in the happiness column have an average of $r = 0.11$ with the life assessment variables, with a high of $r = 0.17$ for the satisfaction obtained from going to non-art museums to a low of $r = 0.09$ for the satisfaction obtained from going to live professional theatre performances. Both of these latter figures are interesting because the non-art museum satisfaction variable is one of only two in the exhibit that has a significant and positive correlation with every life assessment variable and the professional theatre performance satisfaction variable is one of four that have significant and positive correlations with six of the seven life assessment variables. According to Frey (2000, p.75),

“A large share of the population rarely, if ever, attends cultural events in opera houses and concert houses, or visits art museums. . . The situation is quite different for museums of technology or transport. Automobile and railway museums, especially, are very popular. In Switzerland, for instance, which

boasts many fine museums of art, the museum with by far the largest attendance is the Verkehrshaus, the museum of transport, in Lucerne. In 1998, it attracted over 480,000 visitors (and 510,000 for the affiliated IMAX theatre) while the (famous) Basle Kunstmuseum was visited by a total of only 176, 000 persons.”

On average, the mean level of satisfaction obtained from visiting non-art museums has a correlation of $r = 0.14$ with the seven life assessment variables, ranging from a high of $r = 0.17$ for Lsat to a low of $r = 0.11$ for SWLS. The mean level of satisfaction obtained from going to live professional theatre performances has an average correlation of $r = 0.12$ with the seven life assessment variables, ranging from a high of $r = 0.16$ for general health to a low of $r = 0.09$ for happiness. A few more respondents enjoyed the satisfaction of going to professional theatre performances ($N \geq 450$) than the satisfaction of visiting non-art museums ($N \geq 429$).

The self-reported general health (GH) variable had the largest number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 13 significant correlations in the GH column have an average of $r = 0.12$, with a high of $r = 0.17$ for the average number of times per year engaged in designing a garden to a low of $r = 0.09$ for the average number of times per year going to concerts, going to live amateur theatre performances and the mean level of satisfaction obtained from the amateur theatre performances. The mean level of satisfaction obtained from going to live amateur theatre performances is the only other variable in the exhibit that has a significant and positive correlation with every overall life assessment variable. On average, the satisfaction obtained from going to amateur theatre performances has a correlation of $r = 0.13$ with the life assessment variables, ranging from a high of $r = 0.18$ for qolsat to a low of $r = 0.09$ for GH.

Considering the facts that (1) satisfaction obtained from going to live professional or amateur theatre performances is significantly and positively correlated with 6 and 7 of the life assessment variables, respectively, and (2) the average number of times per year attending such theatre performances is significantly and positively correlated with the mean level of satisfaction obtained from such attendance, such theatre performances should be given special recognition. Among the 19 arts-related activities in which people participate relatively infrequently (i.e., participation is counted in times per year rather than in hours per week), live theatre has a distinctive position, a position it has apparently occupied for some time. Although nobody has taken its measure as we have here, other measures have been suggested. For example, in his 1959 classic *La Vie quotidienne en Grèce au temps de Périclès* (Daily Life in Greece at the Time of Pericles (c.495-429 BCE)), Flacelière (2002, p.204) wrote that “The theatre, together with the stadium, forms the most characteristic monument in every Greek city of any importance”. According to McCarthy, Ondaatje, Zakaras and Brooks (2004, pp.50-52),

“To attend tragic drama in ancient Greece, . . . was to participate in the central values, myths, and ideals of Greek society, to engage in ‘a communal process of inquiry, reflection, and feeling with respect to important civic and personal ends’” (Nussbaum, 1990, p.15). . . Far from being isolated from ordinary experience, the arts, through their communicative power, enhance individual engagement with the world in ways that have both personal and public benefits. We even suggest that these effects are instrumental in that they can open people to life and create the fabric of shared values and meanings that improves the public sphere.”

After GH, satisfaction with the overall quality of life (qolsat) had the largest number of significant associations with the average number of times per year engaged in the 19 arts-related

activities and the corresponding mean levels of satisfaction resulting from that engagement. The 12 significant correlations in the qolsat column have an average of $r = 0.14$, with a high of $r = 0.18$ for the satisfaction obtained from going to live amateur theatre performances and designing a garden to a low of $r = 0.10$ for the satisfaction obtained from going to art museums or galleries, going to a public library and the average number of times per year going to amateur theatre performances.

Each of three of the life assessment variables has 10 significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 10 significantly associated variables have an average correlation $r = 0.12$ with Lsat, ranging from a high of $r = 0.17$ for the satisfaction obtained from going to non-art museums to a low of $r = 0.09$ for the average number of times per year going to live amateur theatre performances. For CLAS, 10 significantly associated variables have an average correlation $r = 0.20$, ranging from a high of $r = 0.24$ for the average number of times per year designing furniture to a low of $r = 0.08$ for the satisfaction obtained from going to films or cinema. For SWB, 10 significantly associated variables have an average correlation $r = 0.11$, ranging from a high of $r = 0.15$ for the satisfaction obtained from going to non-art museums to a low of $r = 0.09$ for the satisfaction obtained from going to concerts. SWLS has 9 significantly associated variables with an average correlation of $r = 0.11$, ranging from a high of $r = 0.15$ for the satisfaction obtained from going to live amateur theatre performances to a low of $r = 0.09$ for the satisfaction obtained from going to films or cinema and visiting a public library.

Besides the variable indicating the mean level of satisfaction obtained from going to live professional theatre performances, three other variables had statistically significant and positive associations with six of the seven life assessment variables. The variables indicating satisfaction obtained from going to concerts and from visiting a public library had such correlations with every life assessment variable except happiness, while the variable indicating satisfaction obtained from going to films had such correlations with every life assessment variable except general health. On average, satisfaction obtained from going to concerts had a correlation of $r = 0.10$ with six of the seven life assessment variables, ranging from a high of $r = 0.12$ for qolsat to a low of $r = 0.09$ for GH and SWB. Satisfaction obtained from visiting a public library had an average correlation of $r = 0.12$ with six of the seven life assessment variables, ranging from a high of $r = 0.15$ for GH to a low of $r = 0.09$ for SWLS. Satisfaction obtained from going to films or cinema had an average correlation of $r = 0.10$ with six of the seven life assessment variables, ranging from a high of $r = 0.13$ for qolsat to a low of $r = 0.08$ for CLAS.

The last two rows of Exhibit 10 seem to indicate that the main advantage of summing the average number of times per year that respondents engaged in certain arts-related activities on the one hand and the average levels of reported satisfaction obtained from that engagement on the other is merely an increase in one's working sample size. Our summative variables allowed us to retain more of our original sample, although on average the correlations between these variables and the life assessment variables were not increased. In fact, the average correlation between the mean levels of satisfaction obtained from going to non-art museums and each of the seven life assessment variables is a bit larger than the correlation between the summative satisfaction variable and six of the seven life assessment variables, i.e., $r = .14$ versus $r = .12$. Curiously, CLAS was not significantly associated with either summative variable.

Exhibit 11 lists results of correlating our seven life assessment variables with 21 domain satisfaction variables. Three of the domain satisfaction variables were combinations of some of

those listed in Exhibit 7. Values for the health satisfaction variable appearing in Exhibit 11 were obtained by calculating the mean of the scores on the physical and psychological health satisfaction variables. Similarly, values for the environmental satisfaction variable appearing in Exhibit 11 were obtained by calculating the mean of the scores on the air, water and land quality satisfaction variables, and values for the government satisfaction variable were obtained by calculating the mean of the scores on the federal, provincial and local government officials satisfaction variables. All of the 147 correlations listed in this exhibit are significant and positive, as is typical for such variables (Michalos 2003, 2005). Examination of the mean values of each row in the exhibit reveals that on average for our respondents, satisfaction with one's health (mean $r = 0.64$), self-esteem (mean $r = 0.57$) and the sense of meaning in life (mean $r = 0.54$) have the largest correlations with the seven life assessment variables.

Exhibit 12 lists the correlations among the seven life assessment variables, all of which are significant and positive as expected. On average and as usual, general health (GH) has the lowest levels of association with the others, indicating that respondents recognize important differences between having good health and having a good life, generally speaking. Because happiness, satisfaction with life as a whole (Lsat) and satisfaction with the overall quality of life (qolsat) are constituents of subjective wellbeing (SWB), the former three variables have on average the highest levels of association with the latter. Considering the facts that (1) respondents recognize a difference between good health and a good life, and (2) qolsat had the greatest number of significant correlations with arts-related activities involving *frequent* engagement and, after GH, the greatest number of significant correlations with arts-related activities involving *infrequent* engagement, it seems fair to say again that if one were looking for associations between such activities and the perceived quality of life and if one could only have a single dependent variable, then one's chances for finding such associations would be maximized by using qolsat as that single variable.

Exhibits 13 and 14 display results of measuring associations among our five indexes that might provide motives for people engaging in arts-related activities, might summarize beliefs and feelings that arise as effects of experiences with arts-related activities or, as suggested earlier, most likely both. We will need longitudinal studies with panels of participants in order to properly assess these issues. Our review of these two exhibits will be parallel to our reviews of Exhibits 9 and 10, with Exhibit 13 involving engagement in arts-related activities measured in *hours per week* and Exhibit 14 involving engagement in arts-related activities measured in *times per year*. The results displayed in these two exhibits provide some support for the claim that "some intrinsic benefits [e.g., the satisfaction obtained from engaging in some arts-related activity] are largely of private value, others of value to the individual *and* have valuable public spillover effects, and still others are largely of value to society as a whole" (McCarthy, Ondaatje, Zakaras and Brooks, 2004, p.xv).

For Exhibit 13, 20 (4 x 5) associations between the demographic and motivational indexes were measured, and 11 (55.0%) were found to be statistically significant at the $p < 0.05$ level. None of the indexes was significantly correlated with every demographic variable and only education had such correlations with four of the five, averaging $r = 0.11$, with a high of $r = 0.15$ for the Index of Arts as Community Builders (Comb) and a low of $r = 0.08$ for the Index of Arts as Ends in Themselves (Ends). Thus, for example, believing and/or feeling that arts make a positive contribution to building communities is significantly and positively correlated with education. So, as respondents' highest achieved level of education increased, the strength of their avowal of such beliefs and/or feelings increased, and vice-versa. Curiously, household income

was significantly correlated with three of the indexes and every correlation was negative. On average, the correlation was $r = -0.10$, with a high of $r = -0.12$ for the Index of Arts as Spirit-Building (Spirit) to a low of $r = -0.08$ for Ends. Thus, for example, as respondents' total household incomes increased, the strength of their denial of beliefs and/or feelings about the importance of arts for expressing their religious feelings increased, and vice-versa. Age and the Body Mass Index were each associated with only two of the five motivational indexes, and in each case each variable had one negative and one positive correlation. Age had a negative correlation of $r = -0.06$ with the Index of Arts as Self-Developing Activities (S-Dev) and a positive correlation of $r = 0.09$ with Spirit, while the Body Mass Index had a negative correlation with Comb of $r = -0.08$ and a positive correlation of $r = 0.15$ with Spirit.

If every measurement in Exhibit 13 involving non-demographic variables had produced a statistically significant result then there would have been 290 cells with numerical values, rather than the 72 values displayed in the exhibit. Thus, only 24.8% of the time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with our five motivational indexes. Inspection of the five motivational index columns in this exhibit reveals that the Index of Arts as Spirit-Building (Spirit) had the fewest number of significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 5 significant correlations in the column have an average of $r = 0.12$, with a high of $r = 0.24$ for the satisfaction obtained from watching concerts on television to a low of $r = 0.08$ for the average number of hours per week spent listening to music, and the satisfaction obtained from that listening and from reading novels, short stories, plays or poetry. What is especially interesting about these high and low correlations is the fact that there are only four rows in the exhibit that have significant correlation coefficients in all five columns, including two of the rows for these high and low figures. The satisfaction obtained from watching concerts on television has an average correlation of $r = 0.35$ with the five motivational indexes, with a high of $r = 0.44$ for Comb and a low of $r = 0.24$ for Spirit. The satisfaction obtained from listening to music has an average correlation of $r = 0.16$ with the five motivational indexes, with a high of $r = 0.19$ for S-Dev and the Index of Arts as Self-Health Enhancers (Health) and a low of $r = 0.08$ for Spirit. The satisfaction obtained from reading novels, short stories, plays or poetry has an average correlation of $r = 0.12$ with the five motivational indexes, with a high of $r = 0.16$ for Ends and a low of $r = 0.08$ for Spirit. Finally, the satisfaction obtained from singing alone has an average correlation of $r = 0.17$ with the five motivational indexes, with a high of $r = 0.25$ for Health and a low of $r = 0.11$ for Spirit. Considering these four rows of figures, many more respondents enjoyed the satisfaction of listening to music ($N \geq 838$), reading novels, etc. ($N \geq 655$) and singing alone ($N \geq 356$), than the satisfaction of watching concerts on television ($N \geq 68$).

The Indexes of Arts as Self-Health Enhancers (Health) and as Ends in Themselves (Ends) had the largest number of significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 19 significant correlations in the Health column have an average of $r = 0.20$, with a high of $r = 0.46$ for the satisfaction obtained from teaching people to play a musical instrument to a low of $r = -0.28$ for the average number of hours per week spent arranging flowers. Perhaps it is comforting for teachers who must frequently hear first rate musical pieces butchered by less-than-first rate pupils to believe and/or feel that the satisfaction they get from their labour is also good for their health. The 19 significant correlations in the Ends

column have an average of $r = 0.23$, with a high of $r = 0.60$ for the satisfaction obtained from teaching painting and drawing to a low of $r = -0.26$ for the average number of hours per week spent arranging flowers. The average number of hours per week spent arranging flowers only has one other significant correlation listed in its row and it is also negative. The correlation of the flower-arranging variable and S-Dev is $r = -0.27$. This is curious. As the relatively few ($N \geq 76$) flower arrangers increase their average number of hours per week arranging flowers, the strength of their denial increases regarding their belief and/or feeling that flower-arranging is good for their health, for their self-development and even as an end in itself, but they still engage in the activity.

After Health and Ends, The Index of Arts as Self-Developing Activities (S-Dev) had the largest number of significant associations with the average hours per week engaged in the 29 arts-related activities and the 29 corresponding mean levels of satisfaction resulting from that engagement. The 18 significant correlations in the S-Dev column have an average of $r = 0.21$, with a high of $r = 0.61$ for the satisfaction obtained from teaching painting and drawing to a low of $r = -0.27$ for the average number of hours per week arranging flowers.

