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Lee, R., Murphy, J. and Swilley, E. (2009) The moderating influence of hedonic consumption in an extended theory of planned behaviour. *The Service Industries Journal*, 29 (4). pp. 539-555.

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This is a preprint of:

Lee, Richard; Murphy, Jamie and Swilley, Esther (2009) "The Moderating Influence of Hedonic Consumption in an Extended Theory of Planned Behaviour," *Service Industries Journal*, 29(4): 539-555.

Abstract

This study extended the Theory of Planned Behaviour (TPB) to predict youth's customer loyalty. Replacing TPB's traditional subjective norm with a norm from behaviourally relevant group, the findings supported the model's predictive efficacy. However, youth's hedonic consumption moderated the relationships between TPB's predictors and loyalty. Hedonic consumption increased group interactions, which in turn increased group norm's influence. Conversely, with low hedonic consumption, attitude and perceived behavioural control were stronger than group norm. The findings suggested the importance of group norm, particularly with hedonic behaviours enacted in groups. Managerial implications included how to reach youth through hedonic consumption and peers groups.

Keywords: Theory of planned behaviour, group norm, hedonic consumption, cellular phone services

Introduction

The Theory of Planned Behaviour (TPB) is well known for predicting social behaviours and intentions such as smoking cannabis (Conner & McMillan, 1999), exercising (Rhodes & Courneya, 2003), and binge-drinking (Johnston & White, 2003). Non-domain specific, the model also applies to marketing including financial services (Bansal & Taylor, 2002), tourism (Lam & Hsu, 2004), and electronic commerce (Lim & Dubinsky, 2005). Yet despite considerable support

for TPB's predictive ability, subjective norm is often the weakest of the model's three constructs – along with attitude and perceived behavioural control – in determining behaviours and intentions (see meta-analyses by Armitage & Conner, 2001; Conner & Armitage, 1998). Conjectures for subjective norm's predictive weakness include measurement problems (Armitage & Conner, 2001), respondents' attitudinal versus normative bias (Trafimow & Finlay, 1996), the behaviours under study (Trafimow & Fishbein, 1994a), and interdependency between norm and attitude (Lim & Dubinsky, 2005).

Differing from these explanations, some researchers contend that the crux of subjective norm's poor predictive power lies in its conceptualisation (Rivis & Sheeran, 2003; Schofield, Pattison, Hill, & Borland, 2001; Terry & Hogg, 1996). Drawing on Turner's (1991; also see Hogg & Turner, 1987; Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) self-categorisation theory, they argue that rather than a *subjective norm* that arises from social pressure from what *important others* approve, the norm should be a *group norm* due to the overt behaviours of *relevant reference groups*. Moreover, group norm evolves from a social influence process, where individuals identify with relevant social groups, internalise group norms as their own, and adopt group behaviours. Consequently, stronger group identity leads to stronger norm-intention correlations (Johnston & White, 2003; Terry & Hogg, 1996).

Research problems

In contrast to the social behaviour studies above, to the authors' knowledge no published TPB studies have investigated group norm's role in marketing. Like its influence on social behaviours, group norm may influence consumer behaviours. Instead of how one *identifies* with a group, group norm with consumer behaviour may be how one *consumes* products, particularly

where consumption takes place in groups (e.g., drinking in a pub with friends) rather than in isolation (e.g., shopping for groceries alone). This study applies group norm to a TPB model for predicting brand choice. It extends research on the role of group norm in marketing and investigates three research problems.

Firstly, how individuals consume products with a peer group – rather than how they identify with the group – may relate to group norm and brand choice. Particularly, do individuals who consume a product with peers exhibit a strong group norm to choose the same brand as their peers?

Secondly, group norm's strength depends on a behaviour's relevance to the group (Terry & Hogg, 1996; Terry, Hogg, & McKimmie, 2000), and the relevance may depend on the frequency of performing the behaviour. Therefore, if consumption relates to group norm, does group norm predict brand choice better with high rather than low consumption? In contrast to normative influence, do personal considerations – attitude and perceived behavioural control – determine brand choice better when consumption is low rather than high? This study examines how consumption may moderate relationships of group norm, attitude, and perceived behavioural control with intentions to choose a particular brand.

Finally, by identifying with a group and internalising the group norm, attitude may align with group norm. The contingent consistency theory argues that people are more likely to behave according to their attitude if the normative environment supports the attitude (Acock & DeFleur, 1972; Terry & Hogg, 1996). For consumer behaviour, would group consumption similarly lead to attitude-group norm interdependency? If so, how would the interdependency between group norm and attitude influence intended brand choice?

Besides addressing academic gaps identified by the above questions, this study brings several benefits to managers of cellular phone services, the context for this paper. For cellular operators, understanding how people consume cellular phone services would help them develop marketing strategies to tap consumption behaviours. Knowing the extent that social influence relates to brand choice would enable managers to determine how to reach customers through social groups. Cellular operators would also gain from understanding the differential roles of external social influence versus personal considerations – attitude and perceived behavioural control – with brand choice.

