
PROBLEMATIC INTERNET USE AND WELLBEING: A STUDY OF KUWAIT AND UK STUDENTS

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ABSTRACT

Research suggests that problematic internet use is associated with reduced wellbeing and impaired academic attainment. This issue was examined here and the first study of this topic in Kuwait is reported. 110 Kuwait University students participated in the survey which measured wellbeing and established predictors of wellbeing (information overload, stressors, negative coping, social support and positive personality). Univariate analyses showed that problematic internet use was associated with reduced wellbeing. Regressions controlling for established predictors showed that the effect of internet use remained significant. Additional analyses compared Kuwait and UK samples. No differences were found between countries. The present findings suggest that the effect of problematic internet use occurs in different cultures. Further research is needed to examine the role of type of internet use and to determine whether effects are also seen in other groups such as workers.

Key words: Internet use, Wellbeing, Culture

1. INTRODUCTION

The present study is part of a research programme investigating associations between internet use and wellbeing. The current research used a sample from Kuwait, and was the first study to examine this issue with university students from that country. A major feature of the study was to control for established predictors when assessing the impact of internet use. The present research also carried out a cross-cultural comparison by conducting analyses combining the Kuwait sample with the UK sample described in Alheneidi and Smith (2020).

1.1 Problematic Internet Use and Wellbeing

A detailed review of this literature is given in our recent papers (Alheneidi, 2019; Alheneidi& Smith, 2020; Smith & Idzadyar, 2020). The main findings can be briefly summarised as follows. Several studies show that problematic internet use is associated with reduced psychological wellbeing (Alavi et al., 2011; Cardak, 2013, Casale et al., 2015). Specific aspects of wellbeing such as subjective vitality and happiness have been shown to be lower in those with problematic internet use (Akin, 2012). Negative outcome scores have been shown to be higher in longitudinal studies of problematic internet use (Chen, 2012; Muusses et al., 2014). However, other research has produced conflicting results (e.g. Kutty&Sreeremreddy, 2014). One of the problems with many of the studies of problematic internet use is that they do not control for other predictors of the outcomes. Alheneidi and Smith (2020) found that problematic internet use was associated

with reduced wellbeing but this effect was no longer significant when established predictors of wellbeing were included in the analyses. Such results support the cognitive-behavioural model of internet use (Davis, 2001, 2002) which focused on the motivating psychological characteristics and personal cognitions behind problematic use of the internet.

1.2 Conceptualisation and measurement of wellbeing

The current study used the “wellbeing process” approach as the underlying theoretical framework (Williams, 2014; Williams & Smith, 2012, 2013, 2016, 2018a, 2018b; Williams, Pendlebury & Smith, 2017; Williams, Thomas & Smith, 2017; Smith, 2018). This model was developed from the Demands-Resources-Individual Effects (DRIVE) approach, put forward by Mark and Smith (2008, 2011, 2012). The DRIVE model was extended to a more holistic approach to wellbeing by including positive variables such as self-efficacy, self-esteem, optimism, life satisfaction, positive affect and happiness (Smith et al., 2011; Wadsworth et al., 2010). A student version of the WPQ has been developed and been shown to have good reliability and validity (Galvin, 2016; Nelson & Smith, 2016; Williams, Pendlebury, Thomas & Smith, 2017; Smith, 2018, 2019; Bowen & Smith, 2019; Howells & Smith, 2019; Omosehin & Smith, 2019a,b,c; Smith & Firman, 2019; Smith & Firman, 2020; Smith & Idzayar, 2020). Similar results have been found using other questionnaires developed from the wellbeing process model (e.g. the Smith Wellbeing Process Questionnaire [SWELL]; Smith & Smith, 2017a, 2017b, 2017c; Fan & Smith, 2017a, 2017b, 2018; Alharbi & Smith, 2019; Nor & Smith, 2019).

1.3 Cross-cultural studies

Another aim of the present research was to examine whether effects varied across cultures. Culture is the shared way of living between a group of people, which identifies the group beliefs, values and social structure. Cultural psychology is the scientific study of how psychological processes of members are influenced by culture (Heine, 2012) and how human behaviours are transformed and shaped by social-cultural forces (Berry et al., 2011). Cross-cultural psychology is based on the principle that the culture is shaped by its people, and the people are shaped by their culture (Fiske, Kitayama, Markus, & Nisbett., 1998). Cross-cultural psychology is the scientific study of different cultural groups with various experiences that result in significant behavioural differences (e.g., Berry et al., 2011). Cross-cultural psychologists use culture as a means of exploring the universality of psychological outcomes or processes rather than defining how certain cultural practices influence a psychological outcome (Heine, 2012).

