

*The Examination of Adolescents' Motives, Relational Maintenance, and Intimacy  
in their Communications with Parents*

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**Abstract**

The widespread and mobile access to new technologies has affected adolescents' daily lives. Prior studies have attributed the influences of emerging technologies to the negative effects of adolescent behavior, while little attention was given to the results of family relationships. Drawing from the perspectives of media uses and gratifications and family relationships, 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 the parents' roles are also included to explore the multiplicity of the relationships.

A group of 307 adolescents were surveyed and analyzed by statistical methods. The results show that adolescents prefer using instant messaging to communicate with their parents, which motivates them to express their feelings and assurances. In addition, geographical location and family communication patterns affect adolescents' perceptions of communication motives, relational maintenance, and intimacy. Finally, the empirical model is proved to not only compare the adolescents' perceptions of using different media in family communication but also reveal the consequences that correspond to the parent-adolescent dyads relationships. The implications are expected to help social workers and parents to consolidate relationships with adolescents through the complement of new communication media.

Keywords: adolescence, family relationship, new communication media, uses and gratification, intimacy

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## 1. Introduction

The widespread and mobile access to new technologies has affected adolescents' daily lives. They are labeled as digital natives or the n-generation. Prior studies have argued that most adolescents squander their time in online communities and have reduced the amount of time spent in communicating with friends and family members in person, and thus created negative effects such as Internet addiction, relational isolation, and family conflicts. The phase of adolescence in the process of human development is normally fragile and sensitive and it requires much attention from parents to understand the importance of communication technologies in family relationships.

In addition, within the field of media effect, in recent years scholars have continued to investigate the influences of new media technologies on the development processes of adolescence, ranging from TV, personal computer, to Internet and mobile phones. However, the communication contexts and content vary when compared to face to face and online communication. The conclusions are not capable of explaining the effects derived from new technologies and the consequences of adolescence, such as the levels of relational satisfaction, intimacy and behavioral patterns. The family relationship of adolescents, measured by the frequency and duration of using the new technologies does not explain the interrelations of the family members, technology uses, and adolescents' behavior. Different results have been published based on constant evaluations of adolescents' access to various technologies (Blackshaw, 2009; Boase, Horrigan, Wellman, & Rainie, 2006; Lenhart, Madden, Macgill, & Smith, 2007; Macgill, 2007). According to a survey by Pew Internet Project in 2013, over half of adolescents use smartphones and spend more time online than with their parents (Madden, Lenhart, Duggan, Cortesi, & Gasser, 2013). Other studies also show both adolescents and parents' use of technologies are subject to the differences in gender, age, family income, and parents' education (Brown, Childers, Bauman, & Koch, 1999). More parents and adolescents regard new technologies as a tool to communicate with others (Boase et al., 2006; Lenhart et al., 2007; Macgill, 2007; Madden et al., 2013; Schwartz, 2004), which motivate us to explore this topic in detail.

The conclusions of the impact of new technologies on adolescents tend to be more negative than positive. Scholars argued that adolescents are overly immersed in virtual communities based on the conditions of time and frequency and lack of communication and relational development with the physical world (G. S. Mesch, 2003; Nie, Hillygus, & Erbring, 2002; Subrahmanyam & Greenfield, 2008). In contrast, the lack of physical cues might yield more benefits for people to express their inner thoughts and emotions by avoiding physical contact with others (Riva, 2002). Schwartz (2004) offered some advantages of computer-mediated communication between children and parents, such as eliminating tensions, more organized thoughts, or new ways of communication by filtering the non-verbal cues. Acknowledging the pervasive debates between the intervention of new technology and the impact of family relationships, the aim of this study is to develop an empirical model to understand the intention of communication technologies utilized by adolescents, which results in their motivations and perceptions of relationships with parents.

## 2. Literature review

Family communication is critical to the adolescent development stage. The effectiveness of family communication is associated with positive development of adolescents' capabilities in different perspectives, such as attachment, social comprehensions, and abilities of cognition and emotion (Vuchinich, Ozretich, Pratt, & Kneedler, 2002). Olson (1993) defines positive adolescent–parent communication as when either adolescents or parents can utilize the communication skills to maintain the family relationships and increase the adaptabilities and cohesion of family members, and thereby establish a healthy family environment. Most family studies explored the connections between communication media and results of relationships rather than interactive processes and behaviors. Their scopes of exploration are also limited to a specific family group, such as spouse, sibling, and adolescents rather than the dyads relationship between adolescents and parents. Vogl-Bauer (1999) considered whether the adolescents' or parents' strategies of relational maintenance would influence how they communicate with each other and the consequences of their relationships.

