Close Friendship Maintenance on Facebook: The Relationship between Dialectical Contradictions, Facebook Relational Maintenance Behaviors, and Relationship Satisfaction in the U.S. and Malaysia

A dissertation submitted to the College of Communication and Information of Kent State University in partial fulfillment of the requirements for the degree of Doctor of Philosophy

By
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Chapter I

Introduction

Friendship can be defined as the “voluntary interdependence between two persons over time that is intended to facilitate socio-emotional goals of the participants, and may involve varying types and degrees of companionship, intimacy, affection, and mutual assistance” (Hays, 1988, p. 395). Friends have been known to play an important role throughout an individual’s life-span (Dindia, 2003). Hence, having friends is considered a normal and desirable aspect of one’s life (Solano, 1986). However, friendship is a relatively unique bond compared to other types of interpersonal relationships. Rawlins (1992) argues that friendships can be differentiated from other types of interpersonal ties, as they are voluntary in nature, more fluid and can challenge discrete classification.

Levels of friendship are often defined based on the degree of closeness friends have (Johnson, Wittenberg, Villagran, Mazur, & Villagran, 2003). Closeness encapsulates the interpersonal processes whereby friends share fundamental feelings and information that creates the basis of understanding, love, and security (Reis & Shaver, 1988). The degree of friendship closeness can influence social interaction patterns in friendships. For instance, close friends self-disclose more frequently (e.g. Dolgin, Meyer, & Schwartz, 1991), interact in more diverse settings and have more exclusive interactions (e.g. Hays, 1985). Additionally, close friends are intensely invested in each other’s happiness, value their relationship more and put an effort towards accomplishing joint goals (e.g. Wright, 1984). Also, close friendships are more resistant to relational transgression (e.g. rule breaking), as intimacy and interdependence often characterize close friendships (Hays, 1985).
There are many advantages to having friends in one’s interpersonal network, particularly close friends. For instance, according to Burleson and Samter (1994), a primary form of close friendship is to give and receive social support. For adolescents, friends can serve as a ‘socializing agent’ that affect how they conceptualize and socially construct social roles and behaviors, such as dating and sexual behaviors (Harper, Gannon, Watson, Catania, & Dolcini, 2004). Finally, Hays (1988) established that close friends play an important role in positive personal adaptation, and there are health benefits in having close friendships as they can serve as buffers by mediating the effects of stresses that do transpire.

Despite the obvious benefits of having close friends in one’s interpersonal network, friendship is not static and maintaining friendships can be challenging and complicated. However, there is little known about the maintenance of friendships compared to the maintenance of romantic or marital relationships (Bushman & Hosh-Lunstadt, 2009). Rawlins (1992) argues that communicating in friendships involves the continuous interconnection and mutual influence of various individuals, interpersonal, and also social aspects. Furthermore, the amount and types of maintenance strategy used may vary according to friendship status and relationship length. For example, compared to casual friends or acquaintances, close friends often stress less on the amount of contact, but tend to emphasis more on affection (Rose & Serafica, 1986). Oswald, Clark, and Kelly (2004) also found that close friends reported more supportiveness, openness, and interaction compared to casual friends.

Still, McEwan and Guererro (2012) found that among newly formed college friendships, while some maintenance behaviors (e.g. bantering and social networking) are more likely to be performed by casual friends compared to close friends, other types of maintenance behaviors (e.g. positivity and constant contact or repeated interactions) play an important role in friendship
maintenance for both casual and close friends. Likewise, Marmo and Bryant (2010) also found that frequent communication via various Facebook channel (e.g. chat, private message, wall message) was the most highly used maintenance behavior across all friendship types (e.g. casual friends, close friends, and acquaintances). Thus, all friendships needs some form of maintenance, irrespective of status or level of closeness.

One of the ways in which different types of friendships can easily be sustained is through the aid of communication technology. The rapid development of computer mediated communication (CMC) technology has created a convenient, relatively inexpensive, and ubiquitous platform for friendship maintenance. According to Johnson and Becker (2011), rather than being conceptualized as ‘fragile’, friendship today is more flexible, as the use of communication technology can easily facilitate the process of friendship maintenance. Therefore, the use of CMC technology, such as social networking websites (SNS) such as Facebook, may significantly influence how friendships are maintained. SNS are “web-based services that allow individuals to construct a public or semi-public profile within a bounded system, to articulate a list of other users with whom they share a connection, and view or traverse their list of connections and those made by others within the system” (boyd & Ellison, 2008, p. 2).

Facebook is popular in the United States as well as across the globe. Specific to the United States, there are an average of 128 million daily active Facebook users (Constantine, 2013). Worldwide, there is an average of 864 active daily Facebook users by September 2014, and 82.2% of daily active users are outside of the United States and Canada (Facebook, n.d.). In Malaysia, in a nation-wide survey carried out in 2012 by the Malaysian Communication and Multimedia Commission (MCMC), 84% of Malaysian Internet users reported that they used Facebook (MCMC, 2014). Recent studies on SNS adoption in Malaysia indicate that Facebook is
well-received and regularly used, particularly among young adults and university students (e.g. Hamat, Embi, & Hassan, 2012; Mustaffa, Ibrahim, Wan Mahmud, Ahmad, Chang, & Mahbob, 2011). Additionally, some studies on SNS have found that users of SNS report that they use the site to find and communicate with others, such as high school friends (Ellison, Steinfield, & Lampe, 2007; Lenhart & Madden, 2007). Houser, Fleuriet, and Estrada (2012) established that friends communicate more with each other on Facebook compared to other CMC modes. On the other hand, Miller (2013) found that teenagers though are using Facebook to communicate with older siblings or relatives. Finally, other research on SNS has also indicated that it is useful in maintaining relationships with acquaintances (e.g. Bryant & Marmo, 2009; Bryant & Marmo, 2012). Hence, SNS can be used to maintain a broad range of interpersonal relationships.

**Problem Statement and Rationale of Study**

However, despite its popularity and convenience, relational partners who use CMC for maintenance purposes may find that maintaining friendships with the use of technology can be challenging, depending on the dialectics tensions that are salient in the relationship. For instance, Hall and Baym (2011) found that regular mobile contact among close friends could be a double-edged sword. In their study, although increased mobile phone use leads to increased friendship maintenance expectations and dependence on mobile phones for routine contact, it also creates unrealistic expectations to maintain such contact, and this in turn may lead to overdependence and eventually decreased friendship satisfaction. Similarly, in another research, Duran, Kelly, and Rotaru (2011) revealed the use of mobile phones was a source of autonomy-connection conflict for partners in romantic relationships, with higher levels of tension related to more conflict over quantity of calling, texting, and over-use.
Furthermore, the use of new communication technology can even hasten the demise of friendships, especially if these friendships were long-distance, based solely on previous experiences, and when partners do not avail themselves to new technology (Adams, 1998). Consequently, the advent of new technology raises new questions about how relational partners negotiate these dialectical contradictions while maintaining their relationship through the use of technology. As such, using the relational dialectics perspective (Baxter, 1988; Baxter & Montgomery, 1996) as a theoretical framework, this study seeks to systematically examine the relationships between two commonly identified internal dialectic contradictions in close friendships (i.e. openness-closedness and autonomy-connection), Facebook relational maintenance behaviors, and relationship satisfaction among close friends in Facebook.

Four theoretical approaches have been successfully applied to studying close relationship maintenance: the equity theory, the relational dialectics theory, the social skill approach and the attachment theory (Dainton, Zelley, & Langan, 2003). However, using the dialectical approach to studying relationship maintenance is a comparatively new approach, with the initial research being carried out starting from the 1980s (e.g. Baxter, 1988; Baxter & Montgomery, 1996; Rawlins, 1983a, 1983b). Unlike previous approaches that emphasize the goal of homeostasis, this perspective accentuates on different aspects and goals in close relationships, such as process, motion, and interconnection (Matten, 1999). Furthermore, compared to other more linear or causal models of relationship development and maintenance that emphasize seeking a specified state of relationship satisfaction or interaction in the relationship (e.g. equity theory), the dialectical approach assumes that relational partners experience patterns of redundancy while simultaneously escalating between contradictory, but also interdependent tendencies (Dainton et al., 2003). Therefore, relationship maintenance from the dialectical point of view is the process
of sustaining relationships at a satisfactory level, in the presence of ongoing dialectical fluctuation (Baxter & Simon, 1993). Specifically, testing friendship maintenance behaviors on Facebook based on the relational dialectics theory could explicate more clearly how close friendships are sustained at a satisfactory level, with the use of technology, in the midst of negotiating and managing the types of dialectical tensions that are salient in the relationship.

**Individual Differences in Facebook Maintenance Behaviors**

Accordingly, the first goal of this study is to extend literature on relationship maintenance by examining friendship maintenance behaviors in a newer context, i.e. social networking websites. The ever-changing media landscape is influencing how relational partners communicate and sustain their relationship. However, the bulk of early CMC research has been more focused on relationship development instead of relationship maintenance processes (Wright, Craig, Cunningham, Igiel, & Ploeger, 2008). Only recently, have scholars started to examine users’ employment of relational maintenance behaviors specifically in SNS (e.g. Bryant & Marmo, 2009; Craig & Wright, 2012; Dainton, 2013; Holmes, 2013; Marmo & Bryant, 2010; McEwan, 2013; Stewart, Dainton, & Goodboy, 2014; Vitak, 2012). Generally, research on relational maintenance in SNS has established that SNS users are more likely to maintain *current* and pre-existing offline relationships in the site rather than forging new ones (e.g. Joinson, 2008; Ellison et al., 2007; Lampe, Ellison, & Steinfield, 2006; Tong & Walther, 2011). Therefore, this study will add to current literature by examining more closely, the maintenance process of *existing* friendships in SNS, such as Facebook.

Specifically, this study will extend literature on close friendship maintenance on Facebook by examining individual differences such as age and friendship dyads over the use of Facebook maintenance behaviors. First, literature on maintenance behaviors has indicated that
face-to-face maintenance behaviors in close relationships can vary across age groups, such as
during adolescence, young adulthood, adulthood, and older adulthood (e.g. Johnson, 1999;
Dainton, et al., 2003; Harwood & Lin, 2000; Patterson, Bettini, & Nussbaum, 1993; Vogl-Bauer,
Kalbfleisch, & Beatty, 1999). However, research in this area has not adequately addressed how
Facebook maintenance behaviors may vary according to age, although some studies (e.g. Ellison,
Vitak, Gray & Lampe, 2014; Pettijohn, LaPiene, Pettijohn, & Horting, 2012) have indicated that
compared to older users, younger users of Facebook spent more time on Facebook, are more
intense Facebook users, and therefore more likely to engage in various types of Facebook
maintenance behaviors. As such, this study will attempt to validate these findings by examining
age differences in the use of Facebook maintenance behavior, when controlling for the intensity
of Facebook use. Specific to friendship dyads, as women and men might perceive friendships
differently (e.g. Rose, 1985; Wright, 1982), maintenance activities on Facebook may also differ
according to friendship dyads (e.g. same sex versus cross-sex friendship dyads). To date, there is
still a paucity of relational maintenance research on how Facebook maintenance behaviors would
vary across friendship dyads, or the gender makeups of close friendships.

**Cross-cultural Variability in Facebook Maintenance Behaviors**

Further, this study would extend existing literature on close friendship maintenance in
SNS by examining cross-cultural variations in Facebook maintenance behaviors. Currently, there
are very few studies that have examined cross-culture variations in close relationship
maintenance, and these studies have focused mainly on relational maintenance behaviors among
married couples or romantic partners (e.g. Baptist, Norton, Aducci, Thompson, & Cook, 2012;
Yum, 2008, 2009; Yum & Canary, 2009; Yum & Li, 2007). Also, present literature on Facebook
relational maintenance behaviors have mostly concentrated on Western societies, and it is
uncertain if these findings can be generalized to other population. Hence, although Facebook is a
global phenomenon, numerous studies on social media often focus on individual or group-level
characteristics, and rarely highlight cultural variables. As such, this study will explicitly examine
similarities and differences in close friendship maintenance behaviors among Facebook users
from the United States and Malaysia.

**Dialectical Contradictions and Facebook Maintenance Behaviors**

Finally, this study will extend existing literature about relational dialectics theory by
focusing on close friendship dialectics. In close relationship research, not much attention is
focused on friendship compared to marital or family relationships. Hays (1985) stated that “little
data exist on the processes on which individuals in the real world move beyond initial attraction
to develop friendships; even less is known about the way developing friendships are maintained
and how they evolved over time” (p. 909). Furthermore, existing research on friendship
dialectics has focused more on the dialectical contradictions experienced in face-to-face
interactions (e.g. Baxter, Mazanec, Nicholson, Pittman, Smith, & West, 1997; Bridge & Baxter,
1992; Boydell, Gladstone, & Crawford, 2002; Goins, 2011; Matten, 1999; Rawlins, 1983a,
1983b; Stephenson-Abetz & Holman, 2012), compared to mediated interactions (e.g. Hall &
Baym, 2011; Kim & Yun, 2007; Li, Jackson, & Trees, 2008).

Two central dialectical tensions in friendships for young and middle-aged adults alike are
openness-closedness and autonomy-connection (e.g. Rawlins, 1989; 1994). The former refers to
the tension of keeping information secret or disclosing it to the relational partner, while the latter
refers to the need of simultaneously relating to their partners while keeping their own identities
unique. These dialectical tensions have consistently emerged in literature as important in
friendship dialectics, and may therefore play a crucial role in the friendship maintenance process.
Further, Baxter and Simon (1993) have suggested that the relationship between maintenance behaviors and relationship satisfaction may depend on the dialectical contradiction that is salient in the relationship, in that given time. Therefore, another primary goal of this study is to extend previous research by Baxter and Simon (1993) by focusing specifically on the experience of these dialectical tensions in a novel context (e.g. Facebook interactions) and in a different type of relationship (e.g. close friendships). By concentrating on these dialectical contradictions as moderating variables, this study would also provide new insights about how these dialectical tensions might influence relationship satisfaction among close friends in the digital age, with the use of Facebook maintenance behaviors.

Therefore, in the following sections of this chapter, I will (a) summarize the key assumptions of the relational dialectical theory that guides this study, (b) identify and explain empirical findings that support the dialectical approach to interpersonal relationships, (c) provide past studies that focus on the relationship between dialectical contradictions and relationship maintenance behaviors, (d) highlight relevant literature on relationship maintenance (e.g. types and definition of relational maintenance behaviors, mediated versus face-to-face maintenance behaviors, relational maintenance behaviors in social networking websites, individual differences, such as age and friendship dyads, in relational maintenance behaviors, cross-cultural differences in relational maintenance behaviors, and relationship outcomes from maintenance activities), and (e) pose relevant research questions and hypotheses for the study.
Chapter II

Literature Review, Hypotheses, Research Questions

The current chapter provides an overview and summary of associated literature with this dissertation. First, an overview of the main theoretical framework used in the study is provided, followed by a summary on the main assumptions of the theory, related research to the theory, and research concerning the relationship between dialectical contradictions and relationship maintenance. Second, the definition on relational maintenance is explained, followed by a summary of related research on types of relational maintenance behaviors, mediated versus face-to-face maintenance behaviors, the use of relational maintenance behaviors in social media, individual differences in the use of relational maintenance behaviors, and the association between relational maintenance behaviors and relationship outcomes. Third, the relevant research questions and hypotheses of the study are offered at the end of the chapter.

Theoretical Perspective: Relational Dialectics Theory

The following sections will elaborate on the primary assumptions of the relational dialectics theory and relevant findings that supports the theory.

Main Assumptions of the Theory

Relational dialectics theory (Baxter, 2004; Baxter & Montgomery, 1996) is a relational communication theory originally based on the mid-twentieth century work on dialogism by the Russian language philosopher and scholar, Mikhail Bakhtin (1981). Bakhtin (1981) believed that forces instantaneously pulled relationships together (centripetal forces) and pushed them away from each other (centrifugal forces). A fundamental principle of the theory is that connecting with others is a ‘dialogic’ process, and a communicative process characterized by the unity of contradictory tendencies (Baxter & Montgomery, 1996). Thus, the theory examines the intrinsic
contradictions that relational partners experience within a communicative situation. Also, the theory characterizes interpersonal relationships as non-linear and a continuous, collaborative, and individual process of achieving balance within these holistic dialectical tensions or contradictions (Hall & Baym, 2011).

Tensions are normal in a relationship and dialectics contradictions are an accepted part of the relationship that vacillates over time. Therefore, the theory focuses on the experience of contradiction and the notion of change across the span of a personal relationship (Baxter & Montgomery, 1996). In other words, the dialectic approach highlight how relationships are not static but change over time due to changing internal and external circumstances (Brown, Werner, & Altman, 2006). Additionally, the theory suggests that contradictions are a dynamic and fluid process, and that one series of contradictions provides the opportunity for additional set of contradictions in the future (Baxter & Montgomery, 1996). Therefore, the dialectical approach assumes that change, opposing tendencies and instability exemplifies all types of social relationships (Baxter & Montgomery, 1996; Montgomery, 1993). Specifically, Baxter and Montgomery (1996) outlined four core concepts in relational dialectics including contradictions, dialectic totality, change, and praxis.

**Contradictions.** The first central concept in the theory is concerning ‘contradictions’, which is defined as “the dynamic interplay between unified oppositions” (Baxter & Montgomery, 1996, p. 8). Oppositions are thought of as actively dissenting propensities that mutually contradict each other. To form a contradiction, oppositions must co-exist in the relationship. In other words, dialectical tensions are unified in that each component of the contradiction depends on the other, e.g. being relationally expressive and open in a relationship can only be understood in contrast to being non-expressive and closed in a relationship, and
without non-expression, being expressive in a relationship has no meaning. Thus, rather than compelling an individual into ‘either/or’ decision, the relational dialectics theory assumes that the individual wants to be both expressive and non-expressive concurrently with each personal relationship (Semlak, 2009).

There are three fundamental and commonly addressed dialectics in personal relationships: integration-separation, expression-nonexpression and stability-change (Baxter, 1988; Baxter & Braithwaite, 2007). These dialectical tensions include both the external and internal dialectics. Internal dialectics addresses the tensions that exist within the relationship between the relational partners while external dialectics refers to the tensions that exist between the relationship and the outside world (Baxter & Montgomery, 1996). In the integration-separation dialectic, or me-we dialectical contradiction, relational parties have competing needs to be independent and interdependent in the relationship, or the freedom to be simultaneously dependent and independent. It also denotes fundamental tension between social solidarity and social division (Baxter & Erbert, 1999). This contradiction is thought of as vital to the relationship, as one must feel connected to others in order to have a relationship (Baxter, 1988). Internally, couples have the desire for autonomy-connection, where they wish to simultaneously relate to their partners while keeping their unique identities. Externally, this dialectic also includes inclusion-seclusion, while addresses the tension between a relational party’s need for privacy and also a need to connect with others.

The second dialectical tension is expression-nonexpression, which is the competing tension between concealing information and also revealing it (Baxter & Montgomery, 1996). In a relationship, it is vital that some things are kept private between the relational parties, while there are other parts that can be revealed to others. Although self-disclosure is necessary to developing
intimacy in relationships, when there is too much disclosure, the relationship can become vulnerable (Baxter, 1988). Internally, it is known as openness-closedness, which refers to the tension of keeping an information secret or disclosing it to the relational partner. Externally, it refers to the dialectical needs of revelation-concealment, which involves keeping and revealing information from others in their social network.

The third dialectical tension is labeled as stability-change. This dialectical tension involves the competing needs of routine in the relationship and also a need for spontaneity (Baxter & Montgomery, 1996). Thus, for the relationship to remain harmonious there must be a balance of between the expected and unexpected. The internal dialectic of this tension is known as predictability-novelty, or also referred to as certainty-uncertainty dialectical contradiction, which supposes that excessive predictability will lead to monotony and tediousness in the relationship, while excessive novelty will lead to chaos and disarray. The external dialectic of this tension is known as conventionality-uniqueness, which refers to tension of maintaining uniqueness of their identity as a couple while simultaneously conforming to conventionalities of relating to others.

Further, according to Baxter and Montgomery (1996), there are six types of functional strategies that can be adopted by relational partners in dealing with these dialectical tensions: spiraling inversion (responding to each polarity separately at different times), segmentation (identifying mutually exclusive activities to react to different poles), balance (partially fulfilling each contradictions), integration (reacting to each pole simultaneously), recalibration (converting contradictions so they no longer oppose each other), and also reaffirmation (partners celebrate and consent to these contradictions). Other less useful approach to managing these dialectical tensions is through disorientation, where partners affirm to these contradictions with fatalistic
attitudes, or adopting denial, where relational partners deny the existence of contradiction by only reacting to one end of the polarity (Baxter & Montgomery, 1996).

**Dialectic totality.** The second assumption of the relational dialectics theory covers the aspect of ‘totality’. Contradictions in relationships do not function in isolation and a relationship can only be understood by considering these contradictions as interrelated and functioning as whole (Baxter & Montgomery, 1996). Dialectic totality distinguishes itself by including three specific issues: the location of contradictions, the interdependencies of these contradictions and contextualization of the interplay of contradictions. First, these opposing tendencies are placed within the relationship itself, instead of belonging to just one relational partner or the other (Semlak, 2009). Thus, both relational partners in the relationship jointly own the dialectical contradiction, and conflict occurs when a partner removes his or her feelings away from the other partner’s feelings on a particular relational contradiction. Secondly, these contradictions are interdependent upon one another, and are not separate units (Semlak, 2009). For example, when considering the three central internal dialectical contradictions openness-closedness, autonomy-connection, and predictability-unpredictability, they are interdependent to one another in a relationship. Finally, another aspect of dialectic totality is contextualization, and that focuses on the importance of how context can influence how relational partners experience specific dialectical contradiction (Baxter & Montgomery, 1996). For instance, close friends may experience fluctuating levels of openness when maintaining friendships online, and SNS may provide them an appropriate and effective avenue to manage the level of openness in the relationship with the use of corresponding online maintenance behavior.

**Change.** The third assumption of ‘change’ emphasizes the dynamic nature of interpersonal relationships. Baxter and Montgomery (1996) argue “change is inherent in
contradiction because the interplay of unified oppositions result in a system that is perpetually in flux” (p. 10). From the dialectical perspective, change cannot exist without stability. Two important concepts related to change as described by Baxter and Montgomery (1996) is causation and the change process. The dialectic causation concentrates on the interplay between individuals and a communal set of constructs as a holistic pattern, where contradictions are always in fluctuation (Semlak, 2009). According to the relational dialectics theory, throughout the relationship, individuals in the relationship will engage in spiraling change (Baxter & Montgomery, 1996). For instance, studies on close relationship dialectics have examined how close relationships may evolve and change due to turning points in the relationships and also life transitions, such as getting into college, or when married couples get divorced (e.g. Masheter & Harris, 1986; Johnson et al., 2003; Stephenson-Abetz & Holman, 2012).

**Praxis.** Finally, ‘praxis’ refers to dialectical tensions that are created and recreated through interactive participation, and refers to how relational partners communicatively manage these dialectical tensions (Baxter & Montgomery, 1996). Relational partners are proactive agents in their relationship and must make practical choices about their communication in the midst of dealing with these dialectical tensions. As a result, the choices that these relational partners make will create, re-create and modify the nature of the relationship. In other words, relationships will continuously evolve based on how individuals react to these tensions inherent in their interaction with their relational partners. For instance, when close friends experience excessive levels of connectedness in the relationship, they may choose to manage excessive connectedness in their friendship by engaging in avoidant behavior while using social networking websites. As such, the friendship may experience increased satisfaction as a result of this communicative choice,
because unnecessary conflicts can be avoided. Much research using the dialectics theory has focused on the praxis of specific dialectical contradictions (Semlak, 2009).

The next section will highlight related studies that have found empirical support for the relational dialectics theory.

**Empirical Support for Relational Dialectics Theory**

Overall, research using relational dialectics has mainly focused on the experience of dialectical contradictions that exists in various relational types such as marital or romantic relationships (e.g. Baxter & Erbert, 1999; Baxter & Simon, 1993; Baxter & West, 2003; Braithwaite & Baxter, 1995; Duran et al., 2011; Hoppe-Nagao & Ting-Toomey, 2002; Sahlstein, 2006), family relationships (e.g. Baxter, Braithwaite, Bryant, & Wagner, 2004; Braithwaite & Baxter, 2006; Braithwaite, Toller, Daas, Durham, & Jones, 2008; Erbert & Aleman, 2008; Prentice, 2009; Rawlins & Holl, 1988; Semlak & Pearson, 2011; Toller, 2005), and friendships (e.g. Baxter et al., 1997; Bridge & Baxter, 1992; Goins, 2011; Hall & Baym, 2011; Johnson, et al., 2003; Rawlins, 1983a, 1983b; Zhang & Merolla, 2009).

In one qualitative study, Baxter and Erbert (1999) examined the perceptions of six basic dialectical contradictions in romantic relationships. Consistent to the relational dialectics theory by Baxter and Montgomery (1998); dialectical change is anticipation that contradictions will be monumental in developmental turning point. Using a modified Retrospective Interviewing Technique (RIT), 50 couples were required to provide an account of the importance of both internal and external dialectical contradictions to turning points in the relationship. Overall, the results of the study indicated that internal contradictions (e.g. autonomy-connection, predictability-novelty and openness-closedness) were perceived as more important compared to external contradictions (e.g. inclusion-selection, conventionality-uniqueness and revelations-
concealment). Also, autonomy-connection and openness-closedness were regarded as the most important across a wide range of turning-point occasions, while conventionality-uniqueness was regarded as the least important. The relative importance of the two former contradictions is consistent with findings with previous studies that illustrated similar results (e.g. Baxter, 1990; Rawlins, 1983a; 1983b). Findings from this study suggested that dialectical contradictions can take form in both antagonistic and non-antagonistic struggle, depending on the circumstances, and both forms of dialectical contradictions can occur as a romantic relationship develops.

Semlak and Pearson (2011) conducted a more recent study, and this quantitative study focused specifically on the internal dialectics contradictions experienced by female caretakers in the ‘Sandwich Generation’, who are simultaneously providing care for family members who are older or young than them. Three hypotheses were established to examine the relationship between the three internal dialectical contradictions (e.g. autonomy-connection, predictability-novelty and openness-closedness) and levels of relationship satisfaction among the multi-generational caretakers (MGC) and their care recipients. The three internal relational dialectical contradictions were measured using the Internal Relational Dialectical Contradiction Scale (IRDC) created by Semlak (2009), which is relatively similar to the dialectical contradiction scale used by the earlier study by Baxter and Simon (1993). The IRDC measured the three internal dialectical contradictions in three scales and used a 6-point semantic differential scale. The first scale, the A-C scale (i.e. Autonomy-Connection) has six items that focused on how the participant feels when they communicate with their relational partner, including feeling ‘isolated/connected’. This particular scale retained a high Cronbach’s alpha of .90. The second scale is the P-U scale (i.e. predictability-unpredictability), contains 10 items, and rated how partners perceived their relationships, such as ‘predictable/spontaneous’. This scale also
demonstrated high reliability with a Cronbach alpha of .89. Finally, the O-C scale (i.e. openness-closedness) contained 14 items, and rated how partners feel about sharing personal information with their relational partner, such as ‘vulnerable/secure’. This scale obtained a high reliability with a Cronbach alpha of .93. Further, from the factor analysis conducted, three factors of the IRDC accounted for 70.91% of the total item variance.