Literature review

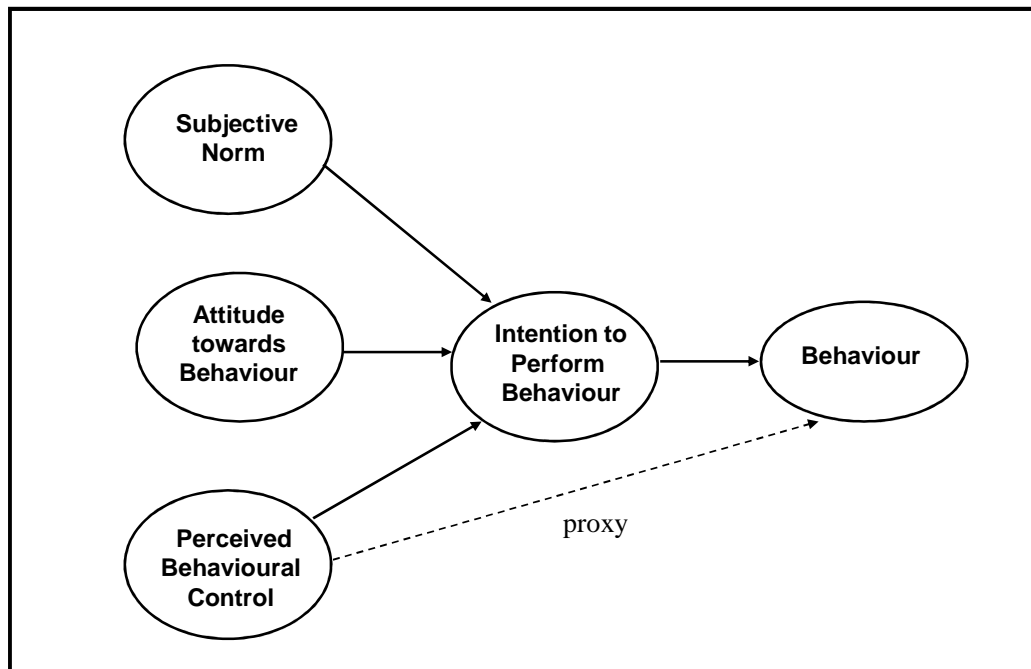
Theory of planned behaviour

The Theory of Planned Behaviour (TPB) builds on the theory of reasoned action (Ajzen & Fishbein, 1980) to posit that a behaviour, over which individuals have volitional control, occurs from rational reasoning and a subsequent *attitude* towards the behaviour (Ajzen, 1985, 1991; Sheeran, Norman, & Orbell, 1999). Departing from a direct attitude-behaviour relationship, the theory maintains that attitude influences behaviour through *intentions*; intentions to perform a behaviour are precursors of the behaviour.

TPB also acknowledges that social influence alters intentions. *Subjective norm* is the perceived social pressure on behavioural intentions. Deviating from the theory of reasoned action, TPB recognises that the perceived ease or difficulty of performing a behaviour, *perceived behavioural control* (PBC), may impede or facilitate intentions. With cellular phone services, PBC includes switching costs that deter people from changing cellular operators. PBC also reflects the degree of actual volitional control one has over performing a behaviour (Ajzen,

1991). Hence, PBC may serve as a proxy for actual control, a notion depicted by the dotted line in Figure 1.

Figure 1: The Theory of Planned Behaviour



In summary, behavioural intentions emerge from an attitude towards the behaviour, perceived approval or disapproval of important referents, and perceived impediments to performing the behaviour. Meta-analyses support this three-construct TPB model in predicting behavioural intentions and behaviour (Ajzen, 1991; Armitage & Conner, 2001).

Weakness of subjective norm

Despite considerable support for TPB, studies often found that subjective norm was weak in determining behaviours and intentions (see meta-analyses by Ajzen, 1991; Conner & Armitage,

1998). For instance, a study across 30 social behaviours such as visiting dentists regularly and volunteering demonstrated that subjective norm was the dominant predictor in only one behaviour (Trafimow & Finlay, 1996). A stepwise regression showed that subjective norm accounted for a meagre change in variance (median $\Delta R^2 = .02$). In addition, changes in variance for 10 of the 30 behaviours were insignificant.

Besides the social behaviours above, TPB research in marketing also showed that subjective norm poorly predicted consumer behaviours such as choice of bank (Bansal & Taylor, 2002) and apparel (Chang, Burns, & Noel, 1996). In a structural equation model of Chinese travellers' preferred destination, four model fit indices were below their common acceptance levels (Lam & Hsu, 2004). Furthermore, the path coefficient between subjective norm and behavioural intention was insignificant. The authors supposed that overseas travel was new in China and affordable only by affluent consumers unlikely to rely on others' opinions. Hence, they excluded subjective norm in subsequent modelling.

Reasons for subjective norm's predictive weakness

Researchers have explained the predictive weakness of subjective norm in several ways. For example, a meta-analysis demonstrated that low subjective norm-intention correlations might be due to casting subjective norm as a single-item measure rather than as a multiple-item construct, hence making its measurement less reliable (Armitage & Conner, 2001). Segregating 185 studies by how they measured subjective norm, the meta-analysis supported the use of multiple-item construct instead of single-item variable.

