CINEMA IS GOOD FOR YOU: THE EFFECTS OF CINEMA ATTENDANCE ON SELF REPORTED ANXIETY OR DEPRESSION AND "HAPPINESS"

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BHPS data are available from the Data Archive at the University of Essex
http://www.data-archive.ac.uk

Further information about the BHPS and other longitudinal surveys can be obtained by telephoning +44 (0) 1206 873543.

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ABSTRACT

I analyse the effects of cinema attendance on psychological well-being and happiness. The type of visual stimulation unique to film provokes an emotive response holding therapeutic properties. The collective and controlled experience of this emotive response promotes well-being generally. This analysis differs from most research into the effect of leisure on happiness, anxiety or depression, and well-being because it focuses on the effects of sensory stimulation and its resulting emotion inducing properties as opposed to leisure pursuits involving physical conditioning. This work differs further by systematically comparing 10 different leisure activities against cinema attendance in their relative affects on happiness and self-reported anxiety and depression. Using data from wave 12 of the British Household Panel Study, I find that cinema attendance has strong positive effects on happiness and stable negative effects on self-reporting of anxiety or depression, even when controlling for various socio-demographic and economic factors. This research confirms, therefore, that cinema is a unique leisure activity with beneficial properties for well-being.

The narrative and representational aspects of film make it a wholly unique form of art. Moreover, the collective experience of film as art renders it a wholly distinct leisure activity. I analyse the effects of cinema attendance on psychological well-being and happiness. I argue that the visual stimulation of film provokes an emotive response which is therapeutic and that the collective and controlled experience of this emotive response promotes well-being. In short, the cinema is good for you. Most research into the effect of leisure on happiness, anxiety and depression, and well-being touch on the various features of the leisure experience without pin-pointing specific actions – like attending the cinema. Those studies that do focus holistically on encapsulated leisure activities, confine themselves to physical fitness regimes of particular types, rather than collectively experienced art. This work differs by systematically comparing 10 different leisure activities against cinema attendance in their relative affects on happiness and self-reported anxiety and depression. Using data from wave 12 of the British Household Panel Study, I find that cinema attendance has strong positive effects on happiness and stable negative effects on self-reporting of anxiety or depression, even when controlling for various socio-demographic and economic factors. This research confirms, therefore, that cinema is a unique leisure activity with beneficial properties for well-being.

Cinema is Good For You

The unique properties of attending the cinema can have decisively positive effects on mental health. Cinema attendance can have independent and robust effects on mental well-being because visual stimulation can queue a range of emotions and the collective experience of these emotions through the cinema provides a safe environment in which to experience roles and emotions we might not otherwise be free to experience. The collective nature of the narrative and visual stimulation makes the experience enjoyable and controlled, thereby offering benefits beyond mere visual stimulation. Moreover, the cinema is unique in that it is a highly accessible social art form, the participation in which generally cuts across economic lines. At the same time, attending the cinema allows for the exercise of personal preferences and the human need for distinction. In a nutshell, cinema attendance can be both a personally expressive experience, good fun, and therapeutic at the same time.

A significant amount of research into the physiological effects of emotion involve showing research subjects whole films or film clips in order to induce the relevant emotive state being studied. For example, Baldaro et al., show subjects a film of a live surgery to induce a fearful or stressful emotive state (2001). The visual queues present in the gory film seemed to induce heart rate deceleration and increased respiratory sinus arrhythmia – both parallel responses in non-humans to fear. Von Leupoldt and Dahme found that they could induce restricted then normal breathing among healthy adults by showing them negative followed by positive movie clips (2004). In a rather groundbreaking study, Konlaan, Bygren and Johansson found that frequent cinema attendees have particularly low mortality risks – those who never attended the cinema had mortality rates nearly 4 times higher than those who visit the cinema at least occasionally (Konlaan, Bygren, and Johansson 2000). Their finding holds even when other forms of social engagement are controlled, suggesting that social engagement specifically in an artistic milieu is important for human survival. As epidemiologists, the authors explain that strong visual and auditory stimulation of the type associated with experiencing artistic expression has positive physical effects in non-humans. The authors believe that such stimulation reduces the chances of disease and outline how such stimulation can promote autoimmune responses in humans.

Given these emotive responses, and attendant physiological effects, to viewing film, it is not surprising to note significant research into the deleterious effects of film content on social and psychological development. Films can reinforce gender stereotypes (Oliver and Green 2001), pro-violence attitudes among children (Funk, Baldacci, Pasold, and

Baumgardner 2004), or even encourage suicide and provide the appropriate means (Ohberg, Lonnqvist, Sarna, and Vuori 1996). Ohberg et al. found that age specific suicide rates through the use of auto-exhaust fumes significantly increased shortly after a 1982 popularly released film in Finland featured this method. On the other hand, the content of films need not have deleterious effects. In a controlled experiment, Mazur and Emmers-Sommer found that subjects shown a film featuring a positive portrayal of non-traditional families experienced more favourable attitudes towards homosexuals (2002).

The positive aspects of film, however, are rarely touted. A notable exception is Dr. Brian Johnson, a psychotherapist. According to Dr. Johnson (2000):

> "Movies can take us to places we would never go and quite possibly never should go in real life. Although by going to these places vicariously through film, we are able to have experiences that can help us see ourselves and our problems more clearly."

For this reason, Dole and McMahan outline a method of videotherapy for use in schools to help treat children with behavioural or emotional problems (2005). They suggest that a teacher could use the film to encourage children to identify with characters in order to teach proper emotional responses to situations portrayed in the films. Dr. Johnson does not suggest that going to the movies be used as a substitute for seeking professional psychotherapy when needed. However, his idea is that watching movies has a distinctly therapeutic effect. That is, the experiences generated from the emotive participation in the narrative, induced through audio-visual stimulation, can have positive effects by allowing us to explore new ideas and emotions in a controlled fashion.

To this point, I have been discussing the generic effects of watching films on physiology, health and social engagement. I would like, however, to distinguish watching films in the relative isolation of a laboratory, or the privacy of one's home, with the distinctly collective experience of watching a film in a cinema. I argue that the controlled collective nature of the emotive experience adds to the therapeutic effects of the artistic stimulation. Supporting this idea is research into the psycho-social benefits of other forms of distinctly social leisure as opposed to solitary leisure pursuits. Michelsen and Bildt find that women's dissatisfaction with the quality of their social contacts and men's dissatisfaction with the quantity of their social contacts imply increased odds of depression, lower odds of psychological well-being and higher odds of excessive alcohol use (2003). In their study of Tae Kwan Do practitioners and a control group sharing predominantly solitary leisure portfolios, IsoAhola and Park found that social leisure activities promoted better mental health

than non-social leisure activities (1996). Moreover, civic engagement is associated with a more positive outlook, greater well-being and lower prevalence of anxiety or depression (Donovan, Halpern, and Sargeant 2002; Putnam 2001)

In an era of increased secularisation, pre-eminent anthropologist Joseph Campbell notes that today the cinema is an arena in which stories can be told which affirm the shared identity of a healthy society. In the past this was the church, claims Campbell, today it is the cinema {Campbell, 1988 #982}. So attending the cinema can reinforce community and because of its popular nature, it is a form of public engagement that cuts across established social boundaries. This discussion implies that frequent cinema attendance should have positive affects on well-being and, if Dr. Johnson's ideas are correct, inhibit the experience of problems with minor mental disorders in the general population. Certainly, cinema attendance is not the only factor influencing well-being. Therefore, it is necessary to situate this research within the broader literature on well-being.