### 2.1 Adolescent's use of new media technologies

Like other generation, scholars consider the uses of new technologies, such as the Internet, are mainly for communication and maintaining relationship with others. Hence, most studies argue that adolescents would seek support and relational ties through online communications with peers (Gunuc & Dogan, 2013; Lee, 2009; Lenhart et al., 2007). New relationships and communication can be established by the emergence of new technologies that people use, which also make prior studies adjust their framework based on the use contexts of new technologies (Lenhart, Lewis, & Rainie, 2006)

Lee (2009) summarized the related works on Internet use by adolescents and concludes with four principles: substitution, reinforcement, consolidation, and social compensation. Prior studies that support the principle of substitution argue the time spent on new technology has occupied the time span on social life and directing the feelings of individuals (Gunuc & Dogan, 2013; Kraut et al., 2002; G. S. Mesch, 2003; Nie et al., 2002). In contrast to the viewpoint of substitution, the scholars who support the principle of complement believe that people can expand new relationships and intimacy with others, which are irrelevant to their usage on the Internet. According to their findings, adolescents' feeling of family communication and social support increase along with the increase of online usage. (G. S. Mesch, 2003). Following the principle of consolidation, scholars conclude that adolescents' online relationships can be consolidated in combination with their existing social network. In other words, adolescents may feel a stronger need to contact with peers after online communications with the same groups. Finally, the principle of social compensation is attributed to the adolescents' personality. Adolescents who are introverted and socially anxious can gain help from the applications of new media technologies, such as E-mail and instant messaging, to expand their peer communication and relationships. Hence, researchers are in consensus that the adolescents' usage of new technology and development in their personal relationships are complex. Insights of connections between technology usage and adolescents' relationships can be

comprehended by comparing different communicative users, technologies, level of relationships, and results (G. Mesch & Talmud, 2006).

## 2.2 The motivations of interpersonal communication

To further understand the determinants that family members communicate with each other, prior studies applied theories from social psychology, such as Motivation Theory (Dweck & Leggett, 1988) or Theory of Reasoned Action (TRA) (Ajzen & Madden, 1986) to understand how individuals create motivations through the needs of cognitions and provide an overall assessment based on the surrounding environment and personal abilities toward generations of human behaviors. Meanwhile, individuals are inclined to utilize tools or resources to satisfy their needs, which are assumed to be goal-oriented. Hence, it is crucial to understand the individuals' motivations and perceptions in order to explain their behaviors in the use of new technologies. Originated from Motivation Theory, Schutz (1966) and Rubin (1988) incorporate the needs of others and develop the scales for measuring the individuals' motivations of interpersonal communication. Schutz (1966) believes that people interact with each other because they want to satisfy their needs from others. Hence, he believe there are three motivations that initiate from interpersonal communication.

1. Inclusion: inclusion refers to the purpose of interpersonal communication, which is to achieve a satisfactory engagement and partnership with others.
2. Control: the purpose of interpersonal communication is to maintain individual power and influence others.
3. Affection: the purpose of interpersonal communication is to maintain love, worship and passion between each other.

Later, Rubin et al. (1988) added three interpersonal motives:

1. Pleasure: interpersonal communication is to be happy.
2. Escape: the aim of interpersonal communication is to cancel or avoid further communication.
3. Relaxation: it is easy to be relaxed through communicating.

According to the original scales of interposal communication motives by Rubin et al. (1988), six dimensions are illustrated as pleasure, affection, inclusion, inclusion, escape, relaxation, and control. The measurement of interpersonal communication motives are also verified by other scholars to achieve both reliability and validity (Barbato & Perse, 1992; Graham, Barbato, & Perse, 1993; Martin & Anderson, 2009; Myers, Brann, & Rittenour, 2008).

