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# The influence of holiday-taking on affect and contentment

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ABSTRACT

This study addresses the question whether and to what extent holiday behavior and happiness influence each other over time. To capture these relationships a cross-lagged panel model is specified and estimated using data from a four-wave panel of Dutch respondents. The results show that, over time, holiday-taking has a positive reciprocal relationship with the cognitive component of happiness. However, holiday-taking is not related to the affective component of happiness. Hence, those who go on holiday judge the conditions of their lives as more optimal, but do not generally feel better. Theoretically, the results suggest that (in the long term) holidays trips may be instrumental in living up to certain individual or social standards, but are unable to enduringly raise happiness.

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## Introduction

Happiness can be valued in its own right as a form of general well-being and for its observed positive effects on longevity (Diener & Chan, 2011; Veenhoven, 2008) and success in multiple life domains, including marriage, friendship, income, work performance, and health (Lyubomirsky, King, & Diener, 2005). In short, happy people live longer and perform better. Thus, creating conditions that help to make people happy is arguably in the public interest, and understanding which factors contribute to happiness is important for developing effective policy to achieve this end.

Since leisure satisfaction is strongly related to overall life satisfaction (Neal, Sirgy, & Uysal, 1999), one potentially relevant factor is holiday behavior. Empirical research on the relation between holiday behavior and well-being can broadly be categorized into two approaches. The first focuses on short-term effects of vacationing and typically involves a pre-test/post-test design in which relevant

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outcome variables are measured some time before and after the vacation (either with or without a non-vacationing control group). Based on a meta-analysis of such studies De Bloom et al. (2009) conclude that vacations generally have small but positive effects on various outcome indicators, such as health, life satisfaction, mood and affect. Additionally, for several indicators De Bloom et al. (2009) found evidence that the effects fade out shortly after the vacation. Empirical studies published after this review corroborate this finding, showing that well-being measures generally return to pre-vacation values within short periods of time (Chen, Lehto, & Cai, 2013; De Bloom et al., 2010; Nawijn, Marchand, Veenhoven, & Vingerhoets, 2010).

The second approach focuses on the long-term effects of holiday-taking by correlating subjects' holiday behavior over a longer period (e.g. a year) with outcome indicators such as happiness or life satisfaction. While initial studies were based on cross-sectional data, Nawijn (2011) and Nawijn and Veenhoven (2011) recently extended this approach using longitudinal (panel) data. These data allow the researcher to empirically investigate the direction of causation. For example, based on a large German panel, Nawijn and Veenhoven (2011) found a sizeable cross-sectional correlation of 0.18 between the frequency of holiday trips and life satisfaction. Controlling for possible third variables such as income and personality, the (partial) correlation dropped to 0.14 but remained significant. However, when controlled for life satisfaction measured one year earlier, the over-time correlation was found to be insignificant. Nawijn (2011) replicated this finding among a sample of Dutch respondents.

From a methodological point of view these results clearly show that the use of panel data is warranted. Substantively, the findings led the authors to conclude that if the direction of causation indeed runs from holiday-taking to life satisfaction, the effects are small and short-lived. However, since vacationers are generally found to be happier than non-vacationers even before going on holiday (Gilbert & Abdullah, 2004; Nawijn et al., 2010), it might well be that the causal effect (indeed) runs the other way around.

The present study aims to contribute to this latter approach, investigating the long-term relationship between holiday-taking and happiness. To this purpose, a four-wave panel of Dutch respondents is analyzed. The main question to be addressed is to what extent the association between holiday-taking and happiness is the result of a causal effect in either or possibly both directions and/or the result of underlying common variables influencing both.

Its specific contributions to the present literature are twofold. First, the analysis includes both an *affective* measure of happiness and a *cognitive* measure of happiness. This will allow us to answer the question whether holiday-taking primarily influences how people feel (the affective component of happiness) or alternatively, how people evaluate their life (the cognitive component). As we will argue below, the answer to this question has important theoretical implications.

Second, this study will model the relationships between holiday-taking and happiness within a structural equation framework, which offers the opportunity to fit an entire model structure to the data (with multiple independent/dependent variables and indirect/direct effects). Specifically, a cross-lagged panel model will be specified to model the bidirectional relationships between holiday-taking and happiness. In many research domains this model has been successfully applied to assess causal dominance among variables of interest (see e.g., Arnau, Rosen, Finch, Rhudy, & Fortunato, 2007; Brennan, Schutte, & Moos, 1999; Kenny, Blustein, Haase, Jackson, & Perry, 2006; Matsueda & Anderson, 1998).

## Theoretical background

### *Theoretical mechanisms*

Various researchers have theorized about the possible mechanisms of causation between holiday-taking and well-being (Dolnicar, Yanamandram, & Cliff, 2012; Gilbert & Abdullah, 2004). Most of the mechanisms are focused on the immediate effects on happiness. For example, in the short term, holidays provide opportunities for relaxation and relief from the pressures of everyday life (De Bloom

et al., 2009). Positive experiences during the holiday can also directly induce positive moods and thereby contribute to well-being (Hills & Argyle, 1998; Sirgy, Kruger, Lee, & Yu, 2011).