The Roots of Well-Being

Well-being is a multifaceted concept various defined in the literature as "subjective well-being", "happiness", "life satisfaction", and freedom from disease or mental problems (Alesina, Di Tella, and MacCulloch 2004; Clark 2005; Donovan, Halpern, and Sargeant 2002; Layard 2005). The root causes of well-being are equally as diverse ranging from genetic (i.e., regulation of serotonin and dopamine levels) to the effects of life circumstances and events as well as psychological affective states (Brickman, Coates, and Janoff-Bulman 1978; Diener 1984; Donovan, Halpern, and Sargeant 2002; Hamer 1996; Inglehart and Klingemeann 2000; Larson 1978; Lykken and Tellegen 1996; Peasgood 2005).

Psychological theories of well-being can be distinguished into bottom-up perspectives and top-down perspectives (Brief, Houston Butcher, George, and Link 1993). According to Brief, et al., experiences are objectively good or bad and those who accumulate a number of good experiences tend to have more well-being and happiness throughout their lives. On the other hand, certain people may be predisposed to happiness and readily interpret life circumstances and events positively and are thereby generally more likely to experience high levels of well-being. Brief, et al.'s research suggests that happiness and well-being are driven, in part, by both lines, particularly in the role one's health plays in levels of happiness and well-being. They conclude that one's happiness is derived indirectly from objective good health and affective orientation and that these things are modulated by one's interpretation of life

circumstances (Brief, Houston Butcher, George, and Link 1993; Campbell, Converse, and Rogers 1976).

Individual socio-demographic factors and societal economic conditions are also heavily implicated in the literature on well-being, life satisfaction and happiness. Donovan, et al, in an extensive review of life satisfaction for the British government, highlight some of the key findings from these research avenues (2002). Studies have generally found that women tend to report greater life satisfaction than men (Argle 1987; Inglehart 1990). Age is often found to have a u-shaped relationship with life satisfaction, implying that the young and the old more satisfied than those who are middle aged (Diener, Suh, Lucas, and Smith 1999; Inglehart 1990). People with higher incomes tend to be more satisfied with life overall than those with lower incomes, although those who earn a greater share of household income tend to have lower levels of happiness (Clark and Oswald 2002; Di Tella, MacCulloch, and Oswald 2003; Inglehart 1990). A number of researchers also generally find a positive relationship between job satisfaction and life satisfaction (Clark 2005; Judge and Watanabe 1993; Kahneman, Diener, and Schwarz 1999; Tait, Padgett, and Baldwin 1989). Being touched by unemployment, either in one's own life or in the lives of one's immediate family tends to lead to lower levels of life satisfaction (Clark 2005; Clark and Oswald 1994). Much of this literature treats life-satisfaction, happiness and well-being as synonymous concepts. Moreover, problems with anxiety or depression are similarly treated as a proxy for well-being (Peasgood 2005; Wiggins, Netuveli, Montgomery, and Blane 2005). These sorts of socio-demographic and economic factors are necessary controls for any study in this area.

The role of leisure in well-being and happiness is also clearly developed. Much of this literature implicates physical leisure and the health benefits of physical activity on mental well-being. For example, Schnohr et al., test the effects of physical activity during leisure time on levels of stress, life dissatisfaction and psycho-social well-being. They find that primarily sedentary leisure patterns were associated with high levels of stress, life dissatisfaction and less psychosocial well-being than those routinely engaging in a physically active leisure portfolio (2005). Whether maintaining a physical leisure portfolio or not, dedicating time to the pursuit of leisure activities can help maintain positive mental health even under adverse life conditions. In a study of working Brazilian women, Ponde and Santana found that those with active leisure schedules in addition to their commitments to work, child-care and household maintenance despite living in low income areas, tended to test higher on routine measures of mental health than those with less or no leisure commitments (2000).

Methods

To test the general notion that frequent cinema attendance is good for you, I systematically compare cinema attendance to 10 different leisure activities in their effects on "happiness" and self-reported problems with anxiety or depression. I control for various socio-demographic influences suggested by the above reviewed literature. I find consistent effects as suggested by my general theory.

Data and Measures

I test the proposition that cinema is good for you using wave 12 of the British Household Panel Study, the BHPS. The BHPS is a multi-purpose panel study beginning in 1991. A sample of 8,217 addresses was generated using a two-stage clustered probability design with systematic sampling. All individuals, aged 16 or greater, living within the household indicated by the address were interviewed. The resulting original sample included 10,264 individuals in 5,511 households. Efforts were made to follow all original sample members and include all those individuals becoming resident in an original sample member's household over-time. Also, over-samples were drawn in Scotland and Wales in 1999 and in Northern Ireland in 2002. The data for Wave 12 were gathered in 2003. The current analysis is of approximately 5,594 adults aged 24 to 44 living in the United Kingdom in 2003.

If cinema is good for you, then those who more frequently attend the cinema will be happier with their lives overall than those who rarely go to the movies. Individual experience of the cinema cannot be tested with these data. Nevertheless, the collective experience of being audio-visually told a story is the more relevant property of cinema attendance. Happiness is derived from measures of overall life satisfaction. Alesina *et al.* (2004) contend that life satisfaction and happiness are highly correlated and indeed, much of the literature treats happiness, well-being and life satisfaction as synonymous concepts. For example, Donovan *et al.* (2002) maintain that direct questioning on happiness can yield unreliable responses so they tend to favour judging happiness from questions about overall life satisfaction. For these reasons, I measure "Being Happy" from a rudimentary self-rated scale of overall life satisfaction. Respondents were asked "How dissatisfied or satisfied are you with your life overall" and could respond with a number from 1 to 7 where 1 indicates "Not satisfied at all" and 7 indicates "Completely satisfied". "Being Happy" was dummy coded defining "Happy" as scoring a 5 or greater on this item.

I have also tested the therapeutic effects of frequent cinema attendance by examining the association between self-reporting problems with anxiety or depression and cinema attendance. Respondents were shown a card listing various health problems. Those mentioning that they have had problems with "Anxiety, depression or bad nerves, psychiatric problems" were dummy coded "1", all others were coded "0".

This research focuses on those between the ages of 25 and 44. Over these ages, the proportion of those self-reporting problems with anxiety or depression increases notably while at the same time the proportion indicating that they are "happy" declines. Figure 1 contains the age specific proportions of respondents self-reporting problems with anxiety or depression (the solid line and right hand axis) and "being happy" (the dashed line and left hand axis). We can see that the prevalence from about 6.4 percent to 8.5 percent. Self-reporting of problems with anxiety or depression actually peaks with 9.9 percent of 55 to 59 year olds. Moreover, the proportion "being happy" drops from 77.1 percent for 25 to 29 year olds to 75.5 percent for 40 to 45 year olds. The proportion happy hits its nadir among 45 to 59 year olds with about 72.3 percent testing as "happy" on this measure. I focus on this age group because reported problems with depression and anxiety, and happiness, both experience the most change over these ages. Furthermore, the collective experience of anxiety or depression and unhappiness increases over these ages suggesting that the collective benefit of cinema attendance could be most stringently tested with this population.

