

Leveraging Computer Mediated Communication for Social Support in Immigrants' Intercultural Adaptation

POUR LE SOUTIEN SOCIAL DANS L'ADAPTATION DES IMMIGRANTS INTERCULTUREL S'APPUYANT SUR LA COMMUNICATION MEDIATISEE PAR ORDINATEUR

Wenli CHEN^{1,*}; Alfred CHOI Siu Kay²

¹Learning Sciences Laboratory, National Institute of Education, Nanyang Technological University, Singapore

²Department of Applied Social Studies, City University of Hong Kong, Tat Chee Avenue, Kowloon, Hong Kong SAR

Email: alfred.choi@cityu.edu.hk

*Corresponding author.

Email wenli.chen@nie.edu.sg

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Abstract

This study examines the relationship between online social support and intercultural adaptation of immigrants. Data was collected from a telephone survey conducted among Chinese immigrants in Singapore. The results of the data analysis reveal that online support has positive effect on both socio-cultural and psychological adaptation of the immigrants. Among the individual types of support, informational support demonstrates a prominent effect on the immigrants. This study suggests that online support is an efficient and valuable supplement to traditional social support for immigrants, especially when they are in the transition period and lack real life social network.

Key words: Social support; Online social support; Intercultural adaptation

Résumé

Cette étude examine la relation entre le soutien social en ligne et l'adaptation interculturelle des immigrants. Les données ont été recueillies à partir d'un sondage téléphonique mené auprès des immigrants chinois à Singapour. Les résultats de l'analyse des données révèle que le soutien en ligne a un effet positif tant sur l'adaptation socio-culturelle et psychologique des immigrants. Parmi les différents types de soutien, un soutien informationnel démontre un effet important sur les immigrants. Cette étude suggère que le soutien en ligne est un complément efficace et précieux à l'appui social traditionnel pour les

immigrants, surtout quand ils sont dans la période de transition et le manque de réseau de la vie sociale réelle.

Mots-clés: Soutien social; Le soutien social en ligne; L'adaptation interculturelle

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INTRODUCTION

Social support has been thought of as taking place most often within intimate, well-established personal relationships (Cutrona & Suhr, 1992; Leatham & Duck, 1990). Nowadays, more and more people engage in social support activities via the Internet (Walther & Boyd, 2002) as online interactions help "validate one another's experience and perceptions and provide great amounts of encouragement, understanding, and empathy to one another" (Braithwaite, Waldron, & Finn, 1999).

As online social support is realized via distant communications, it is especially suitable and valuable for those who lack face-to-face social support resources. Immigrants are often found in such a situation. Relocating overseas disrupts their long-standing social ties with family, friends and acquaintances (Adelman, 1988; Kim, 1988) and establishing new social networks in the host country takes a period of time. Their social development would be undermined by a strong sense of isolation and alienation from sources of social support that are generally considered to be essential for critical development changes. In most cases, they would likely turn to alternative sources for support. For example, the early immigrants dwelt together forming physical communities

such as clan associations for social support. With the advent of the Internet, immigrants nowadays are given even more alternative sources to solicit social support via computer-mediated communication (CMC).

In this capacity, online social support is expected to be an irreplaceable supplement to the traditional social support and it plays a crucial role in improving immigrants' lives. A careful examination of online support in the process of intercultural adaptation would be of great importance to the immigrants around the world. This study aims to examine the relationship between online social support and intercultural adaptation among the Mainland Chinese in Singapore. There are a few interesting attributes of this particular group of people that make the study both of theoretical and practical importance. First, the Mainland Chinese are the fastest growing segment of immigrants in Singapore population. Second, most of them are highly educated and are likely to use the Internet in their daily life. Finally, the Chinese are more group-oriented and cooperative, and like to share their experiences and information with those who need them. This encourages the newcomers to seek support from fellow immigrants, which may be the reason why the ethnic websites for overseas Chinese have proliferated with the development of the Internet.