Other researchers noted that people might be attitudinally or normatively controlled (Sheeran et al., 1999; Trafimow & Finlay, 1996). Attitudinally controlled individuals tend to

depend on attitude when assessing a behaviour. In contrast, normative individuals tend to consider normative influences. Hence, subjective norm would be weak with data samples containing more attitudinal than normative subjects.

The specificity of referents may also influence subjective norm's predictive ability. In a three-experiment series, Trafimow and Fishbein (1994b) demonstrated that manipulating the specificity of the referents among 'most people who are important to you', 'think about which people would be most important to you', and 'the person most affected by the behaviour' changed subjective norm's influence on intentions. As referents became more specific, the subjective norm-intention correlation increased. The authors cautioned that the common use of 'important others' to operationalise subjective norm might lead respondents to think about general instead of behaviour-specific referents, thus underestimating the contribution of norms on predicting intentions.

Self-categorisation theory and group norm

Differing from the above explanations, Terry, Hogg, and colleagues argue that a fundamental problem with subjective norm is its traditional conceptualisation as social pressure to conform to others' expectations (Smith, Terry, & Hogg, 2006; Terry & Hogg, 1996; Terry et al., 2000).

Drawing on self-categorisation theory (Hogg & Turner, 1987; Turner, 1991; Turner et al., 1987), they contend that rather than artificial compliance from social pressure of important referents, norms evolve via a social influence process where individuals first associate with behaviourally relevant social groups. Next, they learn prototypical group norms and align their social identity with the group by internalising the group norms. Finally, they behave in accordance with group

norms. Terry and Hogg (1996) put forth three interrelated factors for using group norm rather than subjective norm.

Firstly, TPB's assertion of subjective norm as social pressure from 'important others' may inadequately capture the influence of specific reference groups because not all 'others' are equally important. Conceiving social norms as additive across all important others would yield weaker norms than norms derived from behaviourally relevant reference groups.

Secondly, even if reference groups are relevant, weak norms may ensue unless self-categorisation produces a strong social identity with the groups. Norms tend to be stronger for people who identify strongly with relevant reference groups than those who identify weakly with the groups. Therefore, group identity – the strength of one's social identity with a specific reference group – may moderate the norm-intention relationship.

Finally, eliciting subjective norm from important others tends to focus on interpersonal influence – how one individual may influence another. In contrast, self-categorisation concerns *true* group influence through the internalisation of group prototypes (Terry & Hogg, 1996; Turner et al., 1987). When conditions favour group influence, “true group influence will yield a stronger and more predictable norm-behavioural intention link” than interpersonal influence (Terry & Hogg, 1996, p. 780). Therefore, replacing TPB's subjective norm with the norm of behavioural relevant groups (i.e., group norm) should improve norm-intention correlations.

Replacing subjective norm with group norm

Group norm is often stronger than subjective norm in predicting intentions, particularly when the norms evolve from behaviourally relevant referents (Christian, Armitage, & Abrams, 2003; Smith et al., 2006). For instance, females' intentions to use sunscreen correlated with the group

norm of relevant female peers, but not with the subjective norm of general referents such as family members and doctors (Terry & Hogg, 1996). Similarly, norms based on whether reference groups smoked (group norm) were stronger than norms based on whether reference groups approved of smoking (subjective norm) in predicting smoking intentions and behaviours (Grube, Morgan, & McGree, 1986). While reference groups might disapprove of smoking, their smoking behaviour implied otherwise.

Studies using group norm in place of subjective norm also demonstrated the salience of group norm in predicting voting (Smith, Terry, Crosier, & Duck, 2005), choice of breakfast food (Berg, Jonsson, & Conner, 2000) and binge drinking (Johnston & White, 2003) behaviours.

Interdependency between attitude and group norm

According to TPB, attitude, perceived behavioural control, and subjective norm are distinct and independent components (Ajzen, 1991). Some studies, however, found interdependencies among the components, and the influence of their interaction on intentions (Bansal & Taylor, 2002; Conner & McMillan, 1999). Similarly, group norm and attitude are interdependent because group norm influences attitude via internalisation (Smith et al., 2006; Terry & Hogg, 1996). This internalisation resonates with the contingent consistency theory that people's attitude towards and inclination to perform a behaviour is greater if the normative environment supports the behaviour (Acock & DeFleur, 1972). If subjective norm's weakness is due to TPB's conceptualisation of construct independence, then replacing subjective norm with group norm helps address this weakness since group norm and attitude, via self-categorisation's internalisation process, are typically interdependent constructs (Smith et al., 2006; Terry & Hogg, 1996).

As the above studies show, group norm tends to be strong in situations where people relate to or identify with their social groups. Youth's hedonic consumption of cellular phone services among peers is one such context. Having reviewed the theoretical underpinnings of this study, the next section discusses this context – cellular phone services and their hedonic consumption by youth.

Hedonic consumption of cellular phone services

Early marketing researchers established that reference groups could influence individual brand choice (Bourne, 1957; Lessig & Park, 1982; Witt & Bruce, 1970). As consumers, youth are particularly susceptible to reference group influence and often consume products to develop a sense of belonging (Lachance, Beaudoin, & Robitaille, 2003; Moschis & Moore, 1979). Cellular phone services are one such product that youth use to maintain social links and a good peer image (Ling, 2001; Wilska, 2003).