After S-Dev and just before the index (Spirit) with the smallest impact on all arts-related activities and satisfaction, the Index of Arts as Community Builders (Comb) had the second smallest number of significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 11 significant correlations in the Comb column have an average of $r = 0.22$, with a high of $r = 0.44$ for the satisfaction obtained from watching concerts on television to a low of $r = 0.11$ for the satisfaction obtained from reading novels, etc.

While four arts-related variables had significant and positive associations with each of the five motivational indexes, another three had significant and positive associations with four of the five and none of these three have been mentioned in the review of this exhibit. In each of the three cases it was a satisfaction variable associated with the motivational indexes and each case it was Spirit that failed to produce a significant correlation. Satisfaction obtained from reading to others had an average correlation of $r = 0.20$ with four motivational indexes, with a high of $r = 0.23$ for Ends and a low of $r = 0.14$ for S-Dev. Satisfaction obtained from telling stories had an average correlation of $r = 0.22$ with the same four motivational indexes, with a high of $r = 0.23$ for S-Dev and a low of $r = 0.17$ for Comb. The third case, satisfaction obtained from painting or drawing, had an average correlation of $r = 0.23$ with these motivational indexes, with a high of $r = 0.28$ for S-Dev and a low of $r = 0.16$ for Comb.

Exhibit 14 lists results of correlating the average number of *times per year* engaged in each of 19 arts-related activities and each activity's corresponding mean level of satisfaction with mean scores on our five motivational indexes. Following our strategy for Exhibit 10, the last two rows of Exhibit 14 contain correlations between our two summative indexes, Sumattend and Sumattend Sat, with each of the five motivational indexes. We give these rows separate attention.

If every measurement for Exhibit 14 had produced a statistically significant result then there would have been 190 cells with numerical values, rather than the 60 values displayed in the exhibit. Thus, for our sample of 1027 respondents, 60 of 190 (31.6%) time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with our five motivational indexes. As explained in the next paragraph, there is only one negative correlation in Exhibit 14. Whether the causal arrows running from the time spent on the 19 kinds of arts-related activities and the satisfaction obtained from the

engagement to beliefs and/or feelings about the arts are stronger, the same or weaker than the arrows running in the opposite direction, the contribution made is almost always (98.3%) positive.

Inspection of the five motivational index columns in Exhibit 14 reveals that the Index of Arts as Spirit-Building (Spirit) variable had the fewest number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 7 significant correlations in the Spirit column have an average of $r = 0.06$ with the time spent on activities and satisfaction variables, with a high of $r = 0.13$ for the satisfaction obtained from going to art museums and galleries to a low of $r = -0.25$ for the average number of times per year respondents did volunteer work for the arts. The latter figure means that the more frequently respondents did volunteer work for the arts, the more strongly they would deny that their beliefs and/or feelings about the arts were important for the expression of their religious feelings, and vice-versa. The variable indicating the mean level of satisfaction obtained from going to art museums and galleries is one of only three in the exhibit for which there are significant and positive associations with every one of the motivational indexes. The other two are satisfaction obtained from going to historical and heritage sites and the average number of times per year respondents went to art museums and galleries. On average, satisfaction obtained from going to art museums and galleries had a correlation of $r = 0.17$ with the motivational indexes, ranging from a high of $r = 0.19$ for Comb to a low of $r = 0.10$ for Health. Satisfaction obtained from going to historical and heritage sites had an average correlation of $r = 0.15$ with the motivational indexes, ranging from a high of $r = 0.16$ for S-Dev and Ends to a low of $r = 0.09$ for Spirit. The average number of times per year that respondents went to art museums and galleries had an average correlation with the motivational indexes of $r = 0.13$, ranging from a high of $r = 0.16$ for Comb to a low of $r = 0.09$ for Spirit.

The Index of Arts as Community Builders (Comb) had the largest number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 16 significant correlations in the Comb column have an average of $r = 0.17$, with a high of $r = 0.24$ for the satisfaction obtained from attending community festivals to a low of $r = 0.09$ for the average number of times per year visiting historic or heritage sites. The variable indicating the satisfaction obtained from attending community festivals is one of only three in the exhibit for which there are significant and positive associations with four out of the five motivational indexes. The other two are satisfaction obtained from going to live amateur theatre performances and the average number of times per year respondents went to concerts. On average, satisfaction obtained from attending community festivals had a correlation of $r = 0.11$ with four of the motivational indexes (excluding Spirit), ranging from a high of $r = 0.24$ for Comb to a low of $r = 0.13$ for Health and S-Dev. Satisfaction obtained from going to live amateur theatre performances had an average correlation of $r = 0.13$ with four of the motivational indexes (excluding S-Dev), ranging from a high of $r = 0.14$ for Comb to a low of $r = 0.11$ for Health. The average number of times per year respondents went to concerts had an average correlation with four of the motivational indexes (excluding Spirit) of $r = 0.13$, ranging from a high of $r = 0.20$ for Comb to a low of $r = 0.09$ for Ends.

After Comb, the Index of Arts as Ends in Themselves (Ends) had the largest of number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that

engagement. The 14 significant correlations in the Ends column have an average of $r = 0.15$, with a high of $r = 0.23$ for the satisfaction obtained from buying works of art to a low of $r = 0.09$ for the average number of times per year going to concerts.

After Ends, the Index of Arts as Self-Health Enhancers (Health) had the largest of number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 13 significant correlations in the Health column have an average of $r = 0.13$, with a high of $r = 0.17$ for the satisfaction obtained from decorating one's home to a low of $r = 0.10$ for the average number of times per year going to concerts and the mean levels of satisfaction obtained from going to art museums and galleries, and non-art museums.

The Index of Arts as Self-Developing Activities (S-Dev) had 10 significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement, averaging $r = 0.15$, with a high of $r = 0.22$ for the satisfaction obtained from making donations to the arts and a low of $r = 0.10$ for the average number of times per year attending live professional and amateur theatre performances.

Examination of the last two rows of correlations in Exhibit 14 compared to the results just reviewed reveals that there were some advantages to summing certain attendance (Sumattend) and satisfaction from attendance (Sumattend Sat) figures. First, on average, both Sumattend ($r = 0.18$) and Sumattend Sat ($r = 0.24$) scores were more highly correlated than any of the three most highly correlated individual attendance and satisfaction scores with the five motivational indexes. Second, the sample size ($N \geq 800$) was much larger than that for the three individual attendance and satisfaction scores. Third, it was interesting to see that the correlations between the two summative indexes and the Index of Arts as Community Builders were larger than any others in the exhibit. Clearly, the strength of one's belief that artistic activity contributes to community-building is significantly and positively correlated to the sum total of the number of times per year that one attends certain arts-related events or facilities ($r = 0.30$) and to the sum total of the average levels of satisfaction obtained from that engagement ($r = 0.35$). While we cannot demonstrate the point without longitudinal data, it seems most likely that the causal arrows run in both directions. Finally, it was interesting to see that the associations between the strength of beliefs that arts-related activities contribute to one's self-development and are worthwhile as ends in themselves and the two summative indexes were practically identical. The more time one invests in certain arts-related activities and the more satisfaction one gets from those activities, the stronger one's beliefs are that the activities are both good in themselves (intrinsically good) and good for one's self-development (instrumentally good). Aristotle would have been delighted to hear this.

Following the investigations whose results are summarized in Exhibits 13 and 14, we regressed every useable arts-related activity variable and its corresponding satisfaction variable on the five motivational indexes. Because the results of these exercises were so disappointing, they are not included here. On average, regarding activities measured in *hours per week*, collectively the motivational indexes explained 4% of the variance in diverse activity variables and their corresponding satisfaction variables. Regarding activities measured in *times per year*, collectively the motivational indexes explained on average 3% of the variance in diverse activity variables and their corresponding satisfaction variables.

Exhibit 15 lists the correlations among the five motivational indexes. As one would expect now, Spirit has on average the lowest correlations with the other four.

Exhibits 16 and 17 summarize results of correlating our two sets of arts-related activities (i.e., activities that involve relatively frequent versus infrequent participation) and their corresponding satisfaction with four demographic variables and six variables that, on the basis of some results from earlier studies (Michalos 2003), suggested that there might be significant associations. For convenience, we will refer to the latter six variables as ‘participation variables’, although at least one of them (satisfaction with one’s sense of meaning in life (meansat)) has no reference to participation. The other participation variables include the average number of times per month participating in voluntary associations (tpmv), average number of times per month participating in religious services or meetings (tpmr), average number of hours per week serving as a volunteer (hpwv), mean level of satisfaction with one’s recreation activities (recsat), and satisfaction with feeling part of one’s community (partsat),

For Exhibit 16, 24 (4 x 6) associations between the demographic and participation variables were measured, and 13 (54.2%) were found to be statistically significant at the $p < 0.05$ level. None of the participation variables was significantly correlated with every demographic variable, but age and household income had such correlations with four of the six. Age averaged $r = 0.12$, with a high of $r = 0.18$ for the mean level of satisfaction with feeling part of one’s community (partsat) and a low of $r = 0.08$ for the mean level of satisfaction with one’s recreation activities (recsat). Household income averaged $r = -0.05$, with a high of $r = 0.11$ for partsat and recsat and a low of $r = -0.10$ for the average number of times per month participating in voluntary associations (tpmv).

If every measurement in Exhibit 16 involving non-demographic variables had produced a statistically significant result then there would have been 348 cells with numerical values, rather than the 52 values displayed in the exhibit. Thus, only 14.9% of the time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with our six participation variables. Inspection of the six participation columns reveals that the average number of times per month participating in voluntary associations (tpmv) had only two significant associations with the average *hours per week* engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement, while the average number of times per month participating in religious services or meetings (tpmr) had only four.

Satisfaction with one’s sense of meaning in life (meansat) had the largest number of significant associations with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 14 significant correlations in the meansat column have an average of $r = 0.22$, with a high of $r = 0.33$ for the satisfaction obtained from watching concerts on television and taking children to artistic activities to a low of $r = 0.11$ for the satisfaction obtained from watching films on dvd or video.

After meansat, the variable indicating satisfaction with feeling part of one’s community (partsat) had the largest number of significant associations with the average hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 13 significant correlations in the partsat column had an average of $r = 0.06$, with a high of $r = 0.27$ for the satisfaction obtained from taking children to artistic activities and a low of $r = -0.48$ for the average number of hours per week attending art class(es).

After partsat, the variable indicating satisfaction with one’s recreation activities (recsat) had the largest number of significant associations with the average number of hours per week

engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 11 significant correlations in the recsat column had an average of $r = 0.20$, with a high of $r = 0.31$ for the satisfaction obtained from writing novels, short stories, plays or poetry and a low of $r = 0.09$ for the satisfaction obtained from listening to music.

The average number of hours per week serving as a volunteer (hpwv) had the largest number of significant associations after partsat with the average number of hours per week engaged in the 29 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 8 significant correlations in the hpwv column have an average of $r = 0.25$, with a high of $r = 0.40$ for the average number of hours per week singing in a group and a low of $r = 0.12$ for the average number of hours per week listening to music.

Only the average number of hours per week telling stories had as much as four out of six possible significant correlations with the participation variables, averaging a correlation of $r = 0.23$, with a high of $r = 0.30$ for the average number of times per month participating in voluntary associations (tpmv) and a low of $r = 0.16$ for meansat.

Exhibit 17 lists results of correlating the average number of *times per year* engaged in each of 19 arts-related activities and each activity's corresponding mean level of satisfaction with four of the six participation variables. Because two of the original six participation variables had only one significant correlation each with the 19 activities and satisfaction, those two were omitted from the analyses. If every measurement for Exhibit 17 had produced a statistically significant result then there would have been 152 cells with numerical values, rather than the 39 values displayed in the exhibit. Thus, for our sample of 1027 respondents, 39 of 152 (25.7%) time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with four participation variables. As in Exhibit 10, there are no negative correlations in Exhibit 17.

Satisfaction with feeling part of one's community (partsat) had the largest number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 17 significant correlations in the partsat column had an average of $r = 0.16$, with a high of $r = 0.27$ for the satisfaction obtained from serving as a volunteer for the arts to a low of $r = 0.11$ for the average number of times per year going to concerts and the satisfaction obtained from going to movies.

After partsat, satisfaction with one's sense of meaning in life (meansat) had the largest number of significant associations with the average number of times per year engaged in the 19 arts-related activities and the corresponding mean levels of satisfaction resulting from that engagement. The 13 significant correlations in the meansat column had an average of $r = 0.13$, with a high of $r = 0.16$ for the satisfaction obtained from attending live amateur theatre performances and school plays to a low of $r = 0.10$ for the average number of times per year going to non-art museums.

There are only three variables in the exhibit that have significant and positive associations with three out of the four participation variables, in each case excluding the average times per month participating in religious meetings (tpmr). On average, satisfaction obtained from visiting historic and heritage sites had a correlation of $r = 0.14$ with the four participation variables, ranging from a high of $r = 0.19$ for partsat to a low of $r = 0.10$ for satisfaction with one's recreation activities (recsat). Satisfaction obtained from going to live professional theatre performances had an average correlation of $r = 0.12$ with the four participation variables, ranging

from a high of $r = 0.15$ for partsat to a low of $r = 0.10$ for recsat. Satisfaction obtained from going to non-art museums had an average correlation with the four participation variables of $r = 0.16$, ranging from a high of $r = 0.24$ for partsat to a low of $r = 0.12$ for recsat.

Exhibits 18 and 19 summarize results of correlating our two sets of arts-related activities (i.e., activities that involve relatively frequent versus infrequent participation) and their corresponding satisfaction with four demographic variables, with the last two rows of Exhibit 19 containing correlations with our two summative indexes (Sumattend and Sumattend Sat). The length of each exhibit compared to those we have reviewed in some detail suggests the relative unimportance of the demographic variables to the time spent on and satisfaction obtained from arts-related activities compared to the life assessment variables, the motivational indexes and the participation variables. Comparison of the relevant percentages of statistically significant correlations confirms this impression. While Exhibits 18 and 19 have 9.1% and 15.8%, respectively, of their relevant demographic cells filled with significant figures, Exhibits 9, 13 and 16 have 82.1%, 55.0% and 54.2%, respectively, of theirs filled.