Literature Review

Online Social Support

The communication via the Internet exhibits a variety of socially supportive messages and behaviors. The advantages of online social support over traditional face-to-face social support have been carefully examined in literature (Ferguson, 1996; Finn & Lavitt, 1994). First, the Internet eliminates barriers related to time and distance (Jones, 1997; Rheingold, 1993). This is beneficial in that they provide support for individuals whose schedules may not allow them to attend local meetings, for those who live too far away from available meetings, and for those who lack transportation (Finn & Lavitt, 1994; Weinberg, Schmale, Ukenm, & Wessele, 1995). Second, the Internet has much potential for seeking and providing social support with increased anonymity and decreased shame and stigma (Davison, Pennebaker, & Dickerson, 2000; King & Moreggi, 1998; Winzelberg, 1997). This anonymity makes it easier and safer for exploration of sensitive or potentially risky issues that might seem too personal or private in other instances.

Another potential advantage of online social support is the great number of participants from which information and perspectives may be drawn. The Internet can provide perspectives from different people, diverse ages, and a wide array of experiences (Finn & Lavitt, 1994). The sheer number of people online increases the possibility for individuals to find a match with their specific type of need. In addition, the large number of members may help to promote a sense of universality that decreases feelings

of alienation. Knowing they are part of a larger cultural group can help individual participants adjust and reduce feelings of isolation or alienation (Braithwaite, 1996).

The benefits of online support are most apparent to those who have health-related problems, such as depression (Shaw & Gant, 2002; Yeh, Ko, Wu, & Cheng, 2008), irritable bowel syndrome (Coulson, 2005), cancer (Fogel, Albert, Schnabel, Dittkoff, & Neugut, 2002; Klemm, Bunnell, Cullen, Soneji, et al, 2003, Gustafson, Hawkins, McTavish, Pingree, et al, 2008), heart disease (Dickerson, Flaig, & Kennedy, 2000), infertility (Epstein, Rosenberg, Grant, & Hemenway, 2002), weight loss (Hwang, Ottenbacher, Green, Cannon-Diehl, et al, 2010), eating disorder (Campbell, 2008) and HIV/AIDS (Kalichman, Benotsch, Weinhardt, Austin, et al, 2003; Peterson, 2009) etc. Researchers also examined the impact of online support for non-health related groups such as the older adults (White et al, 1999; Wright, 2000, Xie, 2008), single mothers (Dunham, Hurshman, & Litwin, 1998). Besides, online support studies have also been conducted in the context of common stressors (e.g., Heaney & Israel, 1997), and major life transitions (e.g., White & Madara, 1998). It is found that in general, online social support is related to significant reduction in burden and strain, decreased use of health-care resources and improved quality of life.

A few studies examined online support for international students. Ye (2006a) examined international students' online support and found that online ethnic social groups tended to provide weak-tie support for the international students. Since group members are only loosely related to one another, they can maintain their privacy and feel more comfortable revealing their concerns or problems. In another of her study of acculturative stress and use of online ethnic social groups among Chinese students in the United States, Ye (2006b) found that among the students who had used online ethnic social groups, those who experienced less acculturative stress reported receiving higher amounts of both emotional and informational support from these online groups.

Intercultural Adaptation

The intercultural adaptation of immigrants has been extensively investigated with the objective to identify ways to relieve stress, improve the process, and make immigration a better experience (Chen, 2010). Intercultural adaptation was originally conceptualized as a one-dimensional phenomenon, mainly seen as the degree of psychological comfort/well-being individuals experience with their new environment (e.g., Klopff, 1987; Torbiorn, 1982). However, it has been increasingly seen as a multi-dimensional and multi-faceted phenomenon that consists of numerous cognitive, affective, and behavioral changes that occur in individuals as they strive to achieve higher levels of person-environment fit in an unfamiliar environment (e.g., Anderson, 1994; Kim, 1995; Ward,

1996). It is an ongoing, dynamic and interactive process that involves constant interactions between individual and environment, each acting upon and modifying the other (Anderson, 1994; Kim, 1989, 1995).

Ward and her colleagues managed to integrate the various aspects of adaptation into two dimensions: psychological and socio-cultural. They defined psychological adaptation as the psychological well-being and satisfaction in the new cultural context; and socio-cultural adaptation as social skills or the ability to negotiate interactive aspects of the host culture (Ward & Kennedy, 1999; Ward, 1996; Ward & Searle, 1991).

