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The examination of parent-adolescent communication motives, relational maintenance and intimacy in the uses of communication technologies

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Both parents and adolescents have adopted a wide range of technologies in their daily lives. Most scholars are interested in the consequences of individuals' technology addiction and relational development while little attention is given to their family relationships through the communication of new media. Drawing from the perspectives of media uses and gratifications, this study develops an empirical model by investigating the connections between adolescents' communication motives and their perceptions of relational maintenance and intimacy with their parents. The uses of media technologies, family communication patterns and parents' gender are also included to examine the multiplicity of their relationships. A group of 400 parents with adolescents at home are recruited in the survey and research variables are analyzed by statistical methods. The results show parents initiate communications with their adolescents derived from various motives, facilitated by relational maintenance and achieved different aspects of intimacy. Parents' communication motives and intimacy are also shaped by the effects of family communication patterns (FCPs) and parents' family role (e.g. Father or Mother). The research implications may provide opportunities for further exploration toward parent-adolescent communication and dyads relationship.

Key words: Examination, parent-adolescent communication motives, relational maintenance, intimacy, communication technologies.

INTRODUCTION

The adolescents today regard mobile and online communication as part of their daily routine. They are characterized to be isolated and technology savvy as their time is occupied by various online activities and perceived less contact with their family members. On the other hand, recent studies have shown that parents are increasing their uses of new communication technologies to connect with their digitalized children, such as Internet, cell phone and now Facebook as complements to face-

to-face communication (Madden et al., 2013; OECD, 2007; Protalinski, 2012; Rudi et al., 2014). As communication technologies evolve, both parents and children view the use of communication technologies as having both positive and negative consequences. The implications and communication of new technology used in the family is still uncertain as the information could be helpful to bridge the gaps of intergeneration communication problems or it merely creates more family

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conflicts (Mesch, 2006a). The interactions undertaken through the uses of new communication media are presenting a distinctive pattern from those media used in the past, such as Internet and mobile phones versus newspaper and television, as adolescents are more experienced and knowledgeable to the new technology than their parents.

According to the statistics by Pew Internet project in a survey of 802 teens ages 12-17 and their parents, 78% of teens have a cell phone and 47% of these users own smartphones. The proportion of adolescents use their cellphones to access to Internet is larger than adults with cellphone access (Madden et al., 2013). The variations of cellphone uses by both teenagers and adult parents are inclined to be affected by gender, age, and parents' education level and household income accordingly (Brown et al., 1999). In a study of interpersonal relationship between virtual and physical world, Wallace (2001) said the adolescent expressed different motivation, attitudes and behavioral patterns toward online relationship compared to their physical counterpart. Although prior research has conducted a numerous studies based on the impact of Internet and individuals' social relationships, the results are not expanded to explain the dyads relationships. Based on this regard, the use of new technology and the consequences of parent-adolescent interactions in online contexts are not yet acknowledged. Apart from their parents, adolescents nowadays are described to be the net generation or digital natives which means they are fluent and familiar with new technologies than previous generations (Prensky, 2001; Tapscott, 2009). They are also frequent in using new media to communicate and learning with parents and peers. Hence, parents would have difficulties communicating with their adolescent child if they fail to acknowledge the emergence of technology or develop related knowledge toward using digital tools used by their adolescents. In addition, extant literature on parent-adolescent communication is limited in revealing how they utilize different communications technology, such as e-mail, instant message, or social networking sites, to fulfill their needs with each other (Padilla-Walker et al., 2012; Ramirez and Broneck, 2009; Williams and Merten, 2011). Moreover, both parents' and adolescents' perceptions of relational maintenance and intimacy utilized in numerous studies are investigated as both factors represent the decision-making process and consequences of parent-adolescent interactions (Hu et al., 2004; Ledbetter, 2009; Rabby, 2007; Stafford, 2010). Therefore, the aim of this study is to seek insights from a theoretical model that constructed by the communication motives that inspire parents to participate in an online communication and the perceived intimacy as the consequences of their dyads relationships. Moreover, the moderating effect of family communication patterns is also taken into account to provide further explanation between parents and adolescents.