## 2.3 Relational maintenance

The initiation and termination of interpersonal relationships is gradual development evolved with different time spans and formats of interactions. Altman and Taylor (1973), in their theory of social penetration, use the profile of an onion to show the width and depth of personal relationships. The process of interpersonal relationships is involved with relational establishment, reinforcement, maintenance, delusion, and termination. Through message communication and self-disclosure, individuals are capable of increasing or maintaining relationships with others. It is also critical to verify the causal links between interpersonal communication and relational

maintenance. The applications of such connections can be also applied to specific groups of communicators, such as spouses, friends, and relatives (Canary, Stafford, Hause, & Wallace, 1993; Dindia & Canary, 1993). Unlike the subjects in prior studies, adolescence is a stage of human development with huge transitions in both physical and psychological aspects. Hence, the adolescents' relational maintenance with parents is requires further attention (Thorton, Orbuch, & Axinn, 1995). Stafford and Canary (1991) propose the development of relational maintenance in two dimensions: the phases of relationship, referred to as the four stages of human relationship, and the relational strategy, which people utilize to connect with the others. The composition of relational maintenance consists of five dimensions—positivity, openness, assurance, social network, and task sharing. Synthesized from prior works of relational maintenance, most studies emphasize friends and intimate partners. Little research was found that portrays the maintenance of family relationships, especially the relational maintenance between adolescents and parents (Caughlin, Koerner, Schrodtt, & Fitzpatrick, 2011). In addition, the intervention of new media technologies, such as the Internet, led to the various comparisons between individual relationships in online and offline environments. Most research topics are surrounded by friendship maintenance and are not extended to the scope of new technologies and relational maintenance between adolescents and parents.

#### 2.4 Intimacy

The definition of intimacy in general refers to the level of disclosure and mutual share of personal thinking, feeling, common interests or even imagination. As mentioned above, the phase of adolescence is when children begin separating from their parents' protection and control and gradually evolve to establish intimate relationships with others. Researchers have compared adolescence with other stages of human development and concluded that the relationships between adolescents and parents are full of tensions and contradictions. The adolescents may hold different opinions to their parents and are expected to generate family conflicts that affect their development of personal relationships at school and further expand into society (Roming & Bakken, 1992). Solomon, Warin, Lewis, and Langford (2002) hold the belief that intimate conversation between children and parents is associated with family communication and benefits maintaining a good family relationship. Hu, Wood, Smith, and Westbrook (2004) revealed the connections between personal uses of instant messaging and intimate relationships, but their study was limited to exploring new relationship between friends and was not extended to intimate relationships between adolescents and parents. Meanwhile, Subrahmanyam and Smahel (2011) believed that individuals' perceptions and consequences of intimacy are determined by different communicative partners. Few studies has been conducted to explore the connections between relational maintenance and level of intimacy during the intervention of new communication contexts and further attention should be given to this (Parks & Floyd, 1996).

The intimacy of interpersonal relationship is regarded as a multi-dimensional construct. Miller and Lefcount (1982) examined how social intimacy affects individuals' relational satisfaction. Tolstedt and Stokes (1983) further divided the concept of intimacy into intimate relationships in terms of verbal, affection and physical contact. Moss and Schwebe (1993) explored the marriage relationship and

pinpointed that the intimacy of loving partners exists within cognition, affection and physical contact, including both physical and psychological commitment.

## 2.5 Family Communication Patterns (FCP)

Family communication is regarded as a long-term and crucial indicator in human relationship development. With the advent of TV into family life, the media uses and family relationship becomes a central subject among communication studies (Brown et al., 1999; Chaffee, McLeod, & Atkin, 1971; Lull, 1980). The model of A-B-X, proposed by McLeod and Chaffee (1972), regards the family communication patterns as oriented by the effects from social and conceptual origins. Acknowledging the importance of family communication patterns toward personal relationships and media choice, Koerner and Fitzpatrick (2002) extend the concept of McLeod and Chaffee (1972) and propose two major patterns, conversation-oriented and conformity oriented. The conversation orientation describes a family scenario where every family member can freely discuss and participate in all kinds of topics, including sharing individual activities, thoughts and feelings on family occasions. In contrast, the conformity orientation emphasizes the homogeneity of each family member's attitude, value and beliefs in a family. The principle of family communication is determined by harmony, conflict avoidance and interdependence. In traditional family contexts, children often follow the suggestions and decision making from their parents. Based on this anatomy, family communication patterns can be further categorized as consensus (i.e., high conceptual and high social) and pluralistic (i.e., high conceptual and low social), protective (i.e., low conceptual and high social) and laissez-faire (i.e., low conceptual and low social) (Koerner & Fitzpatrick, 2002). It is shown to be a reliable tool to understand and evaluate the impact of family communication on the development of personal relationships, such as psychological responses, conflict management and relational quality. Marketing researchers consider how the patterns of family communication would affect individuals' motivations in media use and interpersonal relationships and further affect their social learning and decision making, respectively (Moore & Moschis, 1983; Moschis, 1985). Researchers attempt to evaluate the impact of family communications on other aspects, such as parent-adolescent relationships and peer relationships. Ritchie and Fitzpatrick (1990) pointed out that the communication patterns between father and mother are varied in their communication with children. Ledbetter (2009) believed that family communication patterns directly affect adolescents' peer relationship and level of intimacy. Barbato, Graham, and Perse (2003) believed that family communication patterns are associated with communication motives. As the subjects of family communication patterns were previously examined in western countries, Zhang (2007) believes that the effects of Confucianism and structure of Asian family should be also taken into account.