Through purposive sampling, participants were recruited using an online data-gathering service, and panel members who meet the criteria for the study was invited to participate in the study. Overall, two hypotheses of the study was supported. Specifically, the data indicated that the female MGC experienced the highest levels satisfaction in the relationship with their care recipients when a high level of autonomy and openness was reached in the relationship. Also, the level of stress experienced by the female MGC resulted in the ebb and flow of relational dialectics contradictions between the MGC and their care recipients. Generally, the study provided ample proof about the importance of the internal dialectical contradictions experienced by individuals caring for a family member.

Other studies on family dialectics have focused on the experience of dialectical tensions in stepfamilies (e.g. Baxter et al., 2004; Braithwaite & Baxter, 2006; Braithwaite et al., 2008), and contradictory tensions faced by family member undergoing difficult or challenging experiences, such as sexual abuse, death of a child, adoption or surrogate parenting (e.g. Erbert & Aleman, 2008; Harrigan & Braithwaite, 2010; Randolph & Holtzman, 2010; Ford, Ray, & Ellis, 1999; Toller, 2005). For instance, several studies focused specifically on dialectical tensions faced by stepchildren when communicating with stepparents, and how these dialectical tensions are managed. In one study, Braithwaite et al. (2008) found that stepchildren often balance the dilemma of managing the tensions between envisioning the relationship they desire
with their parents and not wanting to get caught in the middle (i.e. dialectic of freedom-constraint). An alternative to that was to ‘be centered’, where stepchildren desire a healthy relationship with their parents, and also not wanting to be caught in the middle with unwanted self-disclosures and being forced to take sides. Also, this tension of freedom-constraint co-existed between other additional tensions, including openness-closedness and control-restraint.

In another study, Baxter et al. (2004) also concentrated on the dialectical tensions faced by young adults in stepfamilies, but the study concentrated on the communication between stepchildren and stepparents in the household of primary residence. Three dialectical contradictions were found in the study: the dialectics of integration (i.e. closeness-distance), stepparent status, and openness-closedness. The researchers discovered interdependence between the three dialectics. For instance, young adults experienced the need of wanting to be close to the parents, but this will also implicate issues regarding parental authority. In turn, as a result, stepchildren may also experience emotional distance with their stepparents. Taken together, these two studies clearly illustrates the interdependence of different dialectical tensions that occurs when new members integrate into the family unit, and underscores the importance of negotiating and managing these tensions between stepchildren and their stepparents in order to maintain a harmonious and satisfactory relationship with their stepparents.

In contrast to internal dialectics, the external dialectical tensions focuses on the tension that lie outside of the relationship and is connected to the ways in which primary members of the relationship relate to others in the larger relational community, or their social network (Baxter, 1994). However, existing research on external dialectics is limited as dialectical studies often overlook external contradictions. In one such study, Prentice (2009) focused specifically on the external relational dialectics experienced among newcomer in-laws, and examined how these
tensions are managed through functional and dysfunctional strategies (e.g. spiraling inversion, balance, integration, recalibration, reaffirmation, denial and disorientation). Findings indicate that the most prominent tension between in-laws was the inclusion-seclusion tension, particularly in terms of balancing time as a couple as well as a member of the family (e.g. tension in managing the time as a couple, in the family of origin and in the in-law family). To manage these tensions, two rather contradictory strategies were used: mediating relationships (e.g. spouse interacting more with own parents rather than parents in-law) and establishing closer relationships with siblings (e.g. directly forming closer relationships with sibling in-law). This study provided empirical support about the existence of external dialectical contradictions among married couples and their social network, and how these tensions are managed through unique and sometimes, contradictory strategies.

**Dialectical Contradictions in Friendships**

More relevant to this study are several empirical research that focus specifically on the application of relational dialectics theory in friendships. Overall, in several of these studies, the dialectical tensions of openness-closedness and autonomy-connection have emerged consistently in the literature about the utilization of the dialectical approach in the context of friendship maintenance. However, other types of dialectical tensions may also be important in friendships; Baxter and Montgomery (1996) have acknowledged this by suggesting “there is no finite set of contradictions in personal relationships to be discovered” (p.158). For instance, other studies have uncovered additional dialectical tensions important in friendships other than the basic internal dialectical tensions such as spending-saving, good-bad English, satisfaction-dissatisfaction in appearance and acceptance-rejection of others dialectical tensions (Goins, 2011), equality-inequality (Bridge & Baxter, 1992), loyalty-disloyalty (Baxter et al., 1997),
judgment-acceptance (Bridge & Baxter, 1992; Rawlins & Holl, 1988), affection-instrumentality (Rawlins, 1992), impartiality-favoritism (Bridge & Baxter, 1992; Rawlins, 1989), and preservation-reinvention (Stephenson-Abetz & Holman, 2012).

Rawlins (1983a) carried out one of the earliest study on dialectical tensions between friends. This qualitative study focused on management of interactions in maintaining close friendships, specifically in terms of how the dialectical contradictions of openness and protectiveness affect close friendships. According to Rawlins (1983a) both opposing tendencies of being open and communicative, and also maintaining privacy are both fundamental in the relationship, and friends may bounce back and forth between both candor and restrain in the efforts at maintaining the friendship. Using a two-part sequence of standardized open-ended questions, participants comprising from ten ‘close friends’ relationships were interviewed for the study (i.e. four pairs of female friendship, four pairs of male friendships and two pairs of cross-sex friends). The results indicated that close friends faced the contradictory notions of self-disclosing private information while simultaneously wanting to maintain some privacy. Two empirically grounded dilemmas arose from this dialectical contradiction: tolerance of vulnerability and the likelihood of candor. In the first dilemma, when revealing private information, one risk being hurt by the other, and therefore the decision to be candid and forthright with private information is weighed against the possibility of tolerating being vulnerable to the other. In the second dilemma, close friends often weigh the possibility of being open to others based on several factors (e.g. the extent of the self-perceived need to be honest about an issue and awareness of topics which others find sensitive or hurtful). By appropriately managing the dilemma of the opposing tendencies of being open versus private, this will allow for mutual interaction and exchange between close friends. For instance, by choosing to self-
disclose sensitive information in the appropriate manner, this will allow relational partners to reach mutual understanding and increase relationship quality.

In another study, Bridge and Baxter (1992) examined the unique dialectical tensions that exist in blended friendships (e.g. close friends who also work together). The main goal of the research was to examine the relationship between level and type of dialectical tensions, personal and role component of friendship, friendship status, relational closeness and organizational variables. The dialectical contradictions in this study were framed as how their friendship and work roles were interdependent to one another; participants in the study were asked to provide their responses to four open-ended questions that captured these dialectical contradictions in blended friendships. Following that, their responses were coded and categorized to represent challenges faced in blended friendships. Overall, five unique dialectical tensions were identified in blended friendships: autonomy-connection, equality-inequality, impartiality-favoritism, judgment-acceptance, and openness-closedness. Out of the five, four dialectical tensions (i.e. autonomy-connection, judgment-acceptance, openness-closedness, and impartiality-favoritism) have also been identified in previous studies concentrating on young adult friendships and romantic relationships (e.g. Baxter, 1998; Rawlins & Holl, 1988). Findings also suggests that closer friends experienced reduced dual-role tension compared to friends who were less close, as close friends may have developed a more sophisticated, flexible, and varied communicative codes to manage dual-role tension. In summary, this study provides consistent support about the types of dialectical tensions that may exist in friendships, and how these dialectical tensions vary according to friendship closeness.

Matten (1999) also examined how close friendships are sustained. Using the dialectical perspective, the main focus of this study was examining the dialectical processes among young
adults and how various types of behavioral interaction (e.g. communication, companionship, consideration, and affection) revealed dialectical tensions (e.g. autonomy-connection and openness-closedness) in the friendship, and how it would transform over time. Participants of the study were composed of 89 pairs of same-sex friends, and over a period of one month, they completed weekly logs that indicated their interaction patterns and the dialectical tensions they experienced in their close friendship. The results tentatively suggested that the score for the openness dialectical pole was positively related to the number of interactions shared by close friends. Also, close friends’ dialectical scores changed over time. Overall, the results of the study indicated that close friends continuously adjust to the presence of dialectical contradictions in their relationships and that these tensions can change over time.

Boydell et al. (2002) also conducted a study on close friendships, but focused on individuals with psychiatric disabilities. A major goal of this exploratory study was to unearth specific dialectical tensions in maintaining friendships among individuals suffering from manic depression, schizophrenia, or unipolar depression. Close friendships are an important source of social support for these individuals as their case managers or other mental health professionals often neglect them. Specifically, this study examined perceptions of close friendship among disabled individuals, factors involved in maintaining friendships, and whether friendships contributed or detracted from the individual’s perceptions of their own mental health or well-being. Semi-structured, in-depth interviews were conducted among 21 participants living in a Canadian city. Results of the study indicate a clear evidence of dynamic interplay of contradictory tensions in friendships. For instance, there was a contradictory tension between wanting to withhold or disclose their psychiatric disabilities to friends. Also, in maintaining close friendships, dialectical tensions (e.g. openness-closedness and autonomy-connection) often
fluctuates as individuals balance their need for support provided by close friendships, and the risk of losing much-needed friendships due to their illness. Overall, this study exemplifies how contextualization can influence the experience of specific dialectical tensions; the struggles faced by psychiatrically disabled individuals in maintaining close friendships and their experiences in managing and negotiating these dialectical tensions, were unique to their circumstances.

Recently, other studies have extended the dialectical approach to friendship maintenance by focusing on the role of technology in the dialectical process (e.g. Hall & Baym, 2011; Kim & Yun, 2007; Li et al., 2008; Zhang & Merolla, 2009). In one study, Kim and Yun (2007) qualitatively analyzed dialectical tensions among users of Cyworld, a Korean based SNS. They found that Cyworld users utilized the different design features and functions available in Cyworld to communicate with their friends. Users also experience and negotiated both the dialectical tensions of autonomy-connection and also the openness-closedness tensions, while navigating the relationship with their virtual online buddies (Cy Ilchons).

Next, Li et al. (2007) examined how users managed dialectical tensions with other players online while playing Legend of Mir, the Chinese multiplayer role-playing games (RPG). Based on the messages exchanged during the game, three major themes reflecting dialectical contradictions were found: integration-separation, expression-non-expression, and stability-change. A major finding of the study was that these dialectical contradictions were interdependent; managing the dialectical tension of revelation-concealment helped managed the uniqueness-conventionality tension as well. The researchers also discovered not only internal dialectical tensions (e.g. expression-non-expression) but also external dialectical tensions (e.g. uniqueness-conventionality) among players of Legend of Mir. These multiplayer games were
also found to cope with these tensions in various ways, including using the game’s infrastructure in order to deal with specific tensions, or drawing upon elements in their offline life.

Further, Zhang and Merolla (2009) specifically examined the effects of dialectical tension in expressing or withholding thoughts about a close friend’s partner on relationship outcomes such as friendship closeness, satisfaction and the likelihood of friendship continuance, and how channels of communication can be used to manage this dialectic. A total of 220 undergraduate students recruited from one introductory and two upper level communication courses participated in the study. The overall results of the study indicated that these dialectical tensions were expressed regarding the perceptions of a close friend’s romantic partners. Individuals who expressed dislike for a close friend’s romantic partner reported decreased friendship quality. The researchers also found that disclosing feelings about a close friend’s romantic partner was mainly done through face-to-face interaction rather than through communication technology (e.g. phone, email or Instant Messenger). Disclosures of sensitive relational information would necessitate the use of face-to-face communication rather than through mediated communication, as face-to-face medium has the ability to convey immediate feedback, nonverbal cues, and natural language.

In summary, these studies indicate that technology use may also cause dialectical tensions between users of the technology, and these tensions appear to be interdependent. In order to negotiate and manage these ongoing contradictory tensions, online friends may utilize specific technological feature and functions available in the CMC context. However, some channel of communication (e.g. face-to-face communication rather than CMC) might be a more suitable avenue to manage specific dialectical tensions. Also, friendship dialectics in the online setting may also mirror dialectical tensions found in offline friendships. Hence, the results of
these three studies have successfully demonstrated the importance of using the dialectical frame in examining interpersonal ties maintained through the use of communication technology.

**Dialectical Contradictions and Relational Maintenance**

Further, some studies also suggest that dialectical contradictions can influence the relationship between relational maintenance behaviors and relationship outcomes (e.g. Baxter & Simon, 1993; Hall & Baym, 2011; Ottu, 2012). In one initial study, Baxter and Simon (1993) examined relational maintenance strategies and dialectical contradictions in personal relationships based on Baxter’s (1988) relational dialectics theory. Their study examined the impact of relational maintenance strategies (e.g. contact, romance, and avoidance) on relationship satisfaction, based on three dialectical contradictions (autonomy-connection, predictability-novelty, and openness-closedness) among 162 romantic and marital relationships. Their study hypothesized that these dialectical contradictions would influence the relationship between perceived partner enactment of relationship maintenance strategies and relational satisfaction. As partners negotiate these dialectical contradictions in the relationship, maintenance strategies would function in a specific manner in order to move the relationship towards dialectical equilibrium and achieve relational satisfaction for both partners in the relationship.

Six hypotheses were offered in this study. Hypothesis 1 (H1) predicted that in excessive autonomy dominated moment, partner-perceived enactment of connection-enhancing maintenance strategies will result in greater satisfaction than in excessive connection dominated moment. Hypothesis 2 (H2) predicted that in conditions of excessive connection, partner-perceived enactment of autonomy-enhancing maintenance strategies would result in greater satisfaction than in conditions of excessive autonomy. Hypothesis 3 (H3) predicted that in
excessive novelty dominated moment, partner-perceived enactment of predictability-enhancing maintenance strategies would result in greater satisfaction than in excessive novelty dominated moment. Hypothesis 4 (H4) predicted that in excessive predictability dominated moment, partner-perceived enactment of novelty-enhancing maintenance strategies would result in greater satisfaction than in conditions of excessive predictability. Hypothesis 5 (H5) predicted that in excessive closedness dominated moment, partner-perceived enactment of openness maintenance strategies would result in greater satisfaction than in extreme closedness dominated moment. Finally, hypothesis 6 (H6) predicted that in excessive openness dominated moment, partner-perceived enactment of closedness maintenance strategies would result in greater satisfaction than in condition of excessive openness.

To measure dialectical contradictions, participants of the study were asked to report on the issues, challenges, or difficulties that currently exemplified their relationship, and they were also asked to gauge their partner’s perceptions based on a 7 Likert-type items that ranged from ‘strongly disagree’ to ‘strongly agree’. Based on that, the researchers captured 24 statements that represented the six poles of autonomy-connection, predictability-novelty, and openness-closedness contradictions. Further, these dialectical contradictions were calculated as dialectical moments, where one dialectical pole dominates over its opposite pole. Therefore, different scores were created ‘by subtracting the connection score from the autonomy score, the novelty score from the predictability score and the closedness score over the openness score’ (Baxter & Simon, 1993, p. 235). Maintenance activity was measured by asking participants to report their own current maintenance activity as well as their partners, and responses were based on a 7 Likert-type scale that ranged from ‘extremely uncharacteristic’ to ‘extremely characteristic’, and these items were based on those identified from earlier research (e.g. Stafford & Canary, 1991).
Finally, relationship satisfaction was measured by asking participants to report their current level of satisfaction based on a measure of marital quality created by Norton (1983).

Overall, from the six hypotheses that were proposed for the study, three of the hypotheses were supported (H1, H3, and H6). Specifically, findings indicate that perceived-partner maintenance strategies of contact, romance, and avoidance varied in effectiveness, contingent upon the dialectical contradictions of the relationship, particularly for male partners. For instance, romantic maintenance strategies were most effective for a relationship under the conditions of excessive predictability as opposed to excessive novelty. For both partners however, maintaining contact (physical or emotional) lead to more relational satisfaction when they leaned towards the conditions of autonomy-dominated tendencies as opposed to connection-dominated tendencies. Thus, in other words, for both individuals in the relationship, using the maintenance strategy of contact (e.g. physical contact or through emotions) tended to increase relationship satisfaction particularly if the individual perceived their partner as not being excessively connected. Finally, avoidance was more effective for the relationship under the conditions of openness-dominated tendencies as opposed to closedness-dominated tendencies. In sum, the study provides tentative evidence for the use of maintenance strategies in personal relationships that were in tandem with Baxter’s (1988) theoretical conceptualization of dialectical contradictions.

In a more recent study, Hall and Baym (2011) examined the use of mobile phones in maintaining friendships, and how mobile phone use in friendships affects relational maintenance expectations, the experiences of dialectical contradictions (i.e. dependence, overdependence, and entrapment), and how those experiences affect relational satisfaction. Relationship maintenance was measured in terms of ‘mobile maintenance expectations’, which assessed both routine and
mundane relational maintenance through mobile phone contact. Based on earlier work by Hall (2011) and Tong and Walther (2011), the researchers created ten items that represented three types of maintenance activities including routine, daily, and mundane activities. Additionally, the researchers focused on only one internal dialectical contradiction (i.e. dependence-overdependence) in the study. Dependence was measured by using a modified version of Baxter and Simon’s (1993) scale for marital relationship while overdependence was measured using Parks and Floyd’s (1997) instrument. For both scales, participants were asked to rate their perceptions of the dialectical contradiction on a 5-point Likert-type scale. Entrapment was measured by adapting seven items from a previous qualitative research (e.g. Ling & Ytrri, 2002).

Respondents were recruited from an introductory to communication course at a large mid-western public university, and course credits were offered for survey participation. A total of 247 respondents completed the online survey. In this study, four hypotheses were proposed for this study, and through path analysis and structural equation modeling (SEM), all but one hypothesis was supported. The overall results seemed to suggest that the use of mobile phones for purpose of relational maintenance had both negative and positive consequences to the friendship. Specifically, as phone calls and texts between friends increased, expectations of continued mobile maintenance also increased. Also, as greater expectations of continued mobile maintenance increased, dependence on the friendship also increases. On the other hand, increased expectations also lead to overdependence on the friendship, which in turn lead to decreased relationship satisfaction. As with the previous research, this study offered continued support for the experience of internal dialectical contradictions in close friendships. This study also indicates that communication technologies impacts friendships in unique, capricious and
paradoxical ways, in contrast to a more deterministic view of a positive or negative impact of mobile connectivity among friends.

Next, Ottu (2012) also examined relational dialectics and maintenance strategies among 63 married individuals in Nigeria. Three hypotheses were proposed to examine the relationship between relational maintenance strategies, dialectical tensions (i.e. emphatically accurate-empathically inaccurate, personal equilibrium-tensional equilibrium) and gender. Emphatic accuracy was measured using the Attributional Complexity Scale (ACS) created by Fletcher, Danilovics, Fernandez, Peterson and Reeder (1986), which consist of 28 statements based on a 6 Likert-type scale. Higher scores indicated greater emphatic accuracy. Personal equilibrium was measured using the Marriage Dialectics Management Scale (MDMS), which was created by the researcher in order to measure how couples in marital relationships negotiate tradeoffs between personal and relational concerns toward relationship maintenance. Finally, relational maintenance strategies were measured using the 31-item relational maintenance measure created by Stafford, Dainton and Haas (2000). The results indicated that emphatically accurate individuals engaged in greater relationship maintenance behaviors compared to emphatically inaccurate counterparts. Also, relational partners who located dialectical equilibrium in the relational domain engaged in greater relationship maintenance behaviors compared to those who located their dialectical equilibrium on the personal level. Overall, the researcher was able to establish a relationship between maintenance behaviors and dialectical contradiction in marital relationships; those who exhibit more concern for the relationship rather than for the self, and those who exhibit high levels of empathic accuracy are more likely to engage in more frequent relationship maintenance behaviors, and would ultimately be more satisfied with the relationship. However, the results from this study should be interpreted with caution, due to the small sample
size. In sum, the overall results from these three studies do suggest that maintenance behaviors and expectations may depend on the dialectical contradiction that is salient in the relationship.

The next section will highlight the concept of relationship maintenance and would include sections on the definition and perspectives of relationship maintenance, types of relational maintenance behaviors, mediated versus face-to-face maintenance behaviors, relational maintenance behaviors in social networking websites, individual differences in relational maintenance behaviors, cross-cultural differences in relational maintenance behaviors, as well as relationship outcomes from maintenance activities.

Relational Maintenance

Definition and Perspectives on Relational Maintenance

Starting in the early 1980s, scholars have identified relationship maintenance as one of the factors that can significantly improve relationships, and it was in the last 30 years that scholars began to explicitly use the term ‘relational maintenance’ in their lines of research (Dindia, 2003). There is no doubt that relationship maintenance is an important component in interpersonal relationships; Duck (1988) has suggested that relational partners spend more time and effort maintaining relationships rather than initiating or terminating it. Therefore, although early relationship research attempted to examine relationship initiation strategies in the early stages of personal relationships, followed by studies that focused on relationship termination, relationship scholars have also come to focus their effort on examining the process and strategies of maintaining relationships in greater detail (Dindia, 2003).

Generally, relational maintenance can refer to behavioral dynamics that facilitates preserving a relationship (Dindia, 2000). Dindia and Canary (1993) elaborated about four definitions of relational maintenance from the literature. First, the most basic definition of
relational maintenance is to “keep a relationship in existence” (Dindia, 2003, p. 3). For instance, a marital relationship is maintained when it is not terminated through divorce. Secondly, relational maintenance can refer to “keeping a relationship in a specified state or condition” (Dindia, 2003, p. 3). This definition refers to sustaining a relationship in a steady state, or in particular condition with certain characteristics associated with the state of a relationship. For example, for a married couple, maintaining a relationship can mean sustaining the relationship through trust, commitment, and intimacy. Next, relational maintenance can mean “the process of keeping a relationship in a satisfactory condition” (Canary & Dainton, 2006, p. 728). Using this definition means conceptually and operationally defining maintenance as relational satisfaction, or as relational continuity (e.g. whether it is intact or not). Finally, the fourth use of relational maintenance is “keeping a relationship in repair” (Dindia, 2003, p. 4). This definition involves both the maintenance and repair of relationships, and can include two elements: preventative maintenance and fixing a relationship in disrepair, as these two elements would prevent a relationship from de-escalating and terminating (Dindia, 2003).

Overall, in most maintenance studies, researchers appear to concentrate on one of these definitions, which suggest a lack of consensus on what really defines ‘relational maintenance’. However, Canary and Dainton (2006) argues that for scholars studying relational maintenance, an emphasis on the actions and activities in which relational partners engage in to sustain desired relational characteristics (e.g. satisfaction, intimacy) is sufficient, as it allows scholars the flexibility of using different theoretical framework or perspectives in capturing the essence of relational maintenance. Therefore, in other words, maintenance may encompass any activity that includes all four definitions of relational maintenance outlined by Canary and Dainton (2006).
Types of Relational Maintenance Behaviors

Based on the research tradition in relational maintenance, Canary and Dainton (2006) established that relational maintenance research has mainly focused on the specific techniques that relational partners can use to maintain their relationships and maintenance activity across different types of contexts, and mostly in face-to-face settings (e.g. self/cognitive, system, network, and culture). For instance, many studies on relational maintenance have been concentrated on ascertaining which communication behaviors are used most successfully to maintain specific types of relationships (Tong & Walther, 2011). However, over the last 20 years, more efforts have been concentrated on relational maintenance behaviors in marital relationships and romantic couples (e.g. Canary & Stafford, 1992; Canary, Stafford, & Semic, 2002; Dailey, Hample, & Roberts, 2010; Dainton, 2000; Dainton, 2013; Dainton & Berkoski, 2013; Dainton & Aylor, 2002; Ledbetter, 2013b; Rabby, 2007; Stafford, 2010; Stafford & Canary, 1991; Weigel & Ballard-Reisch, 2008) rather than on families or kin (e.g. Morserewicz, Dickson, Thi Anh Morrison, & Poole, 2007; Myers & Glover, 2007; Myers & Weber, 2009) or friends (e.g. Guererro & Chavez, 2005; Johnson, 2000; 2001; Johnson, Becker, Craig, Gilchrist, & Haigh, 2009; Messman, Canary, & Hause, 2000; Ledbetter, 2010a; Ledbetter, Broeckelman-Post, & Krawsczyn, 2010; Miczo, Mariani, & Donahue, 2011; Oswald et al., 2004; Ye, 2006). Thus, there is a slightly biased empirical emphasis in terms of how researchers examine relational maintenance behaviors across the different types of interpersonal relationships.

Additionally, the most popular and frequent line of research in relational maintenance is in examining relational maintenance in the relational system context. Particularly, this line of research seeks to examine and identify types of behaviors or interactions that relational partners
can enact to sustain their relationships (Dindia, 2003). The majority of research on relational maintenance has aimed to develop a range of pro-social or positive maintenance behaviors (Ye, 2006). Stafford and Canary (1991) captured one of the earliest and most widely used typology of such behaviors. In their initial research on relational maintenance strategies used by married couples, they derived five positive and pro-active maintenance strategies through factor analyses, and that includes positivity, assurances, openness, sharing tasks, and social networks.

*Positivity* refers to communication efforts used to make interactions more enjoyable, such as acting nice and cheerful when one does not feel that way, carrying out favors for the partner, and also suppressing complaints. *Openness* involves direct discussion about the relationship, such as discussions about the relationship history, rules that are formed, and also personal disclosures. *Assurances* include partner support, comforting the partner, and making clear commitments or faithfulness. *Social network* refers to relying on friends and family to support the relationship (e.g. asking advice from parents to help with child rearing). Finally, *sharing tasks* refers to performing one’s equitable share of household chores. Subsequently, in a later study by Canary, Stafford, Hause, and Wallace (1993), five other strategies were added, including *joint activities* (e.g. spending time together), *cards, letters and calls* (e.g. use of mass communication), *avoidance* (e.g. evasion of partners or issues), *anti-social acts* (e.g. behaviors that are unfriendly or coercive), and also *humor* (e.g. jokes and sarcasms).

