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Running head: YOUNG PEOPLE'S SOCIAL NETWORKING WEBSITE USE

The theory of planned behaviour applied to young people's use of social networking
websites

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Abstract

Despite the increasing popularity of social networking websites (SNWs), very little is known about the psychosocial variables which predict people's use of these websites. The present study used an extended model of the theory of planned behaviour (TPB), including the additional variables of self-identity and belongingness, to predict high level SNW use intentions and behaviour in a sample of young people aged between 17 and 24 years. Additional analyses examined the impact of self-identity and belongingness on young people's addictive tendencies towards SNWs. University students (N = 233) completed measures of the standard TPB constructs (attitude, subjective norm and perceived behavioural control), the additional predictor variables (self-identity and belongingness), demographic variables (age, gender, and past behaviour) and addictive tendencies. One week later, they reported their engagement in high level SNW use during the previous week. Regression analyses partially supported the TPB, as attitude and subjective norm significantly predicted intentions to engage in high level SNW use with intention significantly predicting behaviour. Self-identity, but not belongingness, significantly contributed to the prediction of intention, and, unexpectedly, behaviour. Past behaviour also significantly predicted intention and behaviour. Self-identity and belongingness significantly predicted addictive tendencies toward SNWs. Overall, the present study revealed that high level SNW use is influenced by attitudinal, normative, and self-identity factors, findings which can be used to inform strategies that aim to modify young people's high levels of use or addictive tendencies for SNWs.

The popularity and use of social networking websites (SNWs) is rapidly increasing with these sites fast becoming one of the communication mediums of preference for young people.¹ Research suggests that SNW use may increase adolescents' self-esteem and well-being if the tone of the feedback provided by viewers of their profiles is positive, but decrease self-esteem when the feedback is negative.² As with any type of excessive internet use, overuse of SNWs has the potential to impact negatively on an individual's study, work, health, and personal relationships.³ Young adults are more likely than any other age group to have a SNW⁴ and engage in higher levels of use (almost 3 hours per day).⁵ Despite the increasing popularity of SNWs, however, there is still little known about the psychosocial variables that predict people's level of use.

The Theory of Planned Behaviour (TPB)

One well validated decision-making model that may provide an appropriate framework to understanding and predicting people's use of SNWs is the theory of planned behaviour (TPB).⁶ According to the TPB, behaviour is determined by one's intentions to perform the behaviour. Intention is influenced by attitude, subjective norm, and perceived behavioural control (PBC, also said to impact directly on behaviour). Attitude reflects an individual's positive or negative evaluation of performing the behaviour. Subjective norm is the perceived social pressure to perform or not perform the behaviour. PBC is the perceived ease or difficulty that the individual attaches to performing the behaviour. A meta-analysis of TPB studies indicated that the average amount of variance in intention and behaviour accounted for by the TPB was 39% and 27%, respectively.⁷ The TPB has been used to predict the performance of a wide range of behaviours including those involving technology.^{8,9} Despite the support for the TPB model, researchers have questioned whether the

TPB variables encompass all of the predictors of people's intentions and behaviour.¹⁰ As SNWs are a medium for identity expression and self-presentation,¹¹ examination of the role of self-identity in SNW use is warranted. Additionally, as one of the most fundamental motives behind behaviour is the need for relationships with others,¹² the effect of the need for belongingness on young people's SNW use was explored.

Self-Identity

Based on Stryker's^{13,14} identity theory, self-identity reflects the extent to which engaging in a behaviour is important to an individual's self-concept.¹⁵ According to identity theory, the concept of the self is a set of socially constructed roles, reflecting the extent to which an individual sees themselves as fulfilling the criteria for particular societal roles.¹⁶ Numerous studies have demonstrated the ability of self-identity to improve the predictive efficiency of the TPB.^{8,15} Self-identity can be expressed through interactions with mental and physical objects.⁷ SNW profiles allow for self-identity expression through personalisation as users can "define themselves" (who they are and what they like).¹¹ It is expected, then, that individuals who indicate that using SNWs is important to their self-concept will be more likely to engage in high level use of them.

Belongingness

Human beings possess a core motive to interact with others, with many social behaviours being driven by the need for belongingness with others.¹² The need for belongingness is defined as the need to be involved with, accepted by, and valued by others.¹⁶ SNWs have the potential to satisfy people's need to belong by facilitating communication with others, especially those with shared interests.¹⁷ People with a greater need for belongingness with others, then, may be more likely to engage in high level SNW use in an attempt to satisfy their need to belong.