Many studies examined the factors that affect the immigrants' adaptation to the host country. The length of residency is one of such factors. There is a tendency that the longer the immigrants live in the host country, the better the adaptation will be (Feldman & Rosenthal, 1990). Among the demographic factors, gender and age are found to be most closely associated with how well a person adapts to a new environment (e.g., Liebkind, 1996; Schonpflug, 1997; Ward & Kennedy, 1999). Some research has explored the effect of immigrants' socioeconomic status (SES) on adaptation. Most of the findings contend that immigrants with a higher SES would adapt better than those with lower SES (e.g., Moyerman & Forman, 1992).

Besides, social support serves vital functions in facilitating intercultural adaptation (e.g., Adelman, 1988; Anderson, 1994). Social support is believed to provide immigrants with information and feedback that potentially facilitates their adaptive learning and sense-making processes (Cobb, 1976). It also provides immigrants with emotional support to help ease the loneliness, stress and difficulties immigrants may encounter in a foreign environment (Adelman, 1988; Fontaine, 1986).

Although theories of social support have proliferated in recent years, these theories have not been adequately investigated within the context of immigrants and their use of the Internet. A systematic research on online support within the context of immigration is needed for a thorough understanding of its role in intercultural adaptation. In reference to the increasing usage of the Internet that facilitates greater connection with family or friends, as well as increasing interaction with new persons as a potential source of social support, the present study would be significant to the immigrants in need of social support, and the policy-makers, in the capacity of helping the immigrants adapt to the country faster and with less painful experiences.

Research Questions and Hypotheses

This study addresses the unanswered questions in the literature: does online support facilitate the immigrants' adaptation to the host country, and how, if it does? It is well recognized that intercultural adaptation is a complex and dynamic process. An immigrant and the environment

would co-participate in his/her adaptation through a continual give-and-take process, and therefore adaptation must be conceived as an evolutionary phenomenon that consists of multiple dimensions and facets.

When exploring the role of online support in intercultural adaptation, distinction is drawn by the present study between psychological and socio-cultural adaptation, as proposed by Ward et al. (1999). The psychological well-being or satisfaction of host environments, and the immigrants' abilities to "fit in" or effectively interact with members of host society are separately measured.

In view of the positive influence of traditional social support on immigrants' adaptation and that of online support for physically-disabled individuals documented in the literature, it is reasonable to posit that online support also has positive impact on adaptation in both dimensions.

Two hypotheses are asserted to answer this question.

Hypothesis 1: Online support has positive effects on immigrants' socio-cultural adaptation.

Hypothesis 2: Online support has positive effects on immigrants' psychological adaptation.

Methodology

Telephone Survey

Telephone survey was employed in the study to test the hypotheses, as a nationwide telephone survey can reach out to a reliable and representative sample group easily and quickly, especially for immigrant studies where the respondents are located across the country. However, no complete list of Chinese immigrants in Singapore is available to derive the needed sample. Fortunately, the names of Mainland Chinese (in "Han Yu Pin Yin") could be easily identified as Singaporeans tend to spell their names in Chinese dialects. Therefore, the local phone directory was used to establish a list of candidates for the survey. Firstly, all the Mainland Chinese were identified from the phone directory as potential respondents, and their telephone numbers were saved in the computer to set up a database. A total of 7810 potential respondents were found in this manner. Next, a random number was generated as the starting position of a cyclic search, with a skip interval of thirty entries. In this way 2500 telephone numbers were selected and exported to the Computer-Assisted Telephone Interview (CATI) System.

The telephone survey was conducted in a/the CATI Lab, School of Communication and Information, NTU. 20 NTU students from Mainland China were employed as interviewers. During the survey, 997 respondents were reached. 244 refused to answer the survey and 43 other respondents abruptly terminated the survey during the process of the interview. 710 questionnaires were completed successfully, and the response rate was 71.2%. All the survey interviews were conducted in the respondents' preferred language (Chinese or English).

The gender of the immigrants was evenly distributed -

females accounted for 48% and males for 52% of the total sample. The ages of the immigrants ranged from 18 to 67, with a mean of 34. More than 80% of the immigrants were married. As for education level, about two-thirds of the immigrants were degree-holders with a quarter of them holding a post-graduate degree. Two-thirds of the immigrants were employed. Interestingly, their income was evenly distributed in the range of S\$1000- to S\$4000+. Nearly 80% of them were Singapore citizens or permanent residents. The immigrants have lived in Singapore for 6.75 years on average, ranging from one month to 20 years. Nearly 30% of them have resided in Singapore for less than five years, while about one fourth of them had stayed for 10 years or longer. The survey revealed that not all immigrants were Internet users. The Internet users accounted for 76.7% of the 710 immigrant respondents.