Following that, other research was carried out on the different typologies of relational maintenance (e.g. Haas & Stafford, 1998; Messman, et al., 2000). Most recently, Stafford (2010) revised the earlier conceived relational maintenance strategy measure (RMSM) to account for some fundamental flaws in the earlier measure and offered an improvement in the form of the relational maintenance behavior measure (RMBM). The final RMSM contained five-factors that
composed of relational maintenance: openness/disclosure/relational talks, positivity and understanding, network, assurances, and tasks. Although this measure was primarily developed for marital relationships, it has also included factors that can be considered when studying non-romantic relationships (e.g. in friendship and family relationship), such as self-disclosures and understanding. Specific to friendships, Oswald et al. (2004) has developed a Friendship Maintenance Strategy (FMS) scale to measure strategic relational maintenance behaviors in maintaining friendships that contains similar items to the RMSM. According to Oswald et al. (2004, p. 414), “friendship maintenance behaviors are engaged in with the goal of maintaining friendships at a satisfying and committed level”. Key factors for friendship maintenance behaviors include positivity, supportiveness, openness, and interaction. These items in the friendship maintenance scale are similar to subscales in the five-factor RMSM revised by Stafford (2010).

In the friendship maintenance literature, overall four relational maintenance behaviors have consistently emerged as important: spending time together, openness, social support, and avoidance (Dainton, et al., 2003). First, spending time together or having the need for shared activity and on-going interpersonal contact is important for relationship sustainment (e.g. Canary et al., 1993, Flora & Segrin, 1998). Also, having a certain amount of openness or self-disclosures is important in ongoing friendships (e.g. Craig & Wright, 2012; Ledbetter, Mazer, DeGroot, Meyer, Mao, & Swafford, 2011; Wang & Andersen, 2007). Next, being supportive is a crucial aspect of friendship maintenance and can include giving advice, comforting or providing ego support (Dainton, et al., 2003). The final strategy that has been identified consistently in friendship is avoidance or withdrawal (e.g. Canary et al., 1993). Avoidance in friendship can include avoiding topics or people in order to sustain a relationship. For instance, withholding
expression of feelings about a close friend’s spouse or romantic partner is sometimes necessary in order to maintain a degree of satisfaction in the relationship (e.g. Zhang & Merolla, 2009). Additionally, besides these four maintenance strategies, other types of friendship maintenance strategies can include using affection as a maintenance strategy (e.g. Hays, 1984), conflict management (e.g. Burleson & Samter, 1994), positivity (e.g. Messman et al., 2000), using emails or phone calls to sustain long-distance friendships (e.g. Johnson, 2000; 2001), and using negative maintenance behaviors to sustain friendships (e.g. Nix, 1999; Ye, 2006).

Additionally, scholars distinguish between strategic and routine maintenance. Strategic maintenance behaviors are strategies that relational partners intentionally enact to maintain the relationship, and routine maintenance on the other hand, are mundane, unintentional and everyday behaviors that are also likely to serve an important function in the sustenance of an intimate relationship (Dainton & Aylor, 2002). Stafford, Dainton, and Haas (2000) examined the patterns between strategic and routine maintenance strategies. Their study contained five items from the original Stafford and Canary (1991) study (i.e. positivity, openness, assurances, social network and sharing tasks), and two new strategies were added: advice giving and conflict management. Based on their research, the maintenance behavior of positivity and sharing tasks were performed more routinely rather than strategically. However, the same maintenance behavior can also be performed routinely at one time, and strategically at another. Additionally, routine behaviors are mundane maintenance behaviors that are performed frequently, until something occurs that disrupts the relationship, and at that point, partners might utilize more strategic maintenance behaviors. Thus, routine maintenance is performed during times where preferred levels of satisfaction and commitment are experienced while strategic maintenance is carried out in times of perceived relational uncertainties.
Finally, maintenance scholars also distinguish between positive or pro-social and negative and anti-social relational maintenance behaviors (e.g. Clark & Grote, 1998; Dainton & Gross, 2008; Dainton & Berkoski, 2013; Dindia & Baxter, 1987; Goodboy, Myers, & Members of Investigating Communication, 2010; Goodboy & Bolkan, 2011; Guerrero & Chavez, 2005; Nix, 1999; Simon & Baxter, 1993; Ye, 2006). The initial work carried out on relationship maintenance (e.g. Canary & Stafford, 1991; Stafford et al., 2000) mainly operationalized maintenance behaviors as maintenance behaviors including positivity, openness, assurances, social network, sharing tasks, conflict management, and advice-giving. However, others argue that there is a positivity bias in terms of these maintenance behaviors, and negative behaviors can emerge out of a concerted effort in enacting maintenance activities (Dainton & Gross, 2008; Dainton & Berkoski, 2013). According to Dainton and Gross (2008), negative maintenance behaviors are “socially unacceptable behaviors that might serve relational maintenance purposes” (p. 180). It can also include anti-social maintenance behaviors. According to Dindia (2003), anti-social maintenance behaviors are behaviors that dissuade interaction, often coercive, manipulative or controlling, and include giving ultimatums, threats, or being distant. Anti-social or negative maintenance behaviors in friendships can be used to keep the relationship at a certain state, such as keeping a close friendship from escalating into romance. Other possible reasons for adopting anti-social behaviors in relational maintenance can include protecting oneself, avoiding rejection or conflict, manipulating others, or gaining favor, attention, and rewards (Saami & Lewis, 1993). Generally, although it serves its purpose, negative maintenance behaviors rarely lead to positive relational outcomes, and can sometimes even decrease relationship satisfaction (Dainton & Gross, 2008).
In their research, Dainton and Gross (2008) found that negative maintenance behaviors comprise of six factors. First, *jealousy induction* include efforts to make a partner jealous, while *avoidance* means efforts to avoid others and topics that will lead to arguments (Dainton, 2013). Also, *infidelity* includes behaviors that range from flirting to having sex with others to avoid boredom, while *destructive conflict* refers to behaviors that control others and seek arguments (Dainton, 2013). Finally, *allowing control* references different types of behaviors including breaking plans with family members and friends to spend time with the partner, and also letting others make decisions, while *spying* includes behaviors to gather information such as checking on partner’s phones and emails (Dainton, 2013). Others identified other types of direct and indirect anti-social behaviors including indifference, manipulation, and verbal aggressiveness as negative maintenance behaviors (e.g. Canary et al., 1993; Dainton & Stafford, 1993).

**Mediated Versus Face-to-Face Relational Maintenance Behaviors**

Additionally, several studies have specifically examined the difference between maintenance behaviors in traditional or face-to-face communication and in mediated interactions (e.g. Houser, et al., 2012; Ledbetter, 2010; Rabby, 2007; Ramirez & Broneck, 2009; Wang & Andersen, 2007; Wright, 2004; Ye, 2006). A popular and convenient way of maintaining personal relationships is through technology, aptly labeled “mediated relational maintenance” (Tong & Walther, 2011, p. 100). In recent years, several studies have attempted to examine mediated relational maintenance across relationship types in different computer and communication technology applications such as in social networking websites (e.g. Baym & Ledbetter, 2009; Bryant & Marmo, 2009; Craig & Wright, 2012; Dainton, 2013; Dainton & Berkoski, 2013; Ledbetter et al., 2011; Marmo & Bryant, 2010; McEwan, 2013; Vitak, 2012; Wright, et al., 2008; Stewart, Dainton, & Goodboy, 2014), online games/Xbox 360 (e.g. Chory
& Banfield, 2009; Ledbetter & Kuznekoff, 2012), instant messaging (IM) (e.g. Ledbetter, 2010; Quan-Haase, Cothrel, & Wellman, 2005; Ramirez & Broneck, 2009), emails (e.g. Johnson, Haigh, Becker, Craig, & Wigley, 2008; Stafford, Kline, & Dimmick, 1999), personal blogs (Stefanone & Jang, 2007), text-messaging (e.g. Brody, Mooney, Westerman, & McDonald, 2009), video-chats (e.g. Neustaedter & Greenberg, 2012), or using a mixed CMC mode (e.g. Houser, et al., 2012; Miczo, et al., 2011; Shklovski, Kraut, & Cummings, 2008; Wang & Andersen, 2007).

Overall, openness and positivity seems to be most frequently used relational maintenance strategies in the online settings. For example, Wright (2004) examined the use of maintenance strategies and perceptions of partners in exclusively Internet-based (EIB) and primarily Internet-based relationships (PIB). Relational partners who used positivity and openness perceived their partners’ quality of communication as higher compared to those who used other strategies, and it is particularly important strategy for online friendships and acquaintanceship as opposed to family relationships. This is probably due to the fact that for Internet communications, openness and positivity is more easily expressed than other types of maintenance, such as assurances or conflict management. Tong and Walther (2011) concluded that openness and disclosures might function more broadly for relational partners who communicate online compared to those who communicate offline.

Further, although Wright (2004) found no significant difference in relational maintenance behaviors between relational partners in PIB and EIB relationships, other research demonstrated that there might be a difference in maintenance behaviors in offline and online settings, depending on the relationship type. On the other hand, Ye (2006) found a significant difference in maintenance strategies enacted in online and offline relationships. Specifically, strategic pro-
social maintenance behaviors were enacted more frequently in offline rather than online relationships, but this relationship was mediated by friendship status. The gap between frequencies of maintenance strategies between offline and online friendships tended to be bigger for casual friendships. In other words, close friends tended to enact maintenance strategies equally in both offline and online interactions. Further, engagement in anti-social maintenance behaviors also differed according to channel of interaction; Ye (2006) found that online friendships tended to exhibit higher levels of deception, while coercion and criticism was reported more for offline friendships.

Other studies compared relationship maintenance between long-distance and geographically partners; where long-distance friendships are often maintained using mediated channels (e.g. Johnson, 1999, 2000, 2001; Johnson, Becker, Craig, Gilchrist, & Haigh, 2009; Johnson, Haigh, Craig, & Becker, 2009; Johnson, et al., 2008). In one study, Johnson (2001) compared maintenance behaviors among geographically close (GC) and long-distance (LD) friends, and how it affects friendship quality (e.g. closeness, satisfaction, and likelihood of continuance). Results of the study indicated that GC friends enacted more maintenance behaviors than LD friendships, and the types of maintenance used were also tailored according to geographical distance. For example, social network and joined activities were used more in GC friendships, while cards, letters and calls were used more in LD friendships. However, satisfaction levels in both types of friendship were not significantly different. Thus, LD friendships can be successfully maintained with the use of mediated communication. Further, Johnson, Haigh, Craig, and Becker (2009) found that relational closeness also did not vary between LD and GC friends, although GC and LD friends may provide different kinds of support based on geographical distance of friendships. Finally, with the lowered cost for maintaining LD
friendships with the use of mediated communication, it is easier for LD friends to be committed in maintaining their friendships, particularly for LD friends in longer relationships (Johnson, Becker, Craig, Gilchrist, & Haigh, 2009).

Next, others have suggested that the original Stafford and Canary (1992) typology on relational maintenance may need to be expanded and re-conceptualized (Ledbetter, 2010; Tong & Walther, 2011). For instance, it might be difficult to measure the ‘sharing task’ and ‘network’ strategy in the online setting, as it requires physical presence. Some researchers have already carried out preliminary work to account for this issue. For instance, in a diary study carried out by Jerney-Davis et al. (2005) on military spouses and communication activities, these categories was extended to include other types of maintenance activities such as: ‘discussion of social networking’, ‘interactions with any persons outside of the relationship’ and ‘ordinary tasks that needs to be completed’. Similarly, Ledbetter (2010) extended the RMSM introduced by Stafford and Canary (1991) in the online context (i.e. Instant Messaging). The result of the study concluded that such extension was statistically rigorous, but with one important caveat: the task maintenance behaviors are particularly suited to the FtF context and may need to be modified to suit the online setting. A future suggestion was to test the maintenance construct across other CMC mediums.

Finally, there are some studies that explicate how different types of relationships maybe maintained with the use of multiple channels of communication based on the predictions provided by the media multiplexity theory (e.g. Ledbetter, 2010b; Ledbetter, 2013a; Ledbetter & Mazer, 2013; Miczo, et al., 2011). The media multiplexity theory was developed based on the Haythornwaite (2002, 2005) ideas of tie strength, or level of interdependence. According to Haythornwaite (2005, p. 128), weak tie relationships consist of “individuals we know slightly
but are not close friends, travel in different social circles, and are therefore likely to have
different experiences and access to different information, resources, and contacts, such as
acquaintances or casual contacts”. Strong tie relationships are “people we know well, are willing
to work with us and to share information and resources, as well as offer access to contacts they
know, such as close friends and co-workers” (Haythorntwaite, 2005, p. 128). A key assumption
of the theory is that relational partners use multiple media, or multimodality, in order to maintain
their relationship, and that “the more strongly tied pairs will tend to make use more of the
available media” (Haythorntwaite, 2005, p. 130). In other words, tie strength between relational
partners may determine patterns of media use, and that compared to weak tie relationships,
individuals with close tie relationships will tend to utilize a broader range of informational and
emotional exchanges (Haythorntwaite, 2002).

Thus, researchers have applied the media multiplexity theory to the online context by
examining the relationship between SNS use with relational interdependence and online
communication attitudes (e.g. Ledbetter & Mazer, 2013), online and face-to-face maintenance
behaviors and its relationship with interdependence (e.g. Ledbetter, 2010), and the relationship
between online maintenance behaviors and interpersonal motives among geographically close
friendships (Miczo et al., 2011). Taken together, these studies offer some support for the media
multiplexity theory. Based on their findings, tie strength predicted the use of friendship
maintenance behaviors. For instance, close friends need not spend too much time together, in
order for them to maintain their friendship as a satisfactory level (Miczo et al., 2011). Close
friends who engaged in multiple maintenance behaviors were also likely to feel more
interdependent with one another (e.g. Ledbetter, 2010; Ledbetter & Mazer, 2013). Further,
stronger tie relationships are also maintained through multiple channels of interaction, such as e-
mail, instant messaging and face-to-face communication (Miczo et al., 2011) and a combination of both face-to-face and online maintenance (e.g. Ledbetter, 2010; Ledbetter & Mazer, 2013).

**Relational Maintenance Behaviors in Social Networking Websites**

Further, studies also examine maintenance behaviors specific to social networking websites (SNS). Joinson (2008) reports that the most frequently reported use of SNS, such as Facebook are for relational maintenance purposes, specifically for “people you don’t get to see often” (p. 1030). With the rapid development of CMC technologies, and the way technological tools have changed how communication behaviors manifests itself, researchers have attempted to expand the area of relational maintenance behaviors and strategies by incorporating CMC elements into their study. With SNS, scholars believe that it offers advantages over traditional means of maintaining relationships (Wright et al., 2008). Specifically, Tong and Walther (2011) have highlighted four features of SNS that possibly facilitate the relational maintenance process: asynchronous communication, control over dissemination of information, features to encourage interaction (e.g. involvement and feedback), and the ability to share and embed multimedia message (e.g. posting videos, photos, and links). Similarly, researchers (e.g. Bryant, Marmo, & Ramirez Jr., 2011; Toma & Hancock, 2013) also extrapolated reasons why SNS is a powerful tool for relational maintenance. First, it provides a convenient way for its users to find and locate friends as well as maintain relationships with others in their network that they might not see on a regular basis.

Further, SNS also provides reminders of significant life-events (e.g. birthdays, marriage, birth), as well as updates on news of success (e.g. new jobs, promotions) or challenges (e.g. divorce, death). By informing friends on the occurrence of such events, SNS provides opportunities for Facebook friends to enact the appropriate relational maintenance strategies,
such as providing assurances and support, or congratulating friends on their good news. Finally, SNS also enables Facebook friends to maintain their relationships with a large number of people in their network. Also, the asynchronous nature of the SNS also facilitate the relational maintenance process between users who do not share similar schedules, geographical locations or time, and provide users with increased control over their impressions by permitting additional time for them to compose and edit messages. Thus, friendships can be easily sustained through SNS. Research indicate that users are more likely to maintain existing relationships with individuals who are already part of their social network, such as high school friends, rather than forging new friendships (boyd & Ellison, 2008; Lampe et al., 2006; Tong & Walther, 2011).

Finally, SNS use may also be ubiquitous for other reasons. In two separate studies conducted on Facebook use based on the self-affirmation theory, Toma and Hancock (2013) reports that using Facebook profiles can be self-affirming to its users, by satisfying the user’s needs for self-worth and integrity. Also, when Facebook users experiences incidences that may dent their ego (e.g. being ignored by a friend), these individuals may unconsciously gravitate to using their online profiles in order to repair their perceptions of self-worth. Thus, for many Facebook users, using SNS may provide them with psychological benefits, specifically in enhancing their ego and managing their self-worth (Toma & Hancock, 2013).

Bryant and Marmo (2012) described three types of friendships maintained in Facebook friendship network: casual friends, close friends, and acquaintances. According to Bryant and Marmo (2012), close friends are the small number of individuals that one describes as “very close or best friends” (p. 1018) and interact with using various communication channels including email, Facebook and telephone. With casual friends, they are real friends that one interacts with outside of social network, but the friendship is characterized as lacking intimacy or
great closeness. Finally, acquaintances are weak ties and represent the bulk of friendships that are maintained in Facebook. According to Bryant and Marmo (2012), they represent friends that the individual has met once or twice outside of Facebook but the interactions between them are limited to passive Facebook use (e.g. monitoring each other’s profiles).

In one of the earliest studies on Facebook relationship maintenance, Bryant and Marmo (2009) examined how college students use Facebook in order to maintain different types of relationships (e.g. close friends, casual friends, acquaintance, romantic partners, outsiders such as bosses, parents and teachers). Through focus group interviews, a list of maintenance behaviors in Facebook was created, based on the relational maintenance strategies created in previous studies (e.g. Stafford & Canary, 1991; Canary, et al., 1993). In their study, 11 different strategies were used to maintain relationships in Facebook including: positivity, assurances, social network, shared tasks, joint activities, using card, letters and calls, avoidance, anti-social, humor and surveillance. Finally, Bryant and Marmo (2009) found that close friendships and romantic partners require multiple maintenance tools; e.g. Facebook is being used to supplement other communication channels such as phone calls, texts and face-to-face communication. Also, from the study conducted by Bryant and Marmo (2009), Facebook surveillance emerged as a new strategy specific to social networking website use, which is an online behavior more associated to information-seeking, rather than actual stalking behavior. Other studies indicate that Facebook surveillance-type behavior is becoming increasingly common in Facebook and is intended for passive information seeking about the relational partner (e.g. Bryant & Marmo, 2012; Dainton & Berkoski, 2013; Joinson, 2008; McEwan, 2013; Vitak, 2012).

In another study, Vitak (2012) also examined the relationship between Facebook use (e.g. number of times logging into the website and number of Facebook friends), relational
maintenance strategies, and different types of relational outcomes. Through a survey of 407 adult Facebook users, the main purpose of the study was to expand understanding on the online relational maintenance processes and to account for the unique affordances of Facebook as a communicative tool. Using exploratory factor analyses (EFA), four main Facebook maintenance strategies were established including supportive communication, shared interests, passive browsing, and social information seeking. Overall, the main findings of this study indicate that all four strategies impacted relational closeness and stability. Also, the findings of this study indicate that Facebook users tended to engage in these maintenance strategies to maintain weaker ties, and viewed the site with more positive impact on their relationship, such as having increased relational closeness with their relational partner. Further, when controlling for relational closeness, there was a significant difference between individuals who mainly rely on Facebook to communicate with their friends compared with those that do not rely on Facebook, as well as those who were geographically distanced compared to those who lived nearby.

Most recently, Dainton (2013) conducted a similar study by expanding on the preliminary work carried out by Bryant and Marmo (2009). The primary goal of her study was to examine the relationship between Facebook relational maintenance behaviors, general maintenance behaviors, and relationship satisfaction, among 188 college students in romantic relationships. Scale items to measure Facebook maintenance strategies were developed based on the previous research by Bryant and Marmo (2009). Also, some new items were added to measure “assurances” activities in Facebook (Dainton, 2013, p. 117). Using confirmatory factor analyses, three factors emerged: positivity, openness, and assurances. General maintenance behavior was measured using the relational maintenance strategy measure (RMSM) created by Stafford et al. (2000). Overall, results indicate that Facebook positivity and assurances were positively
correlated with relational satisfaction; since Facebook maintenance behaviors were only
moderately correlated to general versions of maintenance behaviors, it is possible that
maintenance behaviors maybe context-specific. When controlling for general maintenance
behavior, only Facebook positivity was able to positively predict relationship satisfaction. Thus,
although Facebook is popular for relationship maintenance for college students in romantic
relationships, it is not particularly crucial for relationship satisfaction, particularly when general
maintenance behavior has already fulfilled the need for ongoing maintenance activity in order to
maintain romantic relationships at a satisfactory level.

Finally, literature also indicates that Facebook use can also influence the types of
maintenance behaviors performed in Facebook. Facebook use can be measured in different ways
including measuring the intensity of Facebook use (e.g. Ellison et al., 2007; Steinfield, Ellison, &
Lampe, 2008; Utz & Beukeboom, 2011), the total number of ‘actual’ Facebook friends (e.g.
Ellison, Vitak, Gray, & Lampe, 2014); daily time spent using Facebook (e.g. Dainton &
Berkoski, 2013; Mc Nelis, 2013; Muise et al., 2009; Rosen, Whaling, Rab, Carrier, & Cheever,
2013), number of time logging in per day (e.g. Vitak, 2012; Trepte & Reinecke, 2013), a raw
count of Facebook activities and total number of Facebook friends (e.g. Clayton, Osborne,
Miller, & Oberle, 2013; Quinn, Chen, & Mulvenna, 2011), and number of years in using
Facebook (Chou & Edge, 2012).

Studies that have specifically linked Facebook use and Facebook maintenance behaviors
have mostly focused on the maintenance of romantic relationships and Facebook use (e.g.
Facebook users who spent more time using the site self-reported higher engagement in relational
deception on Facebook (e.g. using Facebook to contact previous romantic partners) while Muise
et al. (2009) found that increased Facebook use (e.g. time spent on Facebook) significantly predicted the experience of jealousy in Facebook-specific context (e.g. becoming jealous when partner adds friends of the opposite sex on Facebook). Finally, Dainton and Berkoski (2013) found a significant relationship between time spent using Facebook and positive maintenance strategies of sharing tasks and advice giving. Overall, from these studies, it is evident that Facebook users in romantic relationships who spend more time on the site tend to self-report higher engagement in Facebook maintenance behaviors, as Facebook is being used to keep track of their romantic partners.

Overall, findings from these studies on SNS and relational maintenance indicate that friendship maintenance can be easily facilitated through the use of SNS. Conceptualizing friendship maintenance, particularly for long-distanced friendships, as ‘fragile’ may not longer be a true account of the friendship maintenance process in the digital age. While SNS is particularly useful for maintaining pre-existing relationships, or long-distanced relationships, many users also find Facebook useful for maintaining weak tie relationships, such as acquaintances. Acquaintances are particularly useful to maintain for social capital and networking purposes (Ellison et al., 2014). SNS behaviors, such as surveillance and social information seeking, tend to require very little effort, and can be used to maintain these weak tie relationships. Also, consistent with the predictions of media multiplexity theory, these studies also indicate that stronger tie relationships, such as close friendships, generally require multiple maintenance tools, and SNS is usually being used in tandem with other communication channels, particularly face-to-face communication. In certain cases, when maintenance in face-to-face communication is already fulfilling relational needs between partners, SNS use may not be as crucial in maintaining close relationships. The next section provides individual differences, such
as age or friendship dyads, that may influence maintenance behaviors in close relationships.

**Individual Differences in Relational Maintenance Behaviors**

**Age and maintenance behaviors.** Interpersonal relationships are characterized by changes throughout the life span. Thus, maintenance behaviors may also vary across different age groups (e.g. childhood, adolescence, young adulthood, adulthood, and older adulthood). For instance, adolescents and young adults have greater anticipations for shared intimacy and communication, and friendship maintenance tends to concentrate on four major maintenance activities including spending time, openness, support, and avoidance (Dainton et al., 2003). Also, for young adults transitioning into adulthood and entering college, these changes can also provide challenges for them in maintaining relationships, including romantic relationships, long-distance relationships, and also geographically close friendships (Johnson, 1999, 2000, 2001). Further, as middle-aged adults encounter more problems in maintaining friendships due to other life challenges (e.g. marriage and work), they may prefer certain types of maintenance strategies (e.g. affection) and have lowered expectations on maintenance activities, particularly in spending time together (Dainton et al., 2003). Finally, elderly individuals tended to have a more complicated view of friendships, as they have focus simultaneously on issues of reciprocity and the consequences of friendship loss (Patterson, Bettini, & Nussbaum, 1993).

Several studies have examined the use of maintenance behaviors in close relationships from the life-span perspective (e.g. Harwood & Lin, 2000; Mansson, Myers, & Turner, 2010; Vogl-Bauer, Kalbfleisch, & Beatty, 1999; Yum & Amana, 2007). These studies examined maintenance behaviors used among intergenerational members of the family, such as parent-child and grandparent-grandchildren relationships. Further, some studies on maintenance behaviors across the life span has focused on sibling relationships, as it is a unique and longer
relationship that an individual can experience throughout their life span (e.g. Goodboy, Myers &
Patterson, 2009; Myers, Bran & Rittenour, 2008; Myers & Glover, 2007; Myers & Rittenour,
2011/2012; Patterson et al., 2003). In one such study, researchers differentiated siblings’ use of
maintenance behaviors in early and middle adulthoods (Myers, Bran, & Rittenour, 2008). A
main goal of the study was to examine the connection between interpersonal motives and their
use of maintenance behaviors. Findings revealed that relationally oriented motives were
positively associated with five maintenance behaviors. The study also contributed to the
understanding of sibling relationships in early and middle adulthoods; sibling relationships in
this period of time tend to have a more equal and peer-like relationship compared to sibling
relationships in childhood, adolescence, and during emerging adulthood.

Conversely, Goodboy, Myers, and Patterson (2009) examined maintenance behaviors in
later life, among elderly siblings (e.g. aged 65 years old and above). The most frequently used
maintenance behavior among elder siblings was positivity, and the least was openness. Use of
maintenance behaviors was positively associated with relational quality. From this research,
findings were consistent with earlier studies (e.g. Patterson et al., 2003); elderly siblings have
fewer choices in terms of available relationships, and thus would attempt to maintain remaining
relationships by using positivity. Also, openness in elderly sibling relationships may not be as
crucial, and this is a long-standing relationship, where both parties are in tune with each other,
and thus may not require high amounts of communication. In sum, the meaning and engagement
of relationship maintenance behaviors change over the life span, and there are significant
differences in terms of how individuals in different age group maintain relationships. Thus, our
understanding of maintenance behaviors must take these changes into account when interpreting
maintenance behavior for individuals in different age groups.
These findings appear to be consistent across communication channels. Specific to Facebook, other studies have found that Facebook activities may differ according to age groups. For example, Quinn et al. (2011) examined social interaction patterns between younger (15-30 years old) and older users of Facebook (more than 50 years old), and found that Facebook activities and the usage of Facebook functions varies significantly according to age group. Main findings of the study revealed that age was correlated with the number of Facebook friends; younger users were more likely to have more Facebook friends compared to older users. Also, older users of Facebook were more likely to reply comments from others, as well as use hypermedia and other media applications in Facebook while younger users were more likely to comment on their Facebook status. Most recently, Ellison et al. (2014) examined age differences across maintenance behaviors in Facebook. Similarly, they found that Facebook relationship maintenance behaviors varied across age; post hoc analysis revealed that middle-aged adults (e.g. 36-50) were more likely to engage in Facebook relationship maintenance behaviors compared to older adults (e.g. those above 50). Additional analysis also revealed that maintenance behaviors varied significantly based on time spent on Facebook; those who spent less time (e.g. 0-15 minutes per day) using the site performed significantly less time performing maintenance behaviors compared to those who spend more time using the site (e.g. more than 15 minutes per day). The results of these two studies do indicate that as younger Facebook users tend to spend more time on Facebook, they may also be more invested in maintaining their Facebook relationships.