LITERATURE REVIEW

Communication scholars have observed the impact of computer-mediated communication on adolescents' media behaviors and family relationship (Lin and Atkin, 1989; Morgan et al., 1990; Alan M. Rubin, 1979). Lin and Atkin (1989) focus on parents' participation in the adolescents' use of media. Alan M. Rubin (1979) examines the factors that determine the adolescents' uses of TV viewing. As the functions of old media are competing with new media, mostly the computer-mediated communication (CMC) (Walther, 1992; Walther and Burgoon, 1992; Walther and Tidwell, 1995), scholars turn to compare the adolescents' usage across different media (Johnsson-Smaragdi et al., 1998). Following the same vein, researchers have raised serious concern about the frequency and time span that people spend on new media which may affect their social relationship in terms of participation of social activities and time spent with others (Norman et al., 2001; Putnam, 2000). This concern is described to be more prevalent to adolescents as well. Subrahmanyam and Greenfield (2008) summarize the discussions related to adolescents' online communication and relationships. Two streams of discussions are identified as one group raises concerns about the quality of online and offline relationship and another group concern about the positive and negative aspects from the impact of online communication. However, the comparative works only focus on identifying the changes of adolescents' relationship by a particular medium or the level of relationship in general but the series of works did not extend to explore the reciprocal relationship between adolescents and their parents, especially in a pervasive environment with multiple media.

The adolescents' uses of media for interpersonal relationship

For adolescents, the sense of intimacy is perceived to be an important stage in the development of interpersonal relationship (Parks and Floyd, 1996). It is also related to one's psychological health, especially in the stage of adolescent (Roming and Bakken, 1992). Mitchell et al. (2008) postulate that adolescence is a stage where individuals start to develop closeness with others, seeking for companions and share their emotion with others by means of self-disclosure. In addition, parent-child relationship lasts longer than other intimate relationships in one's lifetime (Golish, 2000). While patterns of family relationship and intimacy are inclined to change by the emerging technologies (Subrahmanyam and Smahel, 2011). The findings by some researchers claim that adolescents who spend much time online may undermine their relationships with parents, in terms of time and frequency of contact (Kraut et al., 2002; Mesch,

2003; Nie et al., 2002; Subrahmanyam and Smahel, 2010). However, the results are ambivalent as some researchers found the negative effects of Internet are not associated with adolescents' relationships with others. In contrast, some researchers found Internet expand individuals' social network and maintain long distance relationships with family members (Howard et al., 2001; Wellman et al., 2001). The senses of loneliness and isolated from social relationship are not meant to happen to everyone in this regard.

As Internet is embedded with more accessible by the introduction of mobile phones, the unique features and communication patterns of mobile technologies may provide adolescents with the benefits of not only more contacts with family members but also yield more freedom and convenience away from parents' control. For example, the relative anonymity of Internet makes the development of new relationship online easier than face-to-face communication by reducing the risks from disclosure (Bargh and McKenna, 2004). In a study Ribak (2009) showed that adolescents' use of mobile phones increased their intimacy with family but at the same time created distance across different generations in a family. Media technology is expected to facilitate the interaction between two parties, as physical boundary is no longer an issue in personal communication. However, due to the limitation of distance and interactions, it is still uncertain how the uses of new media technologies can shape the relationships between adolescents and their parents.

The motivations of interpersonal communication

Communication scholars are devoted to assessing the impact of media uses on adolescents' social relationship. Another group of researchers are drawn to investigate the motivations that direct individuals seek from the consumption of a particular media. Uses and gratifications (U&G) theory is noted for understanding the how and why people use media to fulfill their particular needs (Katz et al., 1974). U&G theory has been widely applied by scholars in communication research to examine the use of media in general, such as newspaper and television (Kippax and Murray, 1980; Palmgreen and Rayburn, 1979; Rubin, 1983). As new media continue to evolve, researchers turn to apply the framework of U&G to study the uses new media or compare the effects of different media. Several scholars have conducted research based on U&G to examine individuals' motivations toward the uses of social media (Johnson and Yang, 2009; Raacke and Bonds-Raacke, 2008; Ramirez and Broneck, 2009; Smock et al., 2011). Moreover, researchers advanced to explore the unique function or specify the media effects based on a comparative works on a list of social media, such as instant message (Flanagin, 2005; Ramirez and Broneck, 2009), social networking sites (Raacke and Bonds-

Raacke, 2008), and blogs (Shonbeck, 2006). Quan-Haase et al. (2002) found that people use multiple media for communication on a daily basis which may against the assumptions by some scholar that media users would replace one media with another. They also found that the use contexts and social relationships are also varied in online and offline environment. The conclusion drawn by Quan-Haase and Young (2010) show that Facebook is more pertain to having fun and getting to know the social activities on a person's social network. Comparing to Facebook, instant message (IM) is mainly used for relationship maintenance and development. However, instead of identifying individuals' media preferences and gratification, the applications of U&G on social media are still limited to articulate the consequences of media uses for interpersonal relationships. Researchers thus called for understanding of multimodality that focus on the use of multiple media in interpersonal relationships (Walther and Parks, 2002). More specifically, as cited by Rudi et al. (2014), the theory of U&G has not been extended to the study of parent-adolescent communication.