1.3.1. Hofstede’s theory

Hofstede (1980) developed the cultural dimensions theory, which defines the society’s cultural influence on its members’ values, and how values are translated into behaviour. Hofstede’s model was developed using a factor analysis of IBM employees’ values world-wide survey conducted between 1967 and 1973. The first version of the theory covered four dimensions: Individualism-collectivism, power distance, uncertainty avoidance, and masculinity-femininity. A later study in Hong Kong added the fifth dimension, i.e., long-term orientation. Hofstede later added the sixth dimension in 2010, i.e., indulgence versus self-restraint (Adeoye,

2014). Hofstede's theory has been widely used in cross-cultural psychology, cross-cultural communication, and international management. Hofstede (Hofstede, 1980; De Mooij & Hofstede, 2010) explained each of the dimensions of National Culture Theory:

- Power distance index (PDI): The index identifies to what extent the less powerful members of the society, organisation, or family are accepting and expecting that power is not distributed equally.
- Individualism vs. collectivism (IDV): The index investigates the two types of societies. Individualistic societies have loose ties in which an individual only relates to his close family, but on the other hand, collectivism societies have tightly joined extended families and groups with high levels of support and loyalty.
- Uncertainty avoidance index (UAI): This index measures the extent to which a society is threatened by unknown situations and ambiguity is associated with anxiety. Societies that score high in uncertainty are rigid and they value security and might resist innovations. Low scores on the uncertainty avoidance index reflect a society with high levels of innovation and creativity, and openness to what is different.
- Masculinity vs. femininity (MAS): This index identifies societies in two views: masculinity and femininity. In masculine societies men are preferred in the society for achievements, assertiveness and heroism. In feminine societies, women and men share views equally with men.
- Long-term orientation vs. short-term orientation (LTO): This dimension reflects the society's association with the past and the current, and upcoming challenges through two categories: short-term and long-term orientation. The short-term or lower degree orientation indicates that society's traditions are kept and honoured and steadfastness is respected. Long-term orientation societies adapt, develop and solve in-coming problems.
- Indulgence vs. restraint (IND): This dimension measures the happiness and openness of expressing emotions, socialising and fulfilling joy. Indulgent societies show fulfilment of basic life events, enjoying life and fun activities. However, the restrained societies control their desires and emotions.

1.3.2 Cultural differences between Kuwait and the UK

It is important to investigate how cultural differences influence different behaviours in order to understand the reasons why people from different cultures react differently (Makrakis, 1992), and how a group of individuals share a way of thinking and behaving (Hofstede, 1980; De Mooij & Hofstede, 2010). To uncover the differences between the Kuwait and UK cultures, a comparison between the two will be explained based on Hofstede's six-dimension culture model. The differences between the Kuwait and UK cultures lie in the six dimensions as categorised by Hofstede: power distance, individualism, masculinity, uncertainty avoidance, long-term orientation, indulgence.

Kuwait culture was analysed using the Hofstede six-dimension model (De Mooij & Hofstede, 2010). In power distance, Kuwait scored high (90) which reflects how people accept the hierarchal disorder and less powerful people in any institution or family members accept that

power is distributed unequally. In terms of individualism, the main addressed issue was the degree of interdependence among society members. Kuwait scored 25 which is a low score in individualism. Kuwait culture is considered a collectivistic society, in which the family is extended and tighter. In terms of the Masculinity dimension, which indicates that society is driven by accomplishment and achievement, a low score is feminine indicating how a society's main values are caring for others and quality of life. Kuwait scored 40, indicating a relatively feminine society which values quality of life, flexibility and solidarity and equality. In the dimension Uncertainty Avoidance, Kuwait scored 80. The high score reflects a rigid core of beliefs and behaviours; security is an important element in behavioural motivation while innovation might be resisted. There were no scores for Kuwait in the last two dimensions: long-term orientation, and indulgence.