**Friendship dyads and maintenance behaviors.** Research on maintenance behaviors have demonstrated that there maybe significant difference maintenance behaviors according to gender. For instance, in some studies, females engaged in more frequent pro-social maintenance
behaviors such as positivity, self-disclosure, or openness compared to their male counterparts (e.g. Houser et al., 2012; Oswald et al., 2004; Ramirez & Broneck, 2009; Wang & Andersen, 2007; Ye, 2006). This is not surprising as research on same sex friendships indicate that the nature of male and female friendships varies because men and women tend to perceive friendship differently (Dainton et al., 2003). For instance, male friendships tend to emphasize more on shared activities while female friendships had a more affective and personal-based emphasis (Wright, 1982). Further, men and women even perceive cross-sex friendships differently. For instance, Rose (1985) found that compared to men, women perceive cross-sex friendships as providing fewer acceptance. Hence, friendship dyads may also influence the types of friendship maintenance behaviors enacted between friends, across different communication environments (Oswald, et al., 2004; Vitak, 2012).

Several relationship maintenance studies on friendship dyads have focused specifically on the use of maintenance behaviors in cross-sex friendships (e.g. Afifi & Burgoon, 1998; Guererro & Chavez, 2005; Messman et al., 2000). For instance, Guererro and Chavez (2005) found that cross-sex friends employed the use of maintenance behaviors based on their romantic intent (i.e. mutual romance, strictly platonic, desiring romance but fears the friend does not want one, and rejecting romance and thinking that the friend does). Rather unsurprisingly, friends with the intention of escalating their friendship into romance conducted the most maintenance, and when one partner does not desire romance, the least amount of maintenance was conducted. Relational talks was highest when individuals rejected romance, or in situations where there is mutual intent to have a romantic relationship.

Another study extended research on friendship dyads by comparing the use of everyday talk across different channels of interaction, such as in face-to-face communication, telephone
and in online communication (Ledbetter, Brockelman-Post, & Krawsczyn, 2010). In this study, one consistent finding with other studies was that cross-sex friendships enacted everyday talk less frequently compared to same-sex friendships, when interacting in face-to-face communication and when using telephones. However, this difference did not translate into online communication, and this maybe because communication technology can be used to buffer against intimacy. Thus, when relational partners do not share the same relational goals (i.e. when only one partner wants romance), they may resort to using technology to replace other means of communication, as technology provides them a means to maintain the relationship but yet prevent the relationship from escalating. Relatedly, Vitak (2012) found that there was a significant difference in terms of how friendship dyads (e.g. male friendships, female friendships, and cross-sex friendships) utilized the use of Facebook maintenance behaviors. Specifically, except for using Facebook for the purpose of shared interest and joined activities, female-female dyads enacted more maintenance behaviors on Facebook compared to other friendship dyads (i.e. cross-sex and male-male dyads). Although there was no significant difference with cross-sex dyads, female-female dyads were also found to use certain Facebook features, such as Facebook “Like”, more regularly compared to male-male dyads.

Overall, based on different gender perceptions towards friendships, across different studies, male friendships tend to exhibit less maintenance activities compared to female friendships, regardless of communication environments (e.g. Oswald, et al., 2004; Vitak, 2012; Parker & Devries, 1993). Cross-sex friends also may enact less maintenance behaviors compared to same sex friendships, as maintaining cross-sex friendships with the use of the appropriate and effective maintenance strategy can prove to be challenging and complicated, particularly when relational partners have differing goals in the relationship (e.g. Guererro & Chavez, 2005). For
instance, conflict may arise when one partner may wish to escalate the relationship into a romantic relationship, while the other partner wants the relationship to remain platonic. In these cases, maintenance behaviors maybe used to provide some distance between partners and to buffer against intimacy, while attempting to avoid terminating the relationship. In sum, these studies also illustrate the dynamic nature of maintenance behaviors, where relational partners strategically select the types of maintenance strategies used based on goals of the relationship.

**Cross-cultural Differences in Relational Maintenance Behaviors**

Besides individual differences, there are cross-cultural differences in the maintenance behaviors used in close relationships. Although both United States and Malaysia are multi-cultural countries, there are specific differences in terms of cultural values and beliefs. Typically, studies on cross-cultural variability in SNS will utilize the use of individualism-collectivism by Hofstede (1980, 1991, 2001) to explain and predict behavior variability across national culture (e.g. Cho, 2010; Choi, Kim, Sung, & Sohn, 2011; LaRose, Connolly, Lee, Li, & Hales, 2014; Marcus & Krishnamurthi, 2009; Qiu, Lin, & Leung, 2013; Xu & Mocarski, 2014). According to Hofstede (1980), individualism is marked by a tendency of looking after oneself and their immediate families only, while collectivistic societies emphasize more on in-group identities, where in-group members tend to look after one another in exchange for loyalty. Thus, Hofstede (1980) developed an individualism index to ascertain a culture’s relative position on the individualism-collectivism dimension. Examples of highly individualistic cultures include some Western countries such as United States, Canada, Britain, the Netherlands, Italy, and New Zealand. Some examples of highly collectivistic cultures include most Asian countries, such as China, Korea, Japan, Pakistan, and India.
In general, Malaysia is a collectivistic country, where respect, harmony, tolerance, face-saving, politeness (*sapan-santun*), and tact (*budi bahasa*) are important cultural values shared among Malaysians regardless of ethnicity (Abdullah, 2001; Abdullah & Gallagher, 1995; Zawawi, 2008). Malaysians also tend to apply diplomacy, indirect communication, and the non-confrontational approach to everyday communication (Bakar, Mohamad, & Mustafa, 2007). Further, they also tend to value personal relationships, endorse self-respect, and stress on sensitivity of feelings when relating with others (Bakar, Mohamad, & Mustafa, 2007). The United States meanwhile, is at the other extreme end of individualism, where there is more emphasis on autonomy and independence from in-group, such as families or nation (Markus & Kitayama, 1991; Hofstede, 2001). In sum, those from individualistic societies are more “me”-oriented, while those from collectivistic societies are more “we”-oriented (Sivadas, Bruvold & Nelson, 2008, p. 202). Accordingly, as one’s belief and values may influence how individuals communicate and relate to others in close relationships, the cultural dimension of individualism and collectivism may influence how individuals in these two cultures maintain relationships.

Based on the individualism-collectivism cultural dimension, studies on cultural variability in SNS use have indicated that SNS behaviors may differ according to cultural values and attitudes. For instance, Asian SNS users are more likely to maintain smaller and denser SNS network with almost equal portions of strong and weak ties (e.g. Choi et al., 2011), have fewer friends in SNS (e.g. LaRose et al., 2014), tend to keep their public profiles private, exchange fewer self-disclosures, use more non-verbal means of communication, such as graphics or icons (Cho, 2010), and perform more in-group sharing in Asian-based SNS (Qiu, Lin, & Leung, 2013). Also, Korean SNS users are also more likely to share pictures with only close friends and Chinese SNS users are more likely to play games with their friends (Chapman & Lahav, 2008).
Japanese SNS users tend to use animal or cartoon pictures as their SNS profile photo (Marcus & Krishnamurthi, 2009). Conversely, American SNS users tend to have more friends, exchange more frequent self-disclosures, and rely more on direct text-based communication (Cho, 2010). American SNS users are also more likely to display their real photos online (Marcus & Krishnamurthi, 2009), have larger but looser SNS network with greater portion of weak ties (Choi et al., 2011), spend more time using SNS, and have stronger motivations to use SNS for the purpose of information seeking, maintaining current social network, entertainment and for academic discussions (Xu & Mocarski, 2014). Therefore, SNS behaviors and attitudes may reflect elements of the group-level cultural values.

Further, besides country of origin or nationality, one study by La Rose et al. (2014) found that SNS behaviors might differ according to individual levels of collectivism and individualism. Due to multiple cultural influences brought by the Internet and wider social interaction with others from more geographically dispersed network, distinct cultural differences between individuals based on their nationality may have decreased. Thus, examining individual levels of collectivism-individualism may paint a more accurate picture of SNS behavior across cultural value orientations, besides categorizing individuals based on nationality. In their study, the researchers compared Korean, American, and Irish college students’ use of SNS in relation to their relational need for connection. Although these participants conformed to the Hofstede (1980) cultural value orientation of individualism-collectivism based on the nationality (e.g. Americans and Irish were both high in individualism, and Koreans were low in individualism), there were also some differences at the individual level. For instance, Korean participants showed less collectivism tendencies than expected. Overall, the results demonstrated that collectivistic cultural orientation tended to buffer against the demands of over connection.
through the use of social media. In other words, for individuals with high collectivistic
tendencies, due to the emphasis on group harmony, demands brought by social media activities
were not treated as an intrusion, but rather as a natural part of their social and relational life. In
sum, SNS behaviors may also vary based on individual levels of collectivism and individualism.

However, only a handful of studies have specifically examined cross-cultural
comparisons of relationship maintenance behaviors used in close relationships in face-to-face
communication (Yum, 2000; Yum & Li, 2007; Yum & Canary, 2003; 2008; 2009) and in online
interactions (Ye, 2006). Further, to date, only one study has directly compared maintenance
behaviors between individuals from Malaysia and United States (e.g. Baptist, et al., 2012). One
study by Yum and Canary (2009) examined cultural influence in maintenance behaviors
according to the equity perspective, among individuals from six different cultures (i.e. United
States, Korea, China, Spain, Czech Republic and Spain). An assumption of the equity theory is
that individuals want to preserve fairness in all associations requiring social exchange,
particularly in close relationships such as in romantic relationships (Walster, Berscheid, &
Walster, 1973). According to Yum and Canary (2009), perceptions on equity vary according to
cultural beliefs, and would determine how partners in romantic relationships use maintenance
behaviors. Based on cultural modernization theory (Inglehart & Welzel, 2005), individuals from
these 6 countries were divided into different cultural categories based on their country’s value
orientations: survival/self-expression and traditional/secular values.

Those who espouse traditional values believe in “premodern, conventional beliefs, such
as blind dependence on authority” (Yum & Canary, 2009, p. 389). On the other hand, those who
espouse secular values hold strongly to “modern, scientific beliefs, such as self-reliance” (Yum
& Canary, 2009, p. 389). Finally, those who espouse survival values tend to come from
“developing societies, where existential security is not yet ensured” (Yum & Canary, 2009, p. 389). Since economic matters are their primary concern, they tend to have little energy for maintaining high quality relationships. Finally, those who espouse the self-expression value orientation tend to represent “postmodern ideas and lifestyle” (Yum & Canary, 2009, p. 389). These individuals tend to place a high value on quality of life and individual rights, including relationships. Based on these cultural value orientations, individuals from United States and Spain were classified as high traditional/high self-expressive cultures. Individuals from China, South Korea and Czech Republic were classified as high secular/high survival cultures. Finally, individuals from Japan were classified as high secular/high self-expression. One main finding was that participants from the United States self-reported the highest use of maintenance behaviors, followed by participants in Czech Republic, China, South Korea, and Japan. Results of the study also provided some support for the equity perspective; for American and Spanish participants reported, those in equitable relationships would report the highest engagement in maintenance behaviors, and those in under-benefited relationships would report the lowest engagement in maintenance behaviors. However, the use of maintenance behaviors by participants from the other countries did not reflect the predictions outlined by the equity theory. Finally, regardless of their cultural orientations and values, individuals in over-benefited relationships self-reported fewer maintenance behaviors.

On the other hand, Ye (2006) examined cross-cultural links in offline and online friendship maintenance based on the individualism-collectivism cultural dimension. Specifically, the main goal of the study was to examine friendship maintenance strategies among American and Chinese Internet users, and the extent to which culture, relational variables (e.g. relational uncertainty and equity), and channel-factors would influence the engagement of these
maintenance behaviors in relationships that were initiated online. Ten hypotheses were offered in this study in order to examine the relationships between maintenance strategies, culture, and relational variables, and a total of 270 participants were recruited for this study. Based on Hofstede (1980) cultural dimensions of individualism-collectivism, the Chinese participants were categorized as higher in collectivistic orientation compared to the American participants, although there was no significant difference individualism score between the American and Chinese participants.

One main finding of the study was that regardless of friendship types (i.e. close friends versus casual friends), American participants engaged in three maintenance behaviors (i.e. positivity, openness, and supportiveness) more regularly than Chinese participants, while Chinese participant engaged in anti-social maintenance behaviors (i.e. avoidance, deception, and coercion/criticism) more regularly compared to American participants. Also, American participants also self-reported higher engagement in pro-social maintenance behaviors, regardless of interaction channel (i.e. offline versus online friendships). Finally, from the equity perspective, for American participants, those in under benefited relationships tend to use less pro-social maintenance behaviors compared to those in equitable relationships. However, this pattern was not seen in Chinese participants. Also, the use anti-social strategies such as avoidance or withdrawal reflect the Asian preference for non-confrontational maintenance behaviors (i.e. avoidance of arguments or conflict) in close relationships (e.g. Ting-Toomey, Gao, Trubishky, Yang, Kim, Lin, & Nishida, 1991).

Next, Baptist et al. (2012) compared maintenance behaviors and attachment style, specifically between emerging adults in romantic relationships, from the United States and Malaysia. The study found some support for cross-cultural variability in maintenance behaviors
between couples in romantic relationships. Consistent with previous studies on gender differences in maintenance behaviors among American couples (e.g. Canary & Safford, 1992; Oswald, et al., 2004), American women tend to engage in the most maintenance behaviors compared to American men. However, Malaysian men and women did not differ significantly in terms of maintenance behaviors, but American women and men differed in terms of their use of openness, assurances and network maintenance behaviors. Also, American women engaged in significantly more network maintenance behaviors compared to Malaysian men and women, and more assurances compared to Malaysian women.

Taken together, these studies offer interesting insights on the influence of cultural variables to relationship maintenance. Overall, maintenance activities do seem to vary across national culture, and based on the cultural value orientation of individualism and collectivism. As collectivistic societies are relationship-oriented and place the interest of the group over individual interest, it is natural to assume that they are more likely to engage in maintenance behaviors, particularly pro-social maintenance behaviors, such as positivity, assurances, and supportiveness. However, current research on cross-cultural variations in maintenance behaviors has found that those from individualistic societies, such as United States, engaged in more maintenance behaviors than those in collectivistic societies, such as Asian countries (e.g. Ye, 2006; Yum, 2000; Yum & Canary, 2008). According to Yum and Canary (2009), it is possible that individuals in individualistic cultures enacted more maintenance strategies simply because they were responsible for maintaining the relationships, instead of being swayed by external forces (e.g. fate, face-saving, obligation, or family interventions). On the other hand, collectivistic cultures tend to view relationships as something that is not easily controlled, and hence would put less effort in maintaining relationships (Ye, 2006). Additionally, the preference
for certain types of online maintenance behaviors also seems to reflect cultural orientation, such as regular use of self-disclosures for American SNS users (Cho, 2010), and avoidance for Chinese Internet users (Ye, 2006). The study by Baptist et al. (2012) seems to tentatively suggest there are cross-cultural variations in the use of maintenance behaviors between emerging adults from Malaysia and the United States. Nevertheless, since research has been scarce with respect to cross-cultural variations in friendship maintenance behaviors via SNS, more empirical evidence is needed to substantiate or corroborate findings from these studies.

**Relational Maintenance Behaviors in SNS and Relationship Outcomes**

Finally, several studies have examined the relationship between relational maintenance behaviors and various relationship outcomes, such as *relational closeness* (e.g. Ledbetter, 2009; Ledbetter & Kuznekoff, 2012; Ledbetter et al. 2011; Shklovski et al., 2008; Vitak, 2012), *relational quality* (e.g. Canary, Jackson, & Alhgrim, 2009; Goodboy et al., 2010; Johnson, 2001; McEwan & Guererro, 2012; McEwan, 2013; Stafford & Canary, 1991; Yum & Li, 2007), *relationship commitment or trust* (e.g. Canary & Stafford, 1992; Dailey et al., 2010; Johnson et al., 2009; Myers & Glover, 2007; Rabby, 2007), and *relationship satisfaction* (e.g. Dainton, 2000; Dainton, 2013; Dainton & Aylor, 2002; Dainton & Gross, 2008; Hall & Baym, 2011; Hall, Larson, & Watts, 2011; Goodboy & Myers, 2008; Goodboy & Bolkan, 2011; Miczo et al., 2011; Morr et al., 2007; Oswald et al., 2004; Sidelingier, et al., 2008; Weigel & Ballard-Reisch, 2008) across both mediated and face-to-face contexts.

Specific to social networking websites, several studies have examined the relationship between Facebook relational maintenance behaviors and relationship outcomes, including relational quality, satisfaction, and closeness (Craig & Wright, 2012; Dainton, 2013; Ledbetter et al., 2011; McEwan, 2013; Vitak, 2012). In the study conducted by Craig and Wright (2012), they
specifically examined the role of self-disclosure in the process of maintaining relationships in Facebook. A model of relational development/maintenance for Facebook users was developed using structural equation modeling. The main results of the study indicated that for Facebook users who reported greater breadth and depth of self-disclosure, also reported greater predictability of their partner’s behaviors, and greater interdependence with their partner. Thus, as a specific maintenance strategy, self-disclosures through Facebook can be effective in maintaining relationships. On the other hand, Ledbetter et al. (2011) also focused on self-disclosure as a maintenance strategy in Facebook, but they examined self-disclosure and attitude towards social connection as predictor variables to relationship closeness. In their research, there was an interaction effect between attitude towards online connection and self-disclosures, and this in turn led to increased Facebook communication frequency, and indirectly predicted increases in relational closeness. Even when offline communication was controlled, Facebook communication positively predicted relational closeness. Thus, for individuals who rely on Facebook to maintain relationships, regularly communicating with their friends through Facebook maybe important to increase relationship closeness.

Other studies examined a wider range of Facebook maintenance behaviors and its association with relationship outcomes. For instance, Dainton (2013) examined the use of both positive and negative maintenance between partners in romantic relationships. Her study found that the use of positivity and assurances increased relationship satisfaction among couples using Facebook for maintenance purposes. As such, the enactment of pro-social maintenance behaviors on Facebook is important to maintain relationships at a satisfactory level. However, infidelity and jealousy on Facebook also reduced relationship satisfaction. Therefore, specifically for
romantic partners who use Facebook to maintain relationships and to keep track of their partners, Facebook use has both negative and positive consequences for their relationship.

Finally, specific to friendships, McEwan (2013) examined Facebook maintenance behaviors (i.e. sharing through self-disclosures, caring and surveillance) and its association with various relationship outcomes such as closeness, satisfaction and liking, by using the multi-level modeling technique. Both the respondent, and also their partner’s self-reported maintenance behaviors were included in the data analysis. Results of the study indicated that both the respondents and their partner’s perceptions of the Facebook relational maintenance behavior of caring led to increased friendship satisfaction and liking. Regular maintenance behavior of caring and also surveillance by the respondent also increased friendship closeness. Interestingly, when individuals and their partner self-disclosed on Facebook, this decreased friendship satisfaction, and this finding contradicted previous research on self-disclosures and relationship outcomes (e.g. Craig & Wright, 2012). This was particularly pronounced when respondents themselves engaged in less sharing on Facebook; they are more likely to find self-disclosures by their partner more annoying. This maybe due to the nature of Facebook self-disclosures; it is different from face-to-face disclosures, and would be more similar to “masspersonal communication”, where listeners are forced into the role as confidante (McEwan, 2013, p. 4), and hence would resent excessive disclosures from their Facebook friends. Overall, the results of these studies do suggest that the use of various types of Facebook maintenance behaviors positively influences relationship outcomes (e.g. relationship closeness, relationship quality, satisfaction, commitment, and trust). Specifically, engaging in prosocial maintenance behaviors on Facebook, such as being supportive, positive, reassuring, giving advice or support, or exchanging the appropriate amount of self-disclosures, were important components in maintaining relationships at a satisfactory
level through the use of SNS. The next section will detail the specific research questions and hypotheses of interest for the proposed study.

**Hypotheses and Research Questions**

In the earlier sections of this dissertation, I elaborated on the main assumptions of the relational dialectical theory, and reviewed relevant literature that supports the assumptions of the theory. I also provided studies that specifically examined the relationship between dialectical contradictions and relational maintenance behaviors. Further, I highlighted the different definitions, perspectives, and types of relational maintenance behaviors, as well as maintenance behaviors in mediated interactions and how it might differ with face-to-face maintenance. Additionally, I emphasized studies that examined maintenance behaviors in social networking websites. Next, I provided literature that highlighted how individual differences, such as age and friendship dyads would influence maintenance behaviors in close relationships. Further, I also detailed cross-cultural variations in maintenance behaviors. Finally, I highlighted the relationship between relational maintenance behaviors in social networking websites with various types of relationship outcomes. With the previous review of literature as the basis, the following section elaborates the research questions and hypotheses of interest for this proposed study.

The first goal of this study is to examine the influence of individual differences, such as age and friendship dyads, in the use of Facebook maintenance behaviors. First, maintenance behaviors used in friendships may differ according to age groups (Dainton et al., 2003). Specific to Facebook, some studies have found that Facebook activities and function usage tended to vary with age (Quinn et al., 2011). Additionally, when factoring into the equation time spent using Facebook, younger Facebook users are more likely to engage in Facebook maintenance behaviors compared to older adults (Ellison et al., 2014). Further, as younger Facebook users
tend to self-report higher levels of intense Facebook use (Pettijohn, LaPiene, Pettijohn, & Horting, 2012), it is also possible that there will be age differences in Facebook maintenance behaviors, when the intensity of Facebook use is taken into consideration. Accordingly, the following hypothesis is suggested:

H1: Controlling for the intensity of Facebook use, age will be negatively associated with the frequency of use of relational maintenance behaviors by the respondent on Facebook.

Further, this study will examine differences in maintenance behaviors across friendship dyads. Specifically, based on a previous study on friendship dyads and Facebook maintenance behaviors (Vitak, 2012), it is anticipated that female-female dyads would engage in Facebook maintenance behaviors and communicate in Facebook, more frequently than other friendship dyads. Male-male dyads are also likely to engage in the least amount of maintenance behaviors, and communicate less frequently in Facebook compared to other friendship dyads. Also, based on the study by Vitak (2012), compared to male-male dyads, it is anticipated that female-female dyads are also more likely to use certain types of Facebook features to interact with their close friends. Therefore, based on past literature, the following hypotheses are proposed:

H2a: Female-female dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads or cross-sex dyads, and cross-sex dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads.

H2b: Female-female dyads will communicate more frequently on Facebook than will male-male dyads or cross-sex dyads, and cross-sex dyads will communicate more frequently on Facebook than will male-male dyads.
H2c: Female-female dyads will interact more frequently using certain types of Facebook features (wall posts, “Like”, and comments) than will male-male dyads.

Next, the similarity in the findings between online and offline maintenance behaviors across culture (e.g. Baptist et al., 2012; Yum, 2000; Yum & Canary, 2008; Ye, 2006) suggests that cultural variables may influence the engagement of maintenance behaviors in close relationships. Based on the individualism-collectivism cultural dimension (e.g. Ye, 2006; Yum, 2000, Yum & Canary, 2008), it is possible that American Facebook users would engage in maintenance behaviors more regularly compared to Malaysian Facebook users. Further, the preference for certain types of maintenance behaviors on Facebook may also reflect cultural values and attitudes. For instance, considering their collectivistic tendencies and non-confrontational approach to relational life (e.g. Abdullah, 2001), Malaysians may prefer Facebook maintenance behaviors that can enhance group harmony, such as supportiveness, positivity, and avoidance. On the other hand, as American SNS users regularly self-disclose (e.g. Cho, 2010), they may prefer the openness maintenance strategy. Based on the findings by LaRose et al. (2004), it is also anticipated that Facebook maintenance behaviors may also vary according to individual levels of collectivism and individualism. For instance, individuals with high and low levels of collectivism may prefer the same types of Facebook maintenance behaviors that promote group harmony and unity, but the frequency of engaging in these maintenance behaviors may vary between these two groups.

Further, another goal of this study is to examine relational maintenance behaviors by the respondent’s close friends across channels of interactions (e.g. Facebook and face-to-face interactions) and culture. Dainton (2013) suggested that while some maintenance activities are enacted in both face-to-face and Facebook interactions, other maintenance behaviors maybe
context-specific. For instance, past research suggests passive social networking behaviors, such as Facebook surveillance, social information seeking and passive browsing behaviors, are more regularly enacted compared to more active behaviors, because it requires very little effort (e.g. Bryant & Marmo, 2009; Dainton & Berkoski, 2013; Joinson, 2008; Vitak, 2012). Compared to other maintenance behaviors, openness and positivity may also be enacted more regularly in the online setting (e.g. Wright, 2004). However, it is unknown if these findings would be consistent across culture. Accordingly, considering the lack of literature on this specific topic, the following research questions are proposed:

RQ1a: Does the mean frequency of use of each relational maintenance behaviors by the respondents on Facebook differ significantly according to nationality? (United States vs. Malaysia)?

RQ1b: Does the mean frequency of use of each relational maintenance behaviors by the respondents on Facebook differ significantly according to cultural value orientation? (Individualism vs. collectivism)?

RQ2: Does the perceived frequency of a friend’s use of five relational maintenance behaviors (positivity, supportiveness, openness, interaction/interaction planning, and avoidance) depend upon whether the channel of interaction is face-to-face or Facebook? Does the latter effect depend upon whether the respondent is from United States or Malaysia?