Theory suggests, however, that vacationing may also have long-term effects on well-being. For example, holidays may deepen relationships among family members and friends and thereby raise happiness (Crompton, 1979). In addition, people may relive positive holiday experiences long after the holiday has taken place (Nawijn, 2011). Hence, holiday-taking may positively influence happiness both in the short term and in the long term.

It is also possible, however, that (part of) the association between holiday-taking and happiness is due to a reverse effect from happiness to holiday-taking (Nawijn & Veenhoven, 2011). Such an effect would be congruent with the empirical finding that vacationers are happier than non-vacationers even before going on the actual holiday. Theoretically, support for a reverse effect can be found in Fredrickson's broaden-and-build theory (Fredrickson, 2001). This theory states that happy people are more likely to approach and seek out new challenges, rather than to withdraw, protect existing resources and avoid harm, which are characteristic of a person experiencing negative emotions. Thus, whereas negative emotions narrow a person's behavioral repertoire to life-preserving actions (e.g. fight or flight), positive emotions broaden the repertoire and facilitate exploration, play and possibly also holiday-taking.

Since theory indicates that happiness and holiday-taking may be reciprocally related, it is important to consider and model both effects. The primary aim of the present analysis is to assess whether holiday-taking influences happiness and/or whether the effect (also) runs in the opposite direction.

### *Two components of happiness*

It is generally assumed that happiness consists of two components, namely an affective component, which reflects how people generally feel, and a cognitive component, which reflects the perceived realization of wants (Veenhoven, 2009).

These components are informed by different mental processes. The affective component, or hedonic level of affect, is the result of a person's affective experience, usually operationalized as the balance of pleasant and unpleasant affect. These positive and negative feelings arise automatically and require no conscious deliberation. According to Veenhoven (2009) these affects serve an evolutionary purpose, as they indicate whether certain vital requirements for survival are met. A person's affective experience, in this view, is thus a reflection of the extent to which basic human needs are met (Veenhoven, 2009).

The cognitive component (also termed contentment) reflects the gap between perceived life conditions and certain subjective standards (Veenhoven, 2009). Hence, in contrast to affective experience, it requires conscious deliberation. In addition, whereas human needs are thought to be universal, standards are assumed to be socially constructed (e.g. through social comparison processes) and may thus vary across cultures. Standards have also been observed to adjust to changing life circumstances. For example, when income increases, expectations regarding one's income also rise. Due to this process of 'hedonic adaptation', changes in income, as well as other life events, have not been found to result in enduring effects on happiness (Easterlin, 2003).

According to Veenhoven (2009) both components are relevant in the prediction of 'overall' happiness, or life satisfaction, which he identifies as a separate overarching concept. At the same time, Veenhoven (2009) identifies the affective experience as the main driving force behind this overall evaluation, an assumption which was also empirically supported recently by Rojas and Veenhoven (2013). A reason for this is that cognitive comparison processes cannot account for all empirical findings. For one, certain life events, such as adverse changes in health or marriage, have been found to have an enduring effect on people's happiness (Easterlin, 2003). In addition, the cognitive tenet that conditions for happiness can differ wildly across nations conflicts with the finding that 75% of the variation in average happiness across nations can be explained by societal characteristics (Veenhoven, 2009). Hence, presumably via the affective pathway, variations in certain (objective) life conditions do permanently affect overall happiness.

By discriminating both components it is possible to assess which factors (primarily) influence people's affective experience and can thus enduringly raise happiness, and which factors (primarily)

influence the perceived realization of wants, and are thus under the influence of cultural norms and more likely to be affected by shifting standards of comparison (Veenhoven, 1984). In other words, by discriminating both components those factors that can potentially permanently raise happiness may be separated from factors that only lift happiness in the short term.

Nawijn (2012) previously discussed the findings from his and others' studies on the relation between vacationing and well-being in relation to the two components of happiness. For example, the finding that the effects of holidays are short-lived and that holidays mainly influence happiness through positive affective experiences during the actual vacation leads Nawijn (2012) to conclude that, in the short term, holidays may serve universal needs such as the need for belongingness (because time is spend with family or friends) or the need for independence and freedom (because holidays offer opportunities to explore).

In the long term, however, only very small or no effects of vacationing on happiness are found. An explanation would be that holidays (in the long term) only realize particular wants and do not influence more innate affect. In this view, vacationing is only instrumental in living up to certain individual or social standards towards holiday-taking. An implication of this view is that an increase in holiday frequency will (at best) only temporarily lift happiness, since it will also raise the holiday-taking standard.