The most remarkable figures in Exhibits 18 and 19 appear in the former near the bottom of the exhibit. There is a significant and positive correlation of $r = 0.50$ between the average number of hours per week spent making clothes and the Body Mass Index, and a significant but negative correlation between the satisfaction obtained from graphic designing and the Body Mass Index of $r = -0.52$. Since DiMaggio (1996, p.162) cited several studies from the U.S.A., Germany, the Netherlands, France, Poland, Greece, Russia, Sweden, Great Britain and Canada showing that of demographic variables, “the best net predictor of art-museum attendance is educational attainment”, we expected to find a significant and positive correlation between the number of times per year respondents went to art museums and education in Exhibit 19. The ‘ns’ entry in the intersection of the art museum attendance row and the education column of this exhibit is a good reminder of the difference between questions about attendance versus nonattendance and questions about the frequency of attendance. Granting this, it is important to notice first, that the two summative indexes are both significantly and positively correlated with education, i.e., for Sumattend, $r = 0.18$, and for Sumattend Sat, $r = 0.15$. Second, two (age and income) of the other three demographic variables have no significant correlations with the two summative indexes, and the third demographic variable (BMI) has only one significant correlation. These facts support the view that of the four demographic variables, education has the strongest association with arts-related activities.

6. Multivariate relationships

Perhaps the earliest model used to explain perceived quality of life operationalized as reported life satisfaction simply assumed that the latter was a function of the satisfaction obtained from specific domains of life, e.g., satisfaction with one’s family, job, recreation activities and so on. That is, it was assumed that people somehow aggregate the satisfaction obtained from specific domains to construct their overall assessment of their level of satisfaction with life as a whole. Although this model is conceptually shallow insofar as general satisfaction is finally explained by particular satisfaction, it has been and is a very successful model in terms of its capacity for accounting for the variation in life satisfaction scores. It is often referred to as the Bottom-Up model, in contrast to Top-Down and Bi-Directional models (Mallard, Lance and Michalos 1997). The Bottom-Up model is applied in the remaining paragraphs of this section.

Stepwise multiple regression was applied to explain the variation in scores for our seven overall life assessment variables, and each of the next seven exhibits (20 to 26) is laid out in the

same format. The lefthand column lists the names of the predictors. Then there is a column headed 'demog' containing the standardized regression coefficients (Beta values) resulting from regressing a life assessment (dependent) variable on the four demographic (explanatory, predictor or independent) variables. Standardized regression coefficients have means of zero and standard deviations of one, making comparisons of their relative influence on dependent variables easy to discern. Because standardization is sensitive to the particular variance of the variables employed in any sample, one cannot infer that relationships appearing in one sample must appear in others. The second column of figures is headed 'Mot. Index' and it contains the Beta values resulting from regressing the same life assessment variable on our five motivational indexes. The third column of figures is headed 'Hrs/act.sat.' and it contains the results of regressing the same life assessment variable on the set of hours-spent and satisfaction-obtained variables from Exhibit 9 that had statistically significant correlations with that life assessment variable. The fourth column of figures is headed 'times/sat.' and it contains the results of regressing the same life assessment variable on the set of times-spent and satisfaction-obtained variables from Exhibit 10 that had statistically significant correlations with that life assessment variable. This column is complicated a bit because for each life assessment variable, two separate regressions were run, one with the individual times-spent and satisfaction-obtained variables as predictors and one with only the two summative indexes as predictors. A simple slash '/' is used to separate the results from each regression. The fifth column of figures is headed 'domain sat.' and it contains the results of regressing the same life assessment variable on the 21 variables indicating satisfaction obtained from some domain or aspect of life listed in Exhibit 11. Because the bivariate investigations with what we called 'participation variables' produced relatively few statistically significant associations (Exhibits 16 and 17) apart from the three domain satisfaction variables included in the set (recsat, meansat and partsat), we did not use the other participation variables in regressions and the latter three variables were included with the domain satisfaction variables. Finally, the sixth column of figures is headed 'all pred.' and it contains the results of regressing the same life assessment variable on all the variables that achieved statistical significance in the previous five regressions.

The first column of figures in Exhibit 20 shows that all of our four demographic variables remained statistically significant when pressed into service together and that collectively they explained 12% of the variation in self-reported general health (GH) scores. Of the four predictors, the most influential was the Body Mass Index, with a Beta value of $\beta = -.25$. Each of the other demographic variables had the same value, $\beta = .10$. Thus, figuratively speaking, for example, one could say that on average, for every increase of a full unit step (i.e., one standard deviation unit) of Body Mass Index, respondents got a decrease of 25.0% of a step in self-reported general health, with the values of all other predictors held constant. The second column of figures shows that two of the five motivational indexes remained statistically significant when used together and that they explained only 3.0% of the variance in general health scores, with the Index of Arts as Community Builders (Comb) having a Beta value of $\beta = .10$ and the Index of Arts as Self-Health Enhancers having a value of $\beta = .09$. The third column of figures shows that a single arts-related variable from the *hours per week* set of variables remained statistically significant, satisfaction obtained from listening to music, and it explained 2.0% of the variance in general health scores. The fourth column of figures shows that two arts-related variables remained statistically significant and explained 3.0% of the variance in general health scores, with the satisfaction obtained from attending live professional theatre performances having a value of $\beta = .15$ and the summative index a value of $\beta = .10$, with $N = 452$. The fifth column of

figures shows that four of the domain satisfaction variables remained statistically significant and together they explained 18.0% of the variance in general health scores. (Because the dependent variable for this exhibit is self-reported general health and such reports are highly correlated with satisfaction with one's own health (Michalos 2004), the latter variable was not used as a predictor of general health.) In the final column, we see that six predictors combined to explain 32.0% of the variance in general health scores (N = 264), with satisfaction with one's recreation activity appearing most influential ($\beta = .28$), followed by the Body Mass Index weighing in negatively ($\beta = -.21$) and then satisfaction with the local environmental quality ($\beta = .16$). No arts-related variables remained statistically significant in the last regression.

The first column of figures in Exhibit 21 shows that three of our four demographic variables remained statistically significant when used together and that collectively they explained 4.0% of the variation in satisfaction with life as a whole (Lsat) scores. Of the three predictors, the most influential were age and household income, with each having a value of $\beta = .15$. The second column of figures shows that three of the five motivational indexes remained statistically significant when used together and that they explained only 2.0% of the variance in life satisfaction scores, with the Index of Arts as Spirit-Building (Spirit) having a Beta value of $\beta = -.11$. The third column of figures shows that a single arts-related variable from the *hours per week* set of variables remained statistically significant, satisfaction obtained from singing alone, and it explained 1.0% of the variance in life satisfaction scores. The fourth column of figures shows first, that a single arts-related variable from the *times per year* set of variables remained statistically significant, satisfaction obtained from attending live professional theatre performances, and it explained 4.0% of the variance in life satisfaction scores, with N = 110. Second, the fourth column shows that Sumattend Sat explained only 1.0% of the variance in life satisfaction scores, with N = 858. The fifth column of figures shows that nine of the domain satisfaction variables remained statistically significant and together they explained 71.0% of the variance in life satisfaction scores. The most influential explanatory variable was satisfaction with one's own health ($\beta = .24$), followed by job satisfaction and satisfaction with a sense of meaning in life ($\beta = .17$). In the final column, one finds that eight predictors combined to explain 71.0% of the variance in life satisfaction scores, with satisfaction with one's own health ($\beta = .24$) most influential, followed by job satisfaction and satisfaction with one's living partner ($\beta = .17$). None of the arts-related variables remained statistically significant in the final summary regression equation.

The first column of figures in Exhibit 22 shows that all four demographic variables remained statistically significant when used together and that collectively they explained 4.0% of the variation in happiness (Hap) scores. Of the four predictors, the most influential was household income ($\beta = .14$). The second column of figures shows first, that a single arts-related variable from the *times per year* set of variables remained statistically significant, satisfaction obtained from attending live professional theatre performances, and it explained 4.0% of the variance in happiness scores, with N = 111. Second, the second column shows that Sumattend Sat explained only 1.0% of the variance in happiness scores, with N = 857. The third column of figures shows that six of the domain satisfaction variables remained statistically significant and together they explained 53.0% of the variance in happiness scores. The most influential explanatory variable was satisfaction with one's own health ($\beta = .32$), followed by satisfaction with one's own self-esteem ($\beta = .18$). In the final column, one finds that seven predictors combined to explain 51.0% of the variance in happiness scores, with satisfaction with one's own health ($\beta = .33$) most influential, followed by satisfaction with one's own self-esteem ($\beta = .19$).

None of the arts-related variables remained statistically significant in the final summary regression, nor even in the regressions involving only the motivational indexes and the arts-related *hours per week* set of variables.

The first column of figures in Exhibit 23 shows that three of our four demographic variables remained statistically significant when used together and that collectively they explained 6.0% of the variation in satisfaction with the overall quality of life (qolsat) scores. Of the three predictors, the most influential was household income ($\beta = .21$). The second column of figures shows that three of the five motivational indexes remained statistically significant when used together and that they explained only 3.0% of the variance in satisfaction with the overall quality of life scores, with the Index of Arts as Spirit-Building having a negative value of $\beta = -.14$ and the Index of Arts as Self-Health Enhancers having a positive value of $\beta = .14$. The third column of figures shows that a single arts-related variable from the *hours per week* set of variables remained statistically significant, satisfaction obtained from singing alone, and it explained 2.0% of the variance in satisfaction with the overall quality of life scores. The fourth column of figures shows first, that a single arts-related variable from the *times per year* set of variables remained statistically significant, satisfaction obtained from attending live professional theatre performances, and it explained 4.0% of the variance in satisfaction with the overall quality of life scores. Second, the fourth column shows that Sumattend Sat explained only 2.0% of the variance in satisfaction with the overall quality of life scores, with $N = 860$. The fifth column of figures shows that ten of the domain satisfaction variables remained statistically significant and together they explained 62.0% of the variance in satisfaction with the overall quality of life scores. The most influential explanatory variables were satisfaction with one's financial security and with a sense of meaning in life ($\beta = .19$), followed by satisfaction with one's own health ($\beta = .17$). In the final column, one finds that 13 predictors combined to explain 63.0% of the variance in satisfaction with the overall quality of life scores, with satisfaction with one's own health, financial security and with a sense of meaning in life having the same degree of influence ($\beta = .16$). Two of the arts-related variables remained statistically significant in the final summary regression. The Index of Arts as Self-Health Enhancers weighed in positively ($\beta = .10$) and the Index of Arts as Spirit-Building weighed in negatively ($\beta = -.12$).

The first column of figures in Exhibit 24 shows that two of four demographic variables remained statistically significant when used together and that collectively they explained 4.0% of the variation in scores on the 5-item Satisfaction With Life Scale (SWLS). Of the two predictors, the most influential was household income ($\beta = .15$). The second column of figures shows that only one of the five motivational indexes remained statistically significant when the five were used together and that it explained only 1.0% of the variance in SWLS scores. The third column of figures shows that a single arts-related variable from the *hours per week* set of variables remained statistically significant, satisfaction obtained from singing alone, and it explained 1.0% of the variance in SWLS scores. The fourth column of figures shows first, that a single arts-related variable from the *times per year* set of variables remained statistically significant, satisfaction obtained from attending live professional theatre performances, and it explained 4.0% of the variance in SWLS scores. Second, the fourth column shows that Sumattend Sat explained only 1.0% of the variance in SWLS scores, with $N = 841$. The fifth column of figures shows that seven of the domain satisfaction variables remained statistically significant and together they explained 48.0% of the variance in SWLS scores. The most influential explanatory variables were satisfaction with one's health ($\beta = .21$), followed by satisfaction with one's financial security ($\beta = .18$). In the final column, one finds that six

predictors combined to explain 48.0% of the variance in SWLS scores, with satisfaction with financial security most influential ($\beta = .22$), followed closely by satisfaction with one's own health ($\beta = .21$). None of the arts-related variables remained statistically significant in the final summary regression.

The first column of figures in Exhibit 25 shows that three demographic variables remained statistically significant when used together and that collectively they explained 4.0% of the variation in scores on the 5-item Contentment with Life Assessment Scale (CLAS). Of the three predictors, the most influential was age ($\beta = .18$). The second column of figures shows that seven of the domain satisfaction variables remained statistically significant and together they explained 71.0% of the variance in CLAS scores. The most influential explanatory variables were satisfaction with one's own health and financial security ($\beta = .19$), followed by satisfaction with one's own self-esteem ($\beta = .18$). In the final column, one finds that seven predictors combined to explain 71.0% of the variance in CLAS scores, with satisfaction with one's financial security ($\beta = .19$) most influential, followed closely by satisfaction with one's own self-esteem ($\beta = .18$). None of the arts-related variables remained statistically significant in the final summary regression, nor even in the regressions involving only the motivational indexes, the arts-related *hours per week* and *times per year* sets of variables.

The first column of figures in Exhibit 26 shows that three demographic variables remained statistically significant when used together and that collectively they explained 7.0% of the variation in scores on the 4-item Subjective Wellbeing Index (SWB). Of the three predictors, the most influential was household income ($\beta = .22$). The second column of figures shows that two of the five motivational indexes remained statistically significant when used together and that they explained only 2.0% of the variance in SWB scores. Of the two, the Index of Arts as Self-Health Enhancers was most influential ($\beta = .16$). The third column of figures shows that a single arts-related variable from the *hours per week* set of variables remained statistically significant, satisfaction obtained from reading novels, etc., and it explained 2.0% of the variance in SWB scores. The fourth column of figures shows first, that two arts-related variables from the *times per year* set of variables remained statistically significant and together explained 8.0% of the variance in SWB scores. Satisfaction obtained from attending live professional theatre performances was most influential positively ($\beta = .32$) and satisfaction obtained from going to movies was most influential negatively ($\beta = -.22$). Second, the fourth column shows that Sumattend Sat explained only 2.0% of the variance in SWB scores, with $N = 842$. The fifth column of figures shows that nine of the domain satisfaction variables remained statistically significant and together they explained 79.0% of the variance in SWB scores. The most influential explanatory variables were satisfaction with one's financial security and health ($\beta = .24$), followed by satisfaction with a sense of meaning in life ($\beta = .19$). In the final column, one finds that nine predictors combined to explain 79.0% of the variance in SWB scores, with satisfaction with financial security most influential ($\beta = .25$), followed closely by satisfaction with one's own health ($\beta = .24$). None of the arts-related variables remained statistically significant in the final summary regression.

Exhibit 27 lists results of regressing our seven life assessment variables on seven mean self-calculated discrepancy scores. Although the predictors are drawn from MDT, as mentioned earlier, the whole theory (multiple discrepancies theory) is not applied here. All we have done is use the seven basic variables of MDT in a simple Bottom-Up type of linear regression of the sort applied to produce Exhibits 20 to 26. On average, the seven MDT variables explained 48% of the variation in mean life assessment scores, with a high of 62% for SWB and a low of 17% for GH.

