East vs West: An Empirical Study of Cross-Cultural Differences in Time Use

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ABSTRACT

Using Hofstede’s cultural dimensions of individualism and masculinity, we theoretically develop a set of hypotheses that predict differences in the use of time based on culture. We test our hypotheses using data collected via a time-use diary in Japan and the United States from undergraduate business students. Our results indicate that cultural dimensions are significant predictors of the time spent in a number of activities.

Keywords: cross-cultural differences, differences in time use

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INTRODUCTION

Each of us arrives in this world immersed in a particular culture. We naturally do things the way we observe them being done or are taught to do them. For example, we may take our shoes off before entering the living area, or not. We may prefer to drink tea, coffee, or goat’s milk. We adopt our culture’s beliefs, artifacts, and patterns of behavior. In an effort to understand other cultures and thereby avoid cultural clashes, business researchers have developed several different sets of cultural values that help define our cultures. Based on these cultural values, we can compare and contrast our own culture with others in an effort to discover ways to work together better.

Kluckhohn and Strodtbeck (1961) were among the first to examine general characteristics of culture based on orientations to 1) human nature; 2) man-nature; 3) time; 4) activity; and 5) relationships. Hofstede (1980) developed four cultural dimensions based on his study of IBM: 1) collectivism/individualism; 2) power distance; 3) uncertainty avoidance; and 4) masculinity/femininity.
He later added a fifth dimension, Confucian dynamism, based on research conducted by Bond using a survey created by Chinese minds (Hofstede, 1991, pp. 14-15). Trompenaars (1994) and Hampden-Turner and Trompenaars (2000) offer six dimensions of culture, several of which overlap with Hofstede’s dimensions. Numerous others have offered sets of dimensions; however, Hofstede’s dimensions have become a standard starting point for discussion and research comparing different cultural values, in large part, because his research was the earliest specific study which established measures for each cultural dimension for empirical comparison. Subsequently, a body of literature has developed using those particular dimensions (Hofstede, 2001). We, too, chose to consider Hofstede’s initial four dimensions as the starting point for the research reported here.

The primary purpose of this study is to examine the effects of culture on the use of time. In particular, we hypothesize and test for differences in the use of time, based on one’s culture. Given that we are born into and grow up in a particular culture, we would expect to see differences in patterns of behavior even before young people enter the working world. Here, we explore how college students use their time, and whether there are cross-cultural differences in how they spend their time. For example, how does the use of time differ for the prospective Japanese salaryman and the budding American business person? In other words, how does the use of time reflect their respective cultures for business students at college? Does the Japanese business student already exhibit the Japanese propensity to work, that one author called “dazzling” (Levine, 1997, p. 170)? This paper explores the use of time by business undergraduate students in the two distinctly different cultures of Japan and the U.S. Students reported their activities from sleep to work, from classes to extracurricular activities, from morning rituals to evening TV watching.

**THEORY AND HYPOTHESES**

In this study we focus on the cultural dimensions of individualism/collectivism and masculinity/femininity. Of Hofstede’s four dimensions 1) individualism/collectivism, 2) power distance, 3) uncertainty avoidance, and 4) masculinity/femininity, these two deal with aspects of life that might be examined by observing how people use time. Power distance, which deals with status relationships, is not a dimension which lends itself to observations of time use. Knowing the amount of time spent with superiors or subordinates would not reveal the nature or quality of those relationships which is the crux of the dimension. Uncertainty avoidance is also a dimension which is more qualitative. Observing time use would not tell us much about how people feel about the uncertainties which pervade human life. Individualism and masculinity, on the other, are dimensions for which we could expect to find differences in time use and justify those differences based on the dimensions themselves, as detailed below.

**Individualism/Collectivism and the Use of Time**

Hofstede’s individualism/collectivism dimension is one of the most important elements that sets cultures apart from one another. In fact, Triandis (1995) argues that individualism/collectivism is the only dimension necessary to differentiate cultures. Hofstede’s individualism dimension refers to societies in which ties between individuals are loose, i.e., everyone is expected to look after him/herself and his/her immediate family. Collectivism refers to societies in which people are integrated into strong cohesive in-groups, which throughout people’s lives continue to protect them in exchange for unquestioning loyalty. Collectivism is the rule, especially in the non-Western world. Strongly individualistic societies value truth, developing one’s own opinions, and self-respect. Strongly collectivistic societies value harmony above all and emphasize the protection of “face.” Misconduct by an in-group member brings shame to the entire group.