In his analysis Nawijn (2011) included a measure of life satisfaction (overall happiness) and hedonic level of affect (the affective component), but not of contentment (the cognitive component). In effect, he was unable to directly test the line of reasoning above. The secondary aim of the present study is to fill this knowledge gap by including the two specific components of happiness in the analysis (and not overall happiness). It will thereby provide an answer to the question whether holiday-taking, in the long term, primarily influences how people feel or how people cognitively evaluate their life. This, in turn, will provide an indication of whether vacationing can enduringly raise happiness or not.

### *Model conceptualization*

To test the long-term bidirectional effects between holiday-taking and the two components of happiness (affect and contentment) a cross-lagged panel model is specified (Finkel, 1995). Within this model the effect of an independent variable $X_{T1}$ (read 'X measured at time point one') on a second variable $Y_{T2}$ is estimated, while controlling for Y's prior values ($Y_{T1}$). If $X_{T1}$ is able to explain variation in $Y_{T2}$ over and above the variation explained by Y itself at a previous point in time ($Y_{T1}$), it can be concluded that $X_{T1}$ accounts for some change in Y from T1 to T2 and hence that X is indeed a causal predictor of Y. A panel design is therefore effective in determining the temporal order between variables.

If the direction of causation is uncertain, as is presently the case, the most appropriate model to test is a cross-lagged panel model. In this model, the dependent variables at T2 are predicted by their previous values as well as the T1 values of the other variable of interest. An example of a two-wave cross-lagged panel model is depicted in Fig. 1. The term 'cross-lagged' refers to the two lagged effects which cross each other in the middle.

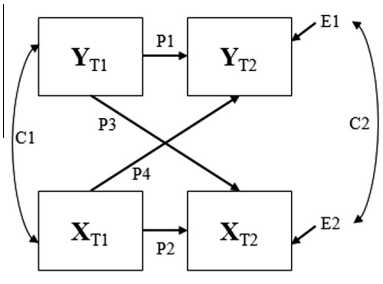


**Fig. 1.** A two-wave cross-lagged panel model.

In this model, parameters P1 and P2 represent the stability coefficients. These values can be interpreted as test-retest correlations, with values closer to one indicating higher relative stabilities. The remaining unexplained variation in X and Y at time point T2 can be regarded as variance resulting from individual changes that have occurred in the period between the two measurements.

While controlling for the correlations C1 and C2 (which account for prior influences between both variables and effects of omitted common variables), the cross-lagged parameters P3 and P4 attempt to explain variance in $X_{T2}$ and $Y_{T2}$, which is not already explained by their respective stability coefficients (P1 and P2). The significance and strength of the parameters P3 and P4 inform us whether X or/and Y causally influence each other over time.

The model in Fig. 1 can be expanded with additional variables and waves. Fig. 2 presents the model for the present study. For the three variables of interest (holiday frequency, hedonic level of affect and contentment), four waves (from 2008 to 2011) were available (as described in the next section).

Ideally, the lagged relationships should be specified such that they reflect the time it takes for the causal effect(s) to evolve (Finkel, 1995). Based on the empirical findings above, which suggest that the effects of holidays are short-lived, a lag of one year was considered most appropriate. Because the model includes multiple waves, it can be empirically explored whether relationships with longer lags (two or three years) will significantly improve the fit of the model.

In line with the model in Fig. 1 the error terms of the endogenous variables are allowed to correlate within each wave (only for the baseline year is this assumption depicted in order to maintain the clarity of the Figure). In addition, it is assumed that the cross-lagged effects of holiday-taking on the components of happiness and vice-versa are constant over time. This assumption is effected by imposing equality constraints on the parameters associated with the cross-lagged effects.

Finally, possible confounding factors are also included in the model. These factors may be expected to influence both happiness and holiday-taking and thereby account for part of the association between these outcomes. Extraverts, for example, have a greater need for sensory stimulation and, as a result, participate in more outdoor activities than introverts (Lu & Hu, 2005). Hence, they may be expected take a holiday more often. Since extraversion also correlates positively with measures of subjective well-being (Hayes & Joseph, 2003), part of the association between holiday-taking and well-being may be attributable to this common cause. Other personality factors, such as emotional stability and conscientiousness, have also been found to correlate positively with well-being (Hayes & Joseph, 2003) as well as different forms of outdoor leisure (Kraaykamp & van Eijck, 2005). In the present model all of the five commonly recognized personality dimensions (extraversion, agreeableness, conscientiousness, emotional stability and intellect) are therefore included.