In every column, the most influential variable is that indicating the perceived discrepancy between what respondents have now and what they want. On average, the Beta value for this variable is .41, with a high of .50 for happiness and a low of .28 for GH. There is a tie for the second most influential variable. The perceived discrepancy between what respondents have now and what others of their age and sex living in their area have on the one hand, and the perceived discrepancy between what respondents have now and the best they have had in their previous experience on the other, each have an average $\beta = .14$. For the self-others discrepancy, the highest score $\beta = .19$ comes from qolsat and SWB, and the lowest score comes from Lsat and CLAS at $\beta = .11$. For the self-previous best discrepancy, the highest score $\beta = .21$ comes from SWLS and the lowest score comes from GH at $\beta = .09$. When the two summative indexes (Sumattend and Sumattend Sat) were added to the equations explaining the variance in each of the seven life assessment variables, practically nothing changed in the story just told. Neither index achieved a significance level sufficient to allow it into the equation.

Since in every case of Exhibits 20 to 26, the set of domain satisfaction predictors explained the greatest amount of variance in our life assessment variables, the column headed 'Domain sat.' in these exhibits is the appropriate column to compare with the results in Exhibit 27 in order to assess the relative explanatory power of both sets of predictors, i.e., domain satisfaction versus discrepancy predictors. On average for the seven life assessment variables, domain satisfaction predictors clearly explained a greater percent of the variance than discrepancy predictors, 57% versus 48%. This is not particularly surprising or satisfying since, after all, in the former case one is using only domain satisfaction predictors to explain some sort of a more general level of satisfaction. Much more analysis will be required to make a comprehensive comparison of the relative power of MDT versus a simple domain satisfaction, Bottom-Up approach to explaining the variation of overall life assessment scores in the context of a plausible theory that includes arts-related variables.

7. Conclusion

The aim of this investigation was to measure the impact of arts-related activities on the perceived or experienced quality of life. In October and November 2006, a 10-page questionnaire was mailed out to a random selection of 2000 households in five British Columbia communities (Comox Valley, Kamloops, Nanaimo, Port Moody and Prince George). A total of 1027 (10.3%) useable questionnaires were returned. Nearly two-thirds of all respondents were female, the mean age of all respondents was 53, 33.7% held a university degree and 36% were employed full-time. The total and individual community samples should be regarded as merely representative of some British Columbian residents who had some interest in the arts.

Sixty-six kinds of arts-related activities were identified in the questionnaire, and respondents were invited to write in additional ones. Regarding engagement in arts-related activities measured by the average number of *hours per week*, for the total sample and for each community, the activity with the highest percentage of participants was listening to music, followed by reading novels, short stories, plays or poetry. Regarding engagement in arts-related activities measured by the average number of *times per year*, for the total sample and for four communities, the activity with the highest percentage of participants was going to films (cinema, movie theatres). Considering the results obtained for time-spent engaged in arts-related activities and average levels of satisfaction obtained from that engagement, it is clear that it would be a mistake to think of 'the arts' or 'arts-related activities' as delivering a homogeneous set of causes and effects.

For the total sample and for each of the five community samples, the most frequently mentioned activity that respondents thought of when they heard the word ‘arts’ or the phrase ‘artistic activity’ was painting and/or drawing. The most frequently mentioned “most important” arts-related activity in the total sample and in each community was music in some form. The most frequently mentioned place where respondents first learned about their most important arts-related activity was in school, with a mean age of 13 years.

For the total sample and for every community sample, mean satisfaction levels reported for respondents’ access to information about their most important arts-related activity, access to the activity itself, access to the place where the activity occurs and about the place itself were all on the positive side (5 or higher) of a 7-point satisfaction scale. For the total sample, the mean satisfaction level reported for the amount of city government support for that activity was 4.1; for the amount of provincial government support, 3.6; and for the amount of federal government support, 3.5.

Five indexes were created to help explain people’s motives for engaging in arts-related activities, an *Index of Arts as Self-Health Enhancers*, *Index of Arts as Self-Developing Activities*, *Index of Arts as Community Builders*, *Index of Arts and Arts-Related Activities as Ends in Themselves*, and an *Index of Arts as Spirit-Building*. The indexes performed with modest success.

Seven different scales were used to measure respondents’ overall assessment of their lives, (1) self-reported general health (GH), (2) satisfaction with life as a whole (7-point scale, Lsat), (3) satisfaction with the overall quality of life (qolsat), (4) happiness with life as a whole (hap), (5) satisfaction with life as a whole (5-item index, SWLS), (6) contentment with life (5-item index, CLAS) and (7) subjective wellbeing (4-item index, SWB). There is a great variety of relationships between the 66 kinds of arts-related activities identified in the questionnaire and corresponding levels of satisfaction resulting from that engagement on the one hand, and the seven life assessment variables on the other. If one tried to measure the impact of arts-related activities on the perceived quality of people’s lives using only one of these seven scales as one’s dependent variable, one would certainly underestimate that impact.

Fifty percent of the total sample reported that they were in excellent or very good health and 57% reported that they were members of at least one organization. For the total sample, respondents participated in meetings or activities of their organizations an average of 5.6 times per month. Considering only religious services or meetings, apart from special occasions like weddings, funerals or baptisms, respondents as a whole participated an average of 5.0 times per month. For the total sample, respondents reported serving as a volunteer an average of 4.3 hours per week.

Considering engagement in activities measured in average number of *hours per week*, for the total sample of 1027 respondents who probably had more interest than the general population in arts-related activities, only 16.5% of the time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with our seven life assessment variables. The satisfaction obtained from playing a musical instrument was significantly and positively correlated with every one of the life assessment variables, on average at $r = 0.25$. Only one other activity (with engagement measured in hours per week) was significantly and positively correlated with every one of the life assessment variables, the satisfaction obtained from reading novels, short stories, plays or poetry, with an average correlation of $r = 0.10$.

Considering the relative number of arts-related activities engaged in fairly frequently (measured in *hours per week*) that were significantly correlated with the variable measuring

respondents' satisfaction with the overall quality of their lives (qolsat), it seems that if one were looking for associations between such activities and the perceived quality of life and if one could only have a single dependent variable, then one's chances for finding such associations would be maximized by using qolsat. Still, one's best strategy would be to use several dependent variables.

While there was no significant correlation between the average number of hours per week spent teaching creative writing and satisfaction obtained from such teaching, there was a large payoff from the correlations between the satisfaction obtained from such teaching and happiness, life satisfaction and subjective wellbeing. This shows quite clearly the importance of measuring diverse effects of engagement in arts-related activities, i.e., measuring diverse paths from different activities to different dependent variables.

Considering engagement in arts-related activities measured in average number of *times per year*, for the total sample of respondents, only 25.5% of the time-spent on activities variables and/or variables indicating the satisfaction obtained from those activities had significant correlations with our seven life assessment variables. More importantly, all the variables representing time spent on and satisfaction obtained from the arts-related activities that had significant correlations with the life assessment variables made a positive contribution to one or more of the overall assessments of life.

Activities that one engages in only a few times per year usually preclude engagement in others at the same time, e.g., usually one cannot visit an art museum at the same time one is attending a live professional theatre performance. So, we calculated a summative index (Sumattend) out of the average number of *times per year* that respondents engaged in seven key arts-related activities, namely, going to films, concerts, historical or heritage sites, art museums, other museums, live professional and amateur theatre. We also aggregated satisfaction obtained from these activities into another index (Sumattend Sat). Using these indexes, we were able to compare the collective impact of a representative set of activities to the individual impacts of many different kinds of activities.

For the set of engagement and satisfaction variables counted in *times per year*, there was again great heterogeneity in effects. The happiness scale had the fewest and the general health scale had the largest number of significant associations with these variables. The variables measuring the average levels of satisfaction obtained from going to live amateur theatre performances and non-art museums were the only two that had a significant and positive correlation with every life assessment variable.

Considering the results of our multivariate explorations from the point of view of what they tell us in general and specifically about the relative and total impact of arts-related activities on the perceived quality of life, seven points should be noticed.

First, consistent with results from our bivariate analyses, the overall life assessment variable with the largest number of significant associations among all our predictor variables was satisfaction with the overall quality of life (qolsat). This was not merely a consequence of beginning with more predictors, since in the context of many variables, the relative impact of each is not *a priori* predictable.

Second, the total explanatory power of all our predictors was much smaller for general health than for the six other life assessment variables. This is additional evidence of a difference between respondents' ideas about good health versus a good life. It also provides a good reason for researchers to undertake more explorations of the impact of arts-related activities on the quality of life apart from the impact on health.

Third, among these six other life assessment variables, SWLS had the fewest number of significant associations with our predictors.

Fourth, in the context of all the useable arts-related *hours per week* variables, satisfaction obtained from singing alone was the only predictor that had a significant and positive impact on three life association variables, Lsat, qolsat and SWLS. Satisfaction obtained from listening to music was the only predictor in this context that had such an impact on general health, and satisfaction obtained from reading novels, etc. was the only one that had such an impact on SWB.

Fifth, in the context of all the useable arts-related *times per year* variables, satisfaction obtained from attending live professional theatre performances was the only predictor that had a significant and positive impact on six of the seven overall life assessment variables. (CLAS was the missing variable.) In fact, for five of those six cases, satisfaction obtained from attending live professional theatre performances was the only significant predictor remaining in the regression equation. In the sixth case, satisfaction obtained from going to films had a negative impact and satisfaction obtained from going to live professional theatre performances had a positive impact on SWB.

Sixth, what was perhaps even more interesting than the relative impact of satisfaction obtained from attending live professional theatre performances in the context of all the useable arts-related *times per year* variables, this variable involving a single kind of arts-related activity had more explanatory power than the summative indexes involving seven kinds of arts-related activities. In particular, this single variable measuring the average level of satisfaction obtained from attending live professional theatre performances (in the context of all the useable arts-related *times per year* variables) had more explanatory power than the summative index Sumattend Sat for Lsat, hap, qolsat, SWLS and SWB, and than the summative index Sumattend for GH.

Seventh, in the context of all our predictors, based on the relative impact of all the arts-related activities and the satisfaction obtained from those activities on our seven overall life assessment variables, it is fair to say that such activities and their corresponding satisfaction contributed relatively little. While this may seem incredible, it is important to keep in mind the initial condition, “in the context of all our predictors” and the qualifier “relatively”. In that context, even the sweetheart of economists, self-reported household income, (which most researchers regard as a relatively objective indicator or an indicator of an objectively observable entity) contributed very little. It had a significant impact in only one final equation, for qolsat, and in that equation it was tied for last place in influence with satisfaction with government officials.

Setting aside general health, what did most of the explanatory work for the other six life assessment variables? For SWLS, CLAS and SWB, satisfaction with one’s financial security had the greatest relative impact, while for Lsat and hap, satisfaction with one’s health had the greatest impact. For qolsat, there was a three-way tie at the top, including satisfaction with one’s health, financial security and sense of meaning in life. These predictors are understandably and often relatively heavy hitters in such exercises. Considering the fact that along side these important variables we had satisfaction obtained from all of one’s most important interpersonal relations (living partner, family and friends), a very high bar was set for any arts-related variable to enter our final explanatory regression equations. The relatively weak performance of a wide variety of other predictors (e.g., criminal victimization and other leisure activities including sports) in the presence of these relatively heavy hitters may be found in Michalos (2003).

Finally, granting the difficulties of displacing any of the relatively heavy hitters from our final explanatory equations, it is unclear why even arts-related activities with engagement measured in the average number of *hours per week* or *times per year* and the satisfaction obtained from such engagement were relatively weak predictors in the context of only such arts-related activities and satisfaction. Part of the problem was that sample sizes were dramatically reduced as the number of different kinds of activities increased. But this could not have been a problem for our two summative indexes, Sumattend and Sumattend Sat, because both indexes provided relatively large samples. Limiting our analyses to linear relationships may have been part of the problem, and this possibility will be explored before the last version of this paper is written. It is also possible that none of our overall life assessment variables was sensitive enough to be influenced by our array of predictors. If this is anywhere near the root of our problem, then a lot of researchers in this field are in trouble because so many are using the same dependent variables. We thought CLAS might be a particularly useful dependent variable because it has some negative items and tends to produce a more normal (bell shaped) sort of distribution, but we were obviously wrong.

Perhaps at a deeper level, time expended and satisfaction, happiness, contentment and so on are not the right sorts of measures for the kinds of values most relevant to arts-related activities. This is not the place to enter into a philosophic discussion of alternative theories of value. Such discussions may be found in Michalos (1978, 1981, 1992, 1995). However, in a more recent study, Frey (2000) reminded us that several different kinds of value may be involved in arts-related activities. Briefly, there might be

Financial value = monetary value of x , e.g., \$10 book

Consumption value = value for personal use of x , e.g., satisfaction obtained from reading

Existence value = existence of x creates value for non-users, e.g., presence of a museum increases land values in surrounding area

Option value = x holds potential benefits for non-users, e.g., some day one may want to visit a museum

Prestige value = non-users' social status is raised by x , e.g., status is gained from living in a city containing a world-famous art museum

Education value = non-users benefit from x 's impact on education, e.g., student access to museums enriches their education and strengthens democracy

Innovation value = non-users benefit from x 's impact on innovation, e.g., student access to innovative people improves their chances of engaging in innovative activities benefiting whole communities

Intrinsic or merit value = x is worthwhile but not enjoyed by all, e.g., some fine or high art

Aesthetic value = x has some sort of unique value not commensurate with or reducible to other kinds of value

Bequest value = non-users think it is good to leave x to others, e.g., fine art displayed in museums

Moral value = x is good in itself and everyone has a right to x , e.g., life

Social value = x has some value not captured by dollars but possibly captured by one or more other kinds of value.

Most of these notions of value were discussed by Frey in very interesting ways, and people who find the notions intriguing would profit from studying his book. (See also Morrison and West, 1986.) Here it is enough to remember that our inability to discover greater marginal

or total impacts of arts-related activities on the perceived quality of life may be the result of our use of the wrong search instruments for the great variety of values involved. It is an open question whether we used the best tools and found as much as there was to find or whether better tools would have found more. All things considered, we have to admit that this investigation has left us with many unanswered questions. Hopefully, others will come forward with some answers or at least some new ideas to take this sort of research out of the woods.

