SOCIAL INTEGRATION: TESTING ANTECEDENTS OF TIME SPENT ONLINE

Lily Suriani Mohd Arif
Universiti Teknologi Malaysia, Malaysia
Dr.
lily@management.utm.my

Osman B. Gazzaz
Umm Al-Qura University, Makkah Al-Mukkaramah, Saudi Arabia
Dr.

Fazal Rahi,m Khan
Umm Al-Qura University, Makkah Al-Mukkaramah, Saudi Arabia
Professor. Dr.

─Abstract ─

The literature on the relationship of social integration and time spent online provides conflicting evidence of the relationship of social integration with time spent online. The study identifies and highlights the controversy and attempts to clarify the relationship of social integration with time spent online by decomposing the construct social integration into its affective and behavioral dimensions . The study tests antecedents and effects of time spent online in a random sample of senior level undergraduate students at a public university in Malaysia. The findings indicated that while self-report measures of behavioral social integration did not predict time spent online, and, the affective social integration had an inverse relationship with time spent online.

Key Words: *Social Integration, Time spent online*
JEL Classification: O3

1. INTRODUCTION

1.1. Background of Study

Antecedents and effects of time spent on Internet have been a focus of increasing research attention in recent times (Katz & Rice, 2002; Kraut et al., 2002; LaRose & Eastin, 2004). The antecedents of Internet use are often examined through uses-and-gratifications approach (LaRose & Eastin, 2004; Papacharissi & A. Rubin, 2000; A. Rubin, 1994). Assuming that people are motivated to use media to gratify certain needs and wants, this approach focuses on motives of Internet use and factors that influence motives (Papacharissi & A. Rubin, 2000). However, research in this tradition has explained less than ten percent of the variance in the amount of time spent online (Ferguson and Perse, 2000; Pappacharissi & A. Rubin, 2000; Parker & Plank, 2000). For example, Pappacharissi & A Rubin (2000) could barely explain seven percent of the variance in the amount of Internet exposure through a wide-ranging sets of predictors that included five sets of motives. They found interpersonal utility motives, a 12-item index comprising interpersonally oriented items about surveillance, social interaction and expressive needs, as the only predictor of amount of Internet exposure (ß = .17), $R^2 = .07$, F (11, 239) = 1.82, $p = .05$. This has prompted calls for employing other social and psychological predictors of Internet exposure (LaRose & Eastin, 2004).

In view of the Internet's documented potential for social connectivity (Flanagin & Metzger, 2001; Katz & Rice, 2002; Shah et al., 2001a), we believe, positing the construct *social integration* as an antecedent may enrich the Internet use literature. It may not only improve prediction of the amount of time spent online, it may also, if properly employed, help reconcile some of the conflicting findings in that literature.

2. LITERATURE REVIEW

2.1. Social Integration and Time Spent Online

Construct social integration has been extensively used in sociology, psychology and social epidemiology (Brissette, Cohen & Seeman, 2000; Berkman & Glass,

2000; Cohen, Gottlieb & Underwood, 2000). Although it may be treated as a characteristic of communities and social systems, scholars who study social participation treat it as an attribute of individuals in terms of their extent of participation in social community (Brissette, Cohen, and Seeman, 2000; McLeod et al., 1996). As a characteristic of individuals, the construct may be explicated multi-dimensionally as comprising behavioral or conigtive and affective dimensions (Kilian et al., 2001). However, most of the studies have conceptualized it behaviorally as individuals' self-reported extent of participation in their social relationships and social communities (Berkman & Glass, 2000; Cohen, Gottlieb, & Underwood, 2000; Gibson et al., 2002).

Social integration and its close variants like social involvement, community involvement, community engagement, and social participation have appeared in the Internet use literature but mostly as criteria predicted by time spent online (Katz & Aspden, 1997; Katz & Rice, 2002; Kraut et al., 1998; Kraut et al., 2002; Wellman & Gulia, 1999; Weiser, 2001). Some Internet use studies have employed these as predictors also (Griffiths, 1999; Kling, 1996; Mesch, 2001; Shah et al., 2002). However, the Internet use literature, which has examined social integration and time online linkage, seems ambivalent on two counts casting doubt on the conclusiveness of the evidence. Specifically, the available literature is ambivalent on: (a) the nature of relationship; and (b) the operationalization of the construct social integration.