Certain background characteristics may also act as relevant confounding factors. Income, for example, positively influences holiday frequency and (between individuals) also positively influences

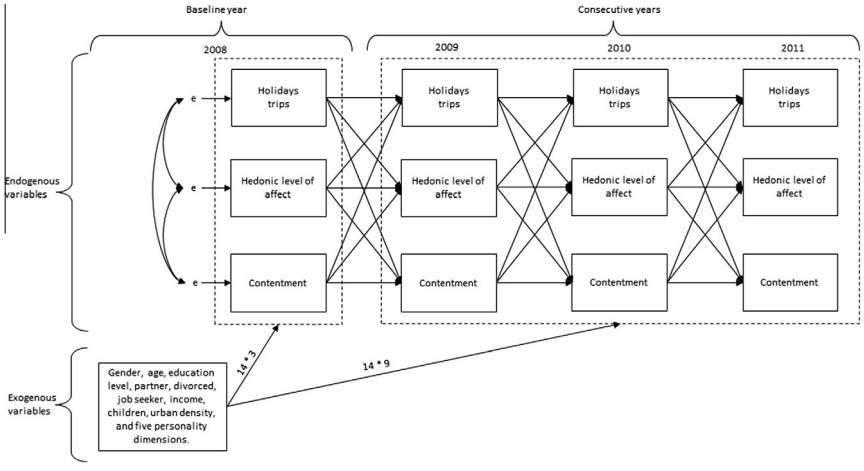


**Fig. 2.** Four-wave cross-lagged panel model of holiday behavior, hedonic level of affect and contentment.

happiness (Easterlin, 2001). In addition, other variables with a known impact on happiness (e.g. living together, divorce and unemployment) may also affect holiday behavior, and conversely, variables with a known impact on holiday behavior (education level and urban density) may also affect happiness. In the analysis the following nine background variables are therefore included: sex, age, education level, living together, divorce, unemployment, income, children and urban density. To keep the model from inflating, the personality dimensions and background characteristics are assumed to remain relatively constant over the years and are only included for the baseline year (2008). With respect to the personality dimensions the tenability of this assumption is supported by longitudinal research of Conley (1985) and Headey and Wearing (1989), which indicates these dimensions remain stable throughout a person's lifetime.

## Data and measures

Data for the present analysis are drawn from the LISS panel (Longitudinal Internet Studies for the Social sciences), a panel of approximately 8000 individuals (more information on this panel can be found at http://www.lissdata.nl/). The panel is based on a true probability sample of households drawn from the population register by Statistics Netherlands. Households that could not otherwise participate are provided with a computer and Internet connection. Panel members complete online questionnaires every month and are paid for each completed questionnaire.

In this study, data from two regular surveys of the LISS panel are combined, namely the social integration and leisure survey, which includes data on people's holiday behavior, and the personality survey, which includes data on people's life satisfaction and personality. From 2008 onwards both of these surveys have been administrated annually (in February and May of each year respectively). The present analysis is based on those individuals who participated in all four of the currently available waves, 2,979 persons in total.

To prevent anticipation and afterglow effects from interfering with the results of his study, Nawijn (2011) excluded people who were interviewed within a month of departure or return date of a holiday. Unfortunately, we were unable to follow this strategy, since the data only contained information on the number of holidays in the past 12 months and did not include information on recent and/or planned holidays. Since the life satisfaction data were gathered in May each year (before the summer/holiday season), it may be that the happiness measures were driven upwards by anticipation effects. We will reflect on this issue in the concluding section.

Table 1 presents the descriptive statistics of the variables included in the model. In 2008 the average holiday frequency was 2.6 (in the survey domestic and foreign holiday frequency were measured separately, but these were summed for the present study). Over the years this figure decreases slightly (to 2.4 in 2012), which may be due to the economic recession. The median number of annual holidays equals 2 and remains constant over the years.

The participation rate of people going on a holiday (at least once a year) is 86.2%. This rate is somewhat higher than the rate of 81.9% reported by the Dutch continuous holiday survey (Continu Vakantie Onderzoek), which is based on a representative panel of 6,500 people (Central Bureau of Statistics, 2011). No specific explanation for this (slight) difference could be found. In the sample, the people who go on holiday take on average 2.9 holidays per year, which is in line with the results of the continuous holiday survey which reports an average of 2.8 (Central Bureau of Statistics, 2011).

Hedonic level of affect was measured with the questionnaire item 'In general, how do you feel?' with answer categories ranging from 1, very bad, to 7, very good. Contentment was measured with a specific item from the satisfaction with life scale (SWLS) of Diener, Emmons, Larsen, and Griffin (1985), namely the statement 'The conditions of my life are excellent' with answer categories ranging from 1, strongly disagree, to 7, strongly agree. Descriptive statistics for these two measures indicate that hedonic level of affect is, on average, rated higher than contentment. Variance in contentment, on the other hand, is greater than in hedonic level of affect. Hence, contentment is lower rated and more variable than hedonic level of affect. The mean levels of affect and contentment remain constant over the years.