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Exhibit 1. Sample demographics, whole group and 5 communities*

Variable	5 Comm	Comox	Kam	Nan	PM	PG
Sample size	1027	239	193	203	165	223
%	100.0	23.4	18.9	19.8	16.2	21.7
Male N	368	81	70	69	63	85
%	36	33.9	36.3	34.0	38.2	38.1
Female N	655	158	123	134	102	138
%	64	66.1	63.7	66.0	61.8	61.9
Mean Age	53	56	54	57	49	49
Age Range	18 – 93	18 – 90	19 – 93	21 - 92	20 – 83	18 - 91
Completed high school N	104	29	14	21	14	26
%	10.2	12.1	7.3	10.3	8.5	11.7
Completed trade/college N	245	53	50	45	36	61
%	24.0	22.2	26.0	22.2	21.8	27.5
Completed university N	346	77	53	74	76	64
%	33.7	32.2	27.6	36.5	46.1	28.8
Employed full-time N	371	60	73	54	73	111
%	36.3	25.0	38.0	26.6	44.2	50.0
Retired N	328	96	72	84	35	41
%	32.1	40.0	27.6	41.4	21.2	18.5
Married N	612	146	108	112	109	137
%	59.9	60.8	56.3	55.2	66.1	62.0
Mean household income	\$72,799	\$63,539	\$71,249	\$61,351	\$92,723	\$80,042
Mean Body Mass Index	26.1	25.7	26.2	26.4	25.6	26.7
% experiencing sunny day	67.3	83.4	59.3	80.8	80.6	34.6
Mean Celsius temperature	14.7	15.5	14.7	16.8	17.1	10.0

* Percentages will not always sum to 100 and Ns will not always sum to total N because not all categories are included in the table and some variables had missing values.

Exhibit 2. Top 10 arts-related activities by percent of participants, with average number of hours per week participation and mean levels of satisfaction, whole group and 5 communities.

Activities	5 Comm	Activities	Comox	Activities	Kam	Activities	Nan	Activities	PG	Activities	PM
Lis/music %	89.3	Lis/mus %	87.6	Lis/mus %	92.2	List/mus %	81.4	List/mus %	91.9	List/mus %	94.6
Hrs pr wk	13.3	HPW	14.8	HPW	11.8	HPW	13.7	HPW	13.1	HPW	13.1
Mean sat	5.9	Sat	5.9	Sat	5.8	Sat	6.0	Sat	6.0	Sat	5.9
Read nov %	68.7	Read nov %	71.1	Read nov %	65.3	Read nov %	64.7	Read nov %	69.5	Read nov %	72.7
HPW	8.5	HPW	9.2	HPW	8.1	HPW	9.8	HPW	8.2	HPW	7.1
Sat	6.2	Sat	6.2	Sat	6.0	Sat	6.3	Sat	6.2	Sat	6.2
Dvd wat %	41.1	Sing alon %	41.3	Dvdwat %	41.5	Sing alon %	35.3	Dvdwat %	45.7	Dvdwat %	46.7
HPW	4.7	HPW	4.9	HPW	5.5	HPW	4.7	HPW	3.9	HPW	4.1
Sat	5.5	Sat	5.8	Sat	5.4	Sat	5.7	Sat	5.7	Sat	5.4
Sing alon %	36.7	Dvdwat %	39.7	Sing alon %	37.8	Dvdwat %	32.8	Sing alon %	32.3	Sing alon %	36.4
HPW	4.9	HPW	4.7	HPW	3.5	HPW	5.6	HPW	6.1	HPW	5.1
Sat	5.7	Sat	5.4	Sat	5.5	Sat	5.7	Sat	5.8	Sat	5.8
Read oth %	23.1	Read oth %	21.9	Read oth %	26.4	Gou cook %	16.7	Read oth %	26.0	Read oth %	25.5
HPW	3.8	HPW	4.2	HPW	3.1	HPW	6.5	HPW	3.3	HPW	4.0
Sat	6.1	Sat	6.1	Sat	5.9	Sat	6.4	Sat	6.2	Sat	6.1
Gou cook %	18.4	Gou cook %	19.8	Gou cook %	22.8	Read oth %	16.2	Tell stor %	16.1	Tell stor %	21.8
HPW	5.1	HPW	4.5	HPW	4.5	HPW	4.7	HPW	4.5	HPW	3.3
Sat	6.2	Sat	6.2	Sat	5.9	Sat	5.9	Sat	5.7	Sat	6.1
Tell stor %	16.3	Play inst %	19.0	Tell stor %	17.6	Paint dr %	15.2	Play instr %	14.3	Gou cook %	21.2
HPW	3.7	HPW	3.9	HPW	3.2	HPW	6.6	HPW	7.3	HPW	4.6
Sat	5.9	Sat	5.7	Sat	6.0	Sat	5.7	Sat	6.1	Sat	6.6
Paint dr %	15.5	Paint dr %	17.8	Play inst %	14.0	Sing grp %	15.2	Paint dr %	13.9	Paint dr %	19.4
HPW	5.9	HPW	7.1	HPW	3.2	HPW	6.8	HPW	5.7	HPW	4.6
Sat	5.9	Sat	5.8	Sat	5.8	Sat	5.9	Sat	6.3	Sat	6.1
Play inst %	14.3	Sing grp %	16.9	Art TV %	13.5	Tell stor %	12.8	Gou cook %	12.6	Art phot %	16.4
HPW	4.8	HPW	2.2	HPW	2.0	HPW	3.3	HPW	2.4	HPW	3.2
Sat	5.9	Sat	5.9	Sat	5.3	Sat	5.9	Sat	5.4	Sat	6.4
Sing grp %	13.9	Knit/cro %	14.9	Sing grp %	13.0	Knit/cro %	10.8	Art TV %	12.1	Art TV %	13.9
HPW	3.6	HPW	7.5	HPW	2.0	HPW	6.6	HPW	5.5	HPW	2.2
Sat	5.8	Sat	6.1	Sat	5.8	Sat	6.2	Sat	5.9	Sat	5.6

Exhibit 3. Top 10 arts-related activities by percent of participants, with average number of times per year participation and mean levels of satisfaction, whole group and 5 communities.

Activities	5 Comm	Activities	Comox	Activities	Kam	Activities	Nan	Activities	PG	Activities	PM
Go films %	64.0	Go artmus%	59.5	Go films %	65.3	Go films %	62.8	Go films %	61.9	Go films %	76.4
Times pr yr	5.9	TPY	3.6	TPY	6.3	TPY	5.5	TPY	4.7	TPY	7.3
Mean sat	5.4	Sat	5.9	Sat	5.4	Sat	5.4	Sat	5.5	Sat	5.5
Go concert %	59.6	Go concer%	58.3	Goconcert%	58.0	Go concert%	59.3	Go concert %	56.1	Go concert %	68.5
TPY	4.0	TPY	4.3	TPY	4.2	TPY	4.6	TPY	3.5	TPY	3.4
Sat	6.1	Sat	6.0	Sat	6.0	Sat	6.2	Sat	6.0	Sat	6.1
Go com fes%	54.2	Gocomfes%	57.9	Go hisher%	52.9	Go comfest%	53.4	Go publib	53.4	Go comfest %	67.9
TPY	2.8	TPY	3.0	TPY	3.5	TPY	3.0	TPY	8.8	TPY	2.8
Sat	5.6	Sat	5.7	Sat	5.9	Sat	5.6	Sat	5.7	Sat	5.7
Go his/her %	53.0	Go films %	57.4	Go artmus%	48.2	Go artmus %	52.5	Go hisher %	51.1	Go hisher %	58.8
TPY	3.3	TPY	5.6	TPY	3.2	TPY	3.8	TPY	2.3	TPY	4.0
Sat	5.9	Sat	5.3	Sat	5.6	Sat	5.7	Sat	5.9	Sat	5.8
Go art mus%	51.8	Go amthe%	57.0	Go comfes%	48.2	Go othmus%	50.0	Go comfest %	46.2	Go artmus %	56.4
TPY	3.5	TPY	2.8	TPY	2.5	TPY	2.8	TPY	2.4	TPY	4.2
Sat	5.8	Sat	6.0	Sat	5.6	Sat	5.8	Sat	5.6	Sat	5.9
Go publib%	48.6	Go hisher%	55.0	Go publib%	45.1	Go hisher %	48.0	Go prothea %	42.6	Go prothea %	53.3
TPY	10.3	TPY	3.1	TPY	8.3	TPY	3.5	TPY	3.0	TPY	2.5
Sat	5.7	Sat	5.9	Sat	5.7	Sat	6.0	Sat	6.3	Sat	6.1
Go profthe%	45.2	Goothmus%	47.5	Goprothe%	42.5	Go prothea %	47.1	Go artmus %	42.6	Go publib %	52.1
TPY	2.6	TPY	2.1	TPY	2.8	TPY	2.5	TPY	2.9	TPY	11.5
Sat	5.9	Sat	5.8	Sat	6.0	Sat	6.2	Sat	5.6	Sat	5.7
Go amthea %	44.9	Gopublib%	45.9	Goamthea%	38.3	Go publib	47.1	Go amthea %	40.8	Go othmus %	47.9
TPY	2.7	TPY	13.0	TPY	2.4	TPY	9.8	TPY	2.3	TPY	2.6
Sat	5.9	Sat	5.8	Sat	5.9	Sat	5.8	Sat	5.9	Sat	5.9
Go othmus %	43.1	Goprothe%	42.6	Home dec%	37.8	Go amthea %	44.6	Go othmus %	35.9	Home dec %	44.2
TPY	2.5	TPY	2.2	TPY	4.3	TPY	3.5	TPY	2.8	TPY	3.9
Sat	5.8	Sat	6.2	Sat	5.7	Sat	6.0	Sat	5.7	Sat	5.8
Home dec %	35.2	Buy art %	39.3	Go othmu%	34.7	Home dec %	33.8	Home dec %	33.2	Go amtheat %	40.1
TPY	3.9	HPW	2.5	TPY	2.4	TPY	4.0	TPY	3.7	TPY	2.3
Sat	5.7	Sat	6.0	Sat	5.7	Sat	5.6	Sat	5.7	Sat	6.0

Exhibit 4. Percent of respondents indicating first thoughts about the meaning of ‘arts’ or ‘artistic activity’ and respondents’ most important arts-related activity, with mean levels of satisfaction with aspects of that activity, whole group and 5 communities.

Item	5 Comm	Comox	Kam	Nan	PG	PM
First thoughts %	Paint, draw 27.8	Paint, dr 33.3	Paint, dr 25.9	Paint, dr 26.0	Paint, dr 22.1	Paint, dr 31.6
Most important %	Music 33.7	Music 26.2	Music 41.8	Music 33.0	Music 34.5	Music 35.0
Place where first learned about it %	School 51.4	School 49.5	School 55.8	School 52.6	School 47.1	School 53.1
Mean age when first learned about it %	12.7 years	14.1 years	11.9 years	12.7 years	12.5 years	11.7 years
Mean level of satisfaction with:						
Access to information re activity (N)	5.5 (879)	5.7 (207)	5.4 (157)	5.5 (181)	5.3 (188)	5.5 (146)
Access to activity itself (N)	5.5 (863)	5.6 (205)	5.5 (157)	5.5 (176)	5.3 (184)	5.5 (141)
Place where activity occurs (N)	5.3 (654)	5.5 (154)	5.2 (107)	5.4 (127)	5.0 (157)	5.3 (109)
Access to the activity facility (N)	5.2 (814)	5.5 (195)	5.2 (144)	5.1 (166)	5.1 (176)	5.3 (133)
Price (\$) for participating (N)	4.9 (659)	5.2 (154)	5.0 (112)	4.6 (123)	5.0 (158)	4.8 (112)
City gov. support for activity (N)	4.1 (668)	4.4 (155)	4.0 (116)	3.9 (128)	4.0 (154)	4.2 (108)
Provincial government support (N)	3.6 (613)	3.9 (132)	3.4 (116)	3.4 (121)	3.7 (147)	3.4 (97)
Federal government support (N)	3.5 (597)	3.8 (125)	3.3 (112)	3.3 (121)	3.6 (145)	3.3 (94)
Other support for the activity (N)	4.6 (596)	4.7 (136)	4.4 (106)	4.5 (120)	4.8 (143)	4.5 (91)

Exhibit 5. Indexes of beliefs and feelings that might motivate arts-related activity, whole group.

5a. Index of Arts as Self-Health Enhancers, N = 935, $\alpha = .88^*$

Description: My artistic activities. . .	% Agreeing or Strongly Ag.	Item-Total Correlation
Have a positive effect on my life	90.3	.65
Help me to relax	87.9	.69
Help relieve stress	86.1	.73
Contribute to my emotional wellbeing	88.5	.82
Help me to stay healthy	68.6	.64
Contribute to my overall wellbeing	82.7	.81

* Scale mean = 24.8, standard deviation = 4.0.

5b. Index of Arts as Self-Developing Activities, N = 925, $\alpha = .89^*$

Description: My artistic activities. . .	% Agreeing or Strongly Ag.	Item-Total Correlation
Give me self-confidence	71.7	.70
Help me to learn about myself	67.9	.66
Help me to reveal my thoughts, feelings or physical skills to others	62.9	.69
Contribute to my self-esteem	74.4	.76
Help me develop my social skills	52.9	.73
Help me express my personal identity	67.7	.75

* Scale mean = 22.9, standard deviation = 4.7.

5c. Index of Arts as Community Builders, N = 917, $\alpha = .86^*$

Description: My artistic activities. . .	% Agreeing or Strongly Ag.	Item-Total Correlation
My artistic activities help me to learn about other people	71.3	.66
My artistic activities help me to accept differences among people	67.1	.64
My artistic activities help me feel connected to this community	49.8	.59
Artists help build community solidarity	67.9	.66

Artistic activity strengthens a community	79.7	.71
Artistic activity in a community increases its social capital	64.8	.64

* Scale mean = 22.5, standard deviation = 4.2.

5d. Index of Arts and Arts-Related Activities as Ends in Themselves, N = 918, $\alpha = .77^*$

Description: My artistic activities. . .	% Agreeing or Strongly Ag.	Item-Total Correlation
The appreciation of art is an art-lover's reward	69.2	.53
Good art needs no justification beyond itself	70.9	.55
I enjoy art for its own sake	87.1	.67
Without art, life would be very dull	86.0	.55
I engage in artistic activities for the sake of the activities themselves	76.4	.42

* Scale mean = 20.0, standard deviation = 3.1.

5e. Index of Arts as Spirit-Building, N = 919, $\alpha = .78^*$

Description: My artistic activities. . .	% Agreeing or Strongly Ag.	Item-Total Correlation
My artistic activities help me preserve my cultural heritage	37.2	.54
I engage in artistic activities to express my spirituality	33.8	.60
My artistic activities help me express my ethnic identity	19.2	.61
Art is important for expressing my religious feelings	21.0	.61

* Scale mean = 11.1, standard deviation = 3.7.

Exhibit 6. Self-reported health and social activities, percent with memberships and average time participating, whole group and 5 communities.