Further, Facebook use could influence the engagement of maintenance activities on the site by Facebook users. For instance, previous studies found that those who spend more time using the site self-reported higher engagement in certain types of Facebook maintenance behaviors (Ellison et al., 2014; Dainton & Berkoski, 2013; McNelis, 2013; Muise et al., 2009).
Similarly, it is possible that the intensity of Facebook use may also influence maintenance activities on Facebook. As intense Facebook users are more emotionally connected to the site, and more likely to integrate it into their daily lives, they would perhaps be more invested in maintaining close friendships on Facebook compared to those who use Facebook less intensely. Therefore, it is anticipated that for both American and Malaysian Facebook users, those who use Facebook more intensely would self-report higher engagement in Facebook maintenance behaviors, compared to those who use Facebook less intensely. However, given the lack of specific literature on this topic, the following research question is offered:

RQ3: What is the relationship between the intensity of Facebook use and perceived frequency of use of Facebook maintenance behaviors by the respondents (positivity, supportiveness, openness, interaction planning, avoidance, social information seeking, and passive browsing)?

**Dialectical contradictions, Facebook maintenance behaviors, and relationship satisfaction.** Finally, in this dissertation, I will systematically examine the role of dialectical contradictions as moderating variables to the relationship between the friend’s use of Facebook relational maintenance behaviors and relationship satisfaction. Specifically, the relational dialectical theory posits that tensions are common and natural in relationships and relational partners will experience vacillating tendencies of each specific dialectical contradiction in the relationship (Baxter & Montgomery, 1996; Baxter & Simon, 1993). There can be temporary period of balance when these opposing tensions of a given contradiction are established. However, in situations where there is dialectical struggle between opposing tensions, domination will be a key feature (Baxter & Simon, 1993). Relational partners experiencing the domination of one opposing tension at that period of time will engage in a concerted effort to move away from
that tension to the other opposing tension in order to achieve dialectical balance, and maintenance behaviors will be selected in order to manage these opposing tensions (Baxter & Simon, 1993). In other words, maintenance behaviors can function in specific ways to transport the relationship into achieving dialectical balance.

Further, as stated in the previous chapters, positive maintenance behaviors lead to higher relationship satisfaction. For instance, studies on Facebook friendship maintenance indicate that Facebook self-disclosures positively predicted various relationship outcomes, including relational closeness, predictability and interdependence in relationships (Craig & Wright, 2012; Ledbetter et al., 2011). Maintaining friendships with the ‘openness’ behavior may require relational partners to share their private thoughts with each other, give advice, have stimulating conversations, repair misunderstandings when it occurs, and show affection (Oswald et al., 2004). However, this relationship between the ‘openness’ maintenance behaviors and relationship satisfaction maybe moderated by the openness-closedness dialectical contradiction, as suggested by previous research (e.g. Baxter & Simon, 1993).

According to the relational dialectics theory, dialectical tensions co-exist in a relationship and individuals may experience these contradictions simultaneously (Baxter & Montgomery, 1996). For instance, past research on the dialectical tensions in close relationships indicates that these tensions ebb and flow over the course of the relationship (Matten, 1999; Semlak, 2009). Consequently, it is possible for individuals to experience low and high levels of each dialectical pole in the relationship, and this would determine the relationship between openness maintenance behavior and relationship satisfaction. Specifically, when individuals are currently experiencing excessive closedness in the relationship, they would react more favorably when their partners attempt to increase openness in the relationship by giving advice, showing
affect or sharing private thoughts, and this would increase relationship satisfaction. However, individuals would experience greater satisfaction in the relationship, when their partners attempt to increase openness in the relationship, particularly in situations with high levels of excessive closedness, compared to those experiencing low levels of excessive closedness. Therefore, the following hypothesis is offered:

H3: The magnitude of the positive effect of the friend’s use of ‘openness’ as a Facebook maintenance behavior on relationship satisfaction is moderated by the degree of excessive closedness, such that: when excessive closedness is high, the magnitude of the positive effect of ‘openness’ on relationship satisfaction is significantly greater than when excessive closedness is low.

On the other hand, excessive openness as a dialectical force would also moderate the relationship between the ‘openness’ maintenance behaviors by the partner on relationship satisfaction. When high levels of excessive openness characterize the relationship, attempts to elicit further exchange of self-disclosures by the partner (e.g. being overly affectionate, over sharing or giving advice when not needed), maybe detrimental to the relationship satisfaction. On the other hand, when relational partners feel that the relationship is experiencing low levels of excessive openness, they may react more positively when their relational partner attempts to give advice, show affection, or share private thoughts. Subsequently, this would have a positive effect on relationship satisfaction. As such, the following hypothesis is suggested:

H4: The effect of the friend’s Facebook use of the ‘openness’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive openness, such that: when excessive openness is high, the maintenance behavior, ‘openness’, has a
negative effect on relationship satisfaction. However, when excessive openness is low, the maintenance behavior, ‘openness’, has a positive effect on relationship satisfaction.

Further, it is possible for the relationship to experience both the dialectical contradiction of excessive autonomy and excessive connection, and that the levels of these dialectical contradictions may also continuously change over time. Also, these dialectical contradictions would also influence the relationship between the corresponding maintenance behavior and relationship satisfaction. Baxter and Simon (1993) found that when relational partner used regular contact, this increased their perceptions of relationship satisfaction, particularly when high levels of excessive autonomy dominate the relationship. Similarly, ‘interaction planning’ behavior on Facebook may influence relationship satisfaction, dependent on the varying degree of the levels of excessive autonomy in the relationship. Therefore, it is possible for individuals to experience low and high levels of dialectical pole in the friendship, and this would determine the relationship between the ‘interaction planning’ maintenance behavior and relationship satisfaction. Specifically, when individuals are currently experiencing excessive autonomy in the relationship, they would react more favorably when their partners attempt to increase interaction in the relationship by coordination joined activities and planning future interactions. However, individuals would experience greater satisfaction in the relationship, when their partners attempt to increase interaction in the relationship, particularly in situations with high levels of excessive autonomy. Specifically, based on past research, the following hypothesis is suggested:

H5: The magnitude of the positive effect of the friend’s use of ‘interaction planning’ as a Facebook maintenance behavior on relationship satisfaction is moderated by the degree of excessive autonomy, such that: when excessive autonomy is high, the magnitude of the
positive effect of ‘interaction planning’ on relationship satisfaction is significantly greater than when excessive autonomy is low.

On the other hand, excessive connection as a dialectical force would also moderate the relationship between ‘interaction planning’ maintenance behavior on relationship satisfaction. Although frequent and repeated interactions is important to maintain relationships at a satisfactory level, it could also have a negative effect on relationship satisfaction, specifically where friends feel overly connected with each other. In contrast, when relational partners feel that the level of excessive connection in the relationship is low, they will react more positively when their partners attempt to plan future interactions, and exert effort in coordinating joint activities. Subsequently, this would have a positive effect on relationship satisfaction. As such, the following hypothesis is suggested:

H6: The effect of the friend’s Facebook use of the ‘interaction planning’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive connection, such that: when excessive connection is high, the maintenance behavior, ‘interaction planning’, has a negative effect on relationship satisfaction. However, when excessive connection is low, the maintenance behavior, ‘interaction planning’, has a positive effect on relationship satisfaction.

Further, Baxter and Simon (1993) found that excessive openness significantly influenced the negative relationship between the ‘avoidance’ maintenance behavior and relationship satisfaction for partners in a romantic relationship. Thus, similar dynamics may also exist for friendship maintenance in Facebook. When an individual engages in avoidance on Facebook, it is often in situations where the relational partner is upset, angry or not willing to talk about a particular subject. Further, if the relationship is also undergoing conflict, in situations
characterized by excessive openness, refusal to engage in avoidant behaviors may cause further
damage to the relationship. For instance, it could lead to destructive conflict when partners may
engage in hurtful communication that would eventually damage the relationship. On the other
hand, if the friendship is currently not experiencing high levels of excessive openness, relational
partners may place more importance in the need for mutual self-disclosures in conflict situations,
and therefore, avoidance would have a detrimental effect on relationship satisfaction. As such,
consistent with past research by Baxter and Simon (1993), the following hypothesis is proposed:

H7: The effect of the friend’s Facebook use of the ‘avoidance’ maintenance behavior on
relationship satisfaction is moderated by the dialectical force of excessive openness, such
that: when excessive openness is high, ‘avoidance’ has a positive effect on relationship
satisfaction. However, when excessive openness is low, the maintenance behavior,
‘avoidance’ has a negative effect on relationship satisfaction.

Additionally, Baxter and Simon (1993) predicted that excessive connection might
moderate the relationship between autonomy enhancing maintenance strategies and relationship
outcomes, and similar dynamics may also occur in Facebook interactions. For instance, in
situations characterized by high levels of excessive connection, relational partners may feel that
they are suffocating each other by being overly dependent on the friendship. Being avoidant on
Facebook, particularly when partners are engaged in conflict, might temporarily provide respite
for the relationship, and also give breathing room and time for each partner to reflect on the
conflict individually. Instead, in relationships characterized by low levels of excessive
connection, when a relational partner resorts to being avoidant or withdrawn on Facebook, this
would be detrimental to the relationship satisfaction, as the need for connection is not being
fulfilled. Therefore, the following hypothesis is proposed:
H8: The effect of the friend’s Facebook use of the ‘avoidance’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive connection, such that: when excessive connection is high, ‘avoidance’ has a positive effect on relationship satisfaction. However, when excessive connection is low, the maintenance behavior, ‘avoidance’ has a negative effect on relationship satisfaction.

The effects of four out of the seven maintenance behaviors (positivity, supportiveness, social information seeking, and passive browsing) are not expected to depend on the value of any of the four dialectical forces. However, based on prior research (e.g. Dainton, 2013; McEwan, 2013; Vitak, 2012), it is predicted that the main effects of these maintenance behaviors, as used by the close friend on Facebook, would be positively related to relationship satisfaction:

H9: Use of the ‘positivity’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.

H10: Use of the ‘supportiveness’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.

H11: Use of the ‘social information seeking’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.

H12: Use of the ‘passive browsing’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.
Therefore, based on previous literature and the main theoretical framework, the research questions and hypotheses of interest for this study are summarized as follows:

**Individual differences in Facebook relational maintenance behaviors**

H1: Controlling for the intensity of Facebook use, age will be negatively associated with the frequency of use of relational maintenance behaviors by the respondent on Facebook.

H2a: Female-female dyads will engage in *Facebook relational maintenance behaviors* more frequently than will male-male dyads or cross-sex dyads, and cross-sex dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads.

H2b: Female-female dyads will communicate more frequently on *Facebook* than will male-male dyads or cross-sex dyads, and cross-sex dyads will communicate more frequently on Facebook than will male-male dyads.

H2c: Female-female dyads will interact more frequently using certain types of Facebook features (wall posts, “Like”, and comments) than will male-male dyads.

**Cross-cultural variability in Facebook relational maintenance behaviors**

RQ1a: Does the mean frequency of use of each relational maintenance behaviors by the respondent on Facebook differ significantly according to nationality? (United States vs. Malaysia)?

RQ1b: Does the mean frequency of use of each relational maintenance behaviors by the respondent on Facebook differ significantly according to cultural value orientation? (Individualism vs. collectivism)?

RQ2: Does the perceived frequency of a friend’s use of five relational maintenance behaviors (positivity, supportiveness, openness, interaction/interaction planning, and
avoidance) depend upon whether the channel of interaction is face-to-face or Facebook? Does the latter effect depend upon whether the respondent is from United States or Malaysia?

**Intensity of Facebook use and Facebook relational maintenance behaviors**

RQ3: What is the relationship between the intensity of Facebook use and perceived frequency of use of Facebook maintenance behaviors by the respondents (positivity, supportiveness, openness, interaction planning, avoidance, social information seeking, and passive browsing)?

**Dialectical contradictions, Facebook relational maintenance behaviors, and relationship satisfaction**

H3: The magnitude of the positive effect of the friend’s use of ‘openness’ as a Facebook maintenance behavior on relationship satisfaction is moderated by the degree of excessive closedness, such that: when excessive closedness is high, the magnitude of the positive effect of ‘openness’ on relationship satisfaction is significantly greater than when excessive closedness is low.

H4: The effect of the friend’s Facebook use of the ‘openness’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive openness, such that: when excessive openness is high, the maintenance behavior, ‘openness’, has a negative effect on relationship satisfaction. However, when excessive openness is low, the maintenance behavior, ‘openness’, has a positive effect on relationship satisfaction.
H5: The magnitude of the positive effect of the friend’s use of ‘interaction planning’ as a Facebook maintenance behavior on relationship satisfaction is moderated by the degree of excessive autonomy, such that: when excessive autonomy is high, the magnitude of the positive effect of ‘interaction planning’ on relationship satisfaction is significantly greater than when excessive autonomy is low.

H6: The effect of the friend’s Facebook use of the ‘interaction planning’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive connection, such that: when excessive connection is high, the maintenance behavior of ‘interaction planning’ has a negative effect on relationship satisfaction. However, when excessive connection is low, the maintenance behavior, ‘interaction planning’ has a positive effect on relationship satisfaction.

H7: The effect of the friend’s Facebook use of the ‘avoidance’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive openness, such that: when excessive openness is high, ‘avoidance’ has a positive effect on relationship satisfaction. However, when excessive openness is low, the maintenance behavior, ‘avoidance’ has a negative effect on relationship satisfaction.

H8: The effect of the friend’s Facebook use of the ‘avoidance’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive connection, such that: when excessive connection is high, ‘avoidance’ has a positive effect on relationship satisfaction. However, when excessive connection is low, the maintenance behavior, ‘avoidance’ has a negative effect on relationship satisfaction.

H9: Use of the ‘positivity’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.
H10: Use of the ‘supportiveness’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.

H11: Use of the ‘social information seeking’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.

H12: Use of the ‘passive browsing’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.
Chapter III

Methodology

The main purpose of this dissertation is to examine close friendship maintenance on Facebook among respondents from two different cultures (i.e. United States and Malaysia), based on the relational dialectics perspective. The previous chapter provided a review of relevant literature and also offered the hypotheses and research questions that will be tested in the present study. This current chapter outlines the methodology that was used to investigate the relevant research objectives in the study. First, an account of the main sample of the study, sampling, and data collection procedure are offered. Second, a brief description of the respondents involved in the study are given, including their demographic characteristics and relationship background with a close friend with whom they communicated both face-to-face and on Facebook. Finally, an explanation of the different scales used to measure the independent and dependent variables in the present study are given.

Method

Procedures

For the purpose of data collection, this study utilized an online questionnaire. The research instrument was designed using Qualtrics, an online survey design tool. This study examined Facebook users from two different countries: United States and Malaysia. The data collection commenced from May 2014 and ended in August 2014. The Malaysian survey respondents consisted of students enrolled in undergraduate communication courses at the International Islamic University Malaysia (IIUM), and a snowball sample of Malaysian Facebook users over the age of 24. The American survey respondents consisted of students enrolled in undergraduate communication courses at Kent State University (KSU), and also a
snowball sample of American Facebook users over the age of 24. Because active Facebook users in Malaysia and United States consists mainly of college age students and also adults from their mid-twenties to early 30s (Duggan & Brenner, 2013; Mahadi, 2013), it was necessary that survey participants that are outside of the college age range were included in the study. Both samples from United States and Malaysia were then combined for data analysis.

Using Cohen’s (1988) calculation formula for sample size, a minimum sample of 85 is an adequately powered sample. This sample provides 80% power to detect a correlation with a moderate effect size ($r = .30$) at $p < .05$, using a two-tailed test. Further, using GPower (a power analysis statistical software), I computed the sample size for linear multiple regression: fixed model, $R^2$ increase, with three blocks. This computation required including one variable in the first step (Facebook maintenance behaviors), another variable in the second step (i.e. dialectical contradictions), and the interaction between dialectical contradictions and Facebook maintenance behaviors in the third step, with the dependent variable of relationship satisfaction. After including an alpha level of .05, a power of .80, a total number of predictors of 17, and a medium effect size of .15, the G-Power software computed that at least 56 participants would be needed.

For the main sample, potential participants were informed about the study through their respective course instructors, and an invitation containing a link to the survey was forwarded to their university email accounts. Participation was based on a voluntary basis. Informed consent was placed in the first page of the survey, before the respondents accessed the survey instrument. For the Malaysian respondents, since English is the main language of instruction for the university, no translations were necessary as they were able to understand and complete the research instrument in the English language. A condition for signing up for the survey was that the respondents must be Facebook users. As such, non-Facebook users who signed up for the
study were automatically eliminated from the sample during data analysis. Additionally, undergraduate students from both Malaysia and United States who volunteered to participate in the study were compensated with extra course credits, in exchange for their participation. After completing the survey, these students submitted their names, e-mails, respective course instructor’s name, and section number for the provision of these extra course credit points.

Further, for those who were interested, the Malaysian respondents participated in a lucky draw where they were given the opportunity to win one of ten gift-cards worth $10.00 each from Google Play Store, while the American respondents participated in a lucky draw where they were given the opportunity to win one of ten gift-cards worth $10.00 each from either iTunes or Amazon. At the end of the survey, as part of a thank you message, the respondents entered their names and a valid email address in order to participate in the draw. Winners for the draw were then selected at random. All survey respondents also had the option of forwarding the research instrument to any friends, family members, or acquaintances over the age of 24, who were active Facebook users. Prior to distributing the research instruments to both samples, approval was obtained from the Kent State University Institutional Review Board (IRB). To maintain anonymity of the data, any identifying information (e.g. names and email addresses) were stored in a separate datafile from the datafile containing responses given by the respondents.

**Participants**

Originally, 750 online surveys were received in the study, with 450 responses received from the main sample, and 300 responses received from the snowball sample. After eliminating incomplete and invalid responses, the total number of respondents for the study was 369. From the main sample comprising of undergraduate students from Malaysia and United States, a total of 157 students were from Malaysia, while 82 students were from United States. From this
undergraduate student sample (n = 239), almost half (n = 100, 41.8%) were first year students or freshmen, while others were second year students or sophomores (n = 62, 25.9%), third year students or juniors (n = 45, 18.8%), or final year students or seniors (n = 32, 13.4%). Other respondents in this study were part of a snowball sample of adult Facebook users over the age of 24 years old. From this sample (n = 130), 69 respondents were from Malaysia, while 61 respondents were from United States.

The respondents in this study were relatively young; they ranged in age from 18 to 55 years old, and the mean age of the participants was 24.97 (SD = 6.39). The age group for the respondents in the present study were as follows: 18-24 years old (n = 233, 63.1%), 25-29 years old (n = 60, 16.3%), 30-39 years old (n = 66, 17.9%), 40-49 years old (n = 8, 2.2%), and 50 years old and above (n = 2, 0.5%). Specific to gender, one hundred and fifteen (31.2%) indicated that they were male, while 254 (68.8%) indicated that they were female. Regarding nationality, from the Malaysian sample (n = 226), a majority were Malaysians (n = 214, 94.7%), while the remaining respondents were international students from different Asian countries (e.g. Thailand, Singapore, Indonesia, India) who were currently residing and studying in Malaysia (n = 12, 5.3%). Also, a majority of the Malaysian respondents were ethnic Malays (n = 206, 91.2%), while others indicated that they were Malaysian Chinese (n = 4, 1.8%), Malaysian Indian (n = 1, 0.4%), or other ethnicities (n = 15, 6.6%). From the American sample (n = 143), a majority were Caucasians (n = 91, 63.6%), with the other ethnicities being African American (n = 16, 11.2%), Latino or Hispanic (n = 1, 0.7%), Asian American and/or Pacific Islander (n = 10, 7.0%), Native American (n = 1, 0.7%), mixed race (n = 3, 2.1%), or other ethnicities, such as Middle Eastern, European, or Chinese (n = 21, 14.7%).
The respondents were relatively well educated, with a majority reporting that they have had at least some college education \((n = 182, 49.3\%)\), while others had at least an associate’s degree \((n = 12, 3.3\%)\), a bachelor’s degree \((n = 45, 12.2\%)\), a Masters’ degree \((n = 79, 21.4\%)\), or a Ph.D. \((n = 12, 3.3\%)\). The remaining respondents had completed at least a high school education \((n = 39, 10.6\%)\). The respondents also reported basic demographic information about a close friend that they communicated with in both face-to-face communication and on Facebook, when completing the survey. Specific to the friend’s gender, a total of 138 (37.4%) of the reported close friend were male, while a total of 231 (62.6%) of the reported close friend were female. The duration of the relationship with the close friend ranged from 12 days to 36 years, while the mean relationship length was 7.47 years \((SD = 6.36)\). Friendship dyads were also explored in the present study. Respondents reported a total of 272 same-sex dyads, comprised of 194 female-female dyads (52.6%) and 78 male-male dyads (21.1%), and a total of 97 cross-sex dyads, comprised of 60 female-male dyads (16.3%), and 37 male-female dyads (10%).

Further, the respondents estimated their frequency of communication with their close friend, in using Facebook and face-to-face communication, based on a 7-point scale, with response options ranging from 1 (Never) to 7 (Very Frequently). The mean frequency of communication with the close friend in face-to-face communication was 5.19 \((SD = 1.47)\), while the mean frequency of communication with the close friend through Facebook was 4.80 \((SD = 1.29)\). Additionally, they also reported their usage of various Facebook features in interacting with their close friend, based on a 7-point scale, with response options ranging from 1 (Never) to 7 (Very Frequently). The mean frequencies for the use of each Facebook feature among close friends on Facebook were as follows: status updates \((M = 4.20, SD = 1.58)\), private messages \((M = 4.68, SD = 1.55)\), instant chats \((M = 4.21, SD = 1.62)\), wall posts \((M = 4.21, SD = 1.51)\),
comments on posts and photos ($M = 4.76, SD = 1.47$), Facebook “Like” ($M = 5.27, SD = 1.42$), sharing videos, contents, and links ($M = 4.46, SD = 1.52$), and use of other Facebook features such Facebook “pokes”, games, and groups ($M = 2.54, SD = 1.68$).

**Measures**

The respondents of the study reported their demographic information (for this appendix, see the example below in Appendix A) and a description of their friendship with a close friend with whom they communicated both face-to-face and on Facebook (for this appendix, see the example below in Appendix B). Further, in this study, five scales were adapted or used to acquire the relevant research data. These measures included scales that measured the intensity of Facebook use, horizontal and vertical individualism and collectivism, friendship maintenance behaviors on Facebook (by the survey respondent and the close friend) and in face-to-face communication (by the close friend), the internal dialectical contradictions in the friendship (i.e. openness-closedness and autonomy-connection), and relationship satisfaction. Cronbach’s alpha scores were calculated for all the relevant independent and dependent variables. Overall, based on the reliability scores, all measures used in the present study demonstrated moderate to high internal consistency (refer to Table 1 for the reliability scores of all dependent and independent variables in the study). The following section describes in greater detail the different measures that were employed in the present study.

**Independent variable measures**

**Communication frequency.** In this study, respondents indicated their communication frequency with a close friend in both face-to-face and Facebook interactions. Further, they estimated their use of various Facebook features, including usage of wall posts, status updates, comments on photos and posts, private messages, Facebook instant chat, liking photos and posts,
and sharing contents, videos and links, in interacting with their close friend. They responded to each of these items based on 7-point Likert-type scale, with response options ranging from 1 (Never) to 7 (Very Frequently).

**Intensity of Facebook use.** Intensity of Facebook use were measured based on the Facebook Intensity Scale created in two separate studies by Ellison, Steinfield, and Lampe (2007) and Steinfield, Ellison, and Lampe (2008) (for this appendix, see the example below in Appendix C). Unlike other measures that focused solely on the frequency and duration of use when measuring Facebook use, this scale provides a more meaningful utilization of Facebook use by incorporating emotional connection and integration of Facebook into the individual’s daily life (Ellison et al., 2007). This scale contained a total of eight items concerning the intensity of Facebook use. From the scale, six items are attitudinal items regarding Facebook that was rated by measuring the level of agreement with each item based on a 5-point Likert-type scale with response options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). A typical item read, “I would be sorry if Facebook shuts down”. The other two items were open-ended behavioral items concerning the number of friends in Facebook (e.g. “Approximately how many total Facebook friends do you have?”) and time spent on Facebook, which is measured specifically by the amount of time spent actively using Facebook on a typical day (e.g. “In the past week, on average, approximately how many hours and minutes per day have you spent actively using Facebook?”).

In order to create a score for the intensity of Facebook use, the behavioral items were initially standardized before averaging the scores in order to create a scale due to differing item scale ranges (Ellison et al., 2007). The Facebook intensity score is then computed by calculating the mean of all of the items in the scale (Ellison et al., 2007). Higher scores reflected higher
levels of intensity of Facebook use. According to Ellison et al. (2007), the attitudinal Likert-type items from the Facebook Intensity Scale demonstrated high internal consistency ($\alpha = .83$). More recently, Kalpidou, Costin, and Morris (2011) also found the attitudinal Likert-type items from the Facebook Intensity Scale reliable ($\alpha = .83$). Other studies that have utilized the scale also found the scale as a valid and reliable measure for intensity of Facebook use (e.g. Clayton, Osborne, Miller, & Oberle, 2013; Ellison, Steinfield & Lampe, 2011; Pettijohn et al., 2012; Ross, Orr, Sisic, Arseneault, Simmering, & Orr, 2009). For the present study, the Cronbach alpha score for the attitudinal Likert-type items from the Facebook Intensity Scale was .84.

**Friendship maintenance behaviors in face-to-face interactions.** To measure friendship maintenance behaviors by the friend in face-to-face interactions, two scales were combined (For this appendix, see the example below in Appendix D). First, the shortened version of the Oswald, Clark, and Kelly (2004) friendship maintenance scale (FMS) was utilized. This scale was created to examine maintenance behaviors that are specific to friendships, and the researchers conducted three studies to validate the scale. They operationalized maintenance behaviors as “the maintenance behaviors that individuals engage in to maintain acceptable levels of satisfaction and commitment” (Oswald et al., 2004, p. 418). The original scale contained 37 items, and the shortened version of the scale contains 20 items, with five items for each factor. Oswald et al. (2004) found the long and short versions of the subscale were highly correlated (e.g. positivity, $r = .95$, supportiveness, $r = .93$, openness, $r = .98$ and interaction, $r = .92$).

Based on confirmatory factor analyses, friendship maintenance behaviors were grouped into four factors: positivity, supportiveness, openness and interaction. Positivity refers to “behaviors that make the friendship more positive and enjoyable” (Oswald & Clark, 2003, p. 189). A typical item for the positivity subscale is “Express thanks when he/she does something
nice for you”. Openness is defined as “meaningful communication or sharing private thoughts” (Oswald & Clark, 2003, p. 189). A typical item for this openness subscale reads, “Share your private thoughts with him/her”. Further, Oswald and Clark (2003, p.189) defines supportiveness as “any behavior that supports the friend or the friendship, such as providing one another with emotional support”. A typical item for the supportiveness subscale is “Try to make your friend ‘feel good’ about who he/she is”. Finally, interaction refers to “any activities that friends engage in together, such as going to social gatherings” (Oswald & Clark, 2003, p. 189). A typical item for the interaction subscale reads, “Celebrate special occasions together with him/her”. Also, to examine maintenance behaviors by the close friend, slight changes will also be made to suit the response to that question, e.g. “My friend shares his/her private thoughts with me”.