The personality dimensions are measured using 50 items (10 per dimension) of the international personality item pool (Goldberg et al., 2006) (available online at http://ipip.ori.org/New_IPIP-50-

**Table 1**
Descriptive statistics of the sample (N = 2,979).

| Endogenous variables | | Mean | S.D. |
|---|---|---|---|
| Number of holiday trips (2008) | | 2.6 | 1.9 |
| Number of holiday trips (2009) | | 2.5 | 2.0 |
| Number of holiday trips (2010) | | 2.4 | 2.0 |
| Number of holiday trips (2011) | | 2.4 | 1.9 |
| Hedonic level of affect (2008) | | 5.8 | 0.8 |
| Hedonic level of affect (2009) | | 5.8 | 0.8 |
| Hedonic level of affect (2010) | | 5.8 | 0.8 |
| Hedonic level of affect (2011) | | 5.8 | 0.8 |
| Contentment (2008) | | 5.2 | 1.2 |
| Contentment (2009) | | 5.2 | 1.2 |
| Contentment (2010) | | 5.2 | 1.3 |
| Contentment (2011) | | 5.2 | 1.2 |
| Exogenous variables | Categories | Mean/percentage | S.D. |
| Gender | Female | 53 | |
| | Male | 47 | |
| Age | | 49.6 | 15.2 |
| Education level (%) | Primary school | 10 | |
| | Intermediate secondary education | 28 | |
| | Higher secondary education | 10 | |
| | Intermediate vocational education | 22 | |
| | Higher vocational education | 23 | |
| | University | 7 | |
| Subject lives together with partner (%) | No | 21 | |
| | Yes | 79 | |
| Subject is divorced (%) | No | 81 | |
| | Yes | 9 | |
| Subject is unemployed (%) | No | 98 | |
| | Yes | 2 | |
| Net household income (euro) (%) | 0–1000 | 4 | |
| | 1000–2000 | 24 | |
| | 2000–3000 | 36 | |
| | 3000–4000 | 22 | |
| | 4000–5000 | 9 | |
| | >5000 | 5 | |
| Number of children | | 0.8 | 1.1 |
| Urban density (%) | Not urban (less than 500) | 16 | |
| (surrounding address density per km2) | Slightly urban (500–1000) | 23 | |
| | Moderately urban (1000–1500) | 23 | |
| | Very urban (1500–2500) | 27 | |
| | Extremely urban (over 2500) | 12 | |
| Extraversion (summated scale of 10 items) | Cronbach's Alpha = 0.86 | 32.7 | 6.3 |
| Agreeableness (summated scale of 10 items) | Cronbach's Alpha = 0.80 | 39.2 | 4.9 |
| Conscientiousness (summated scale of 10 items) | Cronbach's Alpha = 0.76 | 37.8 | 5.1 |
| Emotional stability (summated scale of 10 items) | Cronbach's Alpha = 0.88 | 34.2 | 6.8 |
| Intellect (summated scale of 10 items) | Cronbach's Alpha = 0.78 | 35.1 | 5.1 |

item-scale.htm). Here, 5-point response scales were used. The scales are constructed through summation of the individual items, leading to scales that (theoretically) range from 10 to 50. The reliabilities of the scales are all above the commonly accepted minimum threshold of 0.70.

## Results and discussion

### *Bivariate associations*

Before estimating the cross-lagged panel model (Fig. 2), we first look at the cross-sectional relationships between holiday frequency and hedonic level of affect and contentment. Fig. 3 shows

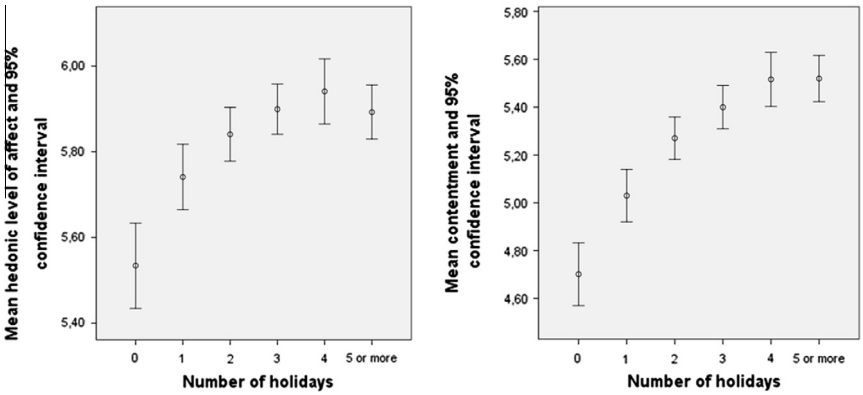


**Fig. 3.** Cross-sectional relationships between holiday-taking and hedonic level of affect (left) and holiday-taking and contentment (right) in the first year (2008).

the mean hedonic level of affect and contentment in the first year (2008) as a function of the holiday frequency in this year. It can be observed that both components of happiness show a concave relationship with holiday frequency; the marginal returns of additional holidays decrease with increasing numbers of holidays and become zero from 5 holidays onwards. The decrease in the hedonic level of affect from 4 to '5 or more' holidays even suggests a negative marginal return at this point.