The adolescents' use of new media and the consequences of family relationship

Comparing to other typology of relationships, family relationships are long-term and often difficult to dissolve (Vangelisti, 1993). The communication between parents and adolescents is described to receive less attention in the study of family communication (Beatty and Dobos, 1993). Many publications have described more parents and young adults use more information and communications technology (ICT) to communicate with each other (Connell and Dworkin, 2012; Kraut et al., 2002; Madden et al., 2013). Both positive and negative responses are perceived as adolescents' privacy and online behaviors are the focal point in the discussion. Nonetheless, it is evitable that parents' use of new media would have affected the adolescents to use a particular media, especially for communication (Blackshaw, 2009). Hence, it is of great importance to assess the uses of communicative media between adolescents and parents and the consequences of family relationships.

Scholars who studied family relationship hold the beliefs that intimate relationships can be assessed by the theories of equity or interdependence (Vogl-Bauer et al., 1999). The findings of Canary and Stafford (1992) show intimate partners should reveal both giving and receiving behaviors in an equal state to maintain a peaceful and long-term relationship. In contrast, Dainton (2000) attribute the satisfaction level of family relationship is largely relied on the comparison between one's expectation and relational maintenance behavior. If there is a gap between expectation and consequences of relational maintenance, the mechanism of mutual trust and satisfaction level are decreased. To summarize the

two approaches, researchers conclude that adolescents may encounter the conflicts between striving for independence and family responsibility. Hence, the adolescents' strategy of maintenance behavior becomes critical to the process of family interaction and the quality of relationship (Canary and Stafford, 1992; Vogl-Bauer et al., 1999). However, the scope of existing research on maintenance strategy and interpersonal communication is limited to certain group of interactions, such as married couples or friends, and little attention was paid to the relationship between adolescents and parents. Moreover, the use of new media is also new to the domain of relational communication (Ledbetter, 2010). Hence, it would be very useful to not only specify the medium undertaken by parents and adolescents, but also advance to acknowledge the process and consequences of relational communication.

Constructing the framework that links the process and consequences of parent-adolescent communication

Past research has accumulated numerous discussions on adolescents' use of technology but mainly identify the differences between online and offline communication (Tong and Walther, 2011). Some researchers are inclined to investigate the relational aspects of interpersonal communication in online environment, such as peers, romantic partners and family (Subrahmanyam and Smahel, 2011), but not extended to thoroughly target at parent-adolescent in this regard. To evaluate the interaction of family communication, it is crucial to specify the influential factors, the use contexts, and subjects who involved in the communication (Chaffee et al., 1971). Hence, it is necessary to develop an empirical framework based on the subsequent discussion as follows.

Researchers have long for understanding how people make decisions, share information, and express their thoughts and feeling through communication. The core concept of interpersonal communication is targeted to understand how people fulfill their needs through communicating with others. Rubin et al. (1988) claim that the human behavior of interpersonal communication can be explored in three aspects, such as the typology of interpersonal communication behavior, the content of interaction, and the development of interpersonal relationship. Graham et al. (1993) extend the model of interpersonal communication motives to study the family communication. Anderson and Martin (1995) attribute the patterns of interpersonal communication, such as assertive and responsive, to explain the different origins of communication motives. Barbato and Perse (1992) examine the age and gender of elder people and see if they are different in communication motives with others.

Although the attentions of interpersonal communication research have turned to the study of family communication, more speculation on the relationship

between parents and adolescents are expected. Hence, the following question is thus proposed.

RQ1. What are the motivational factors that drive parents when using relational technologies to communicate with adolescents?