In the shortened version of the scale, Oswald et al. (2004) found that the FMS had high degree of reliability with Cronbach’s alphas ranging from .75 (interaction), .80 (openness), .86 (supportiveness), and .95 (positivity). Ye (2006) also found moderate to good reliability for each subscale (e.g. interaction, openness, positivity, and interaction) of the FMS when examining positive maintenance behaviors between American and Chinese Internet users; the Cronbach’s alpha values for Chinese Internet users ranged from .68 (positivity), .68 (supportiveness), 70 (interaction) to .72 (openness), while for American Internet users, the Cronbach’s alpha values ranged from .70 (positivity), .76 (openness), .80 (supportiveness), to .81 (interaction). Subsequently, other studies that used the shortened FMS version have established good reliability and validity for the scale (e.g. Binder, Roberts, & Sutcliffe, 2012; Bullock, Hackathorn, Clark, & Mattingly, 2011; Demir, Özdemir, & Marum, 2011; Hall, Larson, & Watts, 2011; Oswald & Clark, 2006). In this study, the Cronbach alpha values for the FMS scale ranged from .75 (interaction), .82 (positivity), .83 (interaction), and .86 (supportiveness).
Next, the avoidance subscale from the Dainton and Gross (2008) negative maintenance scale was also used to measure face-to-face maintenance behaviors. Dainton and Gross (2008) created this measure to examine more comprehensively, negative maintenance behaviors among relational partners in romantic or marital relationships. Using two separate data collection processes, a Likert-type scale containing six factors and a total of 20 items representing anti-social and negative maintenance behaviors was created including: jealousy induction (2 items, \( \alpha = .89 \)), avoidance (4 items, \( \alpha = .79 \)), spying (3 items, \( \alpha = .77 \)), infidelity (2 items = .80), destructive conflict (4 items, \( \alpha = .77 \)), and allowing control (5 items, \( \alpha = .74 \)). Most recently, Dainton and Berkoski (2013) also found the measure reliable, with Cronbach alphas that ranged from .70 (allowing control), .76 (infidelity), .77 (destructive conflict), .80 (spying), .83 (avoidance), and .88 (jealousy induction). Consequently, other studies that have used the negative maintenance scale found it a reliable and valid measure for negative maintenance behaviors for partners in romantic relationships (e.g. Goodboy & Bolkan, 2011; Goodboy et al., 2010). For the present study, the Cronbach alpha value for the ‘avoidance’ subscale was .66. An example for the avoidance subscale reads “My friend avoids me when he/she does not want to deal with me”. For this scale, participants responded by rating their level of agreement to each item based on a 7-point Likert scale, with response options ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

**Friendship maintenance behaviors on Facebook.** To measure Facebook maintenance behaviors by the participant and the friend, three measures were combined (For this appendix, see the example below in Appendix E and Appendix F). First, the items from the friendship maintenance scale (FMS) by Oswald et al. (2004) and the avoidance subscale from the negative maintenance scale by Dainton and Gross (2008) were modified slightly to suit the Facebook
context. For instance, an item for the openness subscale read: “My friend shares his/her private thoughts with me on Facebook”, and an item for the avoidance subscale read: “My friend will not talk about a subject on Facebook if it upsets him/her”. Further, to examine maintenance behaviors by the participant, slight changes in each item were made to match the response, e.g. “I share private thoughts with him/her on Facebook”, and to examine maintenance behaviors by the friend, e.g. “My friend shares his/her private thoughts with me on Facebook”.

Additionally, the ‘interaction’ subscale from the friendship maintenance scale were modified to represent ‘interaction planning’ when measuring interaction behaviors as a maintenance behavior in Facebook. ‘Interaction planning’ will include using various Facebook features (e.g. Facebook chat system, messages, groups, and applications), to plan future interactions. For example, instead of using the item: “My friend celebrate special occasions together”, to suit the Facebook context, this item was revised slightly to: “My friend makes plans over Facebook (e.g. through FB chats/messages/groups/apps) to celebrate special occasions together”. This change was necessary in order to ensure that the maintenance behaviors in Facebook and face-to-face remain comparable but yet context-specific, without making major changes or revisions to the original items in the FMS. In this study, the friendship maintenance behaviors on Facebook by the respondent, demonstrated high reliability, with Cronbach alpha scores that ranged from .75 (avoidance), .85 (positivity), .86 (openness), .87 (supportiveness), and .92 (interaction planning). Further, the friendship maintenance behavior on Facebook by the friend (as perceived by the respondent) also demonstrated high reliability, with Cronbach alpha scores that ranged from .80 (avoidance), .83 (supportiveness), .86 (openness), .87 (interaction planning), and .88 (positivity).
Finally, the “social information seeking” and “passive browsing” subscales from Vitak (2012, p. 65) Facebook Maintenance Strategies Scale was also used to measure Facebook maintenance behaviors. These subscales were included as they were common maintenance behaviors performed by Facebook users. Based on an earlier study by Ellison, Steinfield, and Lampe (2011), social information seeking behavior represents a type of maintenance behavior that involves finding out more about a person with whom one has offline connection. In her study, she also included items that involved using Facebook to “check out” people who live nearby, or one has met with socially (Vitak, 2012, p. 38). Further, passive browsing is a common behavior on Facebook that fulfills the relational maintenance purpose by employing passive strategies an individual may engage in to gain more information about the relational partner, as outlined by Berger and Calabrese (1975) in their Uncertainty Reduction Theory (Vitak, 2012). A typical item for the social information seeking subscale reads: “I use Facebook to find out things that we have in common”, and a typical item for the passive browsing subscale reads: “I browse through my friend’s profile page to see what he/she has been doing”. Vitak (2012) found the social information seeking subscale (5 items, $\alpha = .79$) and the passive browsing subscale (4 items, $\alpha = .85$) reliable. For the present study, both the social information seeking and the passive browsing subscales by the respondent and the friend, demonstrated high reliability, with Cronbach alpha scores of .86 and .91 (by the respondent), and .85 and .87 (by the friend, as perceived by the respondent), respectively.

As with the friendship maintenance scale in face-to-face interactions, the survey participants responded by rating their level of agreement to each item based on a 7-point Likert scale, with response options ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Responses from each maintenance behavior in Facebook and in face-to-face interaction were
summed and average to form a separate index of each friendship maintenance behaviors in Facebook and in face-to-face interactions. Larger scores for each scale indicated higher engagement in these types of maintenance behaviors.

**Dialectical contradictions.** In this study, dialectical contradiction were measured based on the dialectical contradiction scale created by Baxter and Simon (1993) to examine romantic relationships (for this appendix, see the example below in Appendix G). Based on their research, a dialectical contradiction represents “the issues, challenges and difficulties if any, that currently characterizes their relationship” (Baxter & Simon, 1993, p. 233). Embedded in their study were 24 items created by the researchers to represent six poles of internal dialectical contradictions including the dialectics of autonomy-connection, predictability-novelty, and openness-closedness. However, only subscales representing each dialectical pole for openness (4 items for openness), closedness (3 items for closedness), autonomy (3 items for autonomy) and connection (4 items for connection) were chosen for this study, and the items for predictability-novelty were dropped, as predictability-novelty were not commonly identified in friendship dialectics literature. Further, one item in the closedness scale (i.e. “We keep too many secrets from each other”), loaded more strongly in the autonomy factor than on the closedness factor (Baxter and Simon, 1993). In their study, this item was deleted and two remaining items left were used to measure excessive closedness. This item was retained for the present study, but since this item did not correlate well with other items measuring excessive closedness in the Baxter and Simon (1993) study, an additional item was added to measure excessive closedness, i.e. “We need to share our thoughts with each other more”.

The original items for each dialectical contradiction were found to be moderately reliable with Cronbach’s alpha scores that ranged from .66 (autonomy), .71 (openness), .77 (closedness),
and .81 (connection). Most recently, Hall and Baym (2011) modified the subscale for connection, to reflect dialectical contradictions in friendships; they also found high reliability for the items representing ‘connection’ from the autonomy-connection subscale ($\alpha = .80$). For the present study, the Cronbach alpha values for each dialectical contradiction ranged from .76 (excessive autonomy), .81 (excessive openness), .85 (excessive closedness), and .90 (excessive connection).

A typical item for each subscale reads e.g. for openness “We are too honest with each other”, e.g. for closedness “We need to express more openly to each other what we are thinking”, e.g. for autonomy “We keep too many secrets from each other” and e.g. for connection “Our relationship is suffocating us as individuals”. The survey respondents completed this measure by rating their agreement with these items on a 7-point Likert-type scale with response options ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). These items were slightly modified to suit dialectical contradictions experienced by relational partners in the context of friendships, by substituting the word ‘friendship’ for ‘relationship’.

Cultural value orientations. Cultural value orientation was measured based on the horizontal and vertical individualism and collectivism scale (Singelis, Triandis, Bhawuk, & Gelfand, 1995; Triandis & Gelfand, 1998). In this scale, 32 items were developed to measure horizontal and vertical individualism and collectivism. According to Singelis et al. (1995), horizontal collectivism (HC) “includes perceiving the self as part of the collective, but seeing all
members of the collective as the same, thus equality is stressed” (p. 240). On the other hand, Singelis et al. (1995) defined *vertical individualism* (VI) as “the conception of an autonomous individual and acceptance on inequality” (p. 240). Further, *horizontal individualism* (HI) characterizes a belief in being an “autonomous individual and an emphasis on equality” (Singelis et al., 1995, p. 240). Conversely, Singelis et al. (1995) defined *vertical collectivism* (VC) as persons who “perceive themselves as a part (or an aspect) of a collective and accept inequalities within the collective” (p. 240). These cultural dimensions represented different cultural emphasis on equality and hierarchy, which are central concepts in the individualism-collectivism cultural dimension.

According to Singelis et al. (1995), a typical item for vertical collectivism (VC) is “I would sacrifice an activity that I enjoy very much if my family did not approve of it”, while a typical item for horizontal collectivism (HC) is “The well being of my co-worker is important to me” (p. 256). Further, a typical item for vertical individualism is “Competition is the law of nature” and a typical item for horizontal individualism is “I often do my own thing” (Singelis et al., 1995, p. 256). Based on their study, this 32-item measure demonstrated moderate reliability with Cronbach alpha scores that ranged from .68 (vertical collectivism), .67 (horizontal individualism), .74 (horizontal collectivism), and .74 (vertical individualism). For this study, the reduced version of the horizontal and vertical individualism and collectivism scale were used. This shortened version contained 14 items and was reduced based on a series of studies conducted by Sivadas, Bruvold, and Nelson (2008), that assessed survey participants from four different countries including China, India, Denmark, and the United States (For this appendix, see the example below in Appendix H). Specifically, Sivadas et al. (2008) classified United States, as a country that is more vertical, in terms of individualism (i.e. VI). For this measure, 4
items each represented horizontal and vertical collectivism, while 3 items each represented vertical and horizontal individualism.

According to Sivadas et al. (2008), the shortened version was reliable, with Cronbach alpha scores that ranged from .65 (horizontal collectivism), .71 (vertical individualism), .75 (vertical collectivism), and .81 (horizontal individualism). Recent studies using the shortened version of the horizontal and vertical individualism scale have found it reliable (e.g. La Rose et al., 2014; Wang & Gagne, 2012; Wei, Willnat, & Shao, 2012). For the present study, the Cronbach alpha scores for the horizontal and vertical individualism and collectivism items ranged from .67 (vertical collectivism), .69 (horizontal collectivism), .70 (horizontal individualism), and .77 (vertical individualism). For this scale, the survey participants responded by rating their level of agreement to each item based on a 7-point Likert scale, with response options ranging from 1 (Strongly Disagree) to 7 (Strongly Agree). Larger scores in each cultural value orientation indicated higher tendencies in the individualism-collectivism cultural dimension. Items for horizontal collectivism, vertical collectivism, horizontal individualism, and vertical individualism were summed and averaged to represent a separate index of these four types of cultural value orientation represented in this scale.

**Dependent variable measure**

**Relationship satisfaction.** Finally, the relationship assessment scale (RAS) by Hendrick (1988) was used to examine relationship satisfaction (for this appendix, see the example below in Appendix I). The RAS was created to measure relationship satisfaction in romantic relationships, and it measures general satisfaction in relationships, in terms of how well the partner meets the individual’s expectations and needs, regrets in the relationships, affection for the partner, comparisons to other relationships, and problems in the relationships (Hendrick, Dick, &
Hendrick, 1998). The scale consisted of 7 items and a typical item for the scale reads e.g. “In general, how satisfied are you with your relationship?” Slight revisions were made to suit the scale to the friendship context by substituting the word ‘relationship’ for ‘friendship’, ‘partner’ for ‘friend’, and ‘like’ for ‘love’, e.g. “In general, how satisfied are you with your friendship?” and e.g. “How much do you like your friend?”

The survey participants responded to each item by rating them based on a 7-point Likert-type scale, with different response options for each item including: 1 (Poorly) to 5 (Extremely Well) for need fulfillment, 1 (Very Unsatisfied) to 5 (Very Satisfied) for general satisfaction, 1 (Poor) to 5 (Excellent) for friendship comparison, 1 (Never) to 5 (Very Often) for regrets in the friendship, 1 (Hardly At All) to 5 (Completely) for friendship expectations, 1 (Not Much) to 5 (Very Much) for affection, and 1 (Very Few) to 5 (Very Many) for problems in the friendship. Overall, the RAS was highly reliable with Cronbach’s alpha score of .86 (Hendrick, 1988). Also, other studies using the RAS have established good reliability and validity for the scale (e.g. Guererro, Farinelli, & McEwan, 2009; Hall & Baym, 2011; Hall, Larson, & Watts, 2011; Hendrick, Dicke, & Hendrick, 1998; Morry, 2007). For the present study, the relationship assessment scale also demonstrated high reliability, with a Cronbach alpha value of .84. Because the items for regrets and problems in the relationship were reverse-coded, the response for these items was reversed before calculating the overall mean score. Then, response for each item were summed and averaged to create an overall score of relationship satisfaction. Larger scores indicated higher levels of relationship satisfaction.
Chapter IV

Results

The previous chapter presented an overview of the methodology that was used in the present study. In this current chapter, the results of the study are discussed. First, the descriptive statistics for the dependent and the independent variables are given. This is followed by answers to the research questions and tests of the hypotheses for the present study. Finally, a summary of the findings based on the relevant research questions and hypotheses of the study are offered at the end of the chapter.

Means

Means for the following independent variables were computed: perceived frequency of the friend’s Facebook and face-to-face maintenance behaviors, the respondent’s Facebook maintenance behaviors, intensity of Facebook use (i.e. reported based on three items: the six attitudinal items in the Facebook Intensity Scale, and two behavioral items including total number of Facebook friends and Facebook use based on minutes/day), dialectical contradictions, and cultural values orientation (horizontal and vertical individualism and collectivism). Following that, the mean for the following dependent variable was computed: the respondent’s level of relationship satisfaction. The following Table 1 displays the means, standard deviations, and ranges for these independent and dependent variables. Appendix J provides a correlation matrix for the correlations coefficients between selected independent variables (i.e. Facebook maintenance behaviors by the friend, dialectical contradictions, and intensity of Facebook use) and the dependent variable of relationship satisfaction.
Table 1

Means, Standard Deviations, and Cronbach Alphas for All Variables

<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>α</th>
<th>Range/Scale</th>
</tr>
</thead>
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<td><strong>Independent Variables</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Friend’s FtF maintenance behaviors</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• FtF ‘supportiveness’</td>
<td>5.83</td>
<td>0.93</td>
<td>.86</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FtF ‘openness’</td>
<td>5.70</td>
<td>0.90</td>
<td>.83</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FtF ‘positivity’</td>
<td>5.89</td>
<td>0.81</td>
<td>.82</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FtF ‘interaction’</td>
<td>5.29</td>
<td>1.00</td>
<td>.75</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FtF ‘avoidance’</td>
<td>4.35</td>
<td>1.10</td>
<td>.66</td>
<td>(1 to 7)</td>
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<tr>
<td><strong>Friend’s FB maintenance behaviors</strong></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>• FB ‘supportiveness’</td>
<td>4.45</td>
<td>1.30</td>
<td>.83</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FB ‘openness’</td>
<td>4.28</td>
<td>1.30</td>
<td>.86</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FB ‘positivity’</td>
<td>4.98</td>
<td>1.15</td>
<td>.88</td>
<td>(1 to 7)</td>
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<tr>
<td>• FB ‘interaction planning’</td>
<td>4.29</td>
<td>1.37</td>
<td>.87</td>
<td>(1 to 7)</td>
</tr>
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<td>• FB ‘avoidance’</td>
<td>4.03</td>
<td>1.18</td>
<td>.80</td>
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<tr>
<td>• FB ‘social information seeking’</td>
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<td>1.26</td>
<td>.85</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FB ‘passive browsing’</td>
<td>4.89</td>
<td>1.16</td>
<td>.87</td>
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<td><strong>Respondent's FB maintenance behaviors</strong></td>
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<td></td>
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<td>• FB ‘openness’</td>
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<td>1.33</td>
<td>.86</td>
<td>(1 to 7)</td>
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</table>

(Continued)
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<th>α</th>
<th>Range/Scale</th>
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</thead>
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<tr>
<td>• FB ‘interaction planning’</td>
<td>4.36</td>
<td>1.45</td>
<td>.92</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FB ‘avoidance’</td>
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<td>1.26</td>
<td>.75</td>
<td>(1 to 7)</td>
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<tr>
<td>• FB ‘social information seeking’</td>
<td>4.55</td>
<td>1.31</td>
<td>.86</td>
<td>(1 to 7)</td>
</tr>
<tr>
<td>• FB ‘passive browsing’</td>
<td>5.04</td>
<td>1.26</td>
<td>.91</td>
<td>(1 to 7)</td>
</tr>
</tbody>
</table>

**Intensity of Facebook use**

- Six attitudinal items in FB Intensity Scale            3.15  0.82  .84  (1 to 5)
- Total number of FB friends                          695.73  704.34  -  (4-5000)
- Total FB Use (Minutes/Day)                          135.64  132.60  -  (0-1080)

**Cultural value orientation**

- Overall collectivism                               5.30  0.82  .77  (1 to 7)
- Overall individualism                              5.24  0.86  .72  (1 to 7)
- Horizontal collectivism                            5.56  0.84  .69  (1 to 7)
- Vertical collectivism                              5.05  1.04  .67  (1 to 7)
- Horizontal individualism                           5.50  0.97  .70  (1 to 7)
- Vertical individualism                             4.98  1.19  .77  (1 to 7)

**Dialectical contradictions**

- Excessive openness                                 3.80  1.37  .81  (1 to 7)
- Excessive closedness                                4.10  1.40  .85  (1 to 7)
- Excessive connection                                3.44  1.37  .90  (1 to 7)
<table>
<thead>
<tr>
<th>Variables</th>
<th>M</th>
<th>SD</th>
<th>α</th>
<th>Range/Scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excessive autonomy</td>
<td>3.02</td>
<td>1.48</td>
<td>.76</td>
<td>(1 to 7)</td>
</tr>
</tbody>
</table>

**Dependent variable**

| Relationship satisfaction | 5.59 | 0.91 | .84 | (1 to 7)    |

*Note. N = 369. FB = Facebook, FtF = Face-to-face. Higher means indicate greater use of maintenance behaviors, and also higher scores on horizontal and vertical collectivism and individualism, dialectical contradictions, intensity of Facebook use, and relationship satisfaction.*

Based on the computed means, the most regularly enacted Facebook maintenance behaviors by the respondent were: positivity (*M* = 5.17, *SD* = 1.13), passive browsing (*M* = 5.04, *SD* = 1.26), and supportiveness (*M* = 4.78, *SD* = 1.33). The least frequently used maintenance behavior by the respondent on Facebook was interaction planning (*M* = 4.36, *SD* = 1.45). The Facebook maintenance behaviors used most often by the close friends, as perceived by the respondents were: positivity (*M* = 4.98, *SD* = 1.15), passive browsing (*M* = 4.89, *SD* = 1.16), and supportiveness (*M* = 4.45, *SD* = 1.30). The respondents on the study perceived Facebook avoidance as the Facebook maintenance behavior used least frequently by their close friends (*M* = 4.03, *SD* = 1.18).

**Individual Differences in Facebook Maintenance Behaviors**

**Age and Facebook maintenance behaviors (H1).** H1 predicted that after controlling for the intensity of Facebook use, age would be negatively associated with the frequency of use of relational maintenance behaviors by the respondent on Facebook. As previously stated, intensity of Facebook use was measured by the six attitudinal items in the Facebook Intensity Scale and two additional behavioral items concerning the total number of Facebook friends and active Facebook use, measured by Facebook use based on minutes/day. All eight scores were initially
standardized. The score for intensity of Facebook use is then computed by calculating the mean of the eight standardized scores, as carried out in previous studies such as Ellison et al. (2007). Then, a series of multiple regression analyses were run to test H1 (see Table 2). Age and the intensity of Facebook use were simultaneously entered as independent variables, and each Facebook maintenance behavior by the respondent, served as the dependent variable in each multiple regression test.

First, age and the intensity of Facebook use collectively explained 10% of the variance explained in the respondent’s use of Facebook supportiveness, \( F(2, 310) = 18.73, p < .001 \). Only intensity of Facebook use emerged as a significant, positive predictor of Facebook supportiveness (\( \beta = .33, p < .001 \)); age was not a significant predictor of Facebook supportiveness (\( \beta = -.05, p = .38 \)). Age and the intensity of Facebook use also collectively explained 14% of the variance in the respondent’s use of Facebook positivity, \( F(2, 310) = 27.34, p < .001 \). Intensity of Facebook use was a significant predictor of Facebook positivity (\( \beta = .39, p < .001 \)); age was not a significant predictor of Facebook positivity (\( \beta = -.00, p = .93 \)). Age and the intensity of Facebook use collectively explained only 9% of the variance in the respondent’s use of interaction planning, \( F(2, 310) = 15.54, p < .001 \). Intensity of Facebook use emerged as a significant, positive predictor of Facebook interaction planning behaviors (\( \beta = .30, p < .001 \)); age was not a significant predictor of interaction planning behaviors in Facebook (\( \beta = -.10, p = .08 \)). Age and the intensity of Facebook use collectively explained 11% of the variance in the respondent’s use of Facebook openness, \( F(2, 310) = 19.62, p = .09 \). Intensity of Facebook use again emerged as a significant predictor of Facebook openness (\( \beta = .34, p < .001 \)); age was not a significant predictor of Facebook openness (\( \beta = -.09, p = .09 \)).
Table 2

*Multiple Regression Analyses Showing the Effect of Age on the Use of Facebook Maintenance Behaviors with Intensity of Facebook Use Held Constant*

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>-.05</td>
<td>-.01</td>
<td>-.10</td>
<td>-.09</td>
<td>-.03</td>
<td>-.06</td>
<td>.08</td>
</tr>
<tr>
<td>Intensity of FB Use</td>
<td>.33**</td>
<td>.39**</td>
<td>.30**</td>
<td>.34**</td>
<td>.17*</td>
<td>.39**</td>
<td>.31**</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.10</td>
<td>.14</td>
<td>.09</td>
<td>.11</td>
<td>.03</td>
<td>.15</td>
<td>.11</td>
</tr>
</tbody>
</table>

Note. $N = 313$. FB = Facebook. $\beta =$ standardized coefficient. Each dependent variable shown in the column was regressed separately onto the two predictor variables. *$p < .05$. **$p < .001$.

Age and the intensity of Facebook use collectively explained 3% of the variance in the respondent’s use of Facebook avoidance, $F(2, 310) = 4.25, p < .05$. Intensity of Facebook use was a significant predictor of Facebook avoidance ($\beta = .17, p < .01$); age was not a significant predictor of Facebook avoidance ($\beta = -.03, p = .63$). Next, age and the intensity of Facebook use collectively explained 15% of the variance in the respondent’s use of Facebook social information seeking behavior, $F(2, 310) = 27.66, p < .001$. Intensity of Facebook use was a significant predictor of Facebook social information seeking ($\beta = .39, p < .001$); age was not a significant predictor of Facebook social information seeking ($\beta = -.06, p = .25$). Finally, age and the intensity of Facebook use collectively explained 11% of the variance in the respondent’s use of passive browsing in Facebook, $F(2, 310) = 19.00, p < .001$. Again, intensity of Facebook use was a significant predictor of passive browsing in Facebook ($\beta = .31, p < .001$); age was not a
significant predictor of passive browsing in Facebook ($\beta = .08$, $p = .16$). Therefore, H1 was not supported; when controlling for the intensity of Facebook use, age did not predict any one of the seven respondent’s Facebook maintenance behaviors.

**Friendship dyads and Facebook maintenance behaviors (H2a).** H2a predicted that female-female dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads or cross-sex dyads, and cross-sex dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads. In the present study, 272 individuals reported on a same sex friendship dyad (194 female-female dyads and 78 male-male dyads), while 97 individuals reported about a cross-sex friendship dyad (60 female-male dyads and 37 male-female dyads). These categories were then recoded to create new variables to represent three different categories of ‘friendship dyads’: female-female, male-male, and cross-sex friendship dyads.

In order to test H2a, one-way ANOVAs were used to determine whether the mean scores of seven Facebook relational maintenance behaviors (Facebook supportiveness, positivity, interaction planning, openness, avoidance, social information seeking, and passive browsing) used by the respondents differed across the three different types of friendship dyads: female-female dyads, male-male dyads, and cross-sex dyads. Thus, the new categorical variable of ‘friendship dyads’ served as the independent variable in each of seven one-way ANOVAs. In each ANOVA, one of the respondent’s Facebook maintenance behaviors was the dependent variable. Based on the results, friendship dyad type had a significant effect on the respondent’s use of four of the seven relationship maintenance behaviors (positivity, openness, social information seeking, and passive browsing). Post hoc Tukey HSD tests conducted to test H2a are
reported below for these four ANOVAs. Friendship type did not have a significant effect on the use of supportiveness, interaction planning, or avoidance (see Table 3).

*Facebook positivity.* A significant effect of friendship dyad was observed for the usage of Facebook positivity across friendship dyads, $F(2, 366) = 3.49, p < .05$. Consistent with H2a, the post hoc comparisons based on the Tukey HSD test indicated that the mean score on Facebook positivity ($M = 5.38, SD = 1.10$) among cross-sex dyads (i.e., by a respondent with friends of the opposite gender) was significantly higher compared to male-male friendship dyads (i.e., by male respondents with male friends) ($M = 4.93, SD = 1.22$). However, Facebook positivity for female-female dyads (i.e., by female respondents with female friends) ($M = 5.16, SD = 1.10$) did not differ significantly with male-male dyads ($M = 4.93, SD = 1.22, p = .27$). Also, Facebook positivity for cross-sex dyads ($M = 5.38, SD = 1.10$) did not differ significantly from female-female dyads ($M = 5.16, SD = 1.10, p = .35$). Therefore, for Facebook positivity, H2a was partially supported.