{Figure 1 here}

Donovan et al. (2002) extensively reviewed research into life satisfaction for the British government. As described previously, their survey of prior research suggests a number of socio-demographic controls including age, gender and race (See also Blanchflower and Oswald 2000). We have already seen that levels of happiness and reporting problems with anxiety or depression vary across ages. Among the group of 25 to 44 year olds, age should have a continuously negative effect on the likelihood of being happy and a direct positive effect on the odds of reporting problems with anxiety or depression. Table 2 lists the socio-demographic controls and their measures in all models. Race is dummy coded into "Non-White" and "White". Social class is controlled using the Market Research Society's "Social Grade" measure. This measure generally captures lifestyle differences in social grade rather than differentiation based on the division of labour. Alternative to most research into subjective well-being, I measure income directly rather than using the logarithm of income. I include measures of personal income, household income and the ratio of personal to household

income. I control for marital status with a categorical variable coded into "Married or Partnered", "Divorced or Separated" and "Never Married". The subpopulation used in the analysis has very few widowed respondents and so I deleted all widowed respondents from the final analysis. Employment status is also a categorical variable coded "Employed or Self-Employed", "Unemployed", "Family Care or Maternity Leave" and "Other". The other category includes those who are full-time students, on long-term disability, or are participating in a government training scheme. Lastly, I control for household composition by including a series of variables enumerating the number of children in the respondent's household of various ages.

{Table 1 here}

The Model

I modelled these binomial response options – "Being Happy" or not, "Anxiety or Depression" or not – using logistic regression. The odds, ϑ, of an event, Y, are defined as the ratio of the probability of the event Y, say "Being Happy", occurring to the probability of that same event not occurring::

$$\vartheta(Y=1) = \frac{\Pr(Y=1)}{1-\Pr(Y=1)}$$

Given that probabilities range from 0 to 1, the odds can range from 0, when Pr(Y = 1) = 0, to infinity when the Pr(Y = 1) = 1. By taking the natural logarithm of the odds, we obtain a *logit* which can be expressed as a linear function of X variables:

$$L = \log_e \vartheta,$$
$$L = \beta X$$

Given that the *logit* is a linear function of the X variables, the recovered probabilities associated with a binary outcome is a nonlinear function bounded by 0 and 1. Logistic regression, therefore, is a superior modelling strategy to an ordinary least squares (OLS) model of a binary outcome which can predict values which are out of range and can violate the OLS assumption of homoskedastic errors.

In this present research, I modelled the log-odds of "Being Happy" and "Reporting Problems with Anxiety or Depression" as a function of socio-demographic covariates plus frequency of cinema attendance. The models I present systematically compare the effect of cinema attendance on happiness and self-reported anxiety or depression to 10 other leisure activities listed in Table 2.

{Table 2 here}

Frequency of engagement in each leisure activity, including attending the cinema, was gauged using a five point scale ranging from a high of "At least once a week" to a low of "Never or Almost Never". I treated this scale as continuous, each point representing an increase in intensity of action. A proper measure of leisure action could be the exact frequency of engagement. However, such data are unavailable. As Table 2 indicates, a little less than two-thirds of the sample attends the cinema at least several times a year (64.96 percent) suggesting that cinema attendance is a highly popular pastime in Britain.

Results

Self-Reported Anxiety or Depression

Inspired by Dr. Brian Johnson's argument that cinema is therapeutic, I explore the relationship between cinema attendance and self-reported anxiety or depression. Partial results from modelling the log-odds of self-reporting problems with anxiety or depression are contained in Table 3 – I have omitted the results for socio-demographic controls and they can be found in Appendix A. Model fit statistics for each model specification imply that the models fit the data well. Moreover, the adjusted-R^2 for each model holds relatively constant at about 17 percent of the variance in reporting of anxiety or depression explained by the specified models[1]. Finally, all specifications of the model find the effect of frequent cinema attendance is highly stable and significant. That is, we see that in all columns, the coefficient for the effect of cinema attendance on the log-odds of reporting problems with anxiety or depression is consistently between -0.20 and -0.24. This implies that regardless of their leisure patterns, cinema attendance has a consistent influence on the morbidity of anxiety or depression among 25 to 44 year olds. To understand these coefficients in relation to other coefficients in the equations, we take their anti-logarithms to recover the odds-ratios for the effects of cinema attendance on self-reported anxiety or depression. The baseline effect of cinema attendance on reporting problems with anxiety or depression is -0.22, the anti-logarithm is $e^{-0.22} = 0.80$. This means that for each unit increase in the frequency of cinema attendance, the odds of reporting problems with anxiety or depression decline by about 20 percent. Those who attend the cinema once a month or more, scoring a 4 on the item, would

[1] The X^2 test compares the log-likelihoods from an intercept only model with specified model. The Adjusted-R^2 is as initially proposed by Cox and Snell (1989), with properties and interpretation developed by Nagelkerke (1991).

experience a 59 percent reduction in the odds of reporting problems with anxiety or depression compared to those who never or almost never attend the cinema ($(e^{-0.22})^4 = 0.41$).

{Table 3 here}

The most striking feature of these models is that cinema attendance is the only leisure activity consistently reducing the log-odds of reporting problems with anxiety or depression. Participation in sports, watching live sports and going out for a drink are all also associated with reduced odds of reporting problems with anxiety or depression, however, the magnitude of each of these effects is not as great. Note that the reduction in the odds of reporting problems with anxiety or depression ranges from about 18 percent to 21 percent per unit change in cinema attendance. On the other hand, watching live sport is the only other leisure activity that comes close with a 12 percent reduction in the odds of anxiety or depression problems per unit change. Those who attend the cinema at least monthly are between 55 percent and 62 percent less likely to report problems with anxiety or depression, while those who watch live sport monthly are only about 40 percent less likely to report problems with anxiety or depression.

The full model reported in Column *XII* highlights the impact of cinema attendance on problems with anxiety or depression because all leisure activities are controlled in this model. The coefficient of -0.21 is consistent in magnitude with all prior models and remains significant even when controlling for the effects of other leisure activities. This evidence suggests, therefore, that cinema attendance may have a therapeutic effect.

Happiness

I next examined the effect of cinema attendance on happiness. In order to provide the most stringent test of the proposition that cinema is good for you, I restricted the sample to only those respondents who said that they were more satisfied with life last year. If use of leisure time is implicated in happiness at the present time, then it would surely have more clear effects among those who would seem to be declining in their outlook on life. After all, I am focusing on only adults between the ages of 25 and 44, a group of people over which happiness is becoming less prevalent. The total sample size, therefore, is approximately 1,970 respondents.

Partial results from modelling the log-odds of being happy are contained in Table 3, omitted are the parameter estimates for the socio-demographic controls and the full estimates can be found in Appendix B. If cinema is good for you, then I should observe a positive effect

of cinema attendance on the log-odds of "being happy" as measured. Column *I* contains the results of a baseline model that includes only cinema attendance plus socio-demographic controls. We can see from the model X^2 statistic that this model fits the data well, although the adjusted R^2 implies that only about 14 percent of the variance between respondents in their reporting of happiness is explained by this model. In column *I* we find that the coefficient for attending the cinema is 0.19 and moderately significant. The resulting odds ratio of 1.21 indicates that for each unit increase in the frequency of cinema attendance, the odds of being happy increase by about 21 percent. Those who attend the cinema at least once a month are a little more than twice as likely to be happy than those who never or almost never attend the cinema, e.g., $(e^{0.19})^4 = 2.14$..