Questionnaire Design

In general, the questionnaire measured three variables: a) online social support, b) intercultural adaptation, and (c) demographics characteristics such as gender, age, education, occupation, and income etc. The construction of the question items to measure online social support and intercultural adaptation is as follows.

Online social support

Researchers have employed existing traditional social support measures to assess online social support; some items in the traditional social support measures, however, were not applicable in assessing online support. This study adapted from many established traditional social support scales to measure the online support of the immigrants. One of such is Sherbourne and Stewart's (1991) MOS-SSS (Medical Outcome Study - Social Support Survey). The original MOS-SSS scale consists of 19 items that can be grouped into four subscales representing four dimensions of social support — emotional/ informational, tangible, affectionate, and positive interaction.

In this study, the items that were not suitable in the Internet context were taken away and replaced by other items that fit the online setting. The adapted online support scale has 12 items that can be grouped into four general categories based on an online filed observation that was conducted as a preliminary exploration of the present study. They are informational support (get information to better understand a situation, get advice about a crisis, and get suggestions about how to deal with a personal problem), emotional support (get encouragement, share your private worries and fears, and have someone to listen to you), tangible support (get free copies of software, movie or CD from others, get articles or materials from others, and have others to help you complete some work), and companionship support (have a good time with someone, get together with someone) for relaxation, and do something enjoyable with someone. For each item, the response scale was a five-point scale (1 = never, 2 =

seldom, 3 = sometimes, 4 = most of the time, 5 = all of the time).

Intercultural Adaptation

The approach proposed by Ward et al. (1996) was used as the measurement of intercultural adaptation. This approach makes a distinction between psychological and socio-cultural adjustment. The distinction helps to measure the psychological well-being or satisfaction levels in the new cultural environments, and the immigrants' abilities to "fit in" or interact effectively with members of host culture, respectively.

Two established adaptation scales from the literature were used in the questionnaire. These included Ward and Kennedy's (1999) Socio-Cultural Adaptation Scale (SCAS), and Gao and Gudykunst's (1990) adaptation scale which measures the degree to which respondents felt comfortable or satisfied living in the host country.

Socio-cultural adaptation scales. Ward and Kennedy (1999) proposed the Socio-cultural Adaptation Scale (SCAS) to evaluate the levels of socio-cultural adaptation, which measures the amount of behavioral and cognitive difficulties experienced by individuals when adjusting to a new culture and society. The scale is believed to be a "flexible instrument that can be modified according to the characteristics of the sojourning sample" (Ward & Kennedy, 1999: 662). Various versions of SCAS have been tested in at least 16 studies on the adaptation of immigrants and have proven to be one of the most effective measures of intercultural adaptation. The α scores reflecting the reliability of the scale was found to be between 0.75 to 0.91 with the average reliability of 0.85 for various versions of the instrument (Ward & Kennedy, 1999). The most updated 29-item SCAS was split into behavioral domain with 22 items and cognitive domain with 7 items, and the average score of the two domains reflects the overall socio-cultural adaptation.

The 29-item SCAS was modified to cater to this study. Items not suitable for Mainland Chinese in Singapore were removed. For example, "the difficulty in dealing with people staring at you". The modified question list consisted of 20 items. The response scale is "1 = extreme difficulty, 2 = great difficulty, 3 = moderate difficulty, 4 = slight difficulty, and 5 = no difficulty". The higher the score the immigrants get, the less difficulty they experience, and the more socio-culturally adaptive they are. The measures for the socio-cultural adaptation levels were validated by a/the reliability test and factor analysis. The reliability of the 20-items is found to be excellent (Cronbach α = .86). Factor analysis with principle components extraction and Varimax rotation was conducted to provide a meaningful interpretation of the data. Essentially, the analysis identified a relatively small number of factors that were representative of the relationships among the interrelated variables. In this study, the general criteria used to establish the factors

included: (1) eigenvalues greater than 1; (2) the Kaiser-Meyer-Olkin (KMO) measure greater than .80; (3) the combined factors accounting for more than 45% of the variance; and (4) the indices to be included having primary loadings greater than or equal to 0.35. However, in order to force the numbers of items contributing to individual factors to fall into a comparable range, the qualified items were tailored so that the numbers were not too many or too few.