## 2.6 Communication reticence

Reticence is defined as individuals avoid communicating with others as a result of believing that the more they talk the more mistakes can happen. They choose to remain silent (G. M. Phillips, 1984). Researchers show that the evaluation of students' reticence is helpful in finding students' problems of verbal communication ability (G. M. Phillips, 1991). Past studies also revealed that they tend to use computer-mediated communication if they are shy, silent, and preferred thinking (Kelly & Keaten, 2007; Kelly, Keaten, Larsen, & West, 2004; Stritzke, Nguyen, &

Durkin, 2004). The measurement of reticence, developed by (Keaten, Kelly, & Finch, 1997) includes six dimensions—anxiety, knowledge of communicative topics, time control, organization of thoughts, memory and reticence. Reticence is applied to compare the students' differences in the use of various communication media, such as E-mail (Kelly, Duran, & Zolten, 2001), instant messaging (Kelly, Keaten, Hazel, & Williams, 2010) and collaborative learning systems (Sherblom, Withers, & Leonard, 2013). The extant research has never applied the measurement of reticence in the effects of adolescents' communicative motives, relational maintenance and perceived intimacy toward communicating with parents.

## 2.7 External effects

The relationship between adolescents and parents is genetic-bound and cannot be forced to be separated by any mean. The intervention of new media relied on the long-term and mutual interactions between both parties. Other factors associated with psychological determinants should also consider their effects respectively, such as adolescents' gender, age, family background, communication media, and family communication patterns.

### 2.7.1 The gender of adolescents and parent's role in the family

Males and females are shown to be biological different in using technologies and dealing with their relationships with others (Lin & Yu, 2008). Stafford and Canary (1991) concluded that gender is one of the determinants affecting the relational maintenance. Gender is also found to influence adolescents to develop intimate relationships and family cohesion (Roming & Bakken, 1992). Gender also shows different patterns in the uses of technology in terms of usage and content on the Internet Gross (2004). Furthermore, the parent's role in the family also plays a part in influencing the children. For instance, the mother has more authority than the father in a family as they always influence the children's behavior based on the standpoint of protection and nursing care and are more often to be rejected by her children (Golish, 2000). The dyads relationships between parents and adolescents are also worth of further examination. Martin and Anderson (1995) explore fathers' communication motives, self-disclosure and relational satisfaction with adolescents. Repinski and Zook (2005) revealed the level of intimacy based on children with different age groups, including adolescents. Ritchie and Fitzpatrick (1990), in their measurement of family communication patterns, also studied children with different age groups and examined the relationships based on different communicators in the family. Hence, the association of gender between adolescents and parents should be verified in detail.

### 2.7.2 The choices and uses of communication media

The theory of media effect can be divided into media choice and media usage behavior. Rice (1993) proposed the theory of media richness to evaluate the capacity that a medium can transmit and be comprehended by individuals. Compared with face-to-face communication, individuals can communicate via computer-mediated communication in different time and space, which is assumed to affect interpersonal relationships generated online and offline (Parks & Roberts, 1998; Walther, 1992; Walther & Parks, 2002). Meanwhile, the choice of communication medium should be

determined by both senders and recipients (Table 1) and is regarded to affect their relational behavior and level of intimacy (Ramirez & Broneck, 2009).