Addictive Tendencies

When examining people's high level use of SNSs, as with other internet activities, there is the potential issue raised of some people's use encompassing addictive tendencies. It has been argued that, for a behaviour to be defined as addictive, the activity must meet six criteria; salience, mood modification, tolerance, withdrawal symptoms, conflict, and relapse.¹⁸ Behavioural addictions may not have observable symptoms, and engaging in the behaviour may also be associated with direct benefits.¹⁹ In the last few decades, the concept of internet addiction has arisen, with some individuals engaging in compulsive and problematic levels of internet use.²⁰ Research suggests that excessive internet use can have a wide range of negative effects including loneliness, depression, and academic, professional, and personal problems.²¹ At present, the extent to which high level users of SNWs experience symptoms of addiction and negative consequences from their level of use is currently unclear. The present study will explore the impact of both self-identity and belongingness on young people's addictive tendencies for SNW use.

The Present Study

The present study aimed to test an extended TPB, including self-identity and belongingness, to predict young adults' intentions to engage in and subsequent engagement in high level SNW use. It was expected that attitude, subjective norm, and PBC would predict intention to engage in high level SNW use, after taking into account the demographic factors of age, gender, and past behaviour (Hypothesis 1), with the addition of self-identity and belongingness expected to improve the prediction of intention (Hypothesis 2). Third, it was expected that intentions and PBC would predict high level SNW use in the 1 week follow-up period (Hypothesis 3). In

light of some young people's heavy usage of SNWs, the impact of self-identity and belongingness on SNW addictive tendencies was explored (Hypothesis 4).

Method

Participants

Participants completing the main questionnaire were 233 undergraduate university students (149 female, 84 male) aged between 17 and 24 years ($M = 19.22$ years; $SD = 2.03$ years). One week after the completing the main questionnaire, 55% of participants ($n = 129$) completed the follow-up questionnaire.

Design

A prospective design was used to examine an extension of the TPB to predict high level SNW use intentions and subsequent behaviour. The main questionnaire assessed the standard TPB items, self-identity, belongingness, addictive tendencies, and demographic variables (age, gender, and past behaviour). One week following the main questionnaire, consenting participants completed a follow-up questionnaire assessing their engagement in high level SNW use during the previous week.

Measures

Target Behaviour

The target behaviour of high level SNW use was defined as making 4 or more unique visits per day to SNWs (such as Facebook, MySpace, and Bebo) in the next week. Unique visits referred to the number of times an individual uses a SNW (rather than the number of times they log on to the website) as many users only log on once per day but leave the webpage open and return to view the website a number of times. Four or more unique visits per day was deemed to constitute a high level of use for the population of interest based on previous SNW use data.²² In the present study, 53% of

participants indicated that they had engaged in high level use at least once in the previous week.

Main Questionnaire

The majority of questionnaire items were worded positively, with some items negatively worded (and subsequently recoded) to reduce response bias. The standard TPB items were scored on 7-point Likert scales, with the exception of attitude which was measured using semantic differential scales.

Theory of Planned Behaviour Variables

Intention. Three items assessed intention to engage in high level SNW use in the next week. (e.g., “I intend to make 4 or more unique visits to social networking websites (e.g. Facebook, MySpace, Bebo) in the next week,”; *strongly disagree* [1] to *strongly agree* [7]). The measure of intention was reliable ($\alpha = .92$).

Attitude. Attitude was measured using five 7-point semantic-differential scales (e.g., “For me to make 4 or more unique visits per day to social networking websites (e.g., Facebook, MySpace, Bebo) in the next week would be *valuable* [1] to *worthless* [7].” The measure of attitude was reliable ($\alpha = .83$).

Subjective norm. Subjective norm was measured using three items (e.g., “Those people who are important to me would approve of me making 4 or more unique visits per day to social networking websites (e.g. Facebook, MySpace, Bebo) in the next week,”; *strongly disagree* [1] to *strongly agree* [7]). The measure was reliable ($\alpha = .82$).