These were adequate for us to go on with the factor analysis. After the factor analysis, we claim that only 12 items - which fall into three major categories - had significant contributions to the socio-cultural adaptation of the respondents. The remaining eight items should be discarded as their scores were shared by more than one factor, or the number of an item was too small to compose a factor. The three categories identified reflected the degree of social adaptation, physical adaptation, and cultural adaptation, respectively. They are collectively referred to as socio-cultural adaptation indices.

Social adaptation (Factor 1) includes 4 items - making friends, understanding jokes and humor, making yourself understood, and communicating with people from different ethnic groups. Physical adaptation (Factor 2) includes 4 items - using the transportation system, going shopping, finding your way around, and adapting to local accommodation. Cultural adaptation (Factor 3) includes 4 items - understanding the Singapore political system, seeing things from a Singaporean's point of view, understanding cultural differences between Singapore and China, and understanding Singaporeans' value system. The three factors - socio adaptation (Cronbach $\alpha = .69$), physical adaptation (Cronbach $\alpha = .67$), and cultural adaptation (Cronbach $\alpha = .74$) - were adequately reliable. They were therefore considered as three subscales of the overall Socio-Cultural Adaptation Scales.

Psychological adaptation scales. An eight-item scale developed by Gao and Gudykunst (1990) was adopted to measure the degree to which respondents felt comfortable or satisfied living in the host country; and the degree to which they found life in the host country to be an enjoyable experience. The respondents were asked to indicate if they agree or disagree with the statements using a seven-point Likert-type response scale (1 = strongly disagree, 7 = strongly agree).

The questions were modified to suit the purpose of this study, for example, the manner in which the questions were constructed and the name of the host country. The original seven-point Likert scale was also changed into a five-point scale (1 = not at all, and 5 = extremely) for simplification. And similarly, a higher score indicates a higher psychological adaptation of an immigrant. A reliability test was also conducted for this index. The Cronbach α value was .75, which suggested a high reliability. Factor analysis was also run for the

psychological adaptation scale and a single factor was identified that included 8 items. The 8 items are: comfortable feel living in Singapore, satisfaction with work performance in Singapore, comfortable feel in interacting with Singaporeans, satisfaction with language ability now, satisfaction with living in Spore culture, adapt to the Singaporean culture, life enjoyable, and anxious of stay in Singapore.

Data Analysis

Among the 710 respondents, 544 of them are Internet users. The data analyses were conducted among the 544 Internet users to answer the research questions and test the hypotheses. The hypotheses posited that online support has positive effects on the intercultural adaptation. It should be noted that the intercultural adaptation is a complex and dynamic phenomenon and online support is only one of the factors that play a role in it. As such, it would be most suitable to explore the impact of online support along with other factors. In view of this, the impact of online support on intercultural adaptation was examined first by regression analysis that incorporates other influencing factors. As adaptation was measured in two scales, namely, socio-cultural adaptation and psychological adaptation, the analyses were performed on the two scales independently.

The scores on social adaptation, physical adaptation, cultural adaptation and psychological adaptation were calculated separately. The value can range from 1 to 5. Among the immigrants, the mean score of social adaptation was 3.79 (SD = .79); the mean score of physical adaptation was 4.47 (SD = .56); and the mean score of cultural adaptation was 3.90 (SD = .77). These scores were then summed to be the index of the overall level of socio-cultural adaptation to the host country, which was 4.05 on average (SD = .56). The psychological adaptation was separately measured, with an average of 3.43 (SD = .57).

Hypothesis 1: Online support has positive effect on socio-cultural adaptation.

Bearing in mind that some demographic variables and length of residence of in host country may affect the socio-cultural adaptation, multiple regression analysis was conducted to examine the effect of online support while taking into consideration the social-economic differences and length of residence of individuals. The categorical variables are treated as dummy variables in the regression analyses. Five regression models were constructed. Model 1 examined the effect of overall online support received when controlling the demographic variables. Model 2, 3, 4 and 5 examined the effect of informational, emotional, tangible and companionship support respectively (Table 1).