UK culture scores were different from the Kuwait. For example, the UK culture scored 35 on the Power Distance dimension, which indicated the sense and belief that people should be treated equally, and that where an individual is born should not limit their ambition in life. In the Individualism dimension the UK scored 89, one of the highest individualist scores, which indicates that a person is looking only after himself and his direct family. British culture is highly individualist and private. British culture scored 66 in Masculinity which is oriented and driven by success and ambition. In the Uncertainty Avoidance dimension the UK scored a low 35, which indicates that the nation is comfortable with ambiguous situations. The combination of high Individualism and Masculinity, and low Uncertainty Avoidance results in high creative levels and a strong need for innovation. The Long-Term Orientation dimension reflects how each culture prepares for the future while holding some links of their past, cultures with low scores are normative societies who honour their traditions and norms and are suspicious of social change. On the other hand, cultures with high scores encourage modern education and changes. The UK scored 51 which indicates being in the middle of the two extremes. The last dimension, Indulgence, reflects the ability of the individuals in society to control their desires and wishes. British culture scored 69 which indicates that it is an indulgent society (De Mooij& Hofstede, 2010). The different scores of the two cultures on Hofstede's model show that the UK and Kuwait are very different societies which makes them two good cultures for a comparison of the effects of internet use on wellbeing and academic attainment.

1.4 Research Questions

The present research addressed two main questions:

- 1) To what extent is problematic internet use associated with students' wellbeing?
- 3) How do the cultural differences between Kuwaiti and British students influence the effect of internet use on students' wellbeing?

2. METHOD

The two studies, one in the UK (reported in Alheneidi& Smith, 2020) and another in Kuwait, investigated the cross-sectional association between internet use and wellbeing using a

multivariate approach. Each study was initially analysed separately using a univariate analysis followed by multivariate analyses and there was a direct comparison of the combined data.

2.1. Ethical Approval

The research (both studies) received ethical approval from the ethics committee, School of Psychology, Cardiff University.

2.2. Sample Size Consideration

In defining the appropriate sample size, the Tabachnick and Fidell (2014) equation was taken into consideration. Tabachnick and Fidell (2014) suggested the following formula for a sample size calculation, depending on the number of independent variables that you want to use in the regression analyses: $N \geq 50 + 8m$ (m = number of independent variables). A medium size relationship between dependent and independent variable was assumed, with $\alpha = .05$, $\beta = .20$ and seven independent variables in the regression model, $N \geq 50 + (8)(7) = 106$. A sample size of at least 106 would be appropriate.

1.3. Design

A cross-national study that measured internet use as the independent variable. Covariates were the established predictors of wellbeing and attainment. The dependent variables were wellbeing outcomes and student's perceived academic efficiency

2.4. Participants

2.4.1. Study 1- Kuwait University students

One hundred and ten Kuwait University undergraduate students from the College of Social Sciences participated in the study as a part of their summer course requirements. Seventy-four were females (70%), and their mean age was 21 years old (range= 18-39, SD= 3.5).

2.4.2. Survey

The survey was identical to that used by Alheneidi & Smith (2020). For the Kuwait sample, the questionnaires were translated into Arabic with the help of Professor Othman AlKheder and Professor Taghreed AlQudsi from Kuwait University (KU), and then a pilot study was conducted on 12 KU students to test the validity and reliability of the translated questionnaires. Information overload questions about emails were changed to 'messages' instead to cover different text messages, since emails are not commonly used among KU students (see Appendix for Arabic version of the questionnaire). Consent forms, instructions and debrief forms were distributed with the questionnaires. The aim of the study was explained to the students prior to answering and they completed it after informed consent. They were given a debrief statement at the end of the survey.

The survey included the Internet addiction test which consists of 20 items that examine the use of the internet for non-academic or non-job purposes during the last month items measuring

addiction based on DSM-IV criteria of pathological gambling (Young, 1998). The perceived information overload scale, which consist of 16 items measuring cyber and environmental information overload (Misra&Stokols, 2011) was also used as this is an established predictor of wellbeing. The Student WPQ is a multidimensional scale of wellbeing which includes a measure of stressors based on students' circumstances and factors, also measures other wellbeing predictors based on the DRIVE model: negative coping, social support, and positive personality (self-efficacy, self-esteem and optimism) (William & Smith, 2017). Demographic and health-related behaviour data were collected measuring general health, gender, age, sleeping quality, height and weight, and smoking.

2.4.3. Study 2 - Cardiff University students

This is described in detail in Alheneidi and Smith (2020) and is summarised below. One hundred and seventy-nine (179) first year psychology undergraduate students participated in the study as part of their course requirements. The majority of the sample population (91%) were females. This percentage is to be expected within psychology which is a discipline known for having a strong female bias. The age range was 18-50 years; 89.9% were 18-21 years old.

Questionnaires were completed electronically in a computer laboratory at the beginning of the academic year. Consent with the key features of voluntary participation, freedom to withdraw, anonymous databases, instructions and debrief forms were provided at the start and the end of the study.