Variable	5 Comm	Comox	Kam	Nan	PG	PM
% excel./very good health	50.3	51.7	46.8	45.8	50.0	58.0
% memb. of vol. org.	56.9	64.8	58.6	60.3	49.3	49.4
Ave.times per month part.	5.6	6.5	5.2	5.9	4.6	5.5
Ave. TPM part. relig.part.	5.0	5.4	5.9	4.7	4.1	4.7
Ave.hrs per wk volunteer	4.3	4.6	4.9	4.5	3.3	3.7

Exhibit 7. Mean levels of domain and life assessment satisfaction and happiness, whole group and 5 communities.

Satisfaction with:	5 Comm	Comox	Kam	Nan	PG	PM
Your house, apartment, mobile home	5.8	6.0	5.8	5.8	5.8	5.7
Your neighbourhood	5.9	6.1	5.9	5.9	5.6	5.9
Your city, town or rural area	5.7	6.1	5.9	5.5	5.1	5.9
Your family relations, generally	5.7	5.8	5.7	5.7	5.7	5.7
Your living partner	6.2	6.3	6.2	5.9	6.3	6.2
Your job	5.3	5.4	5.3	5.1	5.4	5.3
Your life as a whole	5.7	5.8	5.7	5.6	5.7	5.8
Your friendships	5.7	5.7	5.6	5.7	5.5	5.7
Your physical health	5.2	5.4	5.2	5.0	5.0	5.2
Your psychological health	5.5	5.6	5.5	5.4	5.4	5.4
Your religion or spiritual fulfillment	5.2	5.4	5.0	5.3	5.1	5.1
Your overall standard of living	5.7	5.9	5.6	5.6	5.7	5.6
Your financial security	5.2	5.4	5.0	5.1	5.1	5.1
Your recreation activities	5.2	5.4	5.2	5.0	5.1	5.0
Your level of physical activity	4.7	5.0	4.7	4.6	4.6	4.6
Your level of social activity	4.7	4.8	4.6	4.6	4.5	4.7
Air quality where you live	4.9	6.1	4.7	5.5	3.4	4.8
Drinking water quality where you live	5.4	5.9	5.4	5.7	4.6	5.4
Land pollution where you live	4.8	5.4	4.7	4.9	4.2	4.7
Your sense of meaning in life	5.5	5.6	5.3	5.5	5.5	5.4
Your self-esteem	5.5	5.6	5.4	5.4	5.5	5.5
Your amount of free time	4.9	5.2	4.8	5.2	4.5	4.6
Local primary and secondary schools	4.8	5.0	4.8	4.8	4.6	4.7
Your personal safety around your home	5.6	6.0	5.6	5.6	5.4	5.5
Federal government officials	3.5	3.6	3.6	3.5	3.4	3.5
Provincial government officials	3.4	3.5	3.5	3.3	3.4	3.3
Local government officials	3.8	4.0	4.1	3.4	3.7	4.0
Your overall quality of life	5.8	5.9	5.7	5.6	5.7	5.8
How local people treat you	5.8	6.0	5.8	5.8	5.7	5.6
Your access to health care	5.2	5.5	5.0	5.3	4.8	5.3
What you achieve in life	5.4	5.6	5.3	5.3	5.4	5.4
Your future security	5.2	5.3	5.1	5.2	5.2	5.1
Feeling part of your community	5.1	5.4	5.1	5.0	4.9	4.9
Your overall happiness	5.9	6.1	5.9	5.8	5.9	5.9

Exhibit 8. Mean scores on respondents' lives compared to diverse standards, whole group and 5 communities.

Your life now compared to	5 Comm	Comox	Kam	Nan	PG	PM
What you want from life	5.6	5.8	5.5	5.5	5.6	5.5
What others your age & sex have	5.3	5.3	5.1	5.1	5.3	5.3
What you deserve	4.6	4.9	4.5	4.6	4.7	4.4
What you need	4.8	5.0	4.7	4.7	4.8	4.6
What you expected it would be now	4.7	4.8	4.6	4.7	4.7	4.6
What you expect it to be in 5 yrs	4.8	4.8	4.7	4.6	4.9	4.7
The best in your previous experience	4.6	4.7	4.6	4.4	4.5	4.5

Exhibit 9. Correlations among average number of *hours per week* engaged in arts-related activities and levels of satisfaction with each activity (Act.Sat.) and seven life assessment variables: general health (GH), life satisfaction (Lsat), happiness (hap), satisfaction with overall quality of life (qolsat), satisfaction with life scale (SWLS), contentment with life assessment scale (CLAS) and subjective wellbeing (SWB), $p < 0.05$.

Activity	Act.Sat.	GH	Lsat	Hap	qolsat	SWLS	CLAS	SWB	N \geq
age	---	-.16	.08	ns	ns	ns	.14	.08	973
Education	---	.18	ns	.12	.11	.11	.06	.10	982
House/income	---	.17	.15	.16	.22	.17	.11	.22	808
Body Mass Ind.	---	-.27	ns	-.08	-.11	-.10	-.07	-.10	928
Listening/music	.19	ns	ns	-.07	ns	ns	ns	ns	905
Lis/music/sat	1.00	.12	.09	ns	.10	ns	ns	.08	888
Reading novels	.15	-.12	ns	-.08	-.12	-.09	ns	-.08	683
Re/nov/sat	1.00	.10	.11	.12	.15	.10	.08	.15	682
Knit/crocheting	ns	-.28	ns	ns	-.22	ns	ns	ns	101
Quilting	.33	ns	ns	ns	ns	ns	ns	ns	48
Painting, draw.	.29	ns	ns	ns	ns	ns	ns	ns	159
Writing novels	.29	ns	ns	ns	ns	ns	ns	ns	68
Singing alone	.13	ns	ns	ns	ns	ns	ns	ns	377
Sing/al/sat	1.00	ns	.13	.11	.18	.13	.13	.17	361
Play/music/inst.	.23	.16	ns	ns	ns	ns	ns	ns	146
Pla/mus/inst/sat	1.00	.21	.24	.28	.30	.26	.16	.31	141
Watch film/dvd	ns	ns	ns	-.12	ns	ns	ns	ns	418
Watch film/sat	1.00	ns	ns	ns	.12	ns	ns	ns	418
Making clothes	ns	ns	ns	-.37	ns	ns	ns	ns	40
Read to others	.15	ns	ns	ns	ns	ns	ns	ns	237
Read/others sat	1.00	ns	.15	.19	.26	ns	.15	.23	230
Telling stories	ns	ns	ns	ns	ns	ns	.18	ns	162
Tell/stor/sat	1.00	ns	.22	.17	.28	.17	.22	.23	160
Sing/group/sat	1.00	.19	ns	.19	.18	.24	.19	.18	137
Tea/creat/writ/sat	1.00	ns	.50	.41	ns	ns	ns	.45	24
Attend art class	ns	ns	-.47	-.44	ns	ns	ns	-.52	33
Art. photography	.22	ns	ns	ns	ns	ns	ns	ns	98
Take/kids/arts/sat	1.00	.24	.23	ns	ns	ns	ns	.23	81
Wat/thea/tv/sat	1.00	ns	ns	ns	.35	ns	ns	ns	45
Watch/concert/tv	ns	.29	ns	ns	ns	ns	ns	ns	79
Wa/conc/tv/sat	1.00	ns	ns	ns	.25	ns	ns	ns	78
Wa/ art tv/sat	1.00	ns	ns	ns	.24	ns	ns	ns	125

Exhibit 10. Correlations among average number of *times per year* engaged in arts-related activities and levels of satisfaction with each activity (Act.Sat.) and life assessment variables: general health (GH), life satisfaction (Lsat), happiness (hap), satisfaction with overall quality of life (qolsat), satisfaction with life scale (SWLS), contentment with life assessment scale (CLAS) and subjective wellbeing (SWB), $p < 0.05$.

Activity	Act.Sat.	GH	Lsat	Hap	qolsat	SWLS	CLAS	SWB	N≥
Go to movies	.21	ns	ns	ns	ns	ns	ns	ns	657
Go/mov/sat	1.00	ns	.10	.10	.13	.09	.08	.10	638
Go concerts	.09	.13	ns	ns	ns	ns	.10	ns	595
Go/con/sat	1.00	.09	.10	ns	.12	.10	.11	.09	594
Att com. Fes.	.17	ns	ns	ns	ns	ns	ns	ns	557
Att/com/F/sat	1.00	.10	.10	ns	.15	ns	ns	.11	539
Go his/her sit	.10	ns	ns	ns	ns	ns	ns	ns	544
Go/his/her/sat	1.00	.11	.15	ns	.14	.11	ns	.10	529
Go/art/mu/gal	.13	.10	ns	ns	ns	ns	ns	ns	524
Go/mus/sat	1.00	.11	.12	ns	.10	ns	.09	ns	514
Go public libr	.21	ns	ns	ns	ns	ns	ns	ns	499
Vi/lib/sat	1.00	.15	.12	ns	.10	.09	.14	.11	483
Go/prof/live/th	.13	ns	ns	ns	ns	ns	ns	ns	464
Go/prof/th/sat	1.00	.16	.11	.09	.15	.12	ns	.10	450
Go/amat/theat	.22	.09	.09	ns	.10	ns	ns	.10	447
Go/the/am/sat	1.00	.09	.14	.11	.18	.15	.11	.13	447
Go/other/mus	ns	ns	ns	ns	ns	.10	ns	ns	429
Go/other/mus/sat	1.00	.16	.17	.14	.16	.11	.12	.15	429
Decor. home	.18	ns	ns	ns	ns	ns	ns	ns	361
Buy/art/wk/sat	1.00	.14	ns	ns	.11	ns	ns	ns	356
Dancing	.23	ns	ns	ns	ns	ns	ns	ns	285
Design/garden	ns	.17	ns	ns	ns	ns	ns	ns	276
Des/gard/sat	1.00	ns	ns	ns	.18	ns	.19	.13	272
Go/school/plays	ns	ns	ns	ns	ns	.12	.14	ns	264
Design/furnit	ns	ns	ns	ns	ns	ns	.24	ns	80
Sumattend	--	.14	.08	.07	.10	.07	ns	.11	841
Sumattend sat	--	.13	.11	.09	.15	.09	ns	.14	841

Exhibit 11. Correlations of domain satisfaction scores with life assessment variables: general health (GH), life satisfaction (Lsat), happiness (hap), satisfaction with overall quality of life (qolsat), satisfaction with life scale (SWLS), contentment with life assessment scale (CLAS) and subjective wellbeing (SWB), N ≥760, p<0.05.

Domain sat with ↓	GH	Lsat	Hap	qolsat	SWLS	CLAS	SWB
Your house, apartment	.18	.47	.39	.48	.38	.38	.55
Neighbourhood	.16	.40	.33	.44	.32	.29	.47
City, town or rural area	.18	.40	.34	.41	.31	.29	.43
Family relations	.19	.48	.43	.44	.36	.37	.51
Living partner	.12	.48	.43	.40	.42	.37	.50
Job	.25	.57	.42	.44	.44	.42	.53
Friendships	.21	.57	.47	.47	.39	.43	.58
Health	.64	.69	.64	.63	.57	.55	.73
Religion/spirit fulfill,	.21	.43	.37	.40	.35	.33	.45
Financial security	.25	.51	.44	.55	.50	.50	.66
Recreation activities	.36	.49	.43	.50	.45	.45	.56
Environment	.21	.31	.26	.35	.30	.27	.37
Sense of meaning in life	.24	.62	.57	.62	.56	.52	.67
Self-esteem	.31	.64	.59	.61	.57	.57	.68
Amount of free time	.11	.36	.31	.38	.31	.36	.41
Personal safety by home	.22	.40	.37	.48	.35	.29	.49
Government officials	.12	.21	.21	.32	.26	.21	.28
How locals treat you	.21	.53	.43	.57	.42	.40	.58
Access to health care	.15	.34	.35	.40	.34	.32	.43
Future security	.23	.54	.51	.59	.53	.53	.66
Feel part of your comm.	.26	.51	.48	.55	.45	.47	.58

Exhibit 12. Correlations among seven life assessment variables: general health (GH), life satisfaction (Lsat), happiness (hap), satisfaction with overall quality of life (qolsat), satisfaction with life scale (SWLS), contentment with life assessment scale (CLAS) and subjective wellbeing (SWB), N ≥1001, p<0.05.

Variable	GH	Lsat	hap	qolsat	SWLS	CLAS
GH	---					
Lsat	.35	---				
Hap	.39	.71	---			
Qolsat	.36	.75	.64	---		
SWLS	.38	.67	.67	.66	---	
CLAS	.33	.64	.63	.57	.78	---
SWB	.41	.89	.85	.88	.74	.70

Exhibit 13. Correlations among average number of *hours per week* engaged in arts-related activities and levels of satisfaction with motivational indexes: Index of Arts as Self-Health Enhancers (Health), Index of Arts as Self-Developing Activities (S-Dev), Index of Arts as Community Builders (Comb), Index of Arts as Ends in Themselves (Ends), Index of Arts as Spirit-Building (Spirit), and demographics, $p < 0.05$.

Activity	Health	S-Dev	Comb	Ends	Spirit	N \geq
Age	ns	-.06	ns	ns	.09	910
Education	.11	ns	.15	.08	.09	917
Household income	ns	-.11	ns	-.08	-.12	750
Body Mass Index	ns	ns	-.08	ns	.15	868
Listening to music	.09	.09	ns	.10	.08	838
Listening to music satisfaction	.19	.19	.16	.18	.08	838
Reading novels satisfaction	.16	.10	.11	.16	.08	655
Singing alone satisfaction	.25	.15	.15	.18	.11	356
Reading to others	ns	.17	ns	.16	ns	226
Reading to others satisfaction	.22	.14	.19	.23	ns	222
Gourmet cooking satisfaction	ns	.18	.17	ns	ns	177
Telling stories satisfaction	.21	.23	.17	.18	ns	158
Painting or drawing	.19	ns	ns	.16	ns	154
Painting or drawing satisfaction	.22	.28	.16	.26	ns	151
Playing a musical instrument	.19	ns	ns	.18	ns	139
Playing a musical instr. sat	.24	.19	ns	ns	ns	142
Singing in a group satisfaction	.25	.21	ns	ns	ns	135
Watching art shows on tv	-.18	ns	ns	ns	ns	120
Watching art shows on tv sat	.22	ns	ns	.21	ns	120
Artistic photography sat	ns	.22	ns	.23	ns	95
Taking children to arts activities	ns	.22	ns	ns	ns	81
Taking children...act. Sat	.38	ns	.25	.34	ns	80
Arranging flowers	-.28	-.27	ns	-.26	ns	76
Watching concerts on tv sat	.39	.43	.44	.35	.24	68
Writing novels...etc. sat	ns	.30	.24	ns	ns	66
Embroidery, needlepoint sat	.26	ns	ns	.36	ns	62
Watching live theatre. . .sat	ns	.32	.34	.31	ns	42
Making clothes satisfaction	.35	ns	ns	ns	ns	38
Teaching painting/draw. Sat	ns	.61	ns	.60	ns	32
Teaching to play an instrument	ns	ns	ns	.41	ns	24
Teach/instrument sat	.46	ns	ns	ns	ns	25

Exhibit 14. Correlations among average number of *times per year* engaged in arts-related activities and levels of satisfaction with motivational indexes: Index of Arts as Self-Health Enhancers (Health), Index of Arts as Self-Developing Activities (S-Dev), Index of Arts as Community Builders (Comb), Index of Arts as Ends in Themselves (Ends), Index of Arts as Spirit-Building (Spirit), $p < 0.05$.