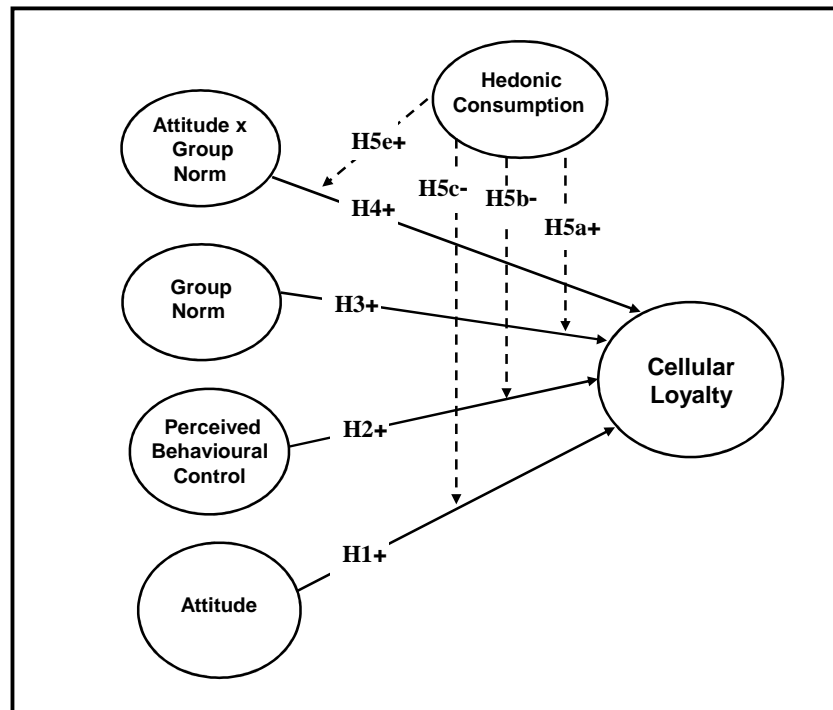
Although utilitarian use such as for emergencies is one purpose, youth often use cellular phone services for hedonic reasons. Australian youth, for instance, often sent sexual, flirtatious, and romantic messages via cellular phones (Welsh, 2005). Likewise, Norwegians between 13 and 20 years personalised their phones with icons, ringing sounds, and other accessories, and made more outgoing calls and text messages for fun than for information purposes (Ling, 2001).

Youth's hedonic consumption of cellular phone services often takes place in peer groups. Youth swap stories and send text messages to each other during lectures (Carroll, Howard, Vetere, Peck, & Murphy, 2002), coordinate what clothes to wear on a night out (R. Lee & Murphy, 2006), and engage in chat sessions (Spero & Stone, 2004). By participating in such activities, where peer involvement underpins the consumption experience, youth develop a sense

of belonging and maintain a good peer image (Carroll et al., 2002; R. Lee & Murphy, 2006; Spero & Stone, 2004). For instance, a UK study found that youth coordinated their choice of cellular operators; the coordinations were stronger among those who interacted frequently within a group but weaker with those from outside their group (Birke & Swann, 2005). In essence, more peers using cellular phone services make the services more fun, hence leading to greater intentions to adopt the services (Dickinger, Arami, & Meyer, 2006).

In summary, youth tend to consume hedonic mobile services among peers and are vulnerable to peer influence. Replacing subjective norm with group norm and considering the moderating influences of hedonic consumption, this paper examines how youth's hedonic consumption may influence youth's choice of and loyalty to cellular operators, particularly when group norm may influence youth to choose their peers' operators. Figure 2 shows the extended TPB model for this study.

Figure 2: Conceptual research model



Hypotheses

Theory of Planned Behaviour

Ample evidence supports that TPB's attitude and perceived behavioural control predict behavioural intentions. As TPB is non-domain specific, it should apply to cellular loyalty, the intention to stay loyal to cellular operators. Hence:

H1: Attitude relates positively with cellular loyalty

H2: Perceived behavioural control relates positively with cellular loyalty

Group norm

Group norm should replace subjective norm in TPB because not every 'other' is equally important (Terry & Hogg, 1996; Terry, Hogg, & White, 1999). Normative influence is specific to behaviourally relevant groups with whom one identifies. Some researchers argue that peers are the most important influential factor of youth behaviours because youth tend to see peers as "valuable networks through which conceptions of identity and self-esteem are negotiated" (Tarrant, 2002, p. 110). Similarly for cellular phone services, peers exert strong social influence as youth use cellular phone services to build a sense of belonging and reinforce group identity (Carroll et al., 2002; Ling, 2001). Therefore:

H3: Group norm relates positively with cellular loyalty.

Interdependency between attitude and group norm

As group norm evolves from people associating with social groups and internalising group norms, attitude may align with the internalised norm. When Grube et al. (1986) found that norm-attitude interaction explained students' smoking behaviour after accounting for TPB's main constructs, they cautioned that failure to consider such interactions might have underestimated normative influences on behaviours in past studies.