Individualistic societies tend to be low-context (Hall, 1983) requiring greater and more explicit verbalizations of the particulars of a situation. For example, adult Americans, who are extremely individualistic, often define themselves by their jobs or professions rather than an in-group affiliation.
They must explain their position and its import because it will not be immediately obvious to the people they encounter. On the other hand, collectivist societies tend to be high-context, with the people one is likely to encounter understanding, seemingly intuitively, their position, rank, and status. The ability to read the cues provided in a high-context culture is imbibed with the rest of the culture. This importance of context, or the non-verbal signs, likely is a function of the amount of time people in collectivist cultures spend with members of their in-group(s).

Members of individualistic cultures tend to look after themselves first, and tend to engage in activities on an individual basis. If we examine how college students spend their time, we should see differences in the time spent in various activities based on the individualism/collectivism dimension. In general, we would expect students from collectivist cultures to spend more time in the company of other people and engaged in group activities, while we would expect students from individualistic cultures to spend more time by themselves.

*Hypothesis 1*: Individuals from cultures higher in individualism will spend significantly less time performing activities in the company of others than will individuals from cultures lower in individualism.

**Masculinity/Femininity and the Use of Time**

Hofstede’s masculinity/femininity dimension refers to the work/life balance of a culture. Masculine cultures emphasize specialized gender roles in which men are expected to be assertive and achievement oriented. Success is measured by status and material wealth, and not much consideration is given to nurturing and the quality of life. In contrast, feminine cultures do not emphasize status and achievement as much as they do quality of life. Both men and women are more modest than assertive. For example, they tend to understate their accomplishments. Masculine cultures are characterized by the phrase “live to work” while people in feminine cultures are said to “work to live.” In general, task takes precedent in masculine cultures and relationships take precedent in feminine cultures. Earnings, recognition, advancement and challenge are what are important in the workplace to people, both men and women, living in masculine cultures. In feminine cultures, employment security, good working relationships with coworkers and managers and living with one’s family in a desirable area are what are important.

With respect to the use of time, people in masculine cultures likely would spend more time on activities that would increase their status or level of achievement. On the other hand, people in more feminine cultures likely would spend more of their time on activities that are enjoyable, but that may not necessarily have a future “payoff,” and activities that enhance not only their own quality of life, but the quality of life of the people around them.

Based on the masculine/feminine dimension, we expect that students from cultures high in masculinity will spend more time on activities that will lead them to higher achievement, earnings and recognition than will students from cultures lower in masculinity. In college, studying is likely to lead to higher grades and, thus, a better job after college. Similarly, working at a part-time or full-time job enhances a student’s qualifications for a higher level position after graduation. We expect students in more masculine cultures to spend more time studying than students from less masculine cultures. We would also expect to find students from more masculine cultures spending more hours at work in part-time jobs than students in more feminine cultures.

*Hypothesis 2a*: Individuals from cultures higher in Masculinity will spend more time studying than individuals from cultures lower in Masculinity.
Hypothesis 2b: Individuals from cultures higher in Masculinity will spend more time working than individuals from cultures lower in Masculinity.

Because students in more masculine cultures are driven to spend more time on activities that will lead to future success, we expect that they will have less time available for activities that do not have an immediate payoff, such as sleeping. Thus,

Hypothesis 2c: Individuals from cultures higher in Masculinity will spend less time sleeping than individuals from cultures lower in Masculinity.

From the perspective of more feminine cultures, great importance is placed on quality of life and building relationships. Individuals from less masculine cultures are interested in spending their time on activities that are not necessarily associated with future achievement, but rather, are enjoyable at present, and lead to lasting relationships and a better quality of life. Thus, we predict that students from less masculine cultures will spend more time socializing with friends, going on dates, participating in extracurricular activities, and hanging out (or doing nothing in particular).

Hypothesis 2d: Individuals from cultures lower in Masculinity will spend more time socializing than individuals from cultures higher in Masculinity.