*Facebook openness.* There was a significant difference in terms of Facebook openness across the three friendship dyads, $F(2, 366) = 3.64, p < .05$. Contrary to H2a, the mean score for Facebook openness by the respondent in cross-sex dyads ($M = 4.75, SD = 1.37$) were significantly higher compared to female-female dyads ($M = 4.36, SD = 1.34$). However, Facebook openness for male-male dyads ($M = 4.29, SD = 1.20$) did not differ significantly from cross-sex dyads ($M = 4.75, SD = 1.37, p = .07$), and Facebook openness for female-female dyads ($M = 4.36, SD = 1.34$) did not differ significantly with male-male dyads ($M = 4.29, SD = 1.20, p = .94$). Thus, because Facebook openness was significantly higher for cross-sex dyads than for female-female dyads, and this was in the opposite direction of the hypothesized relationship, H2a was not supported.
### Table 3

**Comparison of Friendship Dyads in the Respondent’s Use of Facebook Maintenance Behaviors (ANOVA)**

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Friendship Dyads</th>
<th></th>
<th></th>
<th></th>
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<td></td>
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<td>SD</td>
<td>FF</td>
<td>SD</td>
<td>MM</td>
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<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
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<td>5.03$^a$</td>
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<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
</tr>
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<td>5.16</td>
<td>1.10</td>
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<td>$SD$</td>
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<td>$SD$</td>
</tr>
<tr>
<td></td>
<td>4.57$^a$</td>
<td>1.50</td>
<td>4.21$^a$</td>
<td>1.48</td>
<td>4.44$^a$</td>
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<td>FB Openness</td>
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<td>$SD$</td>
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<td>5.01</td>
<td>1.25</td>
<td>4.63</td>
<td>1.27</td>
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</tbody>
</table>

*Note.* CS = cross-sex, $n = 97$. FF = female-female, $n = 194$. MM = male-male, $n = 78$. FB = Facebook. Means were computed on a 7-point scale. For all measures, larger means indicate greater engagement in the use of each Facebook maintenance behaviors. Within each row, pairs of means sharing a superscript do not differ significantly. *$p < .05$. **$p < .001$.

Facebook social information seeking. There was also a significant effect of friendship dyads on the use of social information seeking in Facebook across the three friendship dyads, $F(2, 366) = 4.70$, $p < .05$. Consistent with H2a, the mean score for social information seeking among cross-sex dyads ($M = 4.89$, $SD = 1.19$) were significantly higher from male-male dyads ($M = 4.38$, $SD = 1.31$). However, contrary to H2a, the mean score for social information seeking for cross-sex dyads cross-sex dyads ($M = 4.89$, $SD = 1.19$) was also significantly higher.
compared to female-female friendship dyads ($M = 4.45, SD = 1.35$). Also contrary to H2a, social information seeking on Facebook among male-male dyads ($M = 4.38, SD = 1.31$) did not differ significantly with female-female dyads ($M = 4.45, SD = 1.35, p = .92$). Thus, for Facebook social information seeking, H2a was partially supported.

**Facebook passive browsing.** Finally, there was also a significant effect of friendship dyads on the use of passive browsing in Facebook across the three friendship dyads, $F(2, 366) = 8.59, p < .001$. As predicted with H2a, the mean score for passive browsing behaviors among cross-sex dyads ($M = 5.41, SD = 1.18$) were also significantly higher compared to male-male ($M = 4.63, SD = 1.27$). On the other hand, contrary to H2a, the mean score for passive browsing among cross-sex dyads ($M = 5.41, SD = 1.18$) were also significantly higher from female-female friendship dyads ($M = 5.01, SD = 1.25$). Also contrary to H2a, Facebook passive browsing among male-male dyads ($M = 4.63, SD = 1.27$) did not differ significantly with female-female dyads ($M = 5.01, SD = 1.25, p = .07$). Thus, for passive browsing on Facebook, H2a was partially supported.

**Face-to-face maintenance behaviors.** Further, although not hypothesized, an analogous set of ANOVAs were performed to learn whether the friend’s’ use of face-to-face relationship maintenance behaviors varied across the different friendship dyad types. First, there was a significant effect for the use of face-to-face supportiveness across friendship dyads, $F(2, 366) = 3.52, p < .05$. Using the Tukey HSD tests, the post hoc comparison scores indicated that the mean score for face-to-face supportiveness among female-female dyads ($M = 5.94, SD = 0.94$) were significantly higher than for male-male dyads ($M = 5.62, SD = 0.91$). However, the mean score for face-to-face supportiveness by cross-sex dyads ($M = 5.79, SD = 0.88$) did not differ
significantly with face-to-face supportiveness by female-female dyads \((M = 5.94, SD = 0.94, p = .37)\) or male-male dyads \((M = 5.62, SD = 0.91, p = .46)\).

Also, there was a significant difference in face-to-face positivity across friendship dyads, \(F(2, 366) = 4.40, p < .05\). The mean scores for face-to-face positivity among female-female dyads \((M = 5.99, SD = 0.85)\) were significantly higher than male-male dyads \((M = 5.73, SD = 0.71)\). Again, the mean score for face-to-face positivity by cross-sex dyads \((M = 5.84, SD = 0.79)\) did not differ significantly with face-to-face positivity by male-male dyads \((M = 5.73, SD = 0.71, p = .29)\) or female-female dyads \((M = 5.99, SD = 0.85, p = .64)\). Finally, there was a significant difference in face-to-face openness across friendship dyads, \(F(2, 366) = 3.24, p < .05\). The mean scores for face-to-face openness among female-female dyads \((M = 5.82, SD = 0.89)\) were significantly higher than male-male dyads \((M = 5.46, SD = 0.86)\). However, the mean score of face-to-face openness by cross-sex dyads \((M = 5.69, SD = 0.92)\) did not differ significantly with face-to-face openness by female-female dyads \((M = 5.82, SD = 0.89, p = .48)\) or male-male dyads \((M = 5.46, SD = 0.86, p = .22)\). However, there was no significant effect of friendship dyads in the use of the remaining face-to-face maintenance behaviors (i.e. avoidance and interaction).

**Friendship dyads and Facebook communication frequencies (H2b).** H2b predicted that female-female dyads will communicate more frequently on Facebook than will male-male dyads or cross-sex dyads, and cross-sex dyads will communicate more frequently on Facebook than will male-male dyads. As previously described, communication frequency was measured as perceived frequency by the respondent in communicating with their close friends on Facebook and in face-to-face interactions, based on a 7-point scale, with response options ranging from 1 (Never) to 7 (Very frequently).
Table 4

Comparison of Friendship Dyads in Facebook Communication Frequencies (ANOVA)

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Friendship Dyads</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th>F-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CS</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>FB Communication</td>
<td>M</td>
<td>4.91</td>
<td>1.43</td>
<td>4.80</td>
<td>1.24</td>
<td>4.60</td>
<td>1.23</td>
</tr>
<tr>
<td>Frequency</td>
<td>SD</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. CS = cross-sex, n = 97. FF = female-female, n = 194. MM = male-male, n = 78. FB = Facebook. Means were computed on a 7-point scale (1=never, 7=very frequently). For this measure, larger means indicate greater Facebook communication frequencies.

Again, the one-way ANOVA were carried out to examine communication frequency across friendship dyads, and in each ANOVA, Facebook communication frequency served as the dependent variable (refer to Table 4). Contrary to H2b, the test indicated that there is no significant effect of friendship dyads observed in Facebook communication frequencies, $F(2, 366) = 0.85, p = .43$. A similar ANOVA was also performed to measure face-to-face communication frequency across friendship dyads; there was also no significant difference in face-to-face communication frequencies among close friends across the three friendship dyads, $F(2, 366) = 2.41, p = .92$. Therefore, H2b was not supported.

**Friendship dyads and use of Facebook features (H2c).** Finally, H2c hypothesized that female-female dyads will interact more frequently using certain types of Facebook features (wall posts, “Like”, and comments) than will male-male dyads. First, a series of one-way ANOVAs indicated that there is no significant effect of friendship dyad type on the frequency of Facebook feature use, which is a single variable computed based on the combined mean of the seven Facebook features (i.e. status updates, wall posts, instant chats, private messages, comments on
photos and posts, Facebook “Like”, and sharing videos, comments, and links), measured on a 7-point scale, with response options ranging from 1 (Never) to 7 (Very frequently) ($M = 4.55$, $SD = 1.05$, $\alpha = .82$). In this ANOVA, the frequency of Facebook feature use by the respondent served as the dependent variable. Contrary to H2c, there was no significant effect of friendship dyads observed on the respondent’s combined use of Facebook features, $F(2, 366) = 0.40$, $p = .67$.

Then, a series of one-way ANOVAs was run separately to examine the effect of friendship dyad over the use of each individual Facebook feature. In each ANOVA, the frequency of use of each Facebook feature by the respondent served as the dependent variable. Based on the results, friendship dyad type had a significant effect on the respondent’s use of one the seven available Facebook features (i.e. Facebook “Like”). Also contrary to H2c, friendship type did not have a significant effect on the use of status updates, private messages, instant chats, wall posts, comments on photos and posts, sharing (i.e. links, contents, and videos), and the use of other Facebook feature (e.g. Facebook games, groups, and “Pokes”).

The post hoc Tukey HSD tests conducted to test H2c are reported below for these ANOVAs (see Table 5). A significant effect of friendship dyad type was observed for the frequency of use of Facebook “Like”, $F(2, 366) = 2.98$, $p = .05$. The post hoc Tukey HSD tests indicated that Facebook “Like” was used more frequently in female-female dyads ($M = 5.37$, $SD = 1.28$) than in male-male dyads ($M = 4.92$, $SD = 1.57$). However, the frequency of use for Facebook “Like” did not differ significantly between female-female dyads ($M = 5.37$, $SD = 1.28$) and cross-sex dyads ($M = 5.34$, $SD = 1.52$, $p = .98$), and also did not differ significantly between cross-sex dyads ($M = 5.34$, $SD = 1.52$) and male-male dyads ($M = 4.92$, $SD = 1.57$, $p = .13$).

Thus, for the use of Facebook “Like” by the respondent across friendship dyads, H2c is supported.
<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Friendship Dyads</th>
<th>( F )-statistic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CS ( M ) ( SD )</td>
<td>FF ( M ) ( SD )</td>
</tr>
<tr>
<td>Status Updates</td>
<td>4.33 1.73</td>
<td>4.15 1.52</td>
</tr>
<tr>
<td>Private Messages</td>
<td>4.94 1.57</td>
<td>4.58 1.51</td>
</tr>
<tr>
<td>Instant Chats</td>
<td>4.34 1.72</td>
<td>4.12 1.56</td>
</tr>
<tr>
<td>Wall Posts</td>
<td>4.31 1.68</td>
<td>4.13 1.43</td>
</tr>
<tr>
<td>Comments</td>
<td>4.78 1.58</td>
<td>4.74 1.35</td>
</tr>
<tr>
<td>Likes</td>
<td>5.34 1.52</td>
<td>5.37 1.28</td>
</tr>
<tr>
<td>Sharing</td>
<td>4.43 1.48</td>
<td>4.48 1.52</td>
</tr>
<tr>
<td>Other FB features</td>
<td>2.57 1.75</td>
<td>2.59 1.65</td>
</tr>
</tbody>
</table>

Note. CS = cross-sex, \( n = 97 \). FF = female-female, \( n = 194 \). MM = male-male, \( n = 78 \). FB = Facebook. Means were computed on a 7-point scale. For all measures, larger means indicate more frequent use of the Facebook feature. *\( p < .05 \).
Cross-cultural Variability in Facebook Maintenance Behaviors

Facebook maintenance behaviors across nationality (RQ1a). RQ1a asked whether the mean frequency of use of each Facebook relational maintenance behaviors by the respondents differed across nationality (United States versus Malaysia). Accordingly, the independent samples $t$-tests were conducted to compare the frequency of use of seven Facebook maintenance behaviors between Malaysians and Americans (see Table 6). In each $t$-test, one of the respondent’s Facebook maintenance behaviors was the dependent variable. First, the mean scores for Facebook supportiveness was significantly higher for Malaysian respondents ($M = 4.90, SD = 1.21$), compared to American respondents ($M = 4.57, SD = 1.47$), $t(367) = 2.39, p < .05; d = 0.25$.

Facebook openness was also significantly higher for Malaysians ($M = 4.62, SD = 1.22$) compared to Americans ($M = 4.18, SD = 1.46$), $t(367) = 3.14, p < .001; d = 0.33$. Additionally, Facebook avoidance was significantly higher for Malaysians ($M = 4.69, SD = 1.14$) compared to Americans ($M = 4.10, SD = 1.35$), $t(367) = 4.30, p < .001; d = 0.47$. Finally, Malaysian Facebook users also self-reported higher frequencies of Facebook social information seeking behaviors compared to American Facebook users, $t(367) = 2.76, p < .001; d = 0.30$. However, there was no significant effect of culture for the use of Facebook positivity, $t(367) = 1.56, p = .12$, Facebook interaction planning, $t(367) = 1.51, p = .13$, and passive browsing on Facebook, $t(367) = 0.53, p = .60$. 
### Table 6

*Cross-cultural Variability in Facebook Maintenance Behaviors by the Respondent (Independent sample t-tests)*

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Malaysians</th>
<th></th>
<th>Americans</th>
<th></th>
<th>$t(367)$</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
<td>$M$</td>
<td>$SD$</td>
<td></td>
</tr>
<tr>
<td>FB Supportiveness</td>
<td>4.90</td>
<td>1.21</td>
<td>4.57</td>
<td>1.47</td>
<td>2.39*</td>
</tr>
<tr>
<td>FB Positivity</td>
<td>5.24</td>
<td>1.02</td>
<td>5.05</td>
<td>1.29</td>
<td>1.56</td>
</tr>
<tr>
<td>FB Interaction Planning</td>
<td>4.45</td>
<td>1.35</td>
<td>4.21</td>
<td>1.60</td>
<td>1.51</td>
</tr>
<tr>
<td>FB Openness</td>
<td>4.62</td>
<td>1.22</td>
<td>4.18</td>
<td>1.46</td>
<td>3.14**</td>
</tr>
<tr>
<td>FB Avoidance</td>
<td>4.69</td>
<td>1.14</td>
<td>4.10</td>
<td>1.35</td>
<td>4.30**</td>
</tr>
<tr>
<td>FB Social Information Seeking</td>
<td>4.69</td>
<td>1.27</td>
<td>4.31</td>
<td>1.35</td>
<td>2.76**</td>
</tr>
<tr>
<td>FB Passive Browsing</td>
<td>5.07</td>
<td>1.21</td>
<td>4.99</td>
<td>1.34</td>
<td>0.53</td>
</tr>
</tbody>
</table>

*Note.* For Malaysians, $n = 226$. For Americans, $n = 143$. FB = Facebook. Means were computed on a 7-point scale. For all measures, a larger mean indicates greater engagement in Facebook maintenance behavior. *$p < .05$. **$p < .01$, two-tailed.*

**Additional cross-cultural differences.** Although not hypothesized, it was of interest to determine whether the Malaysian and American samples differed on several additional key variables measured in the study. These included the four dialectical tensions (excessive openness etc.), relationship satisfaction, amount of time spent on Facebook, use of Facebook features, intensity of Facebook use, and communication frequency with the close friend (either in face-to-face interactions or on Facebook). These results are given below.

**Facebook related activities.** Cross-cultural variability was observed in time spent on Facebook (active Facebook use based on minutes/day) and the use of Facebook features. First,
the independent samples *t*-tests revealed that there was no significant effect of culture on the intensity of Facebook use, *t*(311) = 1.46, *p* = .15. However, Malaysian Facebook users (*M* = 149.49, *SD* = 130.49) spent significantly more time using the site (i.e. active Facebook use measured based on minutes/day) compared to Americans (*M* = 115.46, *SD* = 133.61), *t*(367) = 2.33, *p* < .05; *d* = 0.26.

There was also a significant effect of culture on the frequency of use of various Facebook features. Specifically, Malaysians (*M* = 4.82, *SD* = 1.35) reported that they exchanged more private messages on Facebook compared to Americans (*M* = 4.45, *SD* = 1.80), *t*(367) = 2.21, *p* < .05; *d* = 0.23. Likewise, Malaysians (*M* = 4.57, *SD* = 1.41) used Facebook instant chats more often than Americans (*M* = 3.82, *SD* = 1.81), *t*(367) = 4.47, *p* < .05; *d* = 0.46. Malaysians (*M* = 4.60, *SD* = 1.42) also shared videos, contents, or links more often with their close friends compared to American Facebook users (*M* = 4.22, *SD* = 1.66), *t*(367) = 2.33, *p* < .05; *d* = 0.25. Malaysians (*M* = 2.75, *SD* = 1.74) used other types of Facebook features, such as Facebook groups, “Pokes”, and games, more regularly than Americans (*M* = 2.22, *SD* = 1.55), *t*(367) = 2.94, *p* < .05; *d* = 0.32. However, there was no significant effect of culture on the frequency of use for Facebook status updates, wall posts, comments, and Facebook “Like” with close friends. Further, there was no significant effect of culture in terms of communication frequencies with their close friend, in either face-to-face interactions, *t*(367) = -.45, *p* = .65, or on Facebook, *t*(367) = 0.84, *p* = .40.

**Dialectical tensions.** For the present study, there was also a significant effect of culture observed on the experience of dialectical tensions in close friendship. Based on the independent samples *t*-test, Malaysians (*M* = 4.24, *SD* = 1.11) experienced significantly more excessive openness in close friendships compared to Americans (*M* = 3.20, *SD* = 1.49), *t*(367) = 7.71, *p* <
.001; $d = 0.79$. Malaysians ($M = 4.63, SD = 1.08$) also experienced significantly more excessive closedness compared to Americans ($M = 3.28, SD = 1.47$), $t(367) = 10.20, p < .001; d = 1.15$. Excessive autonomy was also significantly higher for Malaysians ($M = 3.65, SD = 1.27$) compared to Americans ($M = 3.12, SD = 1.46$), $t(367) = 3.69, p < .001; d = 0.39$. Finally, Malaysians ($M = 3.36, SD = 1.38$) also experienced significantly more excessive connection in their close friendships compared to Americans ($M = 2.49, SD = 1.47$), $t(367) = 5.70, p < .001; d = 0.61$. These results suggest that, close friendships are characterized by a higher degree of dialectical tensions for Malaysians compared to Americans.

Relationship satisfaction. Finally, there is cross-cultural variability in relationship satisfaction experienced in close friendships for the present study. Based on the independent samples $t$-test, Americans ($M = 5.83, SD = 0.90$) experienced significantly greater satisfaction with their close friendship compared to Malaysians ($M = 5.44, SD = 0.89$), $t(367) = -4.11, p < .001; d = 0.44$.

Facebook maintenance behaviors across cultural value orientation (RQ1b). Next, RQ2b compared Facebook maintenance behaviors across cultural value orientations (horizontal and vertical collectivism and individualism). Based on this cultural value orientation, those with collectivism tendencies perceived themselves as part of a collective, but individuals with horizontal collectivism valued equality, while those identifying with vertical collectivism tended to accept inequalities (Singelis et al., 1995). On the other hand, those with individualism tendencies believe in being autonomous, with an emphasis on equality for individuals who espoused horizontal individualism tendencies, and an acceptance of inequality for those who embraced vertical individualism tendencies (Singelis et al., 1995). Based on the cultural dimension of collectivism and individualism, Malaysia is a collectivistic society, while United
States is leaning more towards individualism tendencies. Specifically, Sivadas et al. (2008) classified United States as a country that is more vertical in terms of individualism (i.e. VI).

Initially, several independent samples t-tests were carried out to examine the respondent’s overall scores on vertical collectivism, horizontal collectivism, vertical individualism, and horizontal individualism, as well as combined scores of individualism and collectivism, across nationality. Malaysian respondents’ scores of vertical and horizontal collectivism ($M = 5.49, SD = 0.72$) was significantly higher than Americans ($M = 5.00, SD = 0.88$), $t(367) = 5.83, p < .001; d = 0.61$. Further, Malaysians also scored significantly higher in vertical collectivism ($M = 5.32, SD = 0.84$) compared to Americans ($M = 4.60, SD = 1.16$), $t(367) = 6.95, p < .001; d = 0.72$. Likewise, the means scores of horizontal collectivism were significantly higher for Malaysians ($M = 5.66, SD = 0.79$) compared to Americans ($M = 5.40, SD = 0.89$), $t(367) = 2.78, p < .05; d = 0.31$. However, the horizontal and vertical individualism score were also significantly higher for Malaysians ($M = 5.38, SD = 0.79$) than Americans ($M = 5.01, SD = 0.92$), $t(367) = 4.09, p < .001; d = 0.43$. There was no difference in horizontal individualism between Americans and Malaysians. Finally, Malaysians scored significantly higher in vertical individualism compared to Americans, $t(367) = 4.95, p < .001; d = 0.51$.

In the present study, cultural value orientation is treated as a categorical variable with four categories: low to moderate collectivism and low to moderate individualism group (LCLI), low to moderate collectivism but high individualism group (LCHI), high collectivism and high individualism group (HCHI), and high collectivism and low to moderate individualism group (HCLI). Individualism scores ($M = 5.24, SD = 0.86, \alpha = .72$) were calculated as the average score on horizontal individualism ($M = 5.50, SD = 0.97, \alpha = .70$) and vertical individualism ($M = 4.98, SD = 1.19, \alpha = .77$). Collectivism scores ($M = 5.30, SD = 0.82, \alpha = .77$) were calculated as
the average score on horizontal collectivism (M = 5.56, SD = 0.84, α = .69) and vertical
collectivism (M = 5.05, SD = 1.04, α = .67). A median split was then used to classify respondents
as high or low to moderate in individualism and high or low to moderate in collectivism. For
individualism, the median was 5.333. Respondents were considered as ‘high’ in individualism if
they had individualism score higher than 5.333, and were ‘low to moderate’ in individualism if
they had an individualism score lower than 5.333. For collectivism, the median was 5.38.
Respondents were considered as ‘high’ in collectivism if they had a median score higher than
5.38, and ‘low to moderate’ in collectivism, if they had a collectivism score lower than 5.38.

Twenty individuals fell at the median score for horizontal and vertical collectivism, while
twenty-five individuals fell at the median score for horizontal and vertical individualism. These
individuals were excluded from the analysis. Based on this classification, regardless of
nationality, cultural value orientation is a categorical variable with four levels: low to moderate
collectivism and low to moderate individualism group (LCLI) (n = 114), low to moderate
collectivism but high individualism group (LCHI) (n = 46), high collectivism and high
individualism group (HCHI) (n = 116), and high collectivism and low to moderate individualism
group (HCLI) (n = 48).

To answer RQ1b, a series of one-way ANOVAs was conducted. In each ANOVA, the
categorical independent variable was cultural value orientation, comprised of four different
categories (high individualism/high collectivism, high individualism/low to moderate
collectivism, low to moderate individualism/high collectivism, and low to moderate
individualism /low to moderate collectivism). In each ANOVA, a different relationship
maintenance behavior (as used by the respondent) served as the dependent variable (see Table 7).
The overall results indicated that there was a significant effect of cultural value orientations
observed in the use of each seven Facebook maintenance behaviors by the respondents. In reporting these results, the results was focused on answering the following questions:

- Does the frequency of use of RMBs on Facebook for respondents high in individualism depend on whether they are high or low in collectivism?
- Does the frequency of use of RMBs on Facebook for respondents high in collectivism depend on whether they are high or low in individualism?
- Does the frequency of use of RMBs on Facebook differ for respondents who are high in both collectivism and individualism and those who are low in both collectivism and individualism?

Facebook supportiveness. First, the one-way ANOVA indicates there was a significant effect of cultural value orientation on Facebook supportiveness, $F(3, 320) = 8.77$, $p < .001$. The post hoc analysis using the Tukey HSD test indicates that individuals with high scores on both collectivism and individualism (HCHI) self-reported higher frequencies of Facebook supportiveness ($M = 5.22$, $SD = 1.33$) than individuals who scored low to moderate in collectivism but high in individualism (LCHI) ($M = 4.44$, $SD = 1.42$), and individuals who scored low to moderate in both collectivism and individualism (LCLI) ($M = 4.39$, $SD = 1.10$). However, there was no significant difference in Facebook supportiveness between those in the HCHI group ($M = 5.22$, $SD = 1.33$) with those who scored high in collectivism, but low to moderate in individualism, the HCLI group ($M = 4.67$, $SD = 1.58$).

Facebook positivity. Similarly, the one-way ANOVA indicates that there was a significant effect of cultural value orientation on Facebook positivity, $F(3, 320) = 9.96$, $p < .001$. The Tukey HSD post hoc test indicates that the HCHI group ($M = 5.55$, $SD = 1.05$) self-reported higher frequencies of Facebook positivity compared to the LCHI ($M = 4.85$, $SD = 1.15$) and LCLI ($M =$
4.79, \(SD = 1.00\)) groups. As with Facebook supportiveness, there was no significant difference between the HCHI group \((M = 5.55, SD = 1.05)\) with the HCLI group \((M = 5.23, SD = 1.49)\).

Table 7

Comparison of Facebook Maintenance Behaviors by the Respondent Across Cultural Value Orientation (ANOVA)

| Dependent Variable | Cultural Value Orientation | | | | | | | F-statistic |
|--------------------|---------------------------|---|---|---|---|---|---|
|                    | LCLI          | LCHI | HCHI | HCLI |               |
| FB Supportiveness  | 4.39 (1.10)  | 4.44 (1.42) | 5.22 (1.33) | 4.67 (1.58) | 8.77** |
| FB Positivity      | 4.79 (1.00)  | 4.85 (1.15) | 5.55 (1.05) | 5.23 (1.49) | 9.96** |
| FB Interaction Planning | 4.02 (1.21) | 4.11 (1.46) | 4.76 (1.55) | 4.04 (1.75) | 6.01* |
| FB Openness       | 4.15 (1.13)  | 4.07 (1.36) | 4.86 (1.34) | 4.26 (1.64) | 7.30** |
| FB Avoidance      | 4.23 (0.92)  | 4.32 (1.28) | 4.94 (1.32) | 4.07 (1.48) | 9.28** |
| FB Soc. Info. Seeking | 4.22 (1.10) | 4.11 (1.36) | 5.04 (1.38) | 4.28 (1.44) | 10.52** |
| FB Passive Browsing | 4.70 (1.15) | 4.55 (1.48) | 5.43 (1.18) | 5.19 (1.38) | 9.01** |

Note. LCLI = low/moderate collectivism, low individualism, \(n = 114\). LCHI = low/moderate collectivism, high individualism, \(n = 46\). HCHI = high collectivism, high individualism, \(n = 116\). HCLI = high collectivism, low/moderate individualism, \(n = 48\). FB = Facebook. Means were computed on a 7-point scale. For all measures, larger means indicate greater engagement in each Facebook maintenance behaviors, \(*p < .05, **p < .001\).