For cellular phone services, group norm may interact with attitude to influence intentions. When youth observe and learn about how their peers consume cellular phone services, they may form normative beliefs about their own consumption. Since this influence is not due to social pressure, youth may also internalise the norm and hence align their attitude with the norm. By this process, group norm and attitude become interdependent and interact to influence cellular loyalty. Hence:

H4: Attitude and group norm interact to relate positively with cellular loyalty.

The moderating influence of hedonic consumption

This study reasons that the salience of the TPB constructs in predicting cellular loyalty changes with hedonic consumption of cellular phone services. As hedonic consumption increases, the normative determinant (group norm) may explain cellular loyalty better than personal determinants (attitude and perceived behavioural control) do. Conversely, group norm is weaker than personal determinants in explaining cellular loyalty as hedonic consumption decreases. The following arguments support these assertions.

Firstly, peer influence is more pronounced for hedonic than for utilitarian products (Dickinger et al., 2006; Lachance et al., 2003). Moschis and Moore (1979), for instance, found that adolescents relied more on peers' information for evaluating hedonic products such as wallets and sunglasses than for utilitarian ones such as batteries and calculators. Consequently, youth were more likely to prefer the same brand as their peers for hedonic products than for utilitarian ones.

Secondly, publicly consumed hedonic products tend to attract more normative influences than privately consumed utilitarian products do (Lessig & Park, 1982; Ratner & Kahn, 2002). Compared with utilitarian products, consumers may perceive greater differences among competing hedonic brands because wrong brand choices may lead to negative social and psychological consequences (Chaudhuri & Holbrook, 2002). Thus, consumers may deliberate on and consider peers' opinions more when choosing hedonic rather than utilitarian brands.

Thirdly, group-based behaviours may intensify the influence of group norm on behaviours. When individuals share common activities, they tend to develop strong social bonds and influence each others' consumption behaviour (Madrigal, 2001). For cellular phone services, youth's hedonic consumption often takes place in peer groups (Carroll et al., 2002). As group interactions increase, youth tend to learn about consumption from their peers and conform to peer behaviours. A UK survey, for instance, found that youth who often interacted among themselves formed social groups and influenced each other's choice of cellular operators (Birke & Swann, 2005).

Support also comes from Rogers (2003), who when developing the theory of diffusion of innovations, asserts that the more individuals communicate among themselves, the more homophilous they become. Homophilous individuals tend to share common beliefs and opinions.

Hence, the moderating influence of hedonic consumption on TPB's constructs leads to the following hypotheses:

H5a: Hedonic consumption positively moderates the relationship between group norm and cellular loyalty.

H5b: Hedonic consumption negatively moderates the relationship between attitude and cellular loyalty.

H5c: Hedonic consumption negatively moderates the relationship between perceived behavioural control and cellular loyalty.

Corollary to Hypotheses 5a, 5b, and 5c:

H5d: Group norm is stronger than attitude and perceived behavioural control in explaining cellular loyalty when hedonic consumption is high rather than low.

H5e: Attitude-group norm interaction relates more positively with cellular loyalty when hedonic consumption is high rather than low.

Methodology

The survey instrument was a questionnaire where respondents self-reported perceptions of their cellular operators. To reduce order effects (Bickart, 1993), questions were ordered randomly. To

reduce scaling effects (Sudman, Bradburn, & Schwarz, 1996), all evaluative questions used the same seven-point Likert scale anchored on strongly agree and strongly disagree. The questionnaire also contained six reverse-coded items in order to improve reliability (Mahhotra, Hall, Shaw, & Oppenheim, 2004).

A pre-test of 244 undergraduates in an Australian university uncovered potential problems with two items. Having refined the questionnaire, data collections took place in the north, east, west, and central regions of Singapore. Guided by quota-based sampling, the collected regional data resembled the population demographics (SingStat, 2000), thus yielding better results than non-quota based convenience sampling (Kumar, Aaker, & Day, 2002). To improve sampling, data collection for each region took place at two train station exits, over three days, and twice daily. Aided by the structured questionnaires, seven trained interviewers screened people as they exited the train stations and randomly approached those between 15 to 29 years old. Respondents did not receive rewards for participation.

The sample totalled 448 records. After data cleaning, the remaining 415 records comprised 216 males and 199 females. Respondents ranged in age from 18 to 28 years (mean=22 and median= 21), owned a cellular phone and had an active account.

Operationalisation of measures

This study adapted scales from relevant studies to operationalise the research variables. Since the underlying measures of each construct are interchangeable and share a common theme that manifests the construct, all constructs use reflective rather than formative scales. As the subsequent data analyses showed, the constructs possessed adequate internal reliability, a necessary condition for reflective scales (Jarvis, Mackenzie, Podsakoff, Mick, & Bearden, 2003).

Perceived behavioural control reflected the perceived switching costs that deter customers from switching cellular operators. This study adapted the three-item scale from Jones, Mothersbaugh, & Beatty (2000) to operationalise perceived behavioural control as the time, effort, and monetary costs in switching cellular operators.

Group norm was the perceived social influence on an individual to choose the same cellular operator as that of associated social group members. Drawing on Smith et al. (2006), group norm was a three-item factor measuring the influence of associated social groups on the choice of cellular operators.