Although the connection between parents' communication motives and relational consequences are not yet disclosed to the public, researchers who studied interpersonal relationships have built a solid conceptual framework that describes the process and consequences of interpersonal communication and social relationships, such as relational maintenance (Myers and Glover, 2007; Rabby, 2007; Stafford and Canary, 1991). The construct of relational maintenance, described as the stable process of one's social life, has been examined under different types of relationships and subjects in the subsequent works (Canary and Stafford, 1994; Canary et al., 1993; Myers et al., 2009; Rabby, 2007). Moreover, the study of individuals' maintenance behaviors is thus expanded to assess the results of interpersonal interaction, such as satisfaction, quality of relationship, and other effects (Dainton, 2000). Recently, scholars have applied this construct to study the relational effects of new media (Ledbetter, 2010; Ledbetter and Kuznekoff, 2012; Tong and Walther, 2011). In addition, the level of intimacy has been related to relational satisfaction and closeness (Hu et al., 2004; Mitchell et al., 2008; Subrahmanyam and Smahel, 2011). Prior studies mainly adopt relational closeness as the result of adolescence friendship but they are not explicable to the contexts between parents and adolescence (Ledbetter, 2008; Repinski and Zook, 2005; Valkenburg and Peter, 2007). In addition, unlike the evaluation of satisfaction or closeness as a unidimensional construct, it is more appropriate to assess the impact of relational interaction from multiple dimensions. Many scholars supported this notion as they divide the concept of intimacy into subsets, such as verbal, affective and physical intimacy (Tolstedt and Stokes, 1983). The expression of intimacy is subject to change by different subjects, such as friends, romantic partners, and family members (Subrahmanyam and Smahel, 2011). However, it is still unknown whether parents would have different perceptions of relational maintenance and intimacy when communicating with adolescents through the use of different media. Hence, it is crucial to understand the parent-adolescent uses of new media influences the consequences of their dyads relationship, such as different perceptions of relational maintenance and intimacy.

RQ2: What are the parents' perceptions of relational maintenance and intimacy in the use of new technology to communicate with their adolescents?

The interpersonal communication is regarded as the function of subsequent uses of technology over time,

such as e-mail, instant message, micro blogging and social networking sites. Johnsson-Smaragdi et al. (1998) in their comparative analyses in cross-country study uncover how adolescents react to the use between old and new media. Teenagers may have distinctive patterns on media consumption compared to their parents. Adolescents are concluded to use more Internet and social media than adults (Madden et al., 2013). Parents and adolescents are also found to have different perceptions and usage patterns when they use social media for interpersonal relationships (Christofides et al., 2011). In addition to communication motives in U&G theory, communication scholars have identified the role of family communication pattern on family relationship and media uses (Lull, 1980). Family communication pattern (FCP) is utilized not only to describe the adolescents' communication contexts in the family (Tims and Masland, 1985) but also used to assess the variance of family relationships (Campbell et al., 1984). To standardize the measurement of family communication pattern, Ritchie and Fitzpatrick (1990) develop an instrument to identify the variance of communication pattern from the comparisons of dyads relationship among family members. To examine the relationship between family communication pattern and relational maintenance, Ledbetter (2009) used FCP as the antecedent factor of relational maintenance and friendship closeness in online and offline environment. Prior research is devoted to specifying the functions of family communication patterns to either the competence of parents and adolescents or the consequences of parent-adolescent interaction. Based on the prior works of conversation and conformity orientation, Koerner and Fitzpatrick (2006) provide explicit descriptions and typology with regard to the family communication patterns. Four types of family are thus listed, such as consensual, pluralistic, protective and laissez-faire. The construct of family communication pattern is also regarded to correlate with communication motives (Barbato et al., 2003) and relational maintenance (Ledbetter, 2009; Serewicz et al., 2007) respectively. Hence, it should be suitable to use FCP to hypothesize its effects on parents' communication motives and relational maintenance in the communication with adolescents.

RQ3. What is the effect of family communication patterns (FCP) in the parents' perceptions of relational maintenance and perceived intimacy while interacting with adolescents?

In summary, the empirical framework was constructed by incorporating the parents' communication motives and their perceptions of relational maintenance and intimacy. The external variables, such as family communication patterns and parents' role as communicators, served as moderating variables (Figure 1).