Activity	Health	S-Dev	Comb	Ends	Spirit	N \geq
Going to movies	ns	ns	ns	.08	ns	618
Going to concerts	.10	.11	.20	.09	ns	578
Going to concerts satisfaction	ns	ns	.11	.14	ns	578
Attending community festivals	.12	ns	.17	ns	.10	527
Att. Community festivals sat	.13	.13	.24	.16	ns	528
Visiting historic, heritage sites	ns	ns	.09	ns	ns	515
Vis. Hist., heritage site sat	.14	.16	.21	.16	.09	510
Going to art museums, galleries	.11	.15	.16	.15	.09	506
Go... art museums, gall. sat	.10	.16	.19	.17	.13	506
Vis. Public library sat	.14	ns	.16	.16	ns	470
Going to prof live theatre	ns	.10	.18	ns	ns	439
Go. .prof. live theatre sat	ns	ns	.13	.14	ns	439
Going to amateur live theatre	ns	.10	.21	.12	ns	436
Go...amateur live theatre sat	.11	ns	.14	.13	.12	432
Go...other museums sat	.10	ns	.13	ns	ns	423
Decorating a home	ns	ns	ns	ns	.12	338
Decorating a home sat	.17	.19	ns	.15	ns	343
Buying works of art sat	.13	ns	.14	.23	ns	343
Dancing satisfaction	.14	.21	ns	.17	ns	272
Designing a garden sat	.14	ns	ns	ns	ns	271
Mak. Donations to arts sat	ns	.22	.18	ns	ns	201
Volunteering in the arts	ns	ns	ns	ns	-.25	76
Sumattend	.13	.18	.30	.19	.09	800
Sumattend Sat	.19	.23	.35	.23	.19	800

Exhibit 15. Correlations among motivational indexes: Index of Arts as Self-Health Enhancers (Health), Index of Arts as Self-Developing Activities (S-Dev), Index of Arts as Community Builders (Comb), Index of Arts as Ends in Themselves (Ends), Index of Arts as Spirit-Building (Spirit) N \geq 917, $p < 0.05$.

Index	health	S-Dev	Comb	Ends
Health	---			
S-Dev	.69	---		
Comb	.61	.68	---	
Ends	.62	.56	.61	---
Spirit	.40	.53	.52	.34

Exhibit 16. Correlations among average number of *hours per week* engaged in arts-related activities and levels of satisfaction with average times per month participating in voluntary associations (tpmv), average times per month participating in religious meetings (tpmr), average hours per week volunteering (hpwv), satisfaction with recreation activities (recsat), with sense of meaning in life (meansat), feeling part of community (partsat), and demographics, $p < 0.05$.

Activity	tpmv	tpmr	hpwv	recsat	meansat	partsat	N \geq
Age	ns	ns	.13	.08	.09	.18	496
Education	ns	ns	ns	.10	.07	ns	990
Household income	-.10	ns	ns	.11	.07	.11	446
Body Mass Index	ns	ns	.14	-.14	ns	-.07	474
Listening to music	ns	ns	.12	ns	ns	ns	458
List music sat	ns	ns	ns	.09	.12	.17	893
Reading novels	ns	ns	.15	ns	ns	-.09	353
Reading novels sat	ns	ns	ns	.12	.19	.13	686
Wat/film on video/dvd	ns	.23	ns	ns	ns	-.10	121
Watching films sat	ns	ns	ns	ns	.11	ns	411
Singing alone sat	ns	ns	ns	.11	.20	.10	370
Reading to others	ns	ns	.20	ns	ns	ns	127
Reading to others sat	ns	ns	ns	.16	.19	.18	231
Telling stories	.30	ns	.25	.21	.16	ns	86
Telling stories sat	ns	ns	ns	ns	.26	.24	165
Painting / drawing sat	ns	ns	.24	.16	ns	ns	89
Play musical instr. sat.	ns	ns	ns	.21	.18	.18	143
Singing in a group	ns	ns	.40	ns	ns	ns	103
Singing in a group sat	ns	.20	ns	.26	.19	ns	109
Watch art on tv sat.	ns	ns	ns	ns	.27	ns	123
Taking kids to arts act.	ns	ns	.36	ns	ns	.23	46
Taking kids...act. Sat	ns	ns	ns	ns	.33	.27	82
Arranging flowers	ns	.56	.30	ns	ns	-.32	31
Arrange flowers sat	-.48	ns	ns	ns	.22	ns	56
Watch concerts on tv	ns	.40	ns	ns	ns	ns	34
Watch conc. on tv sat.	ns	ns	ns	.23	.33	ns	78
Write novels...etc. sat	ns	ns	ns	.31	.27	ns	66
Embroid, needlepo sat.	ns	ns	ns	.28	ns	.25	66
Attending art classes	ns	ns	ns	ns	ns	-.48	33

Exhibit 17. Correlations among average *times per year* engaged in arts-related activities and levels of satisfaction with, average times per month participating in religious meetings (tpmr), satisfaction with recreation activities (recsat), with sense of meaning in life (meansat) and feeling part of community (partsat), $p < 0.05$.

Activity	tpmr	recsat	meansat	partsat	N \geq
Going to movies sat	ns	ns	.12	.11	644
Going to concerts	ns	.11	ns	.11	600
Going to movies	ns	ns	.12	.16	599
Attending comm fest	.19	ns	ns	ns	177
Att. Commfest sat	ns	ns	.12	.17	549
Vis.Hist,herit site sat	ns	.10	.13	.19	536
Go art mus, gall. sat.	ns	ns	ns	.13	528
Visit public library	ns	ns	ns	ns	485
Vis. pub lib sat	ns	ns	.11	.15	484
Going to prof theatre	ns	ns	ns	.09	461
Go prof. theatre sat.	ns	.10	.11	.15	453
Go to amat theatre	ns	ns	ns	.18	451
Go amat theatre sat.	ns	ns	.16	.21	452
Going other museums	ns	ns	.10	.13	436
Go other mus sat	ns	.12	.13	.24	436
Decorating a home	.23	ns	ns	ns	98
Décor a home sat	.28	ns	.11	ns	98
Designing a garden	.31	ns	ns	ns	76
Design a garden sat	ns	ns	.13	ns	277
Going to school plays	ns	ns	ns	.12	269
Go school plays sat	ns	ns	.16	ns	268
Make donations arts	.46	ns	ns	ns	75
Mak. Don to arts sat	ns	ns	.15	ns	203
Working on com fest	ns	ns	ns	.21	96
Work com Fest. Sat	ns	ns	ns	.20	96
Volunteer in arts sat	ns	ns	ns	.27	77

Exhibit 18. Correlations among average number of *hours per week* engaged in arts-related activities and levels of satisfaction with age, education, household income and Body Mass Index, $p < 0.05$.

Activity	age	educ	H-ncome	BMI	N \geq
Listening to music	-.12	-.10	-.07	ns	746
Listening to music sat	-.10	ns	ns	ns	906
Reading novels	.15	ns	ns	ns	694
Watch movies on video/dvd	ns	ns	-.12	ns	334
Watching movies...dvd sat.	ns	ns	-.11	ns	334
Singing alone	-.12	ns	ns	ns	374
Reading to others	-.14	ns	ns	ns	235
Reading to others sat	ns	.14	ns	ns	237
Telling stories	ns	ns	-.18	ns	124
Painting or drawing	ns	-.17	ns	ns	159
Singing in a group	ns	ns	ns	.29	136
Knitting or crocheting	ns	ns	-.28	.30	82
Artistic photography sat	ns	-.21	ns	ns	98
Taking children to arts act.	ns	-.34	ns	ns	83
Watching concerts tv... sat	ns	ns	-.30	ns	59
Making clothes	ns	ns	ns	.50	37
Creating sculptures sat	.58	ns	ns	ns	27
Graphic designing sat	ns	ns	ns	-.52	25

Exhibit 19. Correlations among average number of *times per year* engaged in arts-related activities and levels of satisfaction with age, education, household income and Body Mass Index, $p < 0.05$.

Activity	age	educ	income	BMI	N \geq
Going to movies	-.15	.09	ns	.10	625
Going to concerts	.22	.13	ns	ns	605
Vis. Hist., heritage site sat	.12	ns	-.09	ns	457
Going to art mus, galleries	.09	ns	ns	ns	525
Visting the public library	.10	ns	-.10	ns	420
Vis. Public library sat	.19	ns	ns	ns	490
Going to prof live theatre	.22	.09	ns	ns	460
Going to amateur live theatre	.27	ns	ns	ns	457
Going amateur...theatre sat.	ns	-.09	ns	ns	461
Decorating a home sat	ns	-.13	ns	ns	361
Dancing	-.15	ns	ns	ns	282
Going to school plays	.14	ns	ns	ns	272
Going to school plays sat	ns	-.18	ns	ns	273
Making donations to arts	ns	ns	ns	.15	194
Making donations to arts sat	ns	ns	-.18	ns	165
Volunteering in the arts	.33	ns	ns	ns	79
Volunteering in the arts sat	.26	ns	ns	ns	79
Figure skating	.38	ns	ns	ns	51
Sumattend	ns	.18	ns	ns	866
Sumattend sat	ns	.15	ns	-.09	818

Exhibit 20. Regressions of General Health on demographics, motivation indexes, hours/times engaged and satisfaction obtained from arts-related activities and domain satisfaction.

Dependent Vars →	Demog.	Mot.Index	Hrs/act.sat.	Times/sat.	Domain sat.	All pred.
N =	791	837	282	452	629	264
% of variance expl	12	3	2	3	18	32
Predictors ↓	Beta	Beta	Beta	Beta	Beta	Beta
Age	-.10	*	*	*	*	**
Education	.10	*	*	*	*	.13
Household income	.10	*	*	*	*	**
Body Mass Index	-.25	*	*	*	*	-.21
Health-enhance Ind	*	.09	*	*	*	**
Comm.Building Ind	*	.10	*	*	*	**
Listening music sat.	*	*	.15	*	*	**
Go prof. theatre sat.	*	*	*	.15	*	**
Sumattend	*	*	*	.10	*	**
Job sat.	*	*	*	*	.10	.12
Recreat activity sat.	*	*	*	*	.26	.28
Environ qual. Sat.	*	*	*	*	.12	.16
Self-esteem sat.	*	*	*	*	.13	.13

* not in equation

** significance level too low to enter equation

Exhibit 21. Regressions of Life Satisfaction on demographics, motivation indexes, hours/times engaged and satisfaction obtained from arts-related activities and domain satisfaction.

Dependent Vars. →	Demog.	Mot. Index	Hrs/act.sat.	Times/ sat.	Domain sat.	All pred.
N =	795	845	282	110/858	636	515
% of variance expl	4	2	1	4/1	71	71
Predictors ↓	Beta	Beta	Beta	Beta	Beta	Beta
Age	.15	*	*	*	*	**
Household income	.15	*	*	*	*	**
Body Mass Index	-.09	*	*	*	*	**
Health-enhance Index	*	.10	*	*	*	**
Comm.Building Ind	*	.09	*	*	*	**
Spirit-Building Ind	*	-.11	*	*	*	**
Singing alone sat.	*	*	.13	*	*	**
Go prof theatre sat.	*	*	*	.21/*	*	**
Sumattend sat	*	*	*	*/.11	*	**
Housing satisfaction	*	*	*	*	.13	.16
Family relations sat.	*	*	*	*	.06	.06
Living partner sat.	*	*	*	*	.15	.17
Job sat.	*	*	*	*	.17	.17
Friendship sat	*	*	*	*	.14	.15
Health satisfaction	*	*	*	*	.24	.24
Sense/mean life sat.	*	*	*	*	.17	.14
Self-esteem sat.	*	*	*	*	.13	.14
Personal safety sat.	*	*	*	*	.06	**

* not in equation

** significance level too low to enter equation

Exhibit 22. Regressions of Happiness on demographics, motivation indexes, hours/times engaged and satisfaction obtained from arts-related activities and domain satisfaction.

Dependent Vars. →	Demog.	Times/ sat.	Domain sat.	All pred.
N =	798	111/857	636	633
% of variance expl	4	4/1	53	51
Predictors ↓	Beta	Beta	Beta	Beta
Age	.08	*	*	-.09
Education	.09	*	*	**
Household income	.14	*	*	**
Body Mass Index	-.09	*	*	**
Go prof theatre sat.	*	.19/*	*	**
Sumattend sat	*	*/.09	*	**
Family relations sat.	*	*	.07	.09
Living partner sat.	*	*	.15	.17
Health satisfaction	*	*	.32	.33
Finance security sat.	*	*	.10	.11
Sense/mean life sat.	*	*	.16	.10
Self-esteem sat.	*	*	.18	.19

* not in equation

** significance level too low to enter equation

Exhibit 23. Regressions of Satisfaction with the Overall Quality of Life on demographics, motivation indexes, hours/times engaged and satisfaction obtained from arts-related activities and domain satisfaction.

Dependent Vars. →	Demog.	Mot. Index	Hrs/act.sat.	Times/ sat.	Domain sat.	All pred.
N =	795	843	285	110/860	637	570
% of variance expl	6	3	2	4/2	62	63
Predictors ↓	Beta	Beta	Beta	Beta	Beta	Beta
Age	.11	*	*	*	*	**
Household income	.21	*	*	*	*	.06
Body Mass Index	-.12	*	*	*	*	**
Health-enhance Ind	*	.14	*	*	*	.10
Comm.Building Ind	*	.10	*	*	*	**
Spirit-Building Ind	*	-.14	*	*	*	-.12
Singing alone sat.	*	*	.16	*	*	**
Go prof theatre sat.	*	*	*	.20/*	*	**
Sumattend sat	*	*	*	*/.15	*	**
Housing satisfaction	*	*	*	*	.10	.11
Living partner sat.	*	*	*	*	.10	.08
Friendship sat	*	*	*	*	.06	.09
Health satisfaction	*	*	*	*	.17	.16
Finance security sat.	*	*	*	*	.19	.16
Sense/mean life sat.	*	*	*	*	.19	.16
Self-esteem sat.	*	*	*	*	.13	.11
Personal safety sat.	*	*	*	*	.10	.12
Govern. officials sat.	*	*	*	*	.08	.06
Feel part com. Sat	*	*	*	*	.08	.11

* not in equation

** significance level too low to enter equation

Exhibit 24. Regressions of Satisfaction With Life Scale (SWLS) on demographics, motivation indexes, hours/times engaged and satisfaction obtained from arts-related activities and domain satisfaction.