In line with its classic definition, *attitude* was an overall favourableness towards a cellular operator (Sheeran et al., 1999). Adapting Yi & Jeon's (2003) scale on attitude towards loyalty for service providers, attitude was a four-item construct representing the favourableness and preference for a cellular operator.

Cellular loyalty was customers' behavioural intentions to retain the same cellular operator rather than switch operators. The four-item factor in this study stemmed from Patterson and Smith's (2003) study on service loyalty.

Hedonic consumption was the extent that individuals enjoyed using cellular phone services for such fun purposes as text messaging jokes and gossip, downloading ringtones, and playing interactive games. Four items adapted from Dickinger et al. (2006) operationalised this construct.

Data analysis

This study used AMOS version 5.0 (www.spss.com/amos) structural equation modelling with maximum likelihood to specify the conceptual model. The sample size of 415 observations was

adequate and all constructs were reliable, with Cronbach's alpha ranging from .75 to .9 (Hair, Black, Babin, Anderson, & Tatham, 2006).

Construct validity was assessed by examining each factor's construct reliability, the internal consistency of a set of items rather than for an individual item (Fornell & Larcker, 1981). Construct reliability ranged from .77 to .91, over the recommended .7 threshold. Hence the variables possessed construct validity.

Discriminant validity compared the variance-extracted estimates of a pair of constructs with the square of the correlation between the constructs, and repeating the test for all construct-pairs (Fornell & Larcker, 1981). Variance-extracted estimates reflect the variance captured by a construct versus the variance from measurement error. If the variance-extracted estimates for two constructs are both higher than their squared correlation, each construct's items represent their latent construct better than they represent the other construct. The constructs satisfied this condition and therefore possessed discriminant validity.

As shown in Table 1, with the exception of the RMSEA values for attitude (.05) and group norm (.053), all congeneric measurement model fit indices met the generally accepted thresholds of .05 (Hair et al., 2006; Holmes-Smith, Coote, & Cunningham, 2006).

Table 1: Congeneric measurement model fit indices

MODEL FIT INDEX	χ^2	p	Bollen-Stine p	GFI	CFI	RMSEA
Accepted Threshold		> .05	> .05	> .95	> .95	< .05
Perceived Behavioural Control	2.006	.157	.226	.997	.998	.049
Group Norm	2.182	.140	.202	.997	.996	.053
Attitude	4.622	.099	.299	.994	.996	.050
Hedonic Consumption	2.932	.231	.417	.997	.999	.034
Loyalty	1.251	.263	.380	.998	.999	.025

Although the RMSEA values of attitude and group were marginally above the general threshold, their fits were reasonable and acceptable since they did not exceed .08 (Hair et al., 2006; Holmes-Smith et al., 2006). Similarly, structural model fit indices showed adequate model fit (See Row 1 of Table 2).

Table 2: Structural model fit indices

Row	MODEL FIT INDEX	Sample Size	Normed χ^2	Bollen-Stine p	GFI	CFI	RMSEA
	Accepted Threshold			> .05	> .95	> .95	< .05
1	All Cases	415	1.656	.110	.961	.982	.040
2	Low Hedonic Consumption	138	1.247	.608	.917	.983	.042
3	Moderate Hedonic Consumption	139	1.727	.177	.894	.936	.073
4	High Hedonic Consumption	138	1.202	.530	.922	.977	.038

Results

Table 3 shows the structural model's standardised path coefficients. Group norm, attitude, and perceived behavioural control (PBC) were positive and significant for the entire sample, supporting H1, H2, and H3 (see Row 1). The model explained 74% of variance in cellular loyalty.

Table 3: Path coefficients of structural model

Row	Cellular loyalty	Group Norm	Attitude	PBC	Attitude x Group Norm	Explained Variance
1	All cases (n=415)	.287 <i>p</i> < .001	.583 <i>p</i> < .001	.126 <i>p</i> = .008	.042 <i>p</i> = .240	74%
2	Low Hedonic Consumption (n=138)	.118 <i>p</i> = .290	.647 <i>p</i> < .001	.336 <i>p</i> < .001	-.004 <i>p</i> = .953	83%
3	Moderate Hedonic Consumption (n=139)	.330 <i>p</i> = .002	.592 <i>p</i> < .001	-.102 <i>p</i> = .238	.089 <i>p</i> = .220	63%
4	High Hedonic Consumption (n=138)	.486 <i>p</i> < .001	.407 <i>p</i> = .003	.097 <i>p</i> = .317	.07 <i>p</i> = .172	74%

To test the attitude x group norm interaction on cellular loyalty, a hierarchical multiple regression entered the interaction term after the three key TPB constructs. The attitude-group norm interaction term was calculated using the deviation score method so that multicollinearity between the individual factors and the interaction term did not distort the results (Aiken & West, 1991). The interaction term was, however, insignificant and failed to support H4.