In terms of the nature of relationship between social integration and time spent online, the literature highlights two conflicting, albeit empirically supported, views (Mesch, 2001). For example, Griffiths (1999), Kling (1996), Kraut et al., (1998), and Mesch (2001) found negative relationships between social integration indicators and time spent with the Internet supporting the view that the Internet use appeals to people who feel they have poor quality social relations, have restricted social lives, and are not much involved in social activities. To make up for that deficit these socially less integrated individuals, it is argued, use the cyberspace as a substitute for social participation in the real world. This inverse relationship perspective may be said to gain further plausibility in view of the findings that the virtual world affords its users a convenient refuge because of its low social presence (Perse & Courtright, 1993; Rice, 1993). A contrary view posits a positive relationship between social integration and time spent online.

Unlike the deficit explanation, this view holds that the Internet links up people supplementing and enriching their social networks (Wellman & Gulia, 1999; Wellman et al., 1996). Society, in this view, is not a zero-sum game in the sense that if people spend time interacting online they will spend less time interacting off-line. This view is supported by findings of positive association between level of social participation and amount of Internet use (Katz & Aspden, 1997; Katz & Rice, 2002; Kraut et al., 2002).

In regards of the measurement problem, the Internet use literature using social integration as antecedent or consequence of time online seems to have confounded the results by either failing to observe intra-dimensional specificity of the construct or by altogether ignoring its affective dimension (see, for example, Shah et al., 2002; Weiser, 2001). In his 22-item measurement model of social integration, Weiser (2001) collapsed together behavioral and affective items into the same manifest indices and found an evidence of negative association to no association at all between measures of time online and the latent factor of social integration across different samples. We believe, operationally differentiating the construct into distinct dimensions would have produced clearer results. McLeod et al. (1996), for example, have demonstrated the discriminant validity of behavioral and psychological dimensions of social integration in predicting political participation criteria. Similarly, Shah et al., (2002) have ignored the affective dimension of social integration altogether. In a series of non-recursive path models, they tested community engagement as a consequence as well as an antecedent of time spent online. They defined community engagement as extent of engagement in self-reported *behaviors* of civic participation, public attendance, and informal social interaction. Their data supported community engagement as a consequence of time spent online but not as an antecedent of Internet exposure. The results in that study, one may speculate, might be different had the study included affective measures as a separate set of predictors alongside the behavioral measures.

3. HYPOTHESES

Indeed evidence from several other studies of Internet use is suggestive of explanatory potential for the affective dimension of social integration. For

example, Griffiths (1999) and Kling (1996) found that individuals who felt socially insecure, and were not involved in social activities were frequent Internet users. Mesch (2001) examined social participation and Internet use among adolescents in Israel and found that although frequent Internet users were no less socially involved than the non-users, frequency of Internet use was found to be negatively related with the *quality* of peer relations. Interpreting the findings, Mesch (2001) argued that 'adolescents who do not differ from their peers in their involvement in social activities but might face problems in forming intimate friendships are more likely to be Internet users' (p.338). The affective dimension refers to feelings rather than the actual fact of social integration. Indeed, one may feel lonely even among hosts of friends and this *feeling* of not being fully integrated into one's social networks rather than one's mere extent of participation in them might be a stronger predictor of one's Internet use.

In view of the foregoing, we hypothesize the following:

H1: The lower the level of social integration (affective and behavioral), the higher the time spent on the Internet.

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4. METHOD

4.1. Sample

Data were collected from 337 senior level undergraduate students enrolled in various faculties of the International Islamic University Malaysia at Kuala Lumpur. All the third and the 4th-year courses with course enrollment of 30 or more students comprised the sampling frame. A total of 13 courses from this sampling frame were randomly selected and questionnaires were distributed to the students at the start of each class session. Roughly 97% of the questionnaires were collected back from the students in about 25 minute's time. The sample had a male-female composition of 46.0% & 54.0% respectively. 93.0% of the sample comprised Malay Malaysians. Out of the 337 cases, eight had missing data on the Internet exposure item "the number of days a week do you usually use Internet?" They were dropped from the analysis. The rest were Internet users. The respondents were asked a series of questions pertaining to their mass media use, extent of Internet use, motives for using the Internet, demographic background,

and about two issues predominant in the Malaysian society. Additionally, questions were also asked about the respondents' social involvement and participation in the community, how they felt about their involvement in their family and the community and their willingness to express opinions in public