Columns *II* through *XI* report the results of systematically comparing various other leisure activities with cinema attendance in their effects on the log-odds of "being happy". Across these models, we see that cinema attendance roughly retains its magnitude and significance. This suggests that the association between "being happy" and frequent cinema attendance is a stable finding and that cinema attendance has independent effects on happiness from other forms of leisure. However, in columns *IV* and *V* we can see that the coefficient for the effect of cinema attendance loses significance when the effect of attending live performances, column *IV*, or dining out, column *V*, are included in the model. Such a result usually occurs when explanatory variables are highly correlated with one another and the remaining significant variable has a stronger relationship with the dependent variable than the variable that loses its significance. In model *IV*, we see that frequency of attending theatre, concerts and live performances has a highly significant estimate of 0.28, implying an odds-ratio of 1.32. Moreover, the correlation between cinema attendance and live performance attendance is a significant 0.39. The fact that the coefficient for cinema attendance becomes non-significant when frequency of attending live performances is included in the model implies that live performance attendance has a stronger relationship with the odds of being happy than cinema attendance. Similarly, the coefficient for eating a meal out is a highly significant 0.30, implying an odds-ratio of 1.35. Eating out is also highly correlated with going to the cinema, $r = 0.31$. These results suggest that those who go to the cinema frequently are also likely to attend live performances. Moreover, those who frequently attend the cinema are highly likely to also eat out. These results seem sensible when considering that having dinner is routinely culturally paired with going to the movies *or* going to see a live performance. Attending the theatre or the cinema, therefore, could be substitutable activities. These results also imply that

dining out has an independent effect irrespective of whether a film or live performance is included in outing – indeed, Table 1 shows that approximately 92.6 percent of respondents eat out at least several times a year.

Column *XII* contains estimates from a model including all leisure activities, plus socio-demographic controls. We know that cinema attendance is highly correlated with attending live performances and eating out, so it is not surprising that cinema attendance has no effect on happiness when all leisure activities are controlled. It is interesting to note, also, that gardening has a strong positive effect on happiness – those who garden weekly are nearly 1.8 times more likely to be happy than those who never or rarely ever garden.

Causation

This analysis finds some evidence for the proposition that cinema is good for you. The epidemiology and psychology literature on happiness and well-being implies that routine visual stimulation can have therapeutic effects. Indeed, a movement in California among psychologists and psychoanalysts suggests that cinema attendance is a compliment to traditional professional therapy because the collective controlled experience of emotions has therapeutic effects. However, would not the direction of causation run the opposite way? That is, would not people who are happier and who do not report problems with anxiety or depression be more likely to participate socially and attend public events more frequently? The direction of causality is a rather thorny issue to untangle because time ordering of shifts in subjective well-being and life events and statuses are virtually non-existent. Granted, the BHPS is a panel study and some of the causal ordering can be examined with these data. However, according to Peasgood, transition table analysis of the BHPS suggests very little change in measures of subjective well-being from year to year and the temporal nature of happiness is intuitively more subtle than can be measured with annual data (2005). To highlight the bi-directional nature of causation, I ran a series of regressions to test this proposition, the results are contained in Table 5, included are all demographic controls. We can see in models *II, III,* and *IV* that being "Not Happy" and reporting problems with anxiety and depression have the expected negative effects on the frequency of cinema attendance.

{Table 5 here}

Discussion

This analysis provides moderately strong support for the proposition that cinema is good for you. I have argued that the visual stimulation associated with viewing films has

therapeutic effects and that the collective experience of emotions derived from viewing films in the cinema provides a controlled atmosphere in which to explore roles and social relations outside the ordinary realms of one's existence. I have found that frequent cinema attendance is associated with lower odds of reporting problems with anxiety or depression and is often directly related to feelings of "happiness". The direction of causation is a difficult problem to crack, however. Nevertheless, the evidence supports my argument.

The choices one makes over how to use their leisure time, however, is a function of the social differentiation processes underpinning advanced capitalist societies (Sobel 1983). According to Sobel, it is the exercise of choice in how we consume that gives rise to a sense of personal lifestyle. Sobel argues that consumption is an observable expressive activity that is fundamental to the maintenance of society and the individual psyche. Consumption, more than production, is expressive and leisure tends to be subsumed under the umbrella of consumption. Patterns of consumption, then, facilitate social differentiation and distinction (Bourdieu 1984). It is this act of personalizing one's life that modulates the direct relationship between one's socio-economic circumstances and one's sense of a good life. Preferences for certain types of films are implicated, as with music preferences, in the social position of attendees (Bryson 1996; Katz and Gurevitz 1973; Katz-Gerro and Shavit 1998; Sobel 1983). For this reason, further research into the therapeutic benefits of different types of films may be warranted.

The cinema is a form of social participation with strong egalitarian properties. The costs of attending the cinema are less prohibitive than other forms of cultural consumption such as the symphony, the ballet or the opera. At the same time, cinema attendance is not a wholly low-brow activity as it is also an integral component of an omnivorous leisure portfolio, i.e., those that attend higher cultural activities also attend the cinema (Lopez-Sintas and Garcia-Alvarez 2002). In conjunction with these results, the fact that cinema attendance is a popular rather than elite activity, implies that public relations campaigns designed to increase cinema attendance can have positive societal effects at minimal cost.

Nearly 40 years ago, higher social class is associated with engagement in more public leisure activities, such as attending the cinema (Havinghurst and Feigenbaum 1959). In today's relatively affluent post-industrial society, going to the movies at least occasionally is a near universal pastime in Britain. The fact that the consumption of films in a cinema is popular, as opposed to class distinctive, means that the exercise of preferences over film genres can lead to the personalization of the experience. Indeed, some might argue this is the

reason for cyclical pattern of cinema attendance over the years (see Gumbel 2005). Nevertheless, it is the social aspect of the experience that is important for happiness.

Table 1 Frequency distributions of participation in various leisure activities.

	Never/Almost Never	*Once a year or less*	*Several Times a Year*	*At Least Once a Month*	*At Least Once a Week*
Attend the Cinema	13.42	21.63	47.3	16.45	1.21
Play Sport, Walk, or Swim	9.9	5.86	10.62	16.46	57.16
Go to Watch Live Sport	43.99	26.05	13.77	8.54	7.65
Theatre, Concerts, or Live Performances	21.88	42.83	31.28	3.56	0.45
Eat a Meal Out	2.83	4.53	30.78	43.99	17.87
Go Out for a Drink	7.95	7.28	21.09	31.17	32.52
Work in the Garden	17.88	9.99	17.69	29.26	25.18
DIY, Home Maintenance, or Car Repairs	16.81	11.9	26.88	25.61	18.8
Attend leisure activity groups such as evening classes, keep fit, yoga etc	56.06	16.27	5.42	4.48	17.77
Attend meetings of local groups or voluntary organisations	65.2	17.9	6.61	6.3	3.98
Do unpaid voluntary work	70.85	16.57	4.29	3.12	5.17
Notes:	Shown are row percentages, some rows may not total 100 due to rounding error				

Table 2 Socio-Demographic control variables included in all models and measurement methods.