Table 1
Multiple Regression Analyses on Socio-Cultural Adaptation

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	t	B	t	B	t	B	t	B	t
N	378		333		71		253		124	
Constant	3.543	13.65**	3.497	12.84**	2.455	4.04**	3.545	10.93**	3.631	8.18**
Age	.001	.30	.002	.35	-.006	-.58	.003	.49	.002	.28
Female	.172	2.92**	.146	2.39*	.128	.93	.184	2.43*	.087	.77
Income	.000	2.09	.000	1.82*	.000	-.84	.000	1.64	.000	1.09
Education	-.015	-1.10	-.017	-1.19	.042	1.33	-.012	-.77	-.022	-.85
Length of residence	.025	2.52*	.025	2.37*	.092	3.32**	.030	2.29*	.047	2.51*
Overall Support	.494	3.21**	--	--	--	--	--	--	--	--
Info Support	--	--	.624	4.35**	--	--	--	--	--	--
Emotional Support	--	--	--	--	.737	2.48*	--	--	--	--
Tangible Support	--	--	--	--	--	--	.327	1.87*	--	--
Companion-ship Support	--	--	--	--	--	--	--	--	.360	1.51*

Note. $R^2 = .078, .112, .257, .082, .104$ for model 1, 2, 3, 4 and 5 respectively.
* $p < .1$. ** $p < .01$.

Table 1 shows that overall online support has a positive effect on socio-cultural adaptation. On the impact of the individual types of online support, all the four types were significantly related to socio-cultural adaptation, and informational support played the most significant role. The role of companionship support is a bit more complicated. On one hand, some immigrants relied on online companionship to cope with difficult situations, while on the other, some were addicted to it and became less willing to adapt to real life. Collectively, the positive impact of online support on immigrants' socio-cultural adaptation was re-affirmed. Length of residence is another significant predictor of immigrants' socio-cultural adaptation. The longer the immigrants reside in the host

country, the higher the socio-cultural adaptation scores. Therefore Hypothesis 1 is supported.

Moving to a deeper level of analysis, we looked at how the online support affects the immigrants' socio-cultural adaptation, specifically by examining its impact on the three sub-scales of socio-cultural adaptation, namely, social adaptation, physical adaptation and cultural adaptation. Table 2 shows the regression analysis results on the effect of different types of online support on social adaptation when considering the socio-economic differences among individuals. As shown in Table 2, social adaptation subscale was affected by overall online social support and all the four types of online support except companionship. In addition, the effect of informational support on social adaptation was most prominent.

Table 2
Multiple Regression Analyses on Social Adaptation Subscale

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	t	B	t	B	t	B	t	B	t
N	378		333		71		253		124	
Constant	3.637	9.91**	3.490	8.90**	2.090	2.41*	3.603	7.86**	3.806	5.86**
Age	-.012	-1.98*	-.011	-1.73*	-.020	-1.42	-.011	-1.41	-.014	-1.28
Female	.153	1.84*	.139	1.58	.137	.70	.173	1.62	.102	.62
Income	.000	1.38	.000	1.33	.000	-.69	.000	1.07	.000	.92
Education	-.017	-.91	-.015	-.71	.058	1.28	-.015	-.67	-.031	-.82
Length of residence	.036	2.56*	.034	2.25*	.112	2.83**	.039	2.13*	.064	2.36*
Overall Support	.608	2.80**	--	--	--	--	--	--	--	--
Info Support	--	--	.711	3.44**	--	--	--	--	--	--
Emotional Support	--	--	--	--	.969	2.29*	--	--	--	--
Tangible Support	--	--	--	--	--	--	.542	2.19*	--	--
Companion-ship Support	--	--	--	--	--	--	--	--	.508	1.46

Note. $R^2 = .059, .070, .020, .057, .080$ for model 1, 2, 3, 4, and 5 respectively.
* $p < .1$. ** $p < .01$.

Table 3 presents the results of regression analysis on the physical adaptation subscale. All the four types of

online support had significantly positive effect on the physical adaptation subscale.