4.2 Measurement

Behavioral social integration was conceptually defined, after Cohen et al., (1997) as the extent to which individuals participate in a broad range of social relationships and interaction. Based on the work of Cohen et al. (1997; 2000; 2003), we created a 13-item additive index of behavioral social integration (M = 43.24, SD = 6.91, α = .81). Each item in the index was a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree) measuring degree of respondents' agreement to statements about their level of involvement in community or group, the level of their social interaction with family and friends and the extent of social support given or obtained. Affective social integration is defined per Brissette et al., (2000) as the extent to which one feels oneself to be part of his social community, clubs, peer groups, and family ties. A 17-item additive index of affective social integration (M = 68.44, SD = 11.14, Cronbach's α = .90) was based on Brissette et al., (2000). Each item in the index was a 5-point scale (1 = strongly disagree, 5 = strongly agree) measuring the degree of respondents' agreement to statements about how they felt about their involvement and their interactions with peer groups, friends, and families, and about the kind of social support they gave or received.[1]

Similarly time spent online was conceptually the overall amount of time respondents spent using Internet in a week. Operationally, time spent online (M = 574.52, SD = 489.54) was a product of days in a week respondents reported using the Internet and the number of minutes he/she would usually spend with the Internet on the day the Internet was used.

5. FINDINGS

To test H1, the effect of social integration on time spent online, hierarchical multiple regressions were run. Demographic variables of age, gender, and family income were entered as block 1. Indices of behavioral and affective social

integration were then entered as blocks 2, and 3 respectively. The affective dimension was entered last in order to ascertain its theoretical significance. Specifically, significant change in R^2 resulting from the entry of affective social integration after the demographic and the behavioral integration blocks have been entered should be suggestive of this dimension's non-redundancy. The results of the regression analysis testing H1 are shown in Table 1. Of the variables in the control block, age was a significant predictor of the amount of time spent online. Contrary to expectation behavioral dimension of social integration did not have any significant influence on the criterion variable. Nevertheless, the subsequent entry of affective social integration was significant and the beta coefficient was in the hypothesized direction as well. These results indicate partial support for H1. Specifically, those who feel themselves as less integrated do indeed spend greater amount of time on the Internet. As evident from the significant value of incremental R^2, the effect of the affective social integration is net of the other socio-demographic variables with the affective social integration explaining an additional 1.7% of the variance.

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Table 1
Regression Results Indicating Impact of Social Integration on Time Spent Online (N=291)

	Dependent Variable		
	Time Spent on Internet		
Independent Variables	β[a]	% Change in R^2	F
Block 1			
Age	0.19***		
Gender (Female)	- 0.01		
Income	0.11*		
		5.70	4.29***
Block 2			
Behavioral Social Integration	.08		
		.01	.10
Block 3			
Affective Social Integration	- .16**		
		1.7	5.22**
Total R^2 (%)	7.40		

[a] Final Standardized Betas
*** p ‹ .01 (two-tailed)

** $p < .05$ (two-tailed)
*$p < .10$ (two-tailed)

6. DISCUSSION AND CONCLUSION

These results have several noteworthy implications for the literature on Internet uses and effects. Firstly, the results underscore the importance of the variable of affective social integration in predicting time spent on Internet. In literature on the antecedents of the Internet use two conflicting perspectives are identifiable. While one perspective posits that individuals less involved with their social environment will be more likely to be high user of Internet (Kling, 1996; Mesch, 2001), the other posits a positive relationship (Katz & Aspeden, 1997; Wellman & Gulia, 1999). The available literature has highlighted but not resolved the controversy. Our study has tried to resolve the controversy by showing that both findings may be likely provided we decompose the construct social integration into behavioral and affective sub-dimensions. The previous studies by not differentiating between behavioral and affective sub-dimensions of social integration, may have confounded the results

Our study has some limitations that underscore the need for further research. Our findings came from a sample of senior level undergraduate students from a university and thus need to be replicated in more varied samples from general population. Furthermore, our conceptualization of social integration did not differentiate between online and offline social integration such a differentiation, given the Internet social connectivity potentials, may help further elaborate the linkages among social integration and time spent online. Similarly by operationalizing time spent online "globally" or grossly as the overall time spent online, this study has provided a conservative test of the hypotheses. Content-specific measures of time spent online should help further specify the antecedents of Internet exposure and its effects such that lower affective social integration may lead to higher amount of time spent in specific types of Internet connectivity such as chatting and thus greater vocalization inertia and consequent offline expressivity.

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