The notion of hedonic adaptation may provide an explanation for the concavity of the relationships. If increases in holiday frequency also increase the holiday-taking standard, progressively more holidays would be required to raise happiness an equal amount. Alternatively, it may be that the concavity is due to a process of social comparison. Such a process would explain why people gain most by making the first steps (from 0 to 1 and from 1 to 2) in conforming to the modal consumption of two holidays per year. After the 'social norm' is reached, the gains of additional holidays become progressively smaller (since they do not provide benefits anymore in terms of reaching the social norm).

Irrespective of which explanation is (more) valid, both explanations suggest that a cognitive comparison process plays a role (either within or between individuals). In line with expectations, this suggests that holidays are mainly consciously evaluated instead of unconsciously influencing how one feels. This conclusion is also supported by the strengths of the associations. The (Spearman's rank) correlation between holiday frequency and contentment ($r = 0.21$, $p < 0.00$) is almost twice as large as the correlation between holiday frequency and hedonic level of affect ($r = 0.11$, $p < 0.00$). All in all, the results indicate that the long-term effects of holiday-taking are mainly cognitive as opposed to affective in nature.

*Cross-lagged panel model*

Next, the relationships between holiday frequency, hedonic level of affect, and contentment over time were assessed via the cross-lagged panel model. Analysis of MOment Structures (AMOS) 19 was used for this purpose. After the initial model (see Fig. 2) was estimated any insignificant effects of the exogenous variables were deleted to keep the model parsimonious (Byrne, 2010).

Examination of the modification indices showed that the model could be further improved by adding additional stability parameters (from 2008 to 2010 and 2011 and from 2009 to 2011) between the three endogenous variables (holiday frequency, hedonic level of affect and contentment). Substantively this means that these variables influence their respective future values not only with a time lag of one year, but also with lags of two and even three years. After this change, a review of the modification indices showed that the model could not be improved further. This means that there are no significant cross-lagged effects between holiday behavior and the components of happiness that extend beyond one year.

The absolute fit of the final model ($\chi^2$ = 190.3, df = 144, p = 0.006) shows that the model-implied covariance matrix accurately reproduced the observed covariance matrix (the $\chi^2$/df-ratio is 1.32, well below the recommended upper limit of three (Kline, 2005)).

The parameter estimates of the final model are presented in Table 2. Turning first to the stability coefficients it can be observed holiday behavior is most stable, followed by contentment and hedonic

**Table 2**
Unstandardized parameter estimates.

| | Holiday trips | | | | Hedonic level of affect | | | | Contentment | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 2008 | 2009 | 2010 | 2011 | 2008 | 2009 | 2010 | 2011 | 2008 | 2009 | 2010 | 2011 |
| *Endogenous variables* | | | | | | | | | | | | |
| Holiday trips 2008 | | 0.674 (47.14) | 0.293 (17.64) | 0.189 (11.05) | | 0.005* (1.31) | | | | 0.036 (7.12) | | |
| Holiday trips 2009 | | | 0.485 (30.23) | 0.227 (12.59) | | | 0.005* (1.31) | | | | 0.036 (7.12) | |
| Holiday trips 2010 | | | | 0.406 (22.59) | | | | 0.005* (1.31) | | | | 0.036 (7.12) |
| Hedonic level of affect 2008 | | 0.014* (0.72) | | | | 0.364 (22.15) | 0.176 (10.53) | 0.132 (8.3) | | 0.158 (10.97) | | |
| Hedonic level of affect 2009 | | | 0.014* (0.72) | | | | 0.376 (21.85) | 0.204 (11.96) | | | 0.158 (10.97) | |
| Hedonic level of affect 2010 | | | | 0.014* (0.72) | | | | 0.299 (17.61) | | | | 0.158 (10.97) |
| Contentment 2008 | | 0.039 (2.85) | | | | 0.103 (15.29) | | | | 0.463 (29.03) | 0.268 (15.76) | 0.157 (9.67) |
| Contentment 2009 | | | 0.039 (2.85) | | | | 0.103 (15.29) | | | | 0.400 (23.06) | 0.202 (11.99) |
| Contentment 2010 | | | | 0.039 (2.85) | | | | 0.103 (15.29) | | | | 0.349 (21.04) |
| *Exogenous variables* | | | | | | | | | | | | |
| Gender (male) | | | | | 0.104 (3.77) | | | 0.05 (2.35) | 0.093 (2.32) | | | |
| Age | 0.009 (3.48) | | | | | | 0.002 (2.29) | 0.002 (2.64) | | | | |
| Education level | 0.124 (5.33) | 0.083 (4.55) | 0.035 (2.17) | 0.048 (3.03) | −0.025 (−2.87) | | | | | | | |
| Subject lives together with partner | | | | | 0.100 (2.59) | | | | 0.246 (4.37) | | | 0.084 (2.30) |
| Subject is divorced | −0.336 (−2.83) | | | | −0.142 (−2.77) | | 0.083 (2.11) | | −0.442 (−5.91) | −0.232 (−3.98) | | |
| Subject is unemployed | | | | | | | | | −0.566 (−4.13) | | | |
| Net household income (euro) | 0.444 (14.34) | 0.103 (4.15) | 0.128 (6.02) | 0.064 (3.02) | 0.040 (3.04) | | | | 0.130 (7.05) | 0.038 (2.56) | 0.043 (3.04) | |
| Number of children | −0.154 (−4.38) | −0.062 (−2.51) | | | | | | | | | | |
| Urban density | 0.072 (2.70) | 0.081 (3.85) | | 0.040 (2.24) | | | | −0.026 (−3.10) | | | | |
| Extraversion | 0.028 (5.12) | | | | 0.01 (4.39) | 0.004 (2.12) | | | 0.014 (4.31) | | | |
| Agreeableness | | | | | | | 0.006 (2.61) | | | | | |
| Conscientiousness | | | | | 0.014 (5.21) | 0.007 (3.19) | | | 0.023 (5.90) | | | |
| Emotional stability | 0.014 (2.71) | | | | 0.051 (23.64) | 0.022 (10.68) | 0.015 (7.69) | 0.007 (3.40) | 0.057 (18.35) | 0.021 (7.44) | 0.011 (3.90) | 0.007 (2.69) |
| Intellect | | | | | | −0.007 (−2.79) | | | | | | −0.007 (−2.47) |
| Prop. explained variance | 0.13 | 0.49 | 0.59 | 0.60 | 0.23 | 0.35 | 0.43 | 0.46 | 0.22 | 0.39 | 0.48 | 0.52 |