Socio-Demographic Control	*Measure*
Gender	1 = "Male; "2" = "Female"
Age	Age in years.
Race	1 = "Non-White"; "2" = "White"
Social Class	Market Research Society's Social Grade which categorizes social class into five grades: "AB" "C1""C2""D" E". This categorical variable was effect coded with group "E" being the omitted category.
Income	Three measures of income were included in the models: Personal Income, Household Income and the ratio of Personal to Household Income. Income was measured in thousands of pounds.
Marital Status	Less than 0.02 percent of the sample was widowed, so all widowed respondents between the ages of 25 and 44 were eliminated from the analysis. Marital status broken into three categories: "Married/Partnered"; "Divorced/Separated"; and "Never Married". Marital status was effect coded with "Never Married" the omitted category.
Employment Status	Less than 0.02 percent of the sample was retired, so all retired respondents between the ages of 25 and 44 were eliminated from the analysis. Employment status was broken into four categories: "Self-Employed/Employed", "Unemployed", "Family Care/Maternity Leave"; and "Other". Employment status was effect coded with "Other" the omitted category.
Household Composition	Household composition was captured by including a series of variables counting the number of children in various age groups: "0 to 2 years old"; "3 to 4 years old"; "5 to 11 years old"; "12 to 15 years old"; and "16 to 18 years old".

Table 3 Results of logistic regression of the log-odds of self-reporting problems with anxiety or depression on various socio-economic and demographic factors plus leisure activities. Shown are the results for a comparison of various leisure activities only.

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*
Attend the Cinema	-0.22 †	-0.20 †	-0.20 †	-0.23 †	-0.24 †	-0.20 †	-0.23 †	-0.22 †	-0.22 †	-0.22 †	-0.22 †	-0.21 †
	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	(0.06)	0.06	(0.07)
Play Sport/Walk/Swim		-0.06 *	--	--	--	--	--	--	--	--	--	-0.06
		(0.04)										(0.04)
Going to Watch Live Sport			-0.13 †	--	--	--	--	--	--	--	--	-0.12‡
			(0.05)									(0.05)
Theatre/Concerts/Live Performances				0.004	--	--	--	--	--	--	--	0.06
				(0.07)								(0.07)
Eat a Meal Out					0.05	--	--	--	--	--	--	0.10
					(0.06)							(0.06)
Go Out for a Drink						-0.12‡	--	--	--	--	--	-0.13 †
						(0.05)						(0.05)
Work in the Garden							00.05	--	--	--	--	0.08*
							(0.04)					(0.04)
DIY/Home Maintenance/Car Repairs								-0.04	--	--	--	-0.06
								(0.04)				(0.05)
Attend leisure activity groups such as evening classes, keep fit, yoga etc									-0.006	--	--	0.02
									(0.04)			(0.04)
Attend meetings of local groups or voluntary organisations										-0.02	--	-0.06
										(0.05)		(0.07)
Do unpaid voluntary work											0.03	0.07
											(0.05)	(0.06)

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*
Log-Likelihood	-1,292.4	-1,291.1	-1,283.6	-1,289.2	-1,292.2	-1,289.2	-1,278.8	-1,291.8	-1,292.2	-1,291.9	-1,316.0	-1,260.3
Adjusted-R^2	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.18
N	5,594	5,594	5,590	5,591	5,594	5,594	5,552	5,592	5,588	5,589	5,590	5,540
Model Fit X^2 (*d.f.*)	402.2	404.9	404.9	399.1	402.8	408.6	406.7	402.9	401.8	402.6	402.6	418.4
	(22)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(23)	(32)
Notes:	* = $p < 0.10$; ‡ = $p < 0.05$; † = $p < 0.01$ Parenthetical numbers in main table are standard errors. Socio-demographic controls are omitted from table. Source: British Household Panel Study, Wave 12 (2003)											

Table 4 Results of logistic regression of the log-odds of happiness on various socio-economic and demographic factors plus leisure activities. Shown are the results for a comparison of various leisure activities only.

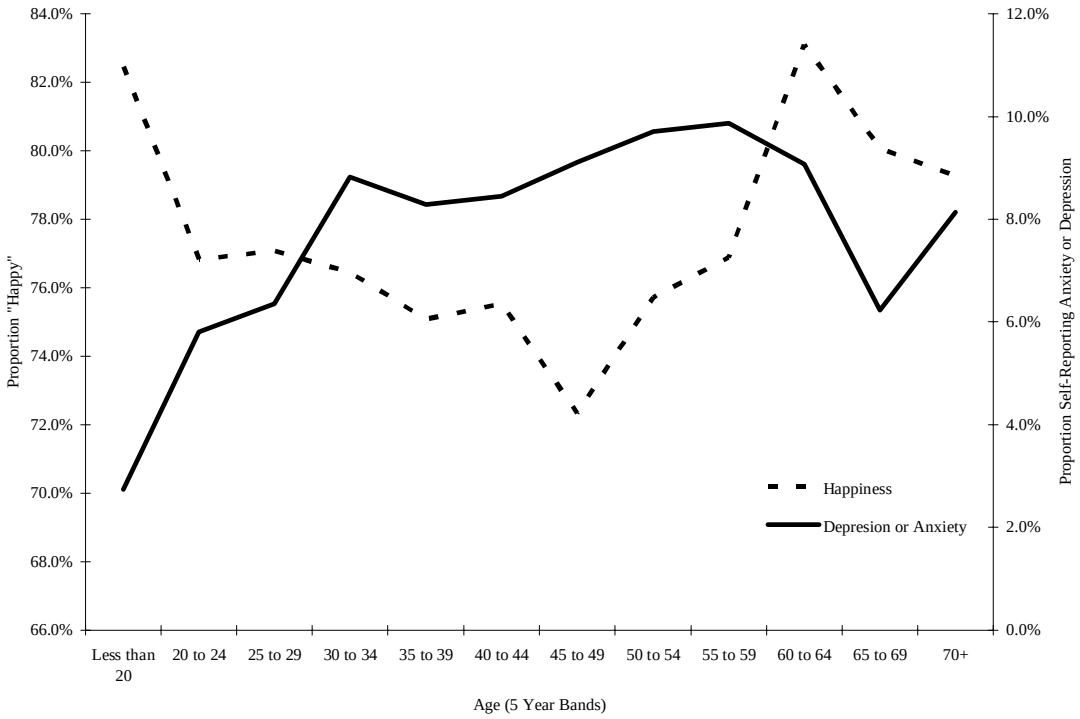
	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*
Attend the Cinema	0.19 ‡	0.16 *	0.16 *	0.11	0.14	0.16 *	0.19 ‡	0.19 ‡	0.18 ‡	0.18 ‡	0.19 ‡	0.06
	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)
Play Sport, Walk, or Swim		0.19 †	--	--	--	--	--	--	--	--	--	0.10
		(0.06)										(0.07)
Go to Watch Live Sport			0.28 †	--	--	--	--	--	--	--	--	0.18 ‡
			(0.08)									(0.08)
Theatre, Concerts, or Live Performances				0.28 †	--	--	--	--	--	--	--	0.13
				(0.10)								(0.11)
Eat a Meal Out					0.30 †	--	--	--	--	--	--	0.18 *
					(0.09)							(0.10)
Go Out for a Drink						0.25 †	--	--	--	--	--	0.15 *
						(0.07)						(0.08)
Work in the Garden							0.11 *	--	--	--	--	0.12 *
							(0.06)					(0.07)
DIY, Home Maintenance, or Car Repairs								-0.02	--	--	--	-0.09
								(0.07)				(0.07)
Attend leisure activity groups such as evening classes, keep fit, yoga etc									0.05	--	--	-0.01
									(0.05)			(0.06)
Attend meetings of local groups or voluntary organisations										0.15 *	--	0.12
										(0.08)		(0.10)
Do unpaid voluntary work											0.14	0.02
											(0.08)	(0.10)