Hypothesis 2e: Individuals from cultures lower in Masculinity will spend more time going on dates than individuals from cultures higher in Masculinity.

Hypothesis 2f: Individuals from cultures lower in Masculinity will spend more time participating in extracurricular activities than individuals from cultures higher in Masculinity.

Hypothesis 2g: Individuals from cultures lower in Masculinity will spend more time ‘hanging out’ than individuals from cultures higher in Masculinity.

METHOD

Sample and Data Collection
We collected data on time use from undergraduate business students in the United States and Japan via a self-reported time log diary. We chose these countries because of the differences they exhibit on a number of cultural dimensions, including individualism and masculinity, in particular. The cultures in our study range from extremely individualistic, i.e., American, which ranked first out of 53 countries on Hofstede’s scale, to somewhat collectivistic, i.e., Japanese, which ranked 22/23 out of 53. The cultures in our study also range from extremely masculine, i.e., Japanese, which ranked first out of 53 countries on Hofstede’s scale, to moderately masculine, i.e., American, which ranked 15 out of 53.

Participation in the study was voluntary and not required. Our subjects in the United States were students enrolled in an undergraduate organizational behavior course at a mid-Atlantic university. As part of the course requirements, students participated in one or more research projects of their choosing, or were allowed to do an alternate assignment. We received completed questionnaires from 67 students in the U.S. The subjects in Japan were business students enrolled in an undergraduate business course at a major university in Nara. We received completed questionnaires from 59 Japanese students.

Previous studies of time use have advocated a focus on “a day in the life of a respondent” (Stinson, 1999). Data collection procedures for time use studies have evolved from early face-to-face interviews to a widespread use of pencil and paper diaries (Bagatta, 1998; Herz & Devens, 2001; Parker, 2002). Studies
using electronic data collection procedures have not reported marked improvement over pencil and paper
diaries (Kalfs & Saris, 1998), so we employed the more traditional paper and pencil method.

Students who chose to participate in this cross-cultural time use study were given a questionnaire that
consisted of a number of demographic questions, followed by a grid on which they recorded how they
used their time over a 24-hour period. The grid was a modified version of the data collection instruments
found in previous research (e.g., National Survey on Time Use, 2001). The vertical axis of the grid
consisted of a list of thirty-three activities, while the horizontal axis consisted of fifteen minute time
periods through a twenty-four hour day. The list of activities included many different types of activities,
such as sleeping, eating, attending classes, studying, playing sports, using the telephone, traveling to/from
work, watching television, and so on. The list of activities was pretested using an earlier sample of
undergraduate students in the U.S. and in Japan, and several new activities were subsequently added to
the original list. A full list of the activities is provided in Appendix A.

Subjects were instructed to record how they spent their time over a twenty-four hour period, noting the
fifteen-minute time period during which they started and stopped each activity, using the grid. Subjects
were instructed to mark all activities that they were performing during each 15-minute time period. Thus,
they could note when they were performing more than one activity at a time (e.g., eating while studying).
Additionally, subjects were asked to note whether they performed each activity alone, or with others,
using two additional lines on the grid for the two options.

Analysis
Our hypotheses predict differences in the amount of time individuals from different countries will spend
on particular activities. To test these hypotheses, for each individual in the study we aggregated the
number of fifteen minute time periods spent on each activity during the 24-hour period. Additionally, we
broke the 24-hour day into four 6-hour time periods that comprise the 24-hour day (12 noon – 6pm, 6pm
– 12 midnight, 12 midnight – 6am, and 6am – 12 noon). We then tested for differences between the two
countries for the 24-hour time period and for each 6-hour time block for each of the time-use variables in
our hypotheses (e.g., studying, working, sleeping) using the t-test for mean differences.

RESULTS

Table 1 reports the results of the t-test procedures for the 24-hour time period. Table 2 reports the results
for the four 6-hour periods within the 24-hour day. Hypothesis 1 predicted that students from cultures
higher in individualism would spend more time engaged in activities that they performed alone, as
opposed to with others. As shown, Hypothesis 1 has weak support. For one of the four 6-hour time
periods during the day, U.S. students, from the most highly individualistic culture, spent significantly
more time alone than their Japanese counterparts (6am-12noon).