To test the moderating influence of hedonic consumption, the sample was divided into terciles according to hedonic consumption factor scores, representing high, moderate, and low hedonic consumption (e.g., Price, Nir, & Cappella, 2006; Schofield et al., 2001). AMOS analyses of the three hedonic consumption models reported acceptable values for most model fit indices (see Table 2). The GFI values for all three models at close to .9 represented reasonable fits (Hair et al., 2006). The moderate hedonic consumption model was also marginal but acceptable on the RMSEA (.073) and CFI (.936) indices (Hair et al., 2006). Rows 2 to 4 of Table 3 show the structural path coefficients and explained variances of the three hedonic-consumption models.

As the results revealed, group norm related more positively with cellular loyalty when hedonic consumption was high rather than low. Moreover, group norm's path coefficients

trended upwards as hedonic consumption progressed from low to high, supporting H5a. In contrast, personal determinants (attitude and PBC) were weaker in predicting cellular loyalty when hedonic consumption was high rather than low. Attitude's path coefficients trended downwards as hedonic consumption moved from low to high, supporting H5b.

For PBC, however, a clear trend across the hedonic consumption levels was absent. Although, as hypothesised, PBC's path coefficient was lower for high than for low hedonic consumption, the coefficient was the lowest with moderate hedonic consumption. Furthermore, PBC's path coefficients were insignificant for moderate and high hedonic consumption. Thus, H5c failed to find support.

Compared with personal determinants (attitude and PBC), group norm related more positively with cellular loyalty with high hedonic consumption. Conversely in low hedonic consumption, cellular loyalty predictions stemmed more from attitude than from group norm. Group norm, however, remained stronger than PBC across hedonic consumption levels. These findings partially supported H5d.

To test for the interaction of attitude-group norm on cellular loyalty, the same procedure used on the entire sample was repeated on the three hedonic consumption terciles. As before, the interaction terms for all terciles were insignificant and failed to support H5e. There was also no apparent trend among the interaction term values.

Discussions

This study extends group norm's role in TPB to marketing. Departing from research investigating how group identity moderated relationships among TPB's constructs (Johnston & White, 2003; Terry & Hogg, 1996), this study illustrates the moderating influence of hedonic

group consumption on the relationships. In doing so, it also sheds light on hedonic consumption among youth and extends TPB research to cellular phone services.

The Theory of Planned Behaviour

Research is replete with support for TPB's predictive ability. By extending TPB to cellular phone services, this study further attests Ajzen's (2001) contention that TPB is non-domain specific. The structural equation modelling revealed that attitude, norm, and perceived behavioural control (PBC) explained 74% of youth's intentions to stay loyal with their cellular operators. Model fit indices showed good fit and a normed χ^2 of 1.656 further indicated model parsimony; some researchers regard a normed χ^2 of between one and two as indicating parsimony (Bagozzi, 1982; Taylor & Todd, 1995).

In formulating TPB, Ajzen (1985, 1991) posited that volitional behaviour evolved largely from rational reasoning about, and subsequent attitude towards, the behaviour. The results supported the primacy of attitude in that attitude was stronger than PBC and group norm in determining intentions. Among the three factors, attitude was the only factor significant across all hedonic consumption levels, hence affirming the key underpinning of TPB.

Group norm also significantly predicted cellular loyalty. This supports the self-categorisation theory's conjecture that normative influence evolves from behaviourally relevant groups (Terry & Hogg, 1996; Terry, Hogg, & McKimie, 2000). The group norm concept makes intuitive sense. It is probable that youth are concerned with peer influence because their use of cellular phone services for such hedonic purposes as swapping jokes and playing interactive games involve peers. This finding addresses the *first research question*, group norm may relate to brand loyalty.

PBC also significantly determined intentions, although less than attitude and group norm did. For a mature and developed cellular market like Singapore (Wilson, 2005), intense competition lowers switching barriers, hence a low PBC. Service pricings are likely to be competitive across operators. The availability of number portability – retaining one’s phone number when switching cellular operators – in Singapore further reduces inconvenience (Lee et al., 2001).

Hedonic consumption’s moderating influence

Like the overall model, the low, moderate, and high hedonic consumption models displayed good model fits and explained 83%, 63%, and 74% of cellular loyalty respectively. However, Table 3 shows that the strength of the three TPB constructs varied across hedonic consumption levels. These results address the *second research question* – hedonic consumption may moderate the relationships of group norm, attitude, and perceived behavioural control with intentions.

As expected for high hedonic consumption, group norm was the most salient construct. Unlike standalone products, cellular phone services require active and direct participation from all parties involved in the consumption. The upward trend of group norm’s path coefficients suggests that youth’s interactions with peers intensify with increasing hedonic consumption. More peer interactions allow for greater normative influence, and thus normative factors progressively outweigh personal factors (attitude and PBC) with increasing hedonic consumption.

Conversely with low hedonic consumption, group norm was insignificant, but attitude and PBC were significant. Utilitarian uses such as for emergencies entail less peer interactions. As a

result, personal considerations (attitude and PBC) rather than normative influence drove cellular loyalty with low hedonic consumption.

Opposite to group norm, there was a clear trend that attitudinal considerations increased as hedonic consumption decreased. Attitude was the strongest predictor of cellular loyalty in low and moderate hedonic consumptions. When hedonic consumption was low to moderate, youth appeared to be concerned with cognitions underlying the attitude. These cognitive elements may involve factors such as value and service quality (e.g., Lee, Lee, & Feick, 2001).