Table 1. The characteristics and communicator of new media technologies

	One to many	One to one
Asynchronous communication	Facebook	E-mail
Synchronized communication	Video chat	Instant messaging

Adapted from Walther (1996)

Synthesized from the literature above, this study incorporates the constructs of interpersonal communication motives and media modality to understand the determinants that drive adolescents to interact with parents from the interventions of new communication technologies. The interactive process and consequences of such communication can be revealed by including the constructs of relational maintenance and perceived intimacy to develop an empirical model. In addition, the adolescents' family situation and the intervention of technologies are varied; it is also crucial to take the influences of external factors into account. For instance, the wide applications of family communication patterns can be used to verify that adolescents in different family styles may be varied in their family relationships. In summary, this study applies four external factors to examine adolescents' communication motives, relational maintenance and intimacy. The hypothesized framework can be illustrated in Fig. 1.

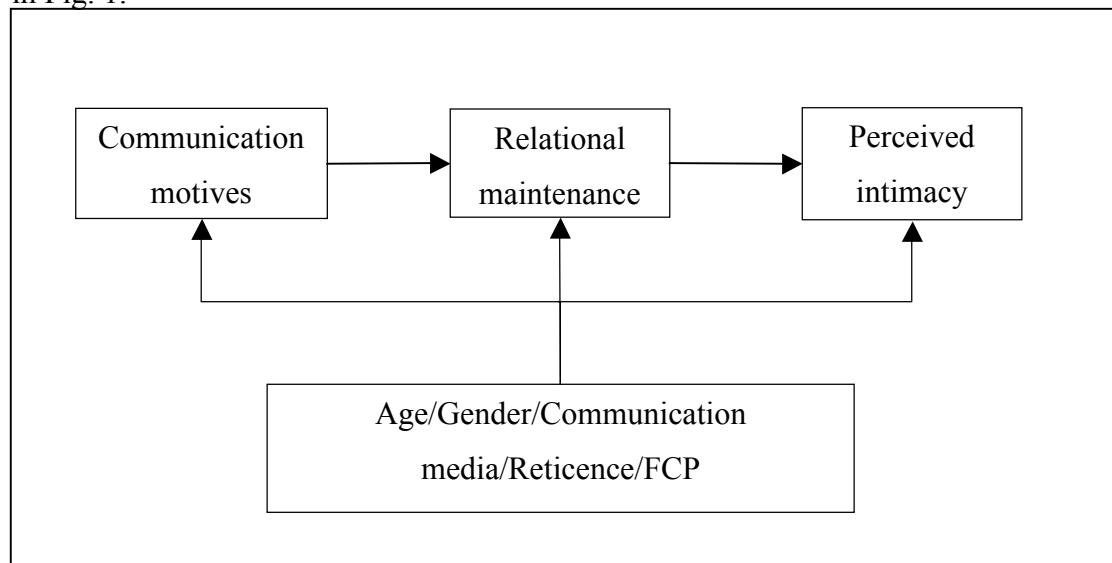


Fig 1. The conceptual framework

### 3. Research methodology

This study explores the related literature associated with the uses of technology by adolescents and develops an empirical model by examining the connections among adolescents' communication motives, relational maintenance and intimacy with their parents. Meanwhile, we also examine the external effects by family communication patterns, choice of media technology, communication reticence, and individual differences toward the adolescent-parent relationships.

'Adolescent' in this study is defined as teenagers aged from 12 to 18 years old with experiences in using new communication devices or applications to communicate



with their parents. The survey was complete in June 2014 and administered by a professional company, InsightXplorer, to deliver the online questionnaire. The respondents of the adolescent sample are not only collected from different regions in Taiwan but also by different ages and school types, such as students from different grades within several high and vocational schools. The data collection was conducted from May 20 to June 15, 2014. The respondents were randomly selected by school authority and completed the questionnaire in the computer lab. After excluding samples who did not use any mobile devices or online applications to communicate with parents, a total of 352 valid responses was collected. The online questionnaire consisted of three sections. The first section asks adolescents about the medium technology and usage frequency they use to communicate with their parents. The second section asks about adolescents' perceptions of using new media technology, such as motivation, relational maintenance, and intimacy in comparison with face-to-face communication with parents. Other self-report psychological scales were also included, such as family communication patterns and communication reticence. The third section asks for the background information and family situation of the adolescents, such as gender, age, residence, parents' education, and number of family members.