Table 3
Multiple Regression Analyses on Physical Adaptation Subscale

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	t	B	t	B	t	B	t	B	t
N	378		333		71		253		124	
Constant	3.832	15.41**	3.872	14.40**	3.646	5.34**	3.794	12.38**	3.996	9.45**
Age	.003	.62	.001	.24	-.004	-.33	.007	1.25	.005	.74
Female	.176	3.12**	.163	2.69**	.191	1.24	.168	2.35*	.078	.73
Income	.000	1.91*	.000	1.61	.000	.43	.000	1.59	.000	.98
Education	-.007	-.53	-.013	-.92	.000	-.00	-.004	-.29	-.023	-.96
Length of residence	.012	1.28	.013	1.30	.036	1.16	.009	.74	.022	1.26
Overall Support	.533	3.62**	--	--	--	--	--	--	--	--
Info Support	--	--	.689	4.86**	--	--	--	--	--	--
Emotional Support	--	--	--	--	.592	1.78*	--	--	--	--
Tangible Support	--	--	--	--	--	--	.374	2.27*	--	--
Companion-ship Support	--	--	--	--	--	--	--	--	.496	2.18*

Note. $R^2 = .080, .106, .109, .065, .081$ for model 1, 2, 3, 4, and 5 respectively.
 * $p < .1$. ** $p < .01$.

The cultural adaptation subscale was less affected by online support (Table 4). Only informational and emotional support had significant positive effects on cultural adaptation subscale.

Table 4
Multiple Regression Analyses on Cultural Adaptation Subscale

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	t	B	t	B	t	B	t	B	t
N	378		333		71		253		124	
Constant	3.160	8.76**	3.130	8.22**	1.629	2.14*	3.239	7.15**	3.09	5.42**
Age	.013	2.22*	.015	2.34*	.007	.53	.013	1.64	.02	1.56
Female	.186	2.28*	.137	1.60	.055	.32	.211	2.00*	.08	.56
Income	.000	1.79*	.000	1.40	.000	-1.63	.000	1.37	.000	.77
Education	-.021	-1.09	-.023	-1.17	.068	1.73*	-.017	-.77	-.011	-.32
Length of residence	.027	1.96*	.027	1.84*	.128	3.68**	.041	2.27*	.053	2.24*
Overall Support	.339	1.59	--	--	--	--	--	--	--	--
Info Support	--	--	.472	2.35*	--	--	--	--	--	--
Emotional Support	--	--	--	--	.651	1.75*	--	--	--	--
Tangible Support	--	--	--	--	--	--	.065	.27	--	--
Companion-ship Support	--	--	--	--	--	--	--	--	.075	.24

Note. $R^2 = .077, .086, .280, .087, .119$ for Model 1, 2, 3, 4, and 5 respectively.
 * $p < .1$. ** $p < .01$.

Collectively, the overall online support received had significant positive effect on the first two subscales of socio-cultural adaptation. The effect on cultural adaptation was not significant. It was found that informational online support and emotional online support had positive effects on all the three subscales, and the effect of informational online support on physical adaptation was the most significant. Tangible online support was found not to be related to cultural adaptation. Companionship was found

to positively correlate with social adaptation and physical adaptation but not cultural adaptation.

Hypothesis 2: Online support has a positive effect on psychological adaptation.

Regression analyses were used to investigate the impact of online social support and psychological adaptation when taking other factors into account (see Table 5). In general the online support had a positive effect on the immigrants' psychological adaptation (Model 1 Table 5).

Table 5
Multiple Regression Analyses on Psychological Adaptation

	Model 1		Model 2		Model 3		Model 4		Model 5	
	B	t	B	t	B	t	B	t	B	t
N		378		333		71		253		124
Constant	2.712	10.05**	2.867	9.62**	2.168	2.94**	2.636	7.91**	2.923	6.74**
Age	.002	.41	.002	.32	.009	.78	.008	1.34	.011	1.43
Female	.175	2.86**	.177	2.64**	.160	.95	.112	1.44	.169	1.53
Income	.000	1.83	.000	2.05*	.000	1.05	.000	1.85*	.000	.64
Education	.002	.11	-.006	-.39	.013	.35	.002	.14	-.005	-.20
Length of residence	.016	1.55	.017	1.49	-.008	-.24	-.001	-.08	-.025	-1.39
Overall Support	.379	2.37*	--	--	--	--	--	--	--	--
Info Support	--	--	.313	2.00*	--	--	--	--	--	--
Emotional Support	--	--	--	--	.589	1.64	--	--	--	--
Tangible Support	--	--	--	--	--	--	.347	1.94*	--	--
Companion-ship Support	--	--	--	--	--	--	--	--	.245	1.05

Note. $R^2 = .060, .061, .083, .052, .055$ for model 1, 2, 3, 4, and 5 respectively.

* $p < .1$. ** $p < .01$.