T-values are presented in the parentheses. Estimates with and artistic (*) are insignificant at p < 0.05. All other estimates are significant at p < 0.05.

level of affect. The stability of holiday frequency over the years suggests that this behavior is (partly) habitual in nature. In terms of frequency many people apparently stick to a particular routine.

The cross-lagged effects show that holiday frequency positively influences contentment ($b = 0.036$, $p < 0.00$), indicating that from one year to the next the holiday frequency can predict *changes* in how people consciously evaluate their lives. The reverse effect, from contentment to holiday frequency, is somewhat less strong (judged by the t-value), but also statistically significant ($b = 0.039$, $p < 0.00$). Hence, those who judge the conditions of their lives to be more optimal tend to increase their holiday frequency over time.

While the bidirectional effects between holiday frequency and hedonic level of affect are in the expected positive directions, they are small and not significant. Hence, holiday-taking does not make people feel better over time, in contrast to its effect on contentment. In addition, the results indicate that people who are emotionally happier do not increase their holiday frequency and are thus inconsistent with the broaden-and-build theory.

Since hedonic level of affect and contentment are both included as endogenous variables in the present model, a by-product of the analysis is that the model reveals bidirectional effects between these components of happiness. As expected, both components positively and significantly influence each other over time. It is interesting to note, however, that the effect of hedonic level of affect on contentment ($b = 0.158$, $p < 0.00$) is approximately 50% greater than the reverse effect of contentment on hedonic level of affect ($b = 0.103$, $p < 0.00$). These results support Veenhoven's (2009) argument that affect primarily drives cognition instead of the other way around.

While we will not discuss the effects of the covariates in detail, two generic conclusions can be drawn from the results. The first is that several of the covariates indeed act as relevant confounding factors since they affect both the holiday frequency and the two components of happiness. For example, extraverts have a higher holiday frequency (in 2008) and also tend to be emotionally and cognitively happier. Emotional stability also strongly and positively affects both components of happiness, and also has a small effect on holiday frequency. Among the background characteristics, household income is the most relevant confounding factor. Income strongly influences holiday frequency (also over time), but also affects contentment and to a lesser degree the hedonic level of affect. It can be concluded that the influences of these factors account for part of the observed association between holiday-taking and happiness.

The second conclusion relates to the differences between the effects of the covariates on the two components of happiness. In this respect it can be observed that contentment is much more strongly affected by the background characteristics than is hedonic level of affect. For example, income strongly affects contentment in 2008 and can predict changes in contentment in two consecutive years, while it only moderately affects hedonic level of affect and only in 2008. Also, the effects on contentment of living together with a partner, divorce and unemployment are much stronger compared to the effects of these factors on hedonic level of affect. Hence, these conditions affect how people cognitively judge their lives, but do not strongly affect how people generally feel. An interesting observation in this respect is that divorce decreases hedonic level of affect in the first year (2008), but has a positive effect on hedonic level in 2010, indicating that divorced people initially feel worse but, over time, feel better. Cognitively, however, the effect of divorce remains negative (also over time).

These results support the theoretical notion that objective life conditions may to some extent enduringly raise or lower a person's happiness (via the affective pathway), but that they mainly affect a person's cognitive judgments about life, which may be subject to shifting standards. It can be concluded that, since the differences in the effects of the background variables on both components of happiness are in line with theory, the differences provide (indirect) evidence that the two components are indeed being measured as intended.