The media usage behavior by adolescents was evaluated by a seven-point Likert-type scale and measured the frequency of new media technology that adolescents use to communicate with their parents (i.e. every day, two to three times per week, four to five times per week, once per week, at least two to three times in two weeks, once per two weeks and at least once per month). The measurement of psychological factors, such as communication motives, relational maintenance, intimacy, family communication patterns, and communication reticence were all measured by a five-point Likert-type scale ranging from extremely disagree to extremely agree. However, for the adolescents to comprehend the meaning of questionnaire, the original scales were translated from English to Chinese. Based on the principle of cross-culture study, this study followed the principle by Breslin (1970) and conducted back translation with the assistance of two communication scholars and one native English editor to check the comprehension of translation is equal to the original one. In addition, a pretest was performed by selecting ten high school students to verify anything unclear in the survey questionnaire. The results showed that both reliability and validity were achieved and enabled us to proceed to the next phase of data analysis (Churchill, 1979).

#### 4. Analytical results

In 352 valid samples, most adolescents use instant messaging and social networking sites to communicate with parents (87.2%). To avoid a few cases affecting the stability of statistical results, we excluded respondents who use E-mail, microblog, and VoIP phone, and 307 samples are included in the data analysis.

Participants were 62.9% female and 37.1% male; and most were in high school (77.9%). Apart from face-to-face communication, the majority of adolescents use instant messaging to communicate with their parents (71.3%), followed by social networking sites (28.7%). Comparing to another samples in our study, a similar proportion is shown in both parties, further inferring that both adolescents and parents may have similar preferences in their choices of communication medium. Participants

were collected from southern Taiwan (47.6%), northern Taiwan (31.9%), and central Taiwan (0.2%). Due to a larger proportion of female respondents, the number of daughter–mother communication is higher than other groups (Table 2).

Table 2. Descriptive statistics of respondents' characteristics (N=307)

Measure	Category	Frequency	Percent (%)
Gender	Male	114	37.1%
	Female	193	62.9%
Choice of communication medium	Social networks	88	28.7%
	Instant message	219	71.3%
Residence	Northern	98	31.9%
	Central	622	0.2%
	Southern	146	47.6%
	Eastern	1	0.3%
Family communication Patterns	Consensus	97(26.4%)	96 (31.3%)
	Pluralistic	90(24.5%)	50 (16.3%)
	Protective	69(18.8%)	56 (18.2%)
	laissez-faire	112(30.4%)	105 (34.2%)

#### 4.1 Model testing

The questionnaire was completed by an adapted version of the interpersonal communication motives scale (Rubin et al., 1988), the relational maintenance scale (Canary & Stafford, 1992), and the intimacy scale (Hu et al., 2004). The measures were adapted so the subjects were reporting why and how they conduct dyad communication. The revised 26-item interpersonal communication motives scale consists of six individual motives. Coefficient alphas for the motives in this study were: 0.96 for affection, 0.92 for pleasure, 0.92 for escape, and 0.95 for relaxation. The 22-item relational maintenance scale was adapted from original measures for maintenance behavior, which consists of two dimensions. Coefficient alphas for the dimensions in this study were: 0.98 for positivity and 0.96 for shared task. The revised 14-item perceived intimacy scale consists of four dimensions. Coefficient alphas for the dimensions were: 0.94 for verbal, 0.96 for affective, 0.90 for virtual, and 0.86 for social (Table 3). The instrument is assessed for achieving the accepted threshold reliability above the value of 0.7 (Nunnally, 1978).

Table 3. The mean values, standard deviations and reliability of research instruments

Dimension	Indicator	Mean	SE	Reliability
Communication motives	Affection	3.34	0.93	0.96
	Pleasure	3.56	0.87	0.92
	Escape	3.11	0.98	0.92
	Relaxation	3.50	0.91	0.95
Relational maintenance	Positivity	3.37	0.96	0.98
	Shared tasks	3.34	0.94	0.96
Intimacy	Verbal	3.24	1.03	0.94
	Affective	3.21	1.03	0.96
	Virtual	3.15	1.06	0.90
	Social	3.23	1.05	0.86

According to the literature, the interpersonal communication motives (Barbato et al., 2003), family communication patterns (Ledbetter, 2009), family role (Martin & Anderson, 1995), and communication reticence (Kelly et al., 2010) have resulted in their connections with adolescents' motivation, relational maintenance strategies, and perceived intimacy. Unlike other studies which attribute the factors of family communication patterns, family role and communication reticence to be the determinants of adolescents' attitude and behavior, we use them as moderators to verify their effects to the model indirectly.