Hypotheses 2a through 2g predict differences in the amount of time students from the two countries spend
on a number of activities due to differences in masculinity. Hypothesis 2a predicted that students from
countries higher in masculinity would spend more time studying than their counterparts in less masculine
cultures. This hypothesis was not supported. In fact, American students, who represent a moderately
masculine culture compared to the most highly masculine culture of Japan, spent significantly more time
studying than the Japanese students during the full 24-hour time period and also in all four of the 6-hour
time periods during the day. However, as predicted in Hypothesis 2b, the Japanese spent significantly
more time working at a job than did the Americans. This difference was significant for the 24-hour
period reported, and for two of the four 6-hour periods throughout the day (6pm-12m and 12m-6am). In
Hypothesis 2c we predicted that people from cultures higher in masculinity would spend less time
sleeping. This hypothesis was supported, because the Japanese students reported spending significantly
less time sleeping than the Americans. This difference was significant for the 24 hour day, as well as for the 12-hour a.m. period (12m-6am and 6am-12n).

Hypotheses 2d through 2g predicted that individuals in cultures lower in masculinity would spend more time on activities related to one’s present quality of life, in particular, socializing with friends (H2d), going on dates or spending time with a boyfriend/girlfriend (H2e), participating in extracurricular activities (H2f), and hanging out or doing nothing in particular (H2g). Hypothesis 2d was not supported. In fact the opposite was true, the Japanese students spent significantly more time socializing with friends, especially in the 12-hour daytime period (6am-12n and 12n-6pm). Hypothesis 2e was not supported. There were no significant differences in the amount of time students spent dating or spending time with a boyfriend/girlfriend. Hypothesis 2f was not supported by any significant differences over the 24-hour period. However, American students did spend significantly more time engaging in extracurricular activities during the evening time period, 6pm-12m, suggesting weak support for Hypothesis 2f. Hypothesis 2g received the strongest and most consistent support of this set of hypotheses. American students, representing the less masculine culture in this case, spent significantly more time hanging out and doing nothing in particular over the 24-hour period than did the Japanese students. The differences between the two groups were significant for three of the four 6-hour time periods (12n-6pm, 6pm-12m, and 12m-6am).

DISCUSSION

In this study we used two of Hofstede’s dimensions of culture to predict differences in the amount of time spent on different activities by college-level business students in two different cultures. We found support for several of these hypotheses. Before discussing the implications of our findings, we should note some of the limitations of our study.

Limitations

One limitation of our study is the use of data collected from college students. Our results may not generalize to the entire population, since college students spend their time quite differently than people in other stages of their lives. However, the differences we found between our American and Japanese student subjects are meaningful because college students in these countries are in a similar stage in life, facing similar challenges and similar constraints on their time. The fact that we did, indeed, find support for a number of the differences predicted, despite the similarities shared by college students, suggests that these differences would likely be found among other sets of people in these countries. While the results may differ somewhat for working adults, we expect that the differences in time use between the cultures might be even more pronounced after the college years.

Another limitation is using data for a single 24-hour period collected in the fall term. Data from only a single day might not be representative of a “typical” day in the lives of our respondents. For example, the virtual lack of extracurricular activity reported by the Japanese students was surprising. This finding might be explained by the fact that they completed their time diaries during a characteristic lull in their club activities. We need to collect additional data at other points during the year to guard against such problems.

A third limitation is that we have not measured individualism or masculinity per se. We have grouped respondents by nation and developed hypotheses based on Hofstede’s dimensions as he described them. While this procedure is typical of many cross-cultural research studies, an improvement in the research design would be to include measures of the cultural dimensions, themselves, in the survey instrument.
Implications for Management and Future Research

Cross-cultural differences in time use are a concern for global managers for at least two reasons. One is that managers and workers from different cultures will have different expectations, not only of the work patterns of each other, but they also may have a different understanding of the meaning of work itself. For example, work in one culture may mean everyone remaining in the office until all have completed what they needed to do and then everyone going home. In another culture, it may mean everyone leaving at a fixed time, regardless of what is left to complete on the next day.