METHODOLOGY

This research aims to investigate the parent-adolescents' use of relational media for communication. Hence, parent-adolescents who did not have prior experiences in using new communication tools are excluded from this study. Based on the family lifecycle and the stage of adolescent (Duvall, 1971), parents who have children aged 12 to 18 years old at home and have experiences using their mobile phones to communicate with their children are chosen to be participating in an online questionnaire. 400 participants were recruited and collected by InsightXplorer which is experienced in using online panel for business marketing, the sample was collected based on the demographic distribution of Taiwan's population. Three sections compose the online questionnaire: the first section is the experiences and technology choice used by participants. The second section is used to ask participants to answer the psychological and behavioral statement related to the technology uses for family communication. The third section is to collect the information about the participants' demographic and family status. The psychological factors, such as interpersonal communication motives, relational maintenance and perceived intimacy were measured by 5-point Likert scale. The process of data collection is complete in one month.

Participants' demographics

The gender of participants is 50.3% male and 49.7% female. The age range of adolescents' parents is mostly fallen upon 41 to 50 years old and most of them have a bachelor or equivalent degree (67.8%). The geographical distribution of collected sample is basically matched with the population in Taiwan where half of the participants are collected from northern Taiwan (56%), followed by southern (21.8%) and central (20.3%) area respectively.

Apart from face-to-face communication, the majority of parents use instant messaging to communicate with adolescents (55.5%), followed by social networking sites (36.5%). Micro blogging is the least choice in parent-adolescents' communication (Table 1).

In Taiwan, most parents' use instant messaging services, such as Line or WeChat, to communicate with adolescents everyday (56.3%), followed by social networking sites (44%). Comparing to the use of microblogging in U.S., Taiwanese parents do not use twitter or plukr to send messages to their children and 64.8% of parents reported they never use microblogging services for communication (Table 2). Other communication methods, such as Internet phone and e-mail, are also reported for being less uses by parents. It is reasonable as most instant message applications, such as Line or Skype, have integrated the functions from voice and text communication. The uses social networking services, such as Facebook or Instagram, may provide some unique features for parent-adolescent communication and not easily substituted by other communication. In addition, parents do not necessarily switch between applications for communicating with their children. It is also reflected to some observations that parents' use of a particular technology is expected to affect their children's uses as well. The relational media today resemble the reciprocal communication between parents and children and thus are quickly adopted by individuals for communicating with others.

Model testing

Subjects completed adapted version of the Interpersonal communication motives scale (Rubin et al., 1988), the relational maintenance scale (Canary and Stafford, 1992), the intimacy scale (Hu et al., 2004). The measures were adapted so the subjects were reporting why and how they conduct dyad communication. The

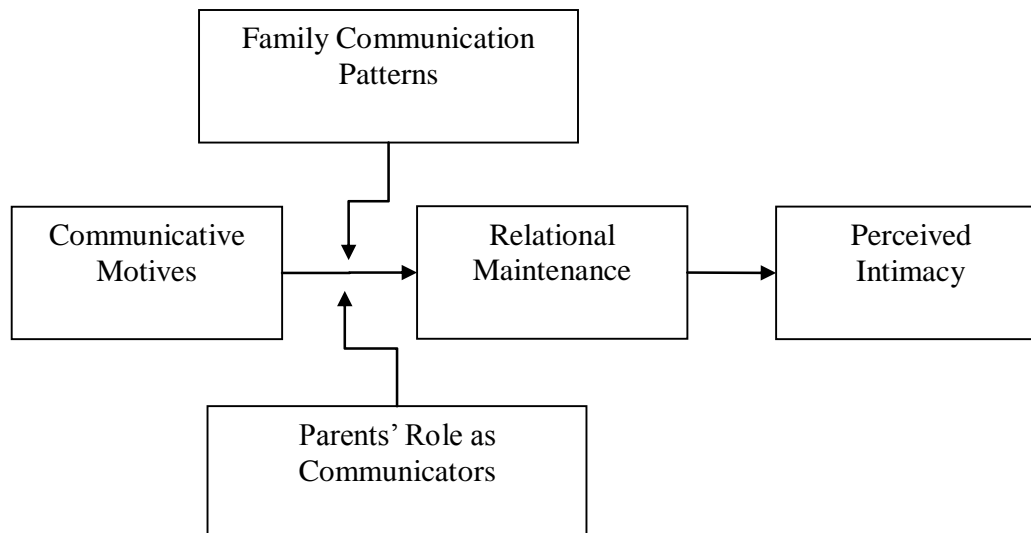


Figure 1. Research model.

Table 1. The choice of communication medium between parents and adolescents.