PBC. PBC was measured using two items (e.g., “I have complete control over whether I will make 4 or more unique visits per day to social networking websites (e.g. Facebook, MySpace, Bebo) in the next week.”; *strongly disagree* [1] to *strongly agree* [7]). The two items correlated significantly ($r(233) = .50, p < .001$).

Additional Theory of Planned Behaviour Variables: Self-Identity and Belongingness

Self-identity. Three items adapted from Terry et al.¹⁵ measured self-identity (e.g., “I am the type of person who uses social networking websites” (e.g. Facebook, MySpace, Bebo)); *completely false* [1] to *completely true* [7]). The scale was reliable ($\alpha = .76$).

Belongingness. Ten items drawn from Baumeister and Leary²³ measured belongingness (e.g., “If other people don't seem to accept me, I don't let it bother me,”; *not at all* [1] to *extremely* [5]). The belongingness scale was reliable ($\alpha = .74$).

Past behaviour. One item measured past behaviour: “In the previous week, on how many days did you make 4 or more unique visits per day to social networking websites (e.g. Facebook, MySpace, Bebo),”; from *0 days* to *7 days*.

Addictive tendencies. Based on previous research,²⁴ eight items assessed addictive tendencies toward SNWs (e.g., “I often think about social networking websites (e.g. Facebook, MySpace, Bebo) when I am not using them,”; *strongly disagree* [1] to *strongly agree* [7]). The addiction scale was reliable ($\alpha = .85$).

Follow-Up Questionnaire

One week after the completion of the main questionnaire, participants indicated on an 8 point scale ranging from *0 days* to *7 days* how many days in the previous week they had made 4 or more unique visits per day to SNWs.

Procedure

Ethics approval for the study was obtained from the university's ethics Committee (approval number 0800000160). Data were collected during sessions held on campus. One week after completion of the main questionnaire, consenting participants (85%) were emailed the follow-up questionnaire. Participant responses on

the main and follow-up questionnaires were matched using a unique code identifier to protect anonymity.

Results

Predicting Intentions to Engage in High Level SNW Use

A hierarchical multiple regression analysis was conducted to predict intention to engage in high level SNW use (see Table 1). The step 1 variables of age, gender, and past behaviour significantly accounted for 46% of the variance, $F(3,222) = 63.64, p < .001$. The addition of the Step 2 variables of attitude, PBC, and subjective norm increased the proportion of variance to 66%, $F(6,219) = 72.15, p < .001$. For Step 3, the addition of self-identity and belongingness accounted for a further 2% of variance, with the full model accounting for 68% of the variance, $F(8,217) = 58.61, p < .001$. When all variables were entered into the equation, of the significant predictors, past behaviour had the largest beta weight, followed by subjective norm, attitude, and self-identity.

Insert Table 1 about here

Predicting High Level SNW Use Behaviour

On average, participants reported at follow up that, in the previous week, they made 4 or more unique visits per day to SNWs between 1 and 2 days ($M = 1.40$ days, $SD = 2.19$ days). A hierarchical multiple regression was conducted to predict high level SNW use (see Table 1). The step 1 variables of age, gender, and past behaviour significantly accounted for 52% of the variance, $F(3,120) = 43.59, p < .001$. The addition of the step 2 variables of intention and PBC increased the proportion of

variance to 57%, $F(5,118) = 31.50, p < .001$. For Step 3, the addition of attitude, subjective norm, self-identity, and belongingness accounted for a further 3% of variance, with the full model accounting for 60% of the variance, $F(9,114) = 18.91, p < .001$. When all variables were in the equation, of the significant predictors, past behaviour had the largest beta-weight, followed by intentions, and self-identity.

Predicting SNW Addictive Tendencies

In general, participants in the present study somewhat disagreed with statements suggesting addictive tendencies toward SNWs ($M = 3.06, SD = 1.11$) although there was a small subset of participants who did report the presence of addictive tendencies for SNWs (with scores above the midpoint of the scale). A hierarchical regression revealed that Step 1 variables of age and gender did not significantly predict addictive tendencies, $F(2,228) = 2.79, p = .06$. For Step 2, with the addition of self-identity and belongingness, the full model significantly accounted for 58% (56% adjusted) of the variance, $F(4,226) = 78.36, p < .001$. When all variables were entered into the equation, of the significant predictors, self-identity had the largest beta-weight, $\beta = .71, p < .001$, followed by belongingness, $\beta = .10, p < .05$ (age and gender were not significant predictors).