This study had examined how the individual types of online support affected the psychological adaptation of the immigrants. Model 2, 3, 4 and in Table 5 were for informational, emotional, tangible, and companionship support respectively. It was found that informational support played a significant role in the immigrants' psychological adaptation. It helped them reduce life difficulties and uncertainties, which in turn eased the anxiousness and led to a higher level of psychological adaptation. Similarly, tangible support was also found to help facilitate the immigrants' psychological adaptation. In summary, Hypothesis 2 was partially supported. Another interesting finding was that income level was also influential to the psychological adaptation. The immigrants with higher income were psychologically more adaptive to the host country.

CONCLUSIONS AND DISCUSSIONS

Online social support had attracted an increasing number of studies that look into its role in reducing life difficulty or coping with stressful circumstances. It well suits the immigrants' need for adaptation. In an online environment, immigrants can establish a network of supportive relationships that crosses nationalities and includes family members, friends or even unknown persons. Through online interactions, they are able to share and exchange ideas in various forms, which is considered highly valuable in helping overcome life difficulties, decrease the sense of isolation and relieve substantial psychological and physical pressure in the process of intercultural adaptation.

The results of data analyses support the hypotheses that online support has positive effects on both socio-cultural and psychological adaptation. The analysis acknowledges the complex and dynamic nature of intercultural adaptation and incorporates other influential factors when exploring the impact of online support. Comparing the effect of online support on socio-cultural adaptation to

that on psychological adaptation, it is found that online support is more prominent to the former dimension. This is reasonable as psychological adaptation is affected more by the individuals' personality and characteristics. In general the mentally "stronger" people would be easier to psychologically get used to a new environment. This also explains why the length of residence does not play a significant role in immigrants' psychological adaptation.

Moving to a further level of detail, the study looked into how the three subscales of socio-cultural adaptation, namely, social adaptation, physical adaptation and cultural adaptation, are affected by online social support. Among the individual subscales of adaptation measured, social and physical adaptation benefited more from online support than cultural adaptation.

The positive impact of informational and emotional support is seen across all three subscales. As could be anticipated, the effect of informational support on physical adaptation is most significant. In addition, tangible support was found to correlate with social adaptation and cultural adaptation, and companionship is related to physical adaptation only. The role of companionship support is a bit complicated. Some immigrants find online companionship to help them cope with difficult situations, but some others over-rely on it and become less willing to expand their face-to-face social network support and socio-cultural adaptation.

In summary, online social support is found to be positively relevant to the adaptation of immigrants to the new environment in one aspect or another. The roles of individual types of online support are, however, of different significance. At first glance, the informational support and tangible support appear more instrumental in nature, and should therefore be closely associated with the socio-cultural, rather than the psychological dimension of adaptation. However, a close look in this study finds that these types of instrumental support play a role in both dimensions of adaptation. Given the limited social, cultural and physical knowledge, instrumental support

can contribute to the reduction of uncertainty about the new environment and help facilitate the immigrants' social learning and sense-making processes, and thus enhance their sense of control. That could in turn ease the anxiousness and lead to a higher level of psychological adaptation. However, to be more conclusive, the observed significant impact requires a further investigation to illuminate the means, or at least lend concrete support to the above interpretation. On the other hand, the impact of emotional and companionship support is less significant. Recall that the frequencies of seeking these two types of support are also relatively low. It should therefore be made known that promoting these types of support in the online environment is of great importance, given the novel feature of anonymity of online support that helps mitigate shame and stigma. Efforts can be made to encourage the participation of those afraid of "losing face" in a face-to-face environment.

This study found that online support is an efficient and valuable supplement to traditional social support for immigrants, especially when they are in the transition period and lack real life social network. Immigrants should therefore try to make use of the Internet to build online relationships to widen their social network as an alternative source of support. Moreover, they can also take the advantage of reduced barriers of time and distance in Internet to keep on the touch with the close friends and relatives, so as to remove the feeling of being isolated and maintain a better sense of belonging.

The finding can also aid policy-makers. To help immigrants adjust to the new environment faster and with less painful experience, they may try to promote the Internet usage, particularly for communication purposes. For example, they can set up online support groups for immigrants, and present useful information regarding the host culture or guidance of immigration issues. If possible, one or several officers could be assigned to take part in the discussions in the groups or provide answers to some frequently asked questions on a regular basis.

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