To conclude, the results of the cross-lagged panel model indicate that holiday-taking and contentment influence each other positively over time, but the relationships between holiday-taking and hedonic level of affect are not significant. Hence, those who go on holiday judge the conditions of their lives as more optimal but do not generally feel better. Secondly, the effects of the covariates show that extraversion, emotional stability and income are relevant confounding factors in the relationship between holiday frequency and the components of happiness. These factors partly account for the

association between holiday frequency and the components of happiness. And third, it can be concluded that the differences in the effects of the covariates on hedonic level of effect and contentment indicate that these concepts indeed reflect different components of happiness. The observed differences provide a form of construct validation.

## Conclusion

In line with the aim of the study the analysis revealed a positive reciprocal relationship between holiday-taking and contentment (the cognitive component of happiness). The effect of holiday-taking on contentment was greater, however, than the other way around. In addition, (over time) holiday-taking was found to be unrelated to hedonic level of affect (the affective component of happiness). Hence, in the long term, holidays are primarily cognitively evaluated and do not affect how people generally feel. Since the cognitive evaluation of holiday-taking is likely subject to processes of hedonic adaptation and social comparisons, no permanent gains can be expected from raising the holiday frequency. Overall, the results suggest that (in the long term) holiday trips may be instrumental in living up to certain individual or social standards, but that they do not present significant enough events to influence (more innate) affect and thereby enduringly raise happiness.

A possible weakness of the present study is that after-glow and anticipation effects may have interfered with the results, because people who recently returned from a holiday or were planning to go on holiday were not filtered out of the sample (as done by Nawijn (2011)). Since the happiness measures were taken in May of each year (just before the holiday season), it is reasonable to assume that especially anticipation effects may have driven the happiness measures upwards. However, even if these effects were present, their interference would arguably be limited. Assuming that holiday patterns are relatively stable (in terms of frequency and choice of season) these effects would repeat every year in the same manner. In this case, the effects (if any) would not affect the (over time) relationship between holiday-taking and happiness. However, to be sure of this, happiness should ideally be measured during a period in which few people go on holiday and/or in a way that people who recently returned from a holiday or are planning to go on holiday could be excluded. It should be noted that the latter strategy is less desirable since it would lead to a biased sample (i.e. an overrepresentation of people with a low holiday frequency).

Since holiday-taking positively affects contentment but not hedonic level of affect, an implication of the present study is that happiness most likely cannot be enduringly raised by increasing holiday frequency. The concave relationships between holiday frequency and the components of happiness show that this especially holds true for countries like the Netherlands where the mean holiday frequency is already quite high (around 2.5 holidays per year). After two holidays per year the increases in happiness become small and are no longer statistically significant.

This also means that in countries where people have just started to travel en mass (e.g. the BRIC countries), some benefits in raising happiness may be expected. In this context, it may be speculated that, if the effect of holiday-taking on happiness is indeed driven by comparisons with the social norm and given that the norm is still very low in these counties, the marginal benefits of additional holidays will reach zero at lower holiday frequencies. Thus, cross-country comparisons could provide a more direct test that social comparisons are indeed relevant.

On a related note, the results of our study provide no definitive answer as to the question of whether the average happiness level will in fact increase in countries where the practice of holiday-taking is just taking off. It may also be that the happiness level of people going on a holiday would remain constant, while the happiness level of people who do not go on holiday (because they still cannot afford it) would decline due to the frustration of not being able to conform to the new social norm. While it would be difficult to empirically test this idea, we believe it presents an interesting question for future research.

Several other research directions are also suggested by this work. First, other model conceptualizations and related statistical models (for panel data) may be explored. For example, (mixed) latent growth models could be applied to identify (multiple) trajectories in holiday-taking and happiness. Alternatively, latent class transitions models could be applied to reveal (qualitatively different) holiday-happiness patterns and model transitions in these patterns over time.

Substantively, it would be interesting to explore the question of whether one long holiday is equivalent (in terms of raising happiness) to several short holidays or not. Also, it would be interesting to explore effects over even longer time periods as well as the effects of 'once-in-a-lifetime' holidays which are planned years in advance. This would require longer time spans between data collection points and also additional survey questions on the exact nature of the holiday(s). Another interesting direction is to apply the present model to particular groups of people, e.g. people with low incomes or with disabilities. Research in this respect suggests that these groups may benefit from holiday-taking to a greater extent than the general population (McCabe & Johnson, 2013; Pagán, 2013). Finally, it would be interesting to directly measure people's standards for holiday-taking. This would enable an assessment of whether increases in holiday frequency also raise this standard, which would provide evidence that hedonic adaptation indeed takes place. All in all, pursuing these research directions could provide deeper insights into the ways in which holiday behavior affects people's lives and their well-being.

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