There are two approaches to verify the existence of moderators. The first one is to verify the interaction effects between moderators and independent indicators (Baron & Kenny, 1986). Another approach is to reveal the group differences, such as a Sobel Test (1986) to assess the effects of moderation. Considering the characteristics of family communication patterns, family role and communication reticence are treated as categorical variables, this study applies the second approach to verify the moderation effect.

This study took adolescents' demographics, choices of communication medium, parents' marriage, and family roles in a group comparison with their communication motives, relational maintenance and perceived intimacy in communication with parents. The results show that adolescents would use different communication media to chat with parents when they need to relax ( $p < 0.05$ ). Parents who live together or are divorced may have different effects on adolescents' sharing motivation. This result might be worth noting as adolescents who live with their parents are more willing to share interesting information with parents via new communication media. In contrast, new communication media may have limitations in bridging the communication gap for adolescents with divorced parents. Gender and age did not show significant effect on adolescents' motivation, relational maintenance and perceived intimacy (Table 4).

Table 4. The cross-analysis between adolescents' information and psychological factors

	Gender		Age		Parents' marriage		Communication medium	
	T	$\rho$	T	$\rho$	T	$\rho$	T	$\rho$
Affection	1.03	0.30	-0.14	0.89	1.29	0.2	-1.04	0.30
Pleasure	-0.08	0.94	0.36	0.72	-0.01	0.99	-1.54	0.13
Escape	1.36	0.18	0.85	0.39	1.2	0.23	-0.42	0.68
Relaxation	-0.23	0.82	0.21	0.83	1.00	0.32	-2.50	<b>0.01*</b>
Positivity	1.47	0.14	0.11	0.92	1.51	0.13	-0.27	0.79
Sharing tasks	0.65	0.52	1.13	0.26	2.07	<b>0.04*</b>	-0.50	0.62
Intimacy	0.46	0.64	-0.37	0.71	1.47	0.14	-1.24	0.22

\* $p < 0.05$

To identify the effect of individual situations, we use one-way ANOVA to verify effects of individual groups among adolescents' communication motivations, relational maintenance and intimacy in the communication with parents (Table 5).

Table 5. The cross-comparison between external indicators and psychological factors

	Residence	Communication	FCP
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			reticence			
	F	ρ	T	ρ	F	ρ
Affection	3.78	0.11	0.49	0.62	<b>32.16</b>	<b>0.000***</b>
Pleasure	2.40	0.07	0.42	0.68	<b>26.46</b>	<b>0.000***</b>
Escape	<b>4.31</b>	<b>0.005**</b>	<b>-3.38</b>	<b>0.001***</b>	<b>18.6</b>	<b>0.000***</b>
Relaxation	1.15	0.33	1.12	0.27	<b>23.42</b>	<b>0.000***</b>
Positivity	<b>2.93</b>	<b>0.034*</b>	0.14	0.89	<b>28.99</b>	<b>0.000***</b>
Sharing tasks	<b>6.44</b>	<b>0.00***</b>	0.37	0.71	<b>39.91</b>	<b>0.000***</b>
Intimacy	<b>4.9</b>	<b>0.002***</b>	1.24	0.22	<b>34.52</b>	<b>0.000***</b>

\*p<0.05; \*\*p<0.01; \*\*\*p<0.005

The above results show that adolescents' residences have significant influence on adolescents' communication motivation, relational maintenance, and intimacy. A further analysis was conducted using the method of Scheffe to locate the differences. The adolescents in southern Taiwan may have a stronger escape motivation, hold a positive and mutual sharing attitude and higher level of intimacy to communicate with parents than adolescents residing in other regions. This result may contradict the general opinion that adolescents in northern Taiwan live in a higher density of metropolitan area where people frequently use new communication technologies to talk with each other. A possible explanation is that adolescents in southern Taiwan are more adapted to use new communication channels to interact with parents. The school adolescents attend is more far away and this requires more opportunities for family contact when they are traveling back and forth from school and home. Further evidence is required to provide insights for this result. In addition, adolescents' family communication patterns show significant effects when comparing adolescents' perceptions with communicating with parents via new communication media. The results show adolescents from consensus families have stronger motivations, relational maintenance and intimacy to use new media tools in communicating with parents. In contrast, adolescents from protective families only show significant differences in the expression of their intimacy with parents.