2.4.4. Analysis Strategy

SPSS 20.00 was used to conduct all statistical analyses. Data met the assumption of normality. The reliability of the scales was tested by Cronbach alpha coefficients. Pearson univariate correlations were conducted to evaluate the strength of the relationships among internet addiction, the wellbeing total outcome score, performance efficiency and wellbeing factors predictors. Regressions were carried out with the wellbeing outcome as the dependent variable. Internet addiction scores, the wellbeing predictors and physical health and sleep quality were included in the model. Further analysis compared the Kuwait and UK samples. Analyses were conducted (<http://comparingcorrelations.org>) to compare correlations of the two samples by converting r to z values (Diedenhofen&Musch, 2015). Regressions were then conducted on the combined data including country and the country x internet addiction interaction in the model.

3. RESULTS

3.1 Kuwait university sample results

3.1.1 Reliability of key measures

A Cronbach alpha coefficient was calculated for internet addiction. Cronbach's alpha coefficients were evaluated using the guidelines suggested by George and Mallery (2016), where $> .9$ excellent, $> .8$ good, $> .7$ acceptable, $> .6$ questionable, $> .5$ poor, and $\leq .5$ unacceptable. The items for internet addiction had a Cronbach's alpha coefficient of 0.93, indicating excellent

reliability. The items for information overload had an alpha coefficient of 0.78 showing acceptable reliability. The wellbeing outcome measure had an alpha coefficient of 0.81 showing good reliability.

3.1.2 Pearson correlation analysis

A Pearson correlation analysis was conducted for the following variables: information overload, internet addiction and wellbeing predictor variables (social support, belonging, positive personality, negative coping and stressors) and outcome. The total wellbeing score was calculated as total negative outcomes (depression+ anxiety,+ life stress+ physical fatigue+ mental fatigue + negative affect) minus total positive outcomes (positive affect + life satisfaction), with a high score of reflecting a more negative state. Cohen's standard was used to evaluate the strength of the relationships, where coefficients between .10 and .29 represent a small association, coefficients between .30 and .49 represent a moderate association, and coefficients above .50 indicate a large association (Cohen, 1988). Internet addiction scores were significantly correlated with negative wellbeing ($r = 0.34$ $p < 0.001$), information overload ($r = 0.036$ $p < 0.001$) and negative coping ($r = 0.25$ $p = 0.01$).

3.1.3. Regression analysis

The next analysis included the established predictors of wellbeing in the regression model. These results are shown in Table 1.

Table 1: Effect of problematic internet use on wellbeing controlling for established predictors and health related variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	32.211	9.969		3.231	.002
Information overload	-.027	.108	-.019	-.246	.806
Internet Addiction	.131	.056	.186	2.356	.020
Stressors	.264	.103	.186	2.555	.012
Social Support	.337	.169	.141	1.993	.049
Negative Coping	.608	.182	.254	3.348	.001
Positive Personality	-.526	.122	-.328	-4.304	.000

Sleep Quality	-3.088	1.281	-.180	-2.410	.018
Health	-1.782	.445	-.307	-4.001	.000

The results of the regression showed that high internet addiction scores were associated with more negative outcomes. Negative outcomes were predicted by the usual variables: high number of stressors, high negative coping scores, low positive personality scores and poor sleep quality and physical health. High social support scores were associated with high negative outcomes, and this may reflect the use of the term social support in Kuwait, where it refers to having help from others.

3.1.4. Combined data: Comparisons of correlations and regressions

A comparison of the correlations was conducted to investigate whether there were any significant differences between the two samples (Kuwait and UK) in the associations between internet addiction and wellbeing. Through converting r value to z value, the results revealed that there were no significant differences between the two samples in the correlations. Similarly, a regression using both data sets showed there was no main effect of country or interaction of country x internet use.

4. DISCUSSION

The present study was the first to investigate problematic internet use in a sample of students from Kuwait University. The Arab version of the WPQ, IO and IAA scales was novel and these measures had good reliability. The results showed that high scores on the internet addiction questionnaire were associated with higher negative outcomes. This effect was still significant when the established predictors of wellbeing were included in the regression. A secondary analysis combining the Kuwait and UK samples showed that the effects of internet use were similar in the two countries.

The present study extends the literature on the potential problems of internet use, by considering the effect of culture. However, further research is now required to assess the importance of type of internet use and also whether effects generalise from students to workers. Controlling for established predictors of wellbeing is a crucial part of the methodology and can be applied to the study of other influences such as information overload (Alheneidi & Smith, in press, a, b) or the office environment (Langer, Smith & Tylour, 2019; Langer, Tylour & Smith, in press).

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