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*
Log-Likelihood	-585.84	-581.32	-578.27	-582.03	-580.63	-579.82	-648.55	-585.14	-584.96	-579.31	-580.06	-554.74
Adjusted R^2	0.14	0.15	0.15	0.14	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.18
N	1,972	1,972	1,972	1,972	1,972	1,972	1,954	1,970	1,969	1,969	1,971	1,950
Model Fit X^2, degrees of freedom	135.03, 22	144.08, 23	150.77, 23	142.66, 23	145.46, 23	147.07, 23	142.64, 23	135.74, 23	135.81, 23	141.99, 23	141.06, 23	180.91, 32
Notes:	➢* = $p < 0.10$; ‡ = $p < 0.05$; † = $p < 0.01$ ➢Numbers is parentheses are standard errors											

Table 5 Parameter Estimates from an Ordinary Least Squares Regression of Selected Covariates Plus Happiness and Self-Reported Problems with Anxiety or Depression on Frequency of Cinema Attendance.

	I	*II*	*III*	*IV*
Intercept	3.02 (0.13) †	3.05 (0.13) †	3.08 (0.13) †	3.09 (0.13) †
Age (in years)	-0.03 (0.002) †	-0.02 (0.002) †	-0.03 (0.03) †	-0.03 (0.002) †
Female	0.02 (0.03)	0.02 (0.03)	0.03 (0.03)	0.03 (0.03)
White	-0.14 (0.06) ‡	-0.14 (0.06) ‡	0.14 (0.06) ‡	-0.14 (0.06) ‡
Married/Partnered vs. Never Married	-0.19 (0.04) †	-0.21 (0.04) †	-0.19 (0.04) †	-0.21 (0.04) †
Divorced/Separated vs. Never Married	-0.06 (0.06)	-0.05 (0.06)	-0.05 (0.06)	-0.05 (0.06)
AB vs. E	0.63 (0.06) †	0.63 (0.06) †	0.61 (0.06) †	0.61 (0.06) †
C1 vs. E	0.58 (0.05) †	0.57 (0.05) †	0.56 (0.05) †	0.56 (0.05) †
C2 vs. E	0.36 (0.06) †	0.36 (0.06) †	0.34 (0.06) †	0.34 (0.06) †
D vs. E	0.32 (0.06) †	0.32 (0.06) †	0.30 (0.06) †	0.31 (0.06) †
Personal Income (000)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)	-0.002 (0.002)
Household Income (000)	0.005 (0.001) †	0.005 (0.001) †	0.005 (0.001) †	0.005 (0.001) †
Ratio of Personal to Household Income	0.25 (0.08) †	0.25 (0.08) †	0.26 (0.08) †	0.25 (0.08) †
No. of Children Aged 0-2	-0.19 (0.03) †	-0.18 (0.03) †	-0.19 (0.03) †	-0.18 (0.03) †
No. of Children Aged 3-4	-0.30 (0.03) †	-0.29 (0.03) †	-0.30 (0.03) †	-0.30 (0.03) †
No. of Children Aged 5-11	0.01 (0.02)	0.007 (0.02)	0.01 (0.02)	0.006 (0.02)
No. of Children Aged 12-15	-0.07 (0.02) †	-0.07 (0.02) †	-0.07 (0.02) †	-0.07 (0.02) †
No. of Children Aged 16-18	0.06 (0.06)	0.06 (0.06)	0.06 (0.06)	0.05 (0.06)
Employed/Self-Employed vs. Other	0.21 (0.07) †	0.19 (0.07) †	0.16 (0.07) ‡	0.15 (0.07) ‡
Unemployed vs. Other	0.30 (0.09) †	0.28 (0.10) †	0.25 (0.09) †	0.25 (0.10) ‡
Family Care/Maternity Leave vs. Other	-0.009 (0.08)	-0.04 (0.08)	-0.06 (0.08)	-0.07 (0.08)
Full-Time Student vs. Other	0.34 (0.13) †	0.35 (0.13) †	0.33 (0.13) ‡	0.32 (0.13) ‡
"Not Happy"		-0.09 (0.03) †	-- --	-0.08 (0.03) †
Problems with Anxiety or Depression			-0.19 (0.05) †	-0.15 (0.05) †
F-statistic (*d.f.*)	43.78 (21) †	41.18 (22) †	42.74 (22) †	39.91 (23)†
R^2	0.14	0.14	0.14	0.14
Notes	* = $p < 0.10$; ‡ = $p < 0.05$; † = $p < 0.01$ Parenthetical numbers in main table are standard errors. Source: British Household Panel Study, Wave 12 (2003)			

Figure 1 Proportion reporting problems with anxiety or depression (right hand axis) and the proportion "happy" (left hand axis) by age group.



ppendix A - Full results of various socio-demographic factors and leisure activities on the log-odds of reporting problems with anxiety or epression