PBC was insignificant in relating to cellular loyalty for moderate and high hedonic consumption. One possible explanation is that when hedonic consumption and peer interactions were moderate to high, youth were more concerned with maintaining a good image and sense of belonging with peers than with perceived costs of switching cellular operators. Although PBC was significant for low hedonic consumption, its path coefficient was lower than that of attitude. It is probable that market competition lowered switching barriers. Consequently, cellular loyalty in low hedonic consumption emerged more from attitudinal cognitions such as value and service quality than from perceived impediments. The failure of PBC to display a trend across hedonic consumptions further suggested its overall weakness in determining behavioural intentions in this context – cellular loyalty in Singapore’s competitive and developed market.

Essentially, the three hedonic consumption models demonstrated reference group influence on consumer behaviour, an outcome consistent with studies since the 1950s (Bourne, 1957; Escalas & Bettman, 2005; Lessig & Park, 1982). They also affirmed Hirschman and Holbrook’s (1982, p. 100) view that “the hedonic viewpoint represents an important extension of traditional consumer research and offers a complementary perspective for conceptualising many otherwise neglected consumption phenomena.”

Interaction terms

The *third research question* concerned the interaction between group norm and attitude on cellular loyalty. Contrary to the hypothesised interdependency between attitude and group norm, the attitude x group norm interaction on intentions was insignificant after accounting for the three TPB constructs. Furthermore, the interaction term remained insignificant across hedonic consumption levels and showed no trend. The interdependency hypothesis hinged on the argument that youth internalised group norms and aligned their attitude with the norms, a social influence process of self-categorisation (Smith et al., 2006; Terry & Hogg, 1996).

An explanation may be that group norm evolved from behavioural relevant groups, but the social influence did not arise or arose less from internalisation. As a result, attitude did not align with the norm. This begets the question whether group norm may be due, at least partially, to social pressure from relevant referents. Nonetheless, the insignificant interdependencies supported TPB's postulation of construct independence and further attested to TPB's parsimony (Ajzen, 1991).

Managerial implications

This study gives managers insights into youth's consumer loyalty behaviour. In particular, it explains how youth's loyalty stems from normative and personal factors, depending on their propensity to consume group-based services.

Resonating with cellular operators' youth-focused strategies (e.g., Kydd, 2005), the study highlights the importance of hedonic cellular applications. While cellular operators have introduced youth-based initiatives such as tariff discounts around school hours and incentives for

calls between 'buddies' on the same operator (Nelson & Cooper, 2004), additional applications such as SMS chat and interactive cellular games should further cement social bonds among peers and influence their mutual choice of, and loyalty to, cellular operators.

Hedonic applications help attract youth to and deter them from switching cellular operators – a two-pronged approach that enhances loyalty. Retaining customer loyalty is particularly critical for cellular operators in mature and saturated markets such as Singapore (Wilson, 2005). Minimising customer loss has telling economic impact on cellular operators because it often costs more to acquire new customers than to retain existing ones (SAS, 2001). Reichheld and Sasser (1990, p. 105) argue that preventing defections has a stronger impact on profitability than "scale, market share, unit costs, and many other factors usually associated with competitive advantages."

Finally, while economic gains from developing and enhancing cellular loyalty is a key motivation, enhancing customer loyalty may also encourage positive word-of-mouth and reduce price sensitivity (Zeithaml, Berry, & Parasuraman, 1996) for cellular operators.

Future research

This research demonstrates that extending TPB using group norm works well for explaining intentions, particularly in contexts with social influence from relevant referents. In this instance, hedonic consumption of cellular phone services increases peer group interactions and heightens group norm's salience in determining behavioural intentions.

The study, however, has several limitations that future research can address. Firstly, it failed to consider whether youth acted on their intentions. Although intentions may predict behaviour, a

longitudinal approach to determine actual behaviour and relate it to intentions could further test the model and shed more light on youth's cellular loyalty.

Secondly, compared with studies that explored group identity as the moderating variable (Johnston & White, 2003; Terry & Hogg, 1996), this study used group consumption as the moderating variable. Questions remain on how group consumption may relate to group identity. A future research avenue could investigate the relationship between the two factors as well as their independent and collective influences on behaviours and intentions.

Thirdly, group norm was social influence arising from internalising the norms of behaviourally relevant peers. The findings suggested that youth might artificially comply with pressure from relevant peers. Future studies should develop multi-item constructs for each social influence type and regress them against cellular loyalty. This would help elucidate the psychological processes underpinning group norm.

Fourthly, the study took place in Singapore, a collectivistic Eastern culture (Hofstede, 1991). A cross-cultural setting involving collectivistic and individualistic youth would allow researchers to investigate group norm's role across cultural settings. Further research in these areas would also benefit cellular operators, for whom youth and hedonic applications are critical growth segments.

Lastly, developed markets like Singapore probably differ from less developed ones in areas including service quality, pricing, product offerings, and the competitive landscape. For example, less developed markets may possess higher switching costs that inhibit customers from switching service providers. Future research should test the model in less developed markets to investigate if the model's variables perform differently in those markets

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