Medium	Number	Percentage (%)
Social networking sites	146	36.5
Instant Message	222	55.5
Microblogging	1	0.3
Internet phone	14	3.5
E-mail	17	4.3

n=400.

revised 26-item interpersonal communication motives scale consists of six individual motives. Coefficient alphas for the motives in this study were: .90 for pleasure, .88 for affection, .84 for inclusion, .86 for relaxation, .83 for escape, and .77 for control. The 22-item relational maintenance scale was adapted from original measures for maintenance behavior which consists of five dimensions. Coefficient alphas for the dimensions in this study were: .87 for positivity, .89 for openness, .87 for assurance, .73 for social networks and .87 for shared tasks. The revised 14-item perceived intimacy scale consists of four dimensions. Coefficient alphas for the dimensions were: .86 for verbal, .91 for affective, .72 for virtual, and .78 for social. The instrument is assessed for achieving the accepted threshold reliability above the value of 0.7 (Nunnally, 1978).

Affection is the most important factor that motivates parents to communicate with their adolescents ($M=3.79$, $SD=0.69$), followed by relaxation ($M=3.71$, $SD=0.64$). Escape is probably the reason that individuals use technologies, but not for parent-adolescent communication ($M=3.03$, $SD=0.84$). In contrast, the uses of technology for relational maintenance between parents and adolescents reveals that parents believe the main reasons to use technology tools to maintain relationships with their adolescent children are positivity ($M=3.73$, $SD=0.63$) and assurance ($M=3.70$, $SD=0.66$). The result is corresponding to the factors we found in the prior evaluation of parents' communication motives. Other factors,

such as shared tasks ($M=3.58$, $SD=0.69$) and connecting to adolescents' social networks ($M=3.54$, $SD=0.80$) are shown to be less importance. Hence, we can conclude that parents who use relational media to maintain relationship or communicate with adolescents are mostly derived from their affection and wish to support their children spontaneously. In addition, parents may perceive using relational media to be a less intense way to express their feeling to adolescents. In our in-depth interviews prior to the survey, we found most parents attribute the uses of instant messaging services to be a proxy that both parents and adolescents can express their feelings or things explicitly in the communication better than face-to-face communication. This evidence is complemented to the functions of instant messaging in the computer-mediated communication (CMC) research (Ramirez and Broneck, 2009).

Multiple regressions analysis is used to examine the relationships among parents' communication motives, relational maintenance, and perceived intimacy from the use of relational media. Six factors from interpersonal communication motives and relational maintenance are served as predictive variables and perceived intimacy is represented as outcome variables. The empirical model explains 65.1% of the variances. The model fit is assessed by ANOVA test and accepted for further exploration (F -value=107.25 and p -value < 0.05). Relational maintenance is the most influential factor ($\beta=.38$, $t=6.18$, $p<0.05$) followed by affection ($\beta=.18$, $t=2.82$,

Table 2. The frequency of contacts between parents and adolescents in the uses of relational media.

Usage	SNS (%)	IM (%)	Blog (%)	IP (%)	E-mail (%)
Every day	44.0	56.3	3.8	8.3	30.3
4 to 5 days a week	11.0	14.5	5.8	8.8	8.8
2 to 3 days a week	15.0	11.8	7.3	10.8	13.0
One day a week	7.3	4.5	6.8	7.5	3.3
At least one day in two weeks	3.3	1.5	5.3	6.3	4.5
At least 2 to 3 days in two weeks	1.0	0.8	0.8	2.3	3.3
At least 1 day in a month	7.3	2.3	5.8	9.5	8.5
Never use	11.3	8.5	64.8	46.8	28.5

SNS: Social networking sites; IM: Instant messaging, Blog: Microblogging; IP: Internet phone; n=400.

$p < 0.05$) and inclusion ($\beta = .17$, $t = 2.91$, $p < 0.05$). Hence, relational maintenance is shown to be a critical factor that facilitates individuals' communication motives and perceived intimacy through communication. To further specify the parents' motivation and perceived intimacy through new media communications, four hypothetical models are composed and represent parents' motivations and their perceptions of intimacy in the uses of technology to communicate adolescents. The results are shown as follows.

In the model 1, these variables account for 53% of the variance. The relationship between perceived verbal intimacy and communication motives is significant ($F[6,393] = 75.82$, $p < .001$). Affection ($\beta = .25$, $t = 3.97$, $p < 0.05$) and control ($\beta = .20$, $t = 2.92$, $p < 0.05$) are revealed to be the most important factors in the use of technology for parents to express verbal intimacy with adolescents.