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*	*XIII*
ntercept	-1.70***	-1.08**	-0.87	-0.94*	-1.04*	-1.19**	-0.74	-1.13**	-0.97*	-1.08*	-1.06*	-1.09*	-0.61
	0.53	0.57	0.58	0.57	0.57	0.58	0.58	0.57	0.57	0.57	0.57	0.57	0.61
ge (in years)	0.02**	0.016	0.02	0.017	0.015	0.02	0.01	0.01	0.02	0.016	0.016	0.015	0.01
	0.01	0.010	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.010	0.011	0.01
emale	0.86***	0.87***	0.87***	0.81***	0.89***	0.88***	0.84***	0.87***	0.84***	0.88***	0.88***	0.87***	0.73***
	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.14
hite	0.02	-0.04	-0.03	-0.03	-0.04	-0.05	0.09	-0.08	-0.02	-0.04	-0.04	-0.04	0.07
	0.26	0.86	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26	0.26
RS-AB vs. E	-1.08***	-0.94***	-0.90***	-0.88***	-0.94***	-0.95***	0.94***	-0.97***	-0.93***	-0.94***	-0.93***	-0.95***	-0.95***
	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
RS-C1 vs. E	-0.73***	-0.62***	-0.60***	-0.57***	-0.62***	-0.63***	-0.61***	-0.66***	-0.62***	-0.62***	-0.62***	-0.63***	-0.61***
	0.18	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19	0.19
RS-C2 vs. E	-1.09***	-1.01***	-0.98***	-0.96***	-1.01***	-1.02***	-0.98***	-1.06***	-1.00***	-1.01***	-1.00***	-1.01***	-1.00***
	0.21	0.21	0.21	0.22	0.21	0.21	0.21	0.22	0.21	0.21	0.21	0.21	0.23
RS-D vs. E	-0.37*	-0.30	-0.28	-0.24	-0.29	-0.30	-0.28	-0.32	-0.29	-0.30	-0.29	-0.29	-0.23
	0.01	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22	0.22
ersonal Income	-0.01	-0.01	-0.01	-0.016	-0.01	-0.01	-0.01	-0.017	-0.01	-0.01	-0.01	-0.01	-0.016
	0.01	0.01	0.01	0.012	0.01	0.01	0.01	0.012	0.01	0.01	0.01	0.01	0.012
ousehold Income	-0.01*	-0.010	-0.01	-0.009	-0.01	-0.01	-0.009	-0.009	-0.010	-0.010	-0.010	-0.01	-0.009
	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007	0.007
atio of Personal to Household Income	-0.001	0.12	0.09	0.21	0.06	0.12	0.15	0.20	0.14	0.12	0.12	0.11	0.27
	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.35	0.36
arried/Partnered vs. Never Married	-0.015	-0.19	-0.20	-0.17	-0.18	-0.19	-0.19	-0.20	-0.17	-0.19	-0.19	-0.19	-0.19
	0.16	0.16	0.16	0.16	0.17	0.17	0.17	0.17	0.17	0.16	0.16	0.16	0.17
ivorced/Separated vs. Never Married	0.34	0.31	0.31	0.24	0.34	0.30	0.34	0.31	0.33	0.31	0.31	0.32	0.30
	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21	0.21
hildren aged 0-2	0.04	-0.02	-0.008	-0.02	-0.02	-0.02	-0.07	-0.02	-0.02	-0.03	-0.02	-0.02	-0.01

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*	*XIII*
	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.17
hildren aged 3-4	-0.03	-0.03	-0.08	-0.08	-0.07	-0.06	-0.11	-0.06	-0.07	-0.07	-0.07	-0.07	-0.09
	0.16	0.07	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16	0.16
hildren aged 5-11	-0.04	-0.03	-0.03	-0.03	-0.03	-0.03	-0.06	-0.04	-0.03	-0.03	-0.03	-0.03	-0.05
	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.08
hildren aged 12-15	-0.13	-0.14	-0.15	-0.11	-0.13	-0.13	-0.15	-0.15	-0.13	-0.14	-0.14	-0.13	-0.11
	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11	0.11
hildren aged 16-18	-0.50*	-0.47*	-0.46*	-0.62**	-0.47*	-0.47*	-0.46*	-0.48*	-0.47*	-0.47*	-0.47*	-0.47*	-0.61*
	0.28	0.28	0.28	0.30	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.28	0.30
elf-Employed/Employed vs. Other	-1.66***	-1.64***	-1.62***	-1.63***	-1.65***	-1.65***	-1.57***	-1.66***	-1.61***	-1.63***	-1.64***	-1.63***	-1.57***
	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	0.20	021
nemployed vs. Other	-1.22***	-1.17***	-1.13***	-1.13***	-1.25***	-1.17***	-1.12***	-1.17***	-1.14***	-1.17***	-1.17***	-1.16***	-1.12***
	0.28	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.29	0.30
amily Care/Maternity Leave vs. Other	-1.45***	-1.53***	-1.51***	-1.16***	-1.55***	-1.55***	-1.48***	-1.58***	-1.51***	-1.53***	-1.53***	-1.53***	-1.54***
	0.22	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23	0.23
tudent vs. Other	-1.90***	-1.81***	-1.79***	-1.81***	-1.82***	-1.82***	-1.77***	-1.81***	-1.79***	-1.81***	-1.81***	-1.81***	-1.73***
	0.57	0.58	0.58	0.58	0.58	0.57	0.58	0.58	0.58	0.58	0.58	1.58	0.58
ttend the Cinema		-0.22***	-0.20***	-0.20***	-0.23***	-0.24***	-0.20***	-0.23***	-0.22***	-0.22***	-0.22***	-0.22***	-0.21***
		0.06	-0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.07
lay Sport/Walk/Swim			-0.06*										-0.06
			0.04										0.04
oing to Watch Live Sport				-0.13***									-0.12**
				0.05									0.05
heatre/Concerts/Live Performances					0.004								0.06
					0.07								0.07
at a Meal Out						0.05							0.10
						0.06							0.06
o Out for a Drink							-0.12**						-0.13***
							0.05						0.05
ork in the Garden								00.05					0.08*
								0.04					0.04

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI*	*XII*	*XIII*
IY/Home Maintenance/Car Repairs									-0.04				-0.06
									0.04				0.05
ttend leisure activity groups such as evening classes, keep fit, yoga etc										-0.006			0.02
										0.04			0.04
ttend leisure activity groups such as evening classes, keep fit, yoga etc											-0.02		-0.06
											0.05		0.07
o unpaid voluntary work												0.03	0.07
												0.05	0.06
og-Likelihood	-1307.75	-1292.44	-1291.10	-1283.60	-1289.18	-1292.15	-1289.25	-1278.77	-1291.83	-1292.17	-1291.91	-1316.01	-1260.31
djusted R^2	0.16	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.18
	5598	5594	5594	5590	5591	5594	5594	5552	5592	5588	5589	5590	5540
odel Fit Statistic	393.32, 21	402.23, 22	404.90, 23	404.85, 23	399.14, 23	402.81, 23	408.64, 23	406.71, 23	402.91, 23	401.82, 23	402.56, 23	402.58, 23	418.35, 32

ppendix B Full results of various socio-demographic factors and leisure activities on the log-odds of being "Happy".