DISCUSSION

The present study tested an extension of the TPB to predict young adults' intentions to engage in and subsequent engagement in high level SNW use. In partial support of Hypothesis 1, attitude and subjective norm emerged as significant predictors of intention to engage in high level SNW use, suggesting that young adults with a more favourable attitude towards high level SNW use, and who felt more pressure from others to use these websites at high levels were more likely to intend to engage in high level SNW use. Providing partial support for Hypothesis 3, intentions

significantly predicted engagement in high SNW use in the follow-up period. Contrary to prediction, however, PBC did not emerge as a significant predictor of intentions or behaviour. As the effect of PBC decreases as the level of volition increases,⁸ this finding may reflect people's high volitional control over using SNWs given their accessibility.

Hypothesis 2 was partially supported as self-identity, but not belongingness, significantly predicted intentions to engage in high level SNW use. The finding that self-identity significantly predicted intentions suggests that the more a person self-identifies as being a SNW user (i.e., when SNW use is an important part of their self-concept), the greater their intention to engage in high level SNW use and supports previous research for the role of self-identity in the TPB.^{11,18} Unexpectedly, self-identity had a direct effect on high level SNW use behaviour, suggesting that the more SNW use is a salient part of a young adult's identity, the greater their use of these websites. The findings of the present study suggest that the need for belongingness with others does not play a role in predicting intention to engage in high level SNW use. It is possible that SNW use may not meet users' need for belongingness compared to other forms of communication, such as face-to-face interactions. For Hypothesis 4, self-identity and belongingness were significant predictors of addictive tendencies, suggesting that individuals who self-identify strongly as SNW users and have a strong need to belong with others were more likely to report addictive tendencies toward SNWs. Thus, while need for belongingness may not influence the amount of SNW use, it might influence the psychological intensity of use and feelings that the user has toward the use of the websites.

Strategies which aim to reduce problematic high level use or overuse could emphasise that important people in an individual's life (e.g., friends, co-workers)

would disapprove of them engaging in high level SNW use (subjective norm), reinforce the negative consequences (e.g., missing out on other enjoyable activities) associated with high level use (attitudes), and discourage people from embracing too strongly the identity of a SNW user, endeavouring to make SNW use less important to their self-concept (self-identity). Strategies which aim to reduce SNW addictive tendencies could discourage people from embracing the identity of being a SNW user and emphasise that belongingness needs may be better met via face-to-face communications.

The present study's strengths include its sound theory base, prospective design, and a sample most likely to exhibit high levels of SNW use. Some limitations include that the participants were all university students and predominantly female, and the low response rate to the follow-up questionnaire. Overall, the present study provided some support for the application of the TPB model in the context of high level SNW use with attitude and subjective norm significantly predicting intention which, in turn, significantly predicted behaviour. The present study provides support for the inclusion of self-identity to the TPB, and both self-identity and belongingness predicted young adults' SNW addictive tendencies. By identifying the factors which predict young adults' high level SNW use intentions and behaviour, the results of the present study can be used in efforts to decrease problematic use and addictive tendencies toward these websites.

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Table 1

Hierarchical Multiple Regression Analysis Including Age, Gender and Past Behaviour in Predicting Intentions to Engage in and Subsequent Engagement in High level Social Networking Website Use

Variable	B	β	R ²	ΔR^2
Prediction of Intentions				
Step 1				
Age	-.04	-.05	.46***	.46***
Gender	.06	.02		
Past Behaviour	.32	.40***		
Step 2				
Attitude	.30	.19***	.66***	.20***
Subjective norm	.45	.31***		
PBC	-.09	-.05		
Step 3				
Self-identity	.24	.18***	.68***	.02**
Belongingness	-.08	-.03		
Prediction of Behavior				
Step 1				
Age	-.01	-.01	.52***	.52***
Gender	-.09	-.02		
Past Behaviour	.48	.46***		
Step 2				
Intention	.41	.33**	.57***	.05**
PBC	.04	.02		
Step 3				
Attitude	-.18	-.10	.60***	.03
Subjective norm	-.13	-.07		
Self-identity	.31	.19*		
Belongingness	.03	.01		

* $p < .05$, ** $p < .01$, *** $p < .001$; PBC = Perceived Behavioural Control

N.B. Weights included are those found in the final step of the analysis.