Model 2 accounts for 59% of the variance. The relationship between parents' communication motives and perceived affective intimacy is also significant ($F[6,393] = 95.57$, $p < .001$). Affection ($\beta = .28$, $t = 3.10$, $p < 0.01$), pleasure ($\beta = .24$, $t = 3.24$, $p < 0.05$) and inclusion ($\beta = .22$, $t = 3.10$, $p < 0.05$) are perceived important in determining parents' uses of technology for expressing affective intimacy.

Model 3 accounts for 50% of the variance. The relationship between perceived virtual intimacy and communication motives is significant ($F[6,393] = 66.33$, $p < .001$). Inclusion ($\beta = .28$, $t = 3.69$, $p < 0.01$), affection ($\beta = .23$, $t = 3.45$, $p < 0.05$), and pleasure ($\beta = .20$, $t = 2.51$, $p < 0.05$) are found to be the most important indicators.

Model 4 accounts for 49% of the variance. The relationship between parents' communication motives and perceived social intimacy is significant ($F[6,393] = 65.13$, $p < .001$). Affection ($\beta = .26$, $t = 3.89$, $p < 0.01$), control ($\beta = .24$, $t = 3.32$, $p < 0.05$) are the only two significant determinants.

FINDINGS

Effects of family communication patterns

Instead of treating family communication patterns (FCP) as the driving force of interpersonal relationships, this study took a different view by observing parent-adolescent relationships in the relative communication styles. To test the variation of family communication patterns, four groups of parents are formed based on the interaction of conversation and conformity orientation by following the median split procedures suggested by

Ritchie and Fitzpatrick (1990). The four groups are consensual (i.e. high conversation, high conformity), pluralistic (High conversation, low conformity), protective (Low conversation, high conformity), and laissez-faire (low conversation, low conformity). The characteristics of family communication patterns were assessed by the regression weights and explained variance in the multiple group analysis. The group of consensual family showed no difference in the correlation between parents' communication motives and perceived intimacy. The variances explained by the models of perceived intimacy are ranged from 26% to 45% (See Appendix A). In contrast, the group of pluralistic family reveals a different pattern compared to the consensus one. In pluralistic family, parents are characterized to derive from a variety of motives and perceived the particular aspect of intimacy accordingly. For example, parents' perception of verbal intimacy is originated from the motivation of control. The use of modern technologies, such as instant message and social networking sites, provide lots of benefits for parents to discuss their needs through online communication. Parents' perceived level of affective intimacy is more reflected to their orientation of their affection when using new technology tools for communicating with adolescents. It is interesting to note that parents attributed to pluralistic family feel more close to their children in the online communication than the others. Same scenario is also happened in the perception of social intimacy. The uses of communication tools may facilitate the parent-adolescent interactions in terms of activity arrangement and family discussions. Surprisingly noted, parents in the protective family demonstrate a unique pattern than the others. Parents may own the absolute power in controlling all the communication and adolescents are requested to follow the disciplines. The awareness of control is more obvious when parents need to communicate with adolescents for sharing tasks or discussing family issues. The consensus and laissez-faire family are the two opposite quadrants in the axis separated by the degrees of conversation and conformity. Hence, the laissez-faire did illustrate a distinctive pattern to its counterpart. Parents categorized as laissez-faire

family may show their supports to adolescents by means of oral conversation or sending text messages. They may perceive the use of technology tools to be very helpful in expressing their emotion, assurance and sharing fun with children. Comparing to the protective family, parents in the laissez-faire group may perceive online communication with adolescents to be a hedonic experience rather than the use of media for instrumental purpose. The communication between parents and adolescents are perceived to be less intense and more enjoyable.

Effects of parents' role in communication

We also compared the effects of parents' role in the contexts of communication motives and perceived intimacy between parents and adolescents by using multiple regressions analysis with split samples (Appendix B). The results show father and mother are heterogeneous by deriving their motivation with the outcomes of intimacy. Father is inclined to show his verbal intimacy originated from relaxation and mother on the other hand is derived from affection. The effect is more perceptible with respect to the parents' expression of affective intimacy. As a protector and guardian in a family, mother regards the use of new communication media to interact with adolescents out of pleasure, assurance and sense of belongingness. In most Taiwanese family, mothers often expect their children to report their status when they are away from home or call to their mobile phones if they are not home yet. The same scenario is repeated in the online environment as well. Father, on the other hand, may consider communication with adolescents through new media is an experience of feeling relax, control and care. Father and mother also exert different patterns on the perceptions of social intimacy as well. Father may perceive the needs to control or feeling less intense when talking to their children to participate in family social activities from their mobile phones. Mother, in a contrary, wishes their children to be part of family activities when she chooses to use new communication media for social gathering. The results are in accordance with prior conclusions that parents may have different communication strategies and outcomes when communicating with adolescents (Lei and Wu, 2007; Martin and Anderson, 1995; Repinski and Zook, 2005; Ritchie and Fitzpatrick, 1990; Rudi et al., 2014).