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI†‡*	*XII*	*XIII*
ntercept	2.34 †	1.63 *	1.06	1.11	1.35	0.60	0.64	1.64 *	1.60 *	1.60 *	1.57	1.56	-0.29
	(0.90)	(0.96)	(0.99)	(0.97)	(0.97)	(1.01)	(1.00)	(0.97)	(0.97)	(0.96)	(0.96)	(0.97)	(1.06)
ge (in years)	-0.05 †	-0.05 †	-0.04 †	-0.04 †	-0.05 †	-0.04 ‡	-0.032 ‡	-0.05 †	-0.04 †	-0.04 †	-0.05 †	-0.05 ***	-0.04 **
	(0.02)	(0.02)	(0.016)	(0.016)	(0.02)	(0.02)	(0.016)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
emale	0.05	0.04	0.05	0.21	-0.005	0.04	0.12	0.09	0.03	0.004	0.01	0.04	0.19
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.20)
hite	1.51 †	1.56 †	1.47 †	1.38 †	1.53 †	1.58 †	1.44 †	1.55 †	1.59 †	1.53 †	1.56 †	1.59 ***	1.36 **
	(0.26)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.27)	(0.28)
RS-AB vs. E	0.90 ‡	0.79 ‡	0.75 ‡	0.74 *	0.77 ‡	0.73 *	0.71 *	0.79 ‡	0.78 ‡	0.78 ‡	0.82 ‡	0.79 **	0.67 *
	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.37)	(0.38)	(0.38)
RS-C1 vs. E	0.05	-0.04	-0.05	-0.10	-0.04	-0.09	-0.16	-0.04	-0.05	-0.05	0.007	-0.04	-0.13
	(0.33)	(0.33)	(0.34)	(0.34)	(0.33)	(0.33)	(0.34)	(0.33)	(0.33)	(0.33)	(0.34)	(0.34)	(0.34)
RS-C2 vs. E	0.64 *	0.58	0.59	0.53	0.60	0.55	0.49	0.59	0.57	0.56	0.63 *	0.58	0.57
	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)	(0.38)
RS-D vs. E	0.65	0.59	0.64	0.58	0.64	0.63	0.50	0.61	0.58	0.60	0.75 *	0.73 *	0.79 *
	(0.42)	(0.42)	(0.43)	(0.43)	(0.42)	(0.43)	(0.43)	(0.42)	(0.42)	(0.42)	(0.43)	(0.44)	(0.44)
ersonal Income	0.015	0.015	0.01	0.017	0.01	0.01	0.01	0.016	0.01	0.015	0.016	0.017	0.01
	(0.014)	(0.013)	(0.01)	(0.013)	(0.01)	(0.01)	(0.01)	(0.013)	(0.01)	(0.014)	(0.014)	(0.014)	(0.01)
ousehold Income	-0.01	-0.01	-0.01	-0.01 *	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01	-0.01 *
	(0.007)	(0.008)	(0.01)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)	(0.008)
atio of Personal to Household Income	-0.62	-0.64	-0.57	-0.82 *	-0.58	-0.67	-0.67	-0.77	-0.62	-0.65	-0.70	-0.70	-0.84 *
	(0.48)	(0.48)	(0.49)	(0.48)	(0.49)	(0.49)	(0.48)	(0.48)	(0.49)	(0.48)	(0.49)	(0.49)	(0.50)
arried/Partnered vs. Never Married	0.96 †	1.00 †	1.02 †	1.00 †	1.04 †	0.94 †	1.04 †	0.87 †	1.02 †	0.99 †	1.01 †	1.00 ***	0.94 ***
	(0.23)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)	(0.24)	(0.25)
ivorced/Separated vs. Never Married	-0.51 *	-0.50 *	-0.54 *	-0.49 *	-0.47	-0.55 *	-0.54 *	-0.61 ‡	-0.48 *	-0.51 *	-0.48 *	-0.50 *	-0.58 *
	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.29)	(0.30)
hildren aged 0-2	-0.10	-0.06	-0.06	-0.04	-0.02	-0.03	0.04	-0.03	-0.06	-0.05	-0.06	-0.04	0.13
	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.23)
hildren aged 3-4	-0.49 ‡	-0.42 *	-0.43 *	-0.44 ‡	-0.40 *	-0.36	-0.38 *	-0.41 *	-0.42 *	-0.41 *	-0.44 ‡	-0.43 **	-0.37

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI†‡*	*XII*	*XIII*
	(0.21)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)	(0.22)
hildren aged 5-11	-0.26 ‡	-0.27 ‡	-0.28 †	-0.31 †	-0.25 ‡	-0.23 ‡	-0.24 ‡	-0.26 ‡	-0.27 ‡	-0.27 ‡	-0.28 †	-0.30 ***	-0.25 **
	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)	(0.11)
hildren aged 12-15	0.16	0.17	0.17	0.18	0.21	0.21	0.17	0.17	0.16	0.17	0.16	0.18	0.22
	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.18)	(0.19)
hildren aged 16-18	-0.07	-0.13	-0.13	-0.07	-0.15	-0.19	-0.11	-0.07	-0.14	-0.12	-0.10	-0.13	-0.10
	(0.42)	(0.43)	(0.43)	(0.43)	(0.44)	(0.43)	(0.43)	(0.43)	(0.43)	(0.43)	(0.43)	(0.43)	(0.43)
elf-Employed/Employed vs. Other	-0.28	-0.26	-0.47	-0.26	-0.33	-0.32	-0.47	-0.33	-0.23	-0.28	-0.19	-0.23	-0.47
	(0.62)	(0.62)	(0.63)	(0.62)	(0.62)	(0.63)	(0.63)	(0.62)	(0.62)	(0.62)	(0.62)	(0.62)	(0.65)
nemployed vs. Other	-0.37	-0.38	-0.61	-0.44	-0.42	-0.34	-0.61	-0.55	-0.36	-0.39	-0.24	-0.32	-0.61
	(0.70)	(0.71)	(0.72)	(0.71)	(0.71)	(0.71)	(0.72)	(0.71)	(0.71)	(0.71)	(0.71)	(0.71)	(0.74)
amily Care/Maternity Leave vs. Other	-0.09	-0.03	-0.28	-0.10	-0.08	-0.10	-0.24	-0.19	-0.003	-0.04	0.12	0.09	-0.32
	(0.65)	(0.65)	(0.67)	(0.66)	(0.66)	(0.66)	(0.66)	(0.66)	(0.66)	(0.65)	(0.65)	(0.66)	(0.68)
tudent vs. Other	0.11	0.09	-0.23	0.02	-0.07	-0.06	-0.06	0.06	0.12	0.04	0.07	0.03	-0.32
	(0.85)	(0.85)	(0.86)	(0.86)	(0.85)	(0.86)	(0.86)	(0.86)	(0.85)	(0.85)	(0.85)	(0.85)	(0.88)
ttend the Cinema		0.19 ‡	0.16 *	0.16 *	0.11	0.14	0.16 *	0.19 ‡	0.19 ‡	0.18 ‡	0.18 ‡	0.19 **	0.06
		(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.09)	(0.10)
lay Sport/Walk/Swim			0.19 †										0.10
			(0.06)										(0.07)
oing to Watch Live Sport				0.28 †									0.18 **
				(0.08)									(0.08)
heatre/Concerts/Live Performances					0.28 †								0.13
					(0.10)								(0.11)
at a Meal Out						0.30 †							0.18 *
						(0.09)							(0.10)
o Out for a Drink							0.25 †						0.15 *
							(0.07)						(0.08)
ork in the Garden								0.11 *					0.12 *
								(0.06)					(0.07)
IY/Home Maintenance/Car Repairs									-0.02				-0.09
									(0.07)				(0.07)

	I	*II*	*III*	*IV*	*V*	*VI*	*VII*	*VIII*	*IX*	*X*	*XI†‡*	*XII*	*XIII*
ttend leisure activity groups such as evening classes, keep fit, yoga etc										0.05			-0.01
										(0.05)			(0.06)
ttend leisure activity groups such as evening classes, keep fit, yoga etc											0.15 *		0.12
											(0.08)		(0.10)
o unpaid voluntary work												0.14	0.02
												(0.08)	(0.10)
og-Likelihood	-588.17	-585.84	-581.32	-578.27	-582.03	-580.63	-579.82	-648.55	-585.14	-584.96	-579.31	-580.06	-554.74
djusted R^2	0.13	0.14	0.15	0.15	0.14	0.15	0.15	0.15	0.14	0.14	0.14	0.14	0.18
	1,972	1,972	1,972	1,972	1,972	1,972	1,972	1,954	1,970	1,969	1,969	1,971	1,950
odel Fit Statistic	130.36, 21	135.03, 22	144.08, 23	150.77, 23	142.66, 23	145.46, 23	147.07, 23	142.64, 23	135.74, 23	135.81, 23	141.99, 23	141.06, 23	180.91, 23

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