To test the hypothesis that adolescents' motivation and relational maintenance influences the subsequent level of intimacy, we conduct regression analysis to examine the model fitness and the strength of relationship among variables. After four rounds of model testing, the model explained 69.4% of the variance. The result can be described in the following formula.

$$\text{Intimacy} = (0.345) (\text{Affection}) + (-0.239) (\text{Pleasure}) + (-0.025)(\text{Escape}) + (0.106)(\text{Relaxation}) + (0.289)(\text{Positivity}) + 0.421 (\text{sharing tasks})$$

We also conducted path analysis to examine the direct and indirect effects among communication motivations, relational maintenance and intimacy (Table 6). The results show their relationships are positive. The relational maintenance plays a mediating role between communication motivations and perceived intimacy and is attributed to be partial mediated based on the comparison of unstandardized regression weights and statistical significance.

Table 6、 The results of path analysis

Relationship	B	S.E.	p-value
Communication motives→Relational maintenance	0.62	0.02	0.000***
Communication motives→Intimacy	0.26	0.02	0.000***
Relational maintenance→Intimacy	0.46	0.02	0.000***

\*\*\*p<0.001

According to the results of the regression analysis, the reason for young people to use new communication technologies to communicate with their parents were mainly derived from affection, pleasure, positivity and sharing tasks. Overall, adolescents perceive affection to be the strongest motivation that they communicate with parents. The sharing of emoticon and funny moments could be the activities that adolescents want to share with parents when they are in a joyful mood. Regarding the their status of relational maintenance, adolescents believe that sharing tasks and positive assurances can help them to maintain strong ties wherein they are assisted by the new communication media, which further complements the level of intimate relationships with parents.

## 5. Conclusion

Evidence shows that more parents have attempted to become friends with adolescents through Facebook or instant messaging. Hence, new communication technology is certainly an issue that adolescents need to resolve when communicating with parents. Some adolescents consider using new technologies to report their daily routine as convenient (Kornblum, 2011) while others reject their parents as the deadline of personal privacy. This study shows that the affection and relaxation are the motivations that drive adolescents to communicate with parents by means of new communication technologies. Adolescents may also regard positive assurance and task sharing as their strategy to consolidate their relationships and intimacy with parents. The results have broken through the limitation of prior research within the study of the same peer group (e.g., loving partners or friends) or implications from a single result from communication (e.g., relational satisfaction or closeness) and reveal the dynamic structure of communication between adolescents and parents. Both adolescents and parents should have an open mind to discuss or share information online with each other, which also reflects the assumptions by Solomon et al. (2002). They argue that parents used to direct the access to media use in the family. However, the emergence of new communication technology not only equalizes the power structure between children and parents, but also create an open space for self-disclosure and sharing in the family.

The effects of family communication patterns have been regarded as determinants that directly formulate the adolescents' relationships. This study took a different approach by categorizing adolescents with different family communication patterns and observing the changes in their communication motives, relational strategies and perceived intimacy, correspondingly. Compared to the study of Chinese family communication patterns by Zhang (2007), this study also shows the family communication patterns in adolescents' communication strategies with parents has shifted from conformity to consensus. The best communication strategy for a consensus family is collaboration rather than escape. For a pluralistic family, it is

suitable for competition rather than collaboration. The communication motives, relational maintenance and intimacy between adolescent and parent in the use of new communication technologies are varied and thus each type of family should adjust their communication strategy to improve the level of intimacy in their relationships.

The communication between adolescents and parents is worth more attention as more technology tools are pervasive in our daily life. Little research has been found that explicitly discusses the impact of communication technologies on family relationships (Rudi, Walkner, & Dworkin, 2014). Some studies specified the intervention of certain mediums, such as Facebook (Kanter, Afifi, & Robbins, 2012) and the Internet (Williams & Merten, 2011), to evaluate the intervention of computer-mediated communication toward family relationships. This study compared the adolescents' use of two communication technologies—instant messaging and social networking sites—in communication with parents and concludes that the preferences and uses of specific communication medium may have a moderate impact on the interaction process and consequences of adolescent–parent relationship. The stage of adolescence is critical to the development of interpersonal relationships and social cognition. The finding of this study may provide useful guidelines for social workers and parents to provide appropriate assistants with healthy communication and solid relationships.

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