In summary, parents vary in their motivations in the use of technology for communicating with adolescents and expect for different aspects of intimacy in return. Parents are revealed to provide their assurance and controlling power over verbal communication online. Parents may find it useful to request adolescents to remember the schedule of family activities or understand where they are and who they are with. The use of relational media, such as IM or Facebook, provides a proxy for communication

parties to express their thoughts and emotions by manipulating texts and icons explicitly. Comparing to the conclusion of CMC research, the scenario closed to face-to-face communication is not what parents expected in the use of technology for expressing their relationship and intimacy with children. Parents may find it easy to deliver their messages to adolescents without any interference. In addition, the messages of communication via mobile phones or online can be tracked and stored for other purposes.

The uses of new technologies, such as mobile phone and instant message, have been documented for the benefits of social awareness and connectedness (Rettie, 2003; Wei and Lo, 2006). The feeling of belonging, emotional and delightful experiences is regarded as the catalyst for parents to use new technology for showing their cares and momentous feeling towards adolescents. Many people may doubt the reality to develop online relationship while some evidences have shown the frequency and time duration of online interactions are complementary to the development of physical relationship (Mesch, 2006b). Similar to the perceptions of affection, parents who favored online communication may also find it useful to express feeling and connectedness with adolescents. Hence, the result can be referred to the notion that parents use instant message or social networking sites to reinforce their connectedness with adolescents online and offline (Kanter et al., 2012; Lenhart et al., 2006). Another similar finding is revealed from the examination of social intimacy. Both affection and control are perceived as two critical factors that motivate parents to use technologies for oral discussion and arrangement of social activities. Hence, it is conceivable that many families and individuals are joining online groups for different interests and benefits. More family members are expected to use these technology tools for maintaining relationships and intimacy in the next few years.

Conclusion

The communication between parents and adolescents is worth of more attentions as more technology tools are pervasive to use in our daily life. The interconnection between parents' communication motives and relationships with adolescents has proved to yield useful information for academic researchers and family counselors. Overall, parents in Taiwan may feel they have more responsibilities to control and direct adolescent children in the online and offline communication. Most parents learn to utilize different technology tools to communicate with their children online and offline. The use of technology may provide a good proxy for parents to articulate their discussions or express emotion in a corroborated manner. In some contexts, technology also offers a virtual space for parents and adolescent to feel

psychological connectedness. Parents may perceive the virtual interactions to be positive and complement to their offline communication. In addition, this research reveals the fact that family communication patterns may play a critical role in directing parents' communication motives and perceived intimacy in their dyads relationships with adolescents. Again, the effect of family communication pattern is proved to be reliable and critical to acknowledge the effects of the parent-adolescent communication. Lastly, similar to the recent result by Rudi and her colleagues that communication methods (or media in this study) and parents' role in adolescent communication are diversified and worth of further investigation. Future research may wish to explore more aspects in relation to parent-adolescent communication and dyads relationship.

LIMITATIONS AND FUTURE RESEARCH

Although this study is the first to explore the communication motives, relational maintenance behavior and intimacy through the use of new communication media in family communication contexts, some limitations are applied. First, the content of communication between parent and adolescent is excluded from the due to the respect of user privacy and research design. Future research may wish to explore the nuance of relational motives and intimacy by conducting content analysis based on daily conversation between parents and adolescents. Second, the samples are drawn from parents instead of pair samples from both parents and adolescents. Researchers may consider verifying this theoretical framework in different settings. Last, although the relationship between relational maintenance behavior and intimacy are referred in the prior research but has not been verified. In this research, both constructs are measured by individual perceptions and thus raised the concerns of multicollinearity. Future research may wish to use attitudinal measures to re-specify their relationships.

Conflict of Interests

The author has not declared any conflict of interests.

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