Dependent Vars. →	Demog.	Mot. Index	Hrs/act.sat.	Times/ sat.	Domain sat.	All pred.
N =	783	829	280	109/841	619	525
% of variance expl	4	1	1	4/1	48	48
Predictors ↓	Beta	Beta	Beta	Beta	Beta	Beta
Household income	.15	*	*	*	*	**
Body Mass Index	-.11	*	*	*	*	**
Comm.Building Ind	*	.08	*	*	*	**
Singing alone sat.	*	*	.13	*	*	**
Go prof theatre sat.	*	*	*	.20/*	*	**
Sumattend sat	*	*	*	*/.09	*	**
Living partner sat.	*	*	*	*	.17	.20
Job sat.	*	*	*	*	.09	.09
Health satisfaction	*	*	*	*	.21	.21
Finance security sat.	*	*	*	*	.18	.22
Sense/mean life sat.	*	*	*	*	.17	.16
Self-esteem sat.	*	*	*	*	.12	.10
Govern. officials sat.	*	*	*	*	.07	**

* not in equation

** significance level too low to enter equation

Exhibit 25. Regressions of Contentment with Life Assessment Scale (CLAS) on demographics, motivation indexes, hours/times engaged and satisfaction obtained from arts-related activities and domain satisfaction.

Dependent Vars. →	Demog.	Domain sat.	All pred.
N =	783	620	619
% of variance expl	4	71	71
Predictors ↓	Beta	Beta	Beta
Age	.18	*	**
Household income	.13	*	**
Body Mass Index	-.09	*	**
Housing satisfaction	*	.08	.10
Living partner sat.	*	.10	.10
Health satisfaction	*	.19	.16
Finance security sat.	*	.19	.19
Sense/mean life sat.	*	.13	.13
Self-esteem sat.	*	.18	.18
Feel part comm. Sat	*	.11	.11

* not in equation

** significance level too low to enter equation

Exhibit 26. Regressions of Subjective Wellbeing (SWB) on demographics, motivation indexes, hours/times engaged and satisfaction obtained from arts-related activities and domain satisfaction.

Dependent Vars. →	Demog.	Mot. Index	Hrs/act.sat.	Times/ sat.	Domain sat.	All pred.
N =	780	832	279	109/842	634	531
% of variance expl	7	2	2	8/2	79	79
Predictors ↓	Beta	Beta	Beta	Beta	Beta	Beta
Age	.14	*	*	*	*	-.08
Household income	.22	*	*	*	*	**
Body Mass Index	-.13	*	*	*	*	**
Health-enhance Ind	*	.16	*	*	*	**
Spirit-Building Ind	*	-.08	*	*	*	**
Reading novels sat.	*	*	.16	*	*	**
Going to movies sat.	*	*	*	-.22/*	*	**
Go prof theatre sat.	*	*	*	.32/*	*	**
Sumattend sat	*	*	*	*/.14	*	**
Housing satisfaction	*	*	*	*	.12	.14
Living partner sat.	*	*	*	*	.15	.16
Job sat.	*	*	*	*	.06	**
Friendship sat	*	*	*	*	.10	.11
Health satisfaction	*	*	*	*	.24	.24
Finance security sat.	*	*	*	*	.24	.25
Sense/mean life sat.	*	*	*	*	.19	.14
Self-esteem sat.	*	*	*	*	.12	.18
Personal safety sat.	*	*	*	*	.09	.08

* not in equation

** significance level too low to enter equation

Exhibit 27. Regressions of seven life assessment variables on seven mean discrepancy scores.

Dependent Variables →	GH	Lsat	Hap	qolsat	SWLS	CLAS	SWB
N =	956	962	970	965	947	947	949
% of variance explained	17	46	51	47	60	52	62
Predictors, Your life compared to ↓	β	β	β	β	β	β	B
What you want from life	.28	.46	.50	.37	.39	.42	.47
What others your age & sex have	.13	.11	.12	.19	.15	.11	.19
What you deserve	-.11	*	*	*	*	*	*
What you need	*	.09	.07	.13	.10	.08	.11
What you expected it to be now	*	*	*	*	.08	.10	.06
What you expect it to be in 5 yrs	.10	*	*	.06	.06	-.06	*
The best in your past experience	.09	.14	.14	.11	.21	.20	.12

* Significance level too low to enter equation.

Appendix

Arts and Quality of Life Survey, October 2006

Total N=1027

In this survey, we refer to arts in a very broad sense to include such things as music, dance, theatre, painting, sculpture, pottery, literature (novels, short stories, poetry), photography, quilting, gardening, flower arranging, textile and fabric art. We also ask you to mention any others we may have missed.

TIME SPENT ON AND LEVELS OF SATISFACTION WITH ARTISTIC ACTIVITIES

People participate in different artistic activities in very different time periods, from daily (e.g., listening to music) to a few times per year (e.g., attending live theatre performances). So, to properly estimate the amount of time committed to such activities, we included two different questions.

For activities involving frequent participation, please estimate the average amount of time per week that you spend on them, in hours. If you never engage in some particular activity, write 0 for *hours per week*.

For activities involving infrequent participation, please estimate the number of times per year that you participate in them. If you never engage in some particular activity, write 0 for *times per year*.

For those activities in which you participate, we would like you to rate the average level of satisfaction you get on the following 7-point scale: 1= very dissatisfied, 2 or 3 = dissatisfied, 4= even balance of satisfaction and dissatisfaction, 5 or 6 = satisfied, and 7 = very satisfied. Please enter the appropriate number in the space provided under *average satisfaction level*.

Most activities had some people indicating they spent a certain number of hours per week on it, while other people only did it a few times per year. The hours per week activities are listed first, followed by the times per year activities. The activities are listed in two orders – first from the largest number of people responding to the least and then from the largest average hours/week (or times/year) to the smallest.

<i>Particular Activities</i>	<i>Ordered By</i>		
	<i>N</i>	<i>Hours/Week</i>	<i>Satisfaction</i>
T1. Listening to music	917	13.34	5.91
T17. Reading novels, etc.	705	8.52	6.20
T37. Watching movies on video	422	4.69	5.52
T8. Singing alone	377	4.86	5.73
T21. Reading to others	237	3.76	6.05
T46. Gourmet cooking	189	5.06	6.22
T20. Telling stories	167	3.69	5.92
T5. Painting or drawing	159	5.90	5.86
T2. Playing a musical instrument	147	4.75	5.87
T9. Singing in a group	143	3.62	5.84
T50. Watching art shows on TV	126	2.13	5.56
T27. Knitting or crocheting	101	8.09	6.13
T40. Artistic photography	98	2.99	6.29
T67. Other (See Appendix T67)	87	8.70	6.77
T12. Taking children to arts activities	83	2.72	5.94
T42. Arranging flowers	83	2.32	6.03
T52. Watching concerts on TV	81	2.17	5.59

T19. Writing novels, etc.	68	5.23	5.79
T28. Embroidery, needlepoint	68	4.85	6.10
T16. Making quilts	48	7.83	6.33
T51. Watching live theatre on TV	45	2.51	5.59
T15. Making clothes	40	4.50	6.05
T56. Attending a class-artistic work	33	3.09	5.94
T6. Teaching painting or drawing	33	2.91	5.96
T10. Creating pottery or ceramics	28	8.46	6.62
T7. Teaching singing	27	11.56	5.92
T11. Creating sculptures	27	5.41	6.11
T49. Graphic designing	27	3.96	6.08
T4. Teaching – to play an instrument	25	5.60	5.67
T22. Teaching creative writing	25	3.36	5.30
T3. Writing music	19	4.79	6.16
T18. Attending a book club	18	8.67	6.38
T53. Watching opera on TV	18	2.00	4.87
T60. Working for pay in the arts	17	18.65	6.13
T43. Creating jewelry	17	5.88	6.60
T24. Teaching people to dance	15	2.67	6.60
T47. Teaching gourmet cooking	15	2.13	6.14
T62. Acting as an advocate for the arts	12	9.67	5.50
T14. Designing clothes	9	4.33	6.00
T58. Selling works of art	8	9.38	5.43
T35. Non-acting work – amateur theatre	8	6.88	6.77
T48. Making artistic videos or movies	8	3.75	6.14
T13. Teaching sculpture	6	3.00	5.80
T25. Weaving textiles	4	7.50	6.50
T33. Acting – professional theatre	2	13.00	6.50
T34. Acting – amateur theatre	2	5.00	7.00
T26. Weaving baskets	2	2.50	7.00
T61. Serving as a judge for the arts	1	1.00	5.00

<i>Particular Activities</i>	<i>Ordered By</i> <i>N</i>	<i>Times/Year</i>	<i>Satisfaction</i>
T36. Going to movies	657	5.86	5.39
T29. Going to concerts	612	4.00	6.06
T54. Attending community festivals	557	2.76	5.64
T65. Visiting historic, heritage sites	544	3.28	5.90
T38. Going to art museums/galleries	532	3.54	5.76
T66. Visiting the public library	499	10.29	5.74
T31. Going to professional live theatre	464	2.61	6.15
T30. Going to amateur live theatre	461	2.69	5.97
T39. Going to other museums	443	2.50	5.75
T44. Decorating a home	361	3.93	5.69
T57. Buying works of art	360	2.23	6.08

T23. Dancing	285	5.59	5.64
T41. Designing a garden	279	3.60	5.90
T32. Going to school plays	273	1.89	5.97
T63. Making donations to the arts	208	2.34	5.78
T55. Working on community festivals	96	1.95	5.88
T64. Designing, crafting furniture	80	2.56	6.13
T59. Volunteering in the arts	79	4.48	5.90
T45. Figure skating	52	4.00	5.96
T67. Other (See Appendix T67)	42	22.88	6.34
T61. Serving as a judge for the arts	14	2.00	5.64
T34. Acting – amateur theatre	11	1.64	6.27
T33. Acting – professional theatre	7	2.14	5.33

<i>Particular Activities</i>	<i>N</i>	<i>Ordered By Hours/Week</i>	<i>Satisfaction</i>
T60. Working for pay in the arts	17	18.65	6.13
T1. Listening to music	917	13.34	5.91
T33. Acting – professional theatre	2	13.00	6.50
T7. Teaching singing	27	11.56	5.92
T62. Acting as an advocate for the arts	12	9.67	5.50
T58. Selling works of art	8	9.38	5.43
T67. Other (See Appendix T67)	87	8.70	6.77
T18. Attending a book club	18	8.67	6.38
T17. Reading novels, etc.	705	8.52	6.20
T10. Creating pottery or ceramics	28	8.46	6.62
T27. Knitting or crocheting	101	8.09	6.13
T16. Making quilts	48	7.83	6.33
T25. Weaving textiles	4	7.50	6.50
T35. Non-acting work-amateur theatre	8	6.88	6.00
T5. Painting or drawing	159	5.90	5.86
T43. Creating jewelry	17	5.88	6.60
T4. Teaching - to play an instrument	25	5.60	5.67
T11. Creating sculptures	27	5.41	6.11
T19. Writing novels, etc.	68	5.23	5.79
T46. Gourmet cooking	189	5.06	6.22
T34. Acting – amateur theatre	2	5.00	7.00
T8. Singing alone	377	4.86	5.73
T28. Embroidery, needlepoint	68	4.85	6.1
T3. Writing music	19	4.79	6.16
T2. Playing a musical instrument	147	4.75	5.87
T37. Watching movies on video	422	4.69	5.52
T15. Making clothes	40	4.50	6.05
T14. Designing clothes	9	4.33	6.00
T49. Graphic designing	27	3.96	6.08
T21. Reading to others	237	3.76	6.05

T48. Making artistic videos or movies	8	3.75	6.14
T20. Telling stories	167	3.69	5.92
T9. Singing in a group	143	3.62	5.84
T22. Teaching creative writing	25	3.36	5.30
T56. Attending a class-artistic work	33	3.09	5.94
T13. Teaching sculpture	6	3.00	5.80
T40. Artistic photography	98	2.99	6.29
T6. Teaching painting or drawing	33	2.91	5.96
T12. Taking children to arts activities	83	2.72	5.94
T24. Teaching people to dance	15	2.67	6.60
T51. Watching live theatre on TV	45	2.51	5.59
T26. Weaving baskets	2	2.50	7.00
T42. Arranging flowers	83	2.32	6.03
T52. Watching concerts on TV	81	2.17	5.59
T47. Teaching gourmet cooking	15	2.13	6.14
T50. Watching art shows on TV	126	2.13	5.56
T53. Watching opera on TV	18	2.00	4.87

<i>Particular Activities</i>	<i>N</i>	<i>Ordered By Times/Year</i>	<i>Satisfaction</i>
T67. Other (See Appendix T67)	42	22.88	6.34
T66. Visiting the public library	499	10.29	5.74
T36. Going to movies	657	5.86	5.39
T23. Dancing	285	5.59	5.64
T59. Volunteering in the arts	79	4.48	5.90
T29. Going to concerts	612	4.00	6.06
T45. Figure skating	52	4.00	5.96
T44. Decorating a home	361	3.93	5.69
T41. Designing a garden	279	3.60	5.90
T38. Going to art museums/galleries	532	3.54	5.76
T65. Visiting historic, heritage sites	544	3.28	5.90
T54. Attending community festivals	557	2.76	5.64
T30. Going to amateur live theatre	461	2.69	5.97
T31. Going to professional live theatre	464	2.61	6.15
T64. Designing, crafting furniture	80	2.56	6.13
T39. Going to other museums	443	2.50	5.75
T63. Making donations to the arts	208	2.34	5.78
T57. Buying works of art	360	2.23	6.08
T33. Acting-professional live theatre	7	2.14	5.33
T61. Serving as a judge for the arts	14	2.00	5.64
T55. Working on community festivals	96	1.95	5.88
T32. Going to school plays	273	1.89	5.97
T34. Acting-amateur theatre	11	1.64	6.2