The second reason involves cross-cultural teams. Each team member will presumably have a different set of time and timing expectations based on his/her culture. Saunders, et al. (2004) discuss “time visions” that workers might have and the fact that each team must account for the different time visions that exist and recommends ways that teams might benefit by explicitly using different time visions.

Future research should include consideration of the wider range of activities that students engage in over the course of a day. Our time use data collection instrument collected data on a wide range of activities. However, we limited our analysis in this particular study to those few activities that were clearly linked to one of the two cultural dimensions we chose to examine. There may be other significant differences between the cultures examined in this study in the amount of time spent on some of the other activities on which we collected data. Our research is ongoing, and we will explore some of these issues in future work. Additionally, future research should also include more cultures and larger numbers of respondents from each culture. Data should be collected for several days spread over the term. Ultimately, we would like to outline a hypothetical “typical” day for students in a variety of cultures. In addition to having implications for management, this research also might serve as the basis for a study on the problems and issues faced by students when studying abroad.

Conclusions

While some of our hypotheses were largely supported, using cultural dimensions alone does not provide an adequate basis for explaining college student time use. A descriptive understanding of the meaning of college in the respective cultures is also important. For example, college is a culminating point for Japanese students. They must pass very competitive exams to gain entrance to schools throughout their lives, including college. However, once they have attained entrance to college, they are under less pressure to perform because passing is what is important, not their grade point average. Japanese employers are interested in students’ club activities, including sports clubs, which we did not include in this analysis, as a measure of their leadership abilities in a collectivist culture. Therefore, the “work” of Japanese college students is really building relationships as evidenced by club activities. Our analysis in this study did not adequately account for the difference in the meaning of attending college in Japanese culture because we adopted an American perspective of college in which the “work” of college students is studying in order to achieve a high grade point average which prospective employers are expecting to show that the student has not only worked hard, but also learned in-depth knowledge about a particular specialty area.

Hypotheses based on a single cultural dimension may not be reflected in specific uses of time for two essential reasons. First, a culture cannot be defined by a single dimension. Cultures are complex social creations with many facets. Even if we succeeded in developing a set of dimensions that described those many facets, each culture would still be unique in the way that set of dimensions interacted with each other. Second, measures of time, in this case, clock measures of how time is spent by people, tell us only how much time is spent on the activity, but nothing about the activity itself and nothing about differences in orientations to time, itself. For example, slurping up a bowl of noodles at a noodle shop might take about as much time as eating a burger at McDonald’s, but they are cultural worlds apart.
This study is an initial attempt to examine how the activities we engage in reflect the underlying dimensions of our culture. In spite of the limitations of this study, time use is one more way to compare and contrast different cultures in our quest for greater understanding of one another.

REFERENCES

### TABLE 1
Results of Tests for Mean Differences in Time Spent on Activities Over 24 Hour Period

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time spent on the Activity (# of 15 minute time blocks)</th>
<th>American</th>
<th>Japanese</th>
</tr>
</thead>
<tbody>
<tr>
<td>All activities performed alone (H1)</td>
<td>0.21</td>
<td>55.58</td>
<td>54.31</td>
</tr>
<tr>
<td>Studying (H2a)</td>
<td>9.12**</td>
<td>13.69</td>
<td>1.24</td>
</tr>
<tr>
<td>Working at a job (H2b)</td>
<td>-3.21**</td>
<td>2.51</td>
<td>7.97</td>
</tr>
<tr>
<td>Sleeping (H2c)</td>
<td>1.99*</td>
<td>32.46</td>
<td>28.64</td>
</tr>
<tr>
<td>Socializing with friends (H2d)</td>
<td>-1.62†</td>
<td>5.37</td>
<td>8.25</td>
</tr>
<tr>
<td>Date/time with boyfriend or girlfriend (H2e)</td>
<td>-0.03</td>
<td>2.70</td>
<td>2.75</td>
</tr>
<tr>
<td>Extracurricular activities (H2f)</td>
<td>0.62</td>
<td>1.64</td>
<td>1.24</td>
</tr>
<tr>
<td>Hanging out, doing nothing in particular (H2g)</td>
<td>2.33***</td>
<td>4.68</td>
<td>0.49</td>
</tr>
</tbody>
</table>

† p<.10 * p<.05 ** p<.01 *** p<.001

### TABLE 2
Results of Tests for Mean Differences in Time Spent on Activities For 6 Hour Periods in the Day

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
<th>t</th>
<th>American</th>
<th>Japanese</th>
</tr>
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<tr>
<td>All activities performed alone (H1)</td>
<td>12n-6pm</td>
<td>0.43</td>
<td>9.71</td>
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<td></td>
<td>6pm-12m</td>
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<td>9.75</td>
<td>9.83</td>
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<td></td>
<td>12m-6am</td>
<td>.34</td>
<td>18.21</td>
<td>17.50</td>
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<td></td>
<td>6am-12n</td>
<td>1.41†</td>
<td>17.79</td>
<td>15.22</td>
</tr>
<tr>
<td>Studying (H2a)</td>
<td>12n-6pm</td>
<td>5.72***</td>
<td>4.28</td>
<td>0.41</td>
</tr>
<tr>
<td></td>
<td>6pm-12m</td>
<td>8.11***</td>
<td>6.52</td>
<td>0.38</td>
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<td></td>
<td>12m-6am</td>
<td>1.84</td>
<td>1.43</td>
<td>0.44</td>
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<td></td>
<td>6am-12n</td>
<td>3.75***</td>
<td>1.44</td>
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<tr>
<td>Working at a job (H2b)</td>
<td>12n-6pm</td>
<td>-0.59</td>
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<td>6pm-12m</td>
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<td>12m-6am</td>
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<td>6am-12n</td>
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<tr>
<td>Sleeping (H2c)</td>
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<td>-1.07</td>
<td>1.58</td>
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<td>6pm-12m</td>
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<td></td>
<td>12m-6am</td>
<td>2.53</td>
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<td></td>
<td>6am-12n</td>
<td>1.45†</td>
<td>11.61</td>
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<td>Socializing with friends (H2d)</td>
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<td>-2.54†</td>
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<td>0.88</td>
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<td>6am-12n</td>
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<td>0.76</td>
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<td>Date/time with boy/girlfriend (H2e)</td>
<td>12n-6pm</td>
<td>-0.79</td>
<td>0.40</td>
<td>0.81</td>
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<td>1.42</td>
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<td>0.68</td>
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<td>6am-12n</td>
<td>-0.49</td>
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<td>0.51</td>
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<td>Extracurricular activities (H2f)</td>
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<tr>
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<td>12m-6am</td>
<td>-1.06</td>
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<td></td>
<td>6am-12n</td>
<td>-1.06</td>
<td>0.00</td>
<td>0.10</td>
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<tr>
<td>Hanging out, doing nothing in particular (H2g)</td>
<td>12n-6pm</td>
<td>1.71†</td>
<td>0.77</td>
<td>0.24</td>
</tr>
<tr>
<td></td>
<td>6pm-12m</td>
<td>4.42***</td>
<td>2.76</td>
<td>0.15</td>
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<td>.74</td>
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† p<.10 * p<.05 ** p<.01 *** p<.001
APPENDIX A
List of Activities

Activity done with others (mark for all time spent with others)
Activity done alone (mark for all time spent alone)
Sleeping / napping
Washing face, bathing, changing and other personal care (including receiving medical care)
Eating meals
Traveling (to or from work or university)
Attending classes at university
Extra curricular activities at school (club, school events)
Doing homework, studying
Attending private lessons outside university
Meeting or talking with people socially
Going on a date, spending time with boyfriend/girlfriend
Practicing or competing on a sports team
Playing sports casually for recreation
Reading books, newspapers or news magazines
Reading other magazines (fashion, sport, gossip)
Reading comics
Playing computer or video games
Listening to radio, music CD’s etc
Using the internet
Using a telephone (fixed or mobile)
Watching television
Watching videos/DVDs
Sightseeing, going for walks
Spending time on hobbies, theatre, learning crafts etc.
Participating in volunteer activities
Participating in formal community or social events
Practicing my religion (praying, formal activities, etc.)
Work
Cooking, cleaning doing laundry, and other housework,
Shopping for daily items (groceries, toiletries)
Shopping for non-daily items (clothing, gifts)
Resting, snacking, doing nothing in particular, hanging out
Other (  )
Other (  )