**Facebook interaction planning.** Likewise, there was a significant difference in Facebook interaction planning behaviors across cultural value orientations, \(F(3, 320) = 6.01, p < .05\). The Tukey HSD test indicates that the HCHI group \((M = 4.76, SD = 1.55)\) self-reported higher frequencies of Facebook interaction planning behaviors compared to the LCLI group \((M = 4.02, \ldots\).
$SD = 1.20$), and the HCLI group ($M = 4.04, SD = 1.75$). However, there was no significant
difference between the HCHI group ($M = 4.76, SD = 1.55$) and the LCHI group ($M = 4.11, SD =
1.46$) in terms of Facebook interaction planning.

**Facebook openness.** Additionally, there was a significant effect of cultural value
orientations on Facebook openness, $F(3, 320) = 7.30, p < .001$. The Tukey HSD post hoc test
indicate that the HCHI group ($M = 4.86, SD = 1.34$) self-reported higher frequencies of
Facebook openness compared to the other three groups: the LCLI group ($M = 4.15, SD = 1.13$),
the HCLI group ($M = 4.26, SD = 1.64$), and the LCHI ($M = 4.07, SD = 1.36$) group. However,
there was no significant difference in the mean score of Facebook openness between the LCLI
group ($M = 4.15, SD = 1.13$), the HCLI group ($M = 4.26, SD = 1.64$), and the LCHI group ($M =
4.07, SD = 1.36$).

**Facebook avoidance.** Next, there was a significant difference effect of cultural value
orientations on Facebook avoidance, $F(3, 320) = 9.28, p < .001$. Those in the HCHI group ($M =
4.94, SD = 1.32$) self-reported higher frequencies of Facebook avoidance compared to the other
three groups: the LCLI group ($M = 4.23, SD = 0.92$), the HCLI group ($M = 4.07, SD = 1.48$), and
the LCHI group ($M = 4.32, SD = 1.28$). However, there was no significant difference in the
means scores for Facebook avoidance between the LCLI group ($M = 4.23, SD = 0.92$), the HCLI
group ($M = 4.07, SD = 1.48$), and the LCHI group ($M = 4.32, SD = 1.28$).

**Facebook social information seeking.** Further, Facebook social information seeking
behavior also varied significantly according to cultural value orientations, $F(3, 320) = 10.52, p <
.001$. As with Facebook avoidance and openness, the Tukey HSD post hoc test indicated that the
HCHI group ($M = 5.04, SD = 1.38$) self-reported higher frequencies of social information
seeking on Facebook compared to the other three groups: the LCLI group ($M = 4.22, SD = 1.10$),
the HCLI group \((M = 5.04, SD = 1.38)\), and the LCHI group \((M = 4.11, SD = 1.36)\). However, 
there was no significant difference in the mean scores for Facebook social information seeking 
for those in the LCLI group \((M = 4.22, SD = 1.10)\), the HCLI group \((M = 5.04, SD = 1.38)\), and 
the LCHI group \((M = 4.11, SD = 1.36)\).

*Facebook passive browsing.* Finally, there was also a significant effect of cultural value 
orientations on passive browsing behaviors on Facebook, \(F(3, 320) = 9.01, p < .001\). The Tukey 
HSD post hoc test revealed that those in the HCHI group \((M = 5.43, SD = 1.18)\) self-reported 
higher frequencies in passive browsing on Facebook compared to the LCLI group \((M = 4.71, SD 
= 1.15)\) and those in the LCHI group \((M = 4.55, SD = 1.48)\). However, there was no significant 
difference in passive browsing on Facebook between the HCHI group \((M = 5.43, SD = 1.18)\) and the 
HCLI group \((M = 5.19, SD = 1.38)\). The mean scores for passive browsing on Facebook for 
the LCLI group \((M = 4.55, SD = 1.48)\) however, did not differ with those in the LCHI \((M = 4.55, 
SD = 1.48)\), and the HCLI group \((M = 5.19, SD = 1.38)\).

**Relational maintenance behaviors across culture and channel of interaction (RQ2).** 
RQ2 asked if the perceived frequency of a friend’s use of five relational maintenance behaviors 
(positivity, supportiveness, openness, interaction/interaction planning, and avoidance) depended 
upon whether the channel of interaction is face-to-face or Facebook, and if this latter effect is 
dependent upon whether the respondent is from United States or Malaysia. First, a series of 
paired samples \(t\)-test using combined samples of both American and Malaysians were carried out 
to examine if relational maintenance behaviors by the friend varied across channel of interaction 
(face-to-face versus Facebook). Then, a series of paired samples \(t\)-tests was carried out 
separately for both Americans and Malaysians in order to compare the respondent’s perceptions 
of their friend’s use of relational maintenance behaviors across channels of interactions (i.e. face-
to-face versus Facebook). Relational maintenance behaviors (face-to-face and Facebook) served as the dependent variable in each test.

**Combined sample.** First, the paired sample *t*-tests indicated that there was a significant effect of channel on all five relational maintenance behaviors by the close friend. Specifically, respondents of the study perceived that their close friends were more supportive in face-to-face interactions (*M* = 5.83, *SD* = .93) compared to Facebook (*M* = 4.46, *SD* = 1.31), *t*(367) = 18.17, *p* < .001; *d* = 0.96. Similarly, they perceived their close friend as being more positive in face-to-face interactions (*M* = 5.89, *SD* = .81) compared to Facebook (*M* = 4.98, *SD* = 1.15), *t*(367) = 15.19, *p* < .001; *d* = 0.91. Also, the respondents reported that their close friend used interaction maintenance behavior more often in face-to-face situations (*M* = 5.29, *SD* = 1.00) compared to Facebook (*M* = 4.29, *SD* = 1.37), *t*(367) = 12.11, *p* < .001; *d* = 0.83. Additionally, the respondents perceived their close friend as being more open in face-to-face interactions (*M* = 5.71, *SD* = .90) compared to Facebook (*M* = 4.27, *SD* = 1.30), *t*(367) = 18.65, *p* < .001; *d* = 1.29. Finally, the respondents also reported that their close friend engaged in avoidance more frequently in face-to-face interactions (*M* = 4.35, *SD* = 1.11), compared to Facebook (*M* = 4.03, *SD* = 1.18), *t*(367) = 5.15, *p* < .001; *d* = 0.28. These results indicated that the respondents perceived their close friends to maintain their friendship through face-to-face interactions, more than through Facebook.

**Malaysian sample.** The next series of paired sample *t*-tests revealed that for Malaysians (*N* = 226), there was a significant effect of channel of interaction on the use of all five maintenance behaviors (i.e. supportiveness, openness, positivity, interaction/interaction planning, and avoidance) by the close friend, as perceived by the respondent (refer to Table 8).
Table 8

Comparison of Relational Maintenance Behaviors by the Respondent Across Channel of Interactions for Malaysians (Paired sample t-test)

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>FtF</th>
<th>FB</th>
<th>t(226)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Supportiveness</td>
<td>5.83</td>
<td>0.92</td>
<td>4.57</td>
</tr>
<tr>
<td>Positivity</td>
<td>5.90</td>
<td>0.78</td>
<td>5.10</td>
</tr>
<tr>
<td>Interaction/Interaction Planning</td>
<td>5.21</td>
<td>0.99</td>
<td>4.40</td>
</tr>
<tr>
<td>Openness</td>
<td>5.71</td>
<td>0.87</td>
<td>4.47</td>
</tr>
<tr>
<td>Avoidance</td>
<td>4.63</td>
<td>1.01</td>
<td>4.22</td>
</tr>
</tbody>
</table>

*Note.* FtF = face-to-face, FB = Facebook. Means were computed on a 7-point scale. For all measures, larger means indicate greater engagement in each Facebook maintenance behaviors, *** $p < .001$.

Specifically, Malaysian respondents perceived that their close friends were more supportive in face-to-face interactions ($M = 5.83, SD = .92$) compared to Facebook ($M = 4.57, SD = 1.14$), $t(224) = 14.50, p < .001; d = 1.22$. Similarly, Malaysians perceived their close friends as being more positive in face-to-face interactions ($M = 5.90, SD = 0.78$) compared to Facebook ($M = 5.10, SD = 0.98$), $t(224) = 11.65, p < .001; d = 0.90$. Also, Malaysians reported that their close friend uses interaction behaviors more often in face-to-face situations ($M = 5.21, SD = 0.99$) compared to interaction planning on Facebook ($M = 4.40, SD = 1.28$), $t(224) = 8.26, p < .001; d = 0.71$. Additionally, Malaysians perceived their close friends as being more open in face-to-face interactions ($M = 5.71, SD = 0.87$) compared to Facebook ($M = 4.47, SD = 1.17$), $t(224) = 13.80, p < .001; d = 1.19$. Finally, Malaysians reported that their close friends engaged in avoidance more frequently in face-to-face interactions ($M = 4.63, SD = 1.01$), compared to
Facebook ($M = 4.22$, $SD = 1.01$), $t(224) = 5.47$, $p < .001$; $d = 0.41$. Consistent with the result for previous $t$-test using the combined sample, Malaysians also perceived that their friendship is being maintained in face-to-face interactions more than through Facebook.

American sample. Next, paired samples $t$-tests were carried out to examine the use of relational maintenance behaviors across channel of interaction for Americans ($N = 143$). The results are shown below in Table 9. There was a significant effect of channel on the use of four relational maintenance behaviors (all except avoidance). Specifically, American respondents perceived that their close friends used more supportiveness in face-to-face interactions ($M = 5.83$, $SD = 0.94$) compared to Facebook ($M = 4.30$, $SD = 1.53$), $t(141) = 11.25$, $p < .001$; $d = 1.20$. Similarly, Americans perceived their close friends as being more positive in face-to-face interactions ($M = 5.88$, $SD = 0.86$) compared to Facebook ($M = 4.79$, $SD = 1.35$), $t(143) = 9.97$, $p < .001$; $d = 0.96$.

Americans also reported that interaction behaviors were more frequent in face-to-face interactions ($M = 5.42$, $SD = 1.02$) compared to interaction planning behaviors in Facebook ($M = 4.12$, $SD = 1.50$), $t(141) = 9.08$, $p < .001$; $d = 1.01$. Additionally, Americans perceived their close friends as being more open in face-to-face interactions ($M = 5.70$, $SD = 0.96$) compared to Facebook ($M = 3.96$, $SD = 1.44$), $t(141) = 12.90$, $p < .001$; $d = 1.42$. However, there was no significant difference in the perceived use of avoidance by the close friend across face-to-face interactions ($M = 3.92$, $SD = 1.12$) and Facebook ($M = 3.74$, $SD = 1.36$) for Americans, $t(141) = 1.65$, $p = .10$. Thus, with the exception of avoidance, Americans also perceived that their close friends to maintain their friendships more regularly in face-to-face interactions than through Facebook.
Table 9

Comparison of Relational Maintenance Behaviors by the Respondent Across Channel of Interactions for Americans (Paired sample t-test)

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>FtF</th>
<th>FB</th>
<th>t(143)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Supportiveness</td>
<td>5.83</td>
<td>0.94</td>
<td>4.30</td>
</tr>
<tr>
<td>Positivity</td>
<td>5.88</td>
<td>0.86</td>
<td>4.79</td>
</tr>
<tr>
<td>Interaction/Int. Planning</td>
<td>5.42</td>
<td>1.02</td>
<td>4.11</td>
</tr>
<tr>
<td>Openness</td>
<td>5.70</td>
<td>0.96</td>
<td>3.96</td>
</tr>
<tr>
<td>Avoidance</td>
<td>3.92</td>
<td>1.12</td>
<td>3.74</td>
</tr>
</tbody>
</table>

Note. FtF = face-to-face, FB = Facebook. Means were computed on a 7-point scale. For all measures, larger means equal to greater engagement in each Facebook maintenance behaviors. ***p < .001.

Intensity of Facebook Use and Facebook Maintenance Behaviors

RQ3 examined the relationship between the independent variable of the intensity of Facebook use and Facebook relational maintenance behaviors used by the respondent (Facebook supportiveness, positivity, interaction planning, openness, avoidance, social information seeking, and passive browsing). Pearson’s product moment correlation coefficients were calculated to obtain this information (See Table 10). All seven correlations emerged as significant. Specifically, there is a significant, positive relationship between the intensity of Facebook use and Facebook supportiveness, \( r(311) = .33, p < .001 \). The intensity of Facebook use was also positivity associated with Facebook positivity, \( r(311) = .39, p < .001 \); interaction planning, \( r(311) = .29, p < .001 \); and openness, \( r(311) = .32, p < .001 \).
Table 10

Correlation between Intensity of Facebook Use and Facebook Maintenance Behaviors by the Respondent

<table>
<thead>
<tr>
<th>Dependent Variable</th>
<th>Intensity of Facebook Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facebook Supportiveness</td>
<td>.33***</td>
</tr>
<tr>
<td>Facebook Positivity</td>
<td>.39***</td>
</tr>
<tr>
<td>Facebook Interaction Planning</td>
<td>.29***</td>
</tr>
<tr>
<td>Facebook Openness</td>
<td>.32***</td>
</tr>
<tr>
<td>Facebook Avoidance</td>
<td>.16***</td>
</tr>
<tr>
<td>Facebook Social Information Seeking</td>
<td>.38***</td>
</tr>
<tr>
<td>Facebook Passive Browsing</td>
<td>.32***</td>
</tr>
</tbody>
</table>

Note. N = 313 ***p < .001.

Further, the intensity of Facebook use is also positively correlated with the use of Facebook avoidance, $r(311) = .16, p < .001$; social information seeking, $r(311) = .38, p < .001$; and passive browsing on Facebook, $r(311) = .32, p < .001$. Overall, these results suggest that those who use Facebook more intensely may be more invested in maintaining close friendships online compared to less intense Facebook users, through the use of various types of Facebook maintenance behaviors.

Relationship between Dialectical Contradictions, Facebook Maintenance Behavior, and Relationship Satisfaction

The final set of hypotheses (H3-H12) examined the relationship between Facebook maintenance behaviors by the close friend and relationship satisfaction. For the three relationship behaviors (i.e. openness, interaction planning, and avoidance), it was predicted that this effect would be moderated by a dialectical tension. Initially, to test H3 through H12, a hierarchical regression analysis was conducted. The dependent variable was relationship satisfaction. At Step
1, the extent to which each of seven FB relationship maintenance behaviors perceived to be used by the friend was entered using “simultaneous entry”. At Step 2, the extent to which four dialectical tensions were considered excessive was entered using “simultaneous entry”. At Step 3, the six interaction terms required to test H3 through H8 were entered using “simultaneous entry”. These included the interactions between openness X excessive closedness (H3), openness X excessive openness (H4), interaction planning X excessive autonomy (H5), interaction planning X excessive connection (H6), avoidance X excessive openness (H7), and avoidance by excessive connection (H8). Each interaction term was the product of the relevant mean-deviated variables (Cohen & Cohen, 1983). The results of the hierarchical regression analysis are shown in Table 11.

In the first step, each Facebook maintenance behavior by the friend (i.e. Facebook supportiveness, positivity, interaction planning, openness, avoidance, social information seeking, and passive browsing), as perceived by the respondent, was entered into one block. It accounted for 15% of the variance in relationship satisfaction. Facebook supportiveness, Facebook positivity, Facebook avoidance, and Facebook social information seeking were significant predictors of relationship satisfaction in the first step. At Step 2, each dialectical contradiction was entered into the equation. They accounted for an additional 16% of the variance, and the $F$ change was significant ($p < .001$). Facebook avoidance remained as a significant predictor at this step. However, Facebook positivity, social information seeking, and supportiveness, ceased to be significant predictors.
Table 11

**Summary of Regression Analysis for Predicting Relationship Satisfaction in Close Friendships**

<table>
<thead>
<tr>
<th>Predictors</th>
<th>Relationship Satisfaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td><strong>Step 1</strong></td>
<td></td>
</tr>
<tr>
<td>Friend’s FB Supportiveness</td>
<td>.17</td>
</tr>
<tr>
<td>Friend’s FB Positivity</td>
<td>.19</td>
</tr>
<tr>
<td>Friend’s FB Interaction Planning</td>
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</tr>
<tr>
<td>Friend’s FB Openness</td>
<td>-.07</td>
</tr>
<tr>
<td>Friend’s FB Avoidance</td>
<td>-.23</td>
</tr>
<tr>
<td>Friend’s FB Social Information Seeking</td>
<td>-.18</td>
</tr>
<tr>
<td>Friend’s FB Passive Browsing</td>
<td>.05</td>
</tr>
<tr>
<td><strong>Step 2</strong></td>
<td></td>
</tr>
<tr>
<td>Friend’s FB Supportiveness</td>
<td>.10</td>
</tr>
<tr>
<td>Friend’s FB Positivity</td>
<td>.09</td>
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<tr>
<td>Friend’s FB Interaction Planning</td>
<td>.01</td>
</tr>
<tr>
<td>Friend’s FB Openness</td>
<td>.00</td>
</tr>
<tr>
<td>Friend’s FB Avoidance</td>
<td>-.13</td>
</tr>
<tr>
<td>Friend’s FB Social Information Seeking</td>
<td>-.09</td>
</tr>
<tr>
<td>Friend’s FB Passive Browsing</td>
<td>.02</td>
</tr>
<tr>
<td>Excessive Openness</td>
<td>.03</td>
</tr>
<tr>
<td>Excessive Closedness</td>
<td>.03</td>
</tr>
<tr>
<td>Excessive Autonomy</td>
<td>-.22</td>
</tr>
<tr>
<td>Excessive Connection</td>
<td>-.14</td>
</tr>
<tr>
<td><strong>Step 3</strong></td>
<td></td>
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<tr>
<td>Friend’s FB Supportiveness</td>
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<tr>
<td>Friend’s FB Positivity</td>
<td>.09</td>
</tr>
<tr>
<td>Friend’s FB Interaction Planning</td>
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</tr>
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<td>Friend’s FB Openness</td>
<td>.00</td>
</tr>
<tr>
<td>Friend’s FB Avoidance</td>
<td>-.11</td>
</tr>
<tr>
<td>Friend’s FB Social Information Seeking</td>
<td>-.08</td>
</tr>
<tr>
<td>Friend’s FB Passive Browsing</td>
<td>.01</td>
</tr>
<tr>
<td>Excessive Openness</td>
<td>.02</td>
</tr>
<tr>
<td>Excessive Closedness</td>
<td>.06</td>
</tr>
<tr>
<td>Excessive Autonomy</td>
<td>-.22</td>
</tr>
<tr>
<td>Excessive Connection</td>
<td>-.18</td>
</tr>
</tbody>
</table>

(Continued)
Two dialectical contradictions emerged as significant, negative predictors of relationship satisfaction at this step: excessive autonomy ($\beta = -.33, p < .001$) and excessive connection ($\beta = -.22, p < .01$). In the third and final step, the terms for all six predicted interactions (i.e. H3-H8, created by calculating the products of the relevant mean-centered variable) were entered simultaneously. The interactions accounted for only 4% of the variance in relationship satisfaction. The $F$ change was significant ($p < .01$). Facebook avoidance, excessive autonomy, and excessive connection, remained as significant, negative predictors at this step. None of the interaction was significant predictors of relationship satisfaction at this step. The final equation accounted for 32% of the variance being explained in relationship satisfaction. Overall, the results suggest that for the present study, Facebook maintenance behaviors do not moderate the relationship between dialectical tensions and relationship satisfaction. However, this hierarchical regression analysis also suggests that Facebook avoidance and Facebook social information seeking by the friend, as well as the dialectical forces of excessive autonomy and connection, negatively predicts relationship satisfaction. Facebook positivity and supportiveness were also significant, positive predictors to relationship satisfaction.

<table>
<thead>
<tr>
<th>Predictors</th>
<th>$B$</th>
<th>$SE\ B$</th>
<th>$\beta$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friend’s FB Openness X Excessive Closedness</td>
<td>.01</td>
<td>.03</td>
<td>.03</td>
</tr>
<tr>
<td>Friend’s FB Openness X Excessive Openness</td>
<td>.02</td>
<td>.03</td>
<td>.04</td>
</tr>
<tr>
<td>Friend’s FB Int. Planning X Excessive Autonomy</td>
<td>.01</td>
<td>.03</td>
<td>.02</td>
</tr>
<tr>
<td>Friend’s FB Int. Planning X Excessive Closedness</td>
<td>.02</td>
<td>.03</td>
<td>.05</td>
</tr>
<tr>
<td>Friend’s FB Avoidance X Excessive Openness</td>
<td>.04</td>
<td>.04</td>
<td>.07</td>
</tr>
<tr>
<td>Friend’s FB Avoidance X Excessive Connection</td>
<td>.03</td>
<td>.03</td>
<td>.07</td>
</tr>
</tbody>
</table>


Relationship Satisfaction
H3 predicted that the effect of a friend’s Facebook openness on relationship satisfaction would be moderated by the degree of excessive closedness (as perceived by the respondent). Specifically, it was predicted that the magnitude of the positive effect of openness on relationship satisfaction would be significantly greater when *excessive closedness* was high than when excessive closedness was low. Contrary to H3, the openness X excessive closedness interaction did not emerge as significant ($\beta = .03, p = .49$). H3 was not supported. To obtain additional information, the correlation between ‘openness’ as a relationship maintenance strategy and relationship satisfaction was calculated separately for respondents reporting high excessive closedness and those reporting low excessive closedness. Excessive closedness was considered ‘high’ when respondents’ scores were above the median for excessive closedness of 4.25 ($n = 191$), and ‘low’ when their scores were below the median ($n = 178$). A test employing the Fisher $r$-to-$Z$ transformation (Cohen & Cohen, 1983) indicated that the correlation between openness and relationship satisfaction for those reporting high excessive closedness, $r(189) = -.07, p = .36$, differed significantly (in a one-tailed test) from the same correlation for those reporting low excessive closedness, $r(176) = .13, p = .09$ (test statistic $z = -1.85, p < .05$, one-tailed). The latter difference was in the opposite direction from that hypothesized.

H4 predicted that the effect of a friend’s Facebook openness on relationship satisfaction would be moderated by the degree of excessive openness (as perceived by the respondent). Specifically, it was predicted that the effect of the friend’s Facebook use of the ‘openness’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of *excessive openness*, such that: when excessive openness is high, the maintenance behavior, ‘openness’, has a negative effect on relationship satisfaction. However, when excessive openness is low, the maintenance behavior, ‘openness’, has a positive effect on relationship satisfaction.
Contrary to H4, the openness X excessive openness interaction did not emerge as significant ($\beta = .04, p = .66$). H4 was also not supported. To obtain additional information, the correlation between ‘openness’ as a relational maintenance strategy and relationship satisfaction was calculated separately for respondents reporting high excessive openness and those reporting low excessive openness. Excessive openness was considered ‘high’ when respondents’ scores were above the median for excessive openness of 4.00 ($n = 201$), and ‘low’ when their scores were below the median ($n = 168$). Further, another correlational analysis was conducted to examine the relationship between Facebook openness and relationship satisfaction, in both conditions of high and low excessive openness. A test employing the Fisher r-to-Z transformation (Cohen & Cohen, 1983) indicated that the correlation between openness and relationship satisfaction, for those reporting high excessive closedness, $r(199) = .02, p = .78$, did not differ significantly (in a one-tailed test) from the same correlation for those reporting low excessive openness, $r(166) = .03, p = .73$ (test statistic $z = -0.07, p > .05$).

H5 hypothesized that the effect of a friend’s Facebook interaction planning on relationship satisfaction would be moderated by the degree of excessive autonomy (as perceived by the respondent). Specifically, it was predicted that the magnitude of the positive effect of interaction planning on relationship satisfaction would be significantly greater when excessive autonomy was high than when excessive autonomy was low. Inconsistent with H5, the interaction planning X excessive autonomy did not emerge as significant ($\beta = .02, p = .29$). H5 was not supported. To obtain additional information, the correlation between ‘interaction planning’ as a relational maintenance strategy and relationship satisfaction was calculated separately for respondents reporting high excessive autonomy and those reporting low excessive autonomy. Excessive autonomy was considered ‘high’ when respondents’ score were above the
median for excessive autonomy of 3.33 (n = 214), and ‘low’ when their scores were below the
median (n = 155). Further, another correlational analysis was carried out to examine the
relationship between Facebook interaction planning and relationship satisfaction, in both
conditions of high and low excessive autonomy. A test employing the Fisher r-to-Z
transformation (Cohen & Cohen, 1983) indicated that, the correlation between Facebook
interaction planning and relationship satisfaction, for those reporting high excessive autonomy,
r(212) = .09, p = .20, did not differ significantly (in a one-tailed test) from the same correlation
for those reporting low excessive autonomy, r(153) = .02, p = .80 (test statistic z = 0.64, p > .05).

H6 predicted that the effect of a friend’s Facebook interaction planning on relationship
satisfaction would be moderated by the degree of excessive connection (as perceived by the
respondent). Specifically, it was predicted that the effect of the friend’s Facebook use of the
‘interaction planning’ maintenance behavior on relationship satisfaction is moderated by the
dialectical force of excessive connection, such that: when excessive connection is high, the
maintenance behavior, ‘interaction planning’, has a negative effect on relationship satisfaction.
However, when excessive connection is low, the maintenance behavior, ‘interaction planning’,
has a positive effect on relationship satisfaction. Contrary to H6, the interaction between
interaction planning X excessive connection did not emerge as significant (β = .05, p = 0.63).
H6 was not supported. To obtain additional information, the correlation between ‘interaction
planning’ as a relational maintenance strategy and relationship satisfaction was calculated
separately for respondents reporting high excessive openness and those reporting low excessive
openness. Excessive connection was considered ‘high’ when respondents’ scores were above the
median for excessive connection of 3.00 (n = 171), and ‘low’ when their scores were below the
median (n = 198). Further, another correlational analysis was conducted to examine the
relationship between Facebook interaction planning and relationship satisfaction, in both conditions of high and low excessive connection. A test employing the Fisher $r$-to-$Z$ transformation (Cohen & Cohen, 1983) indicated that the correlation between interaction planning and relationship satisfaction, for those reporting high excessive connection, $r(196) = .19$, $p < .05$, differed significantly (in a one-tailed test) from the same correlation for those reporting low excessive connection, $r(169) = .02$, $p = .82$ (test statistic $z = 1.72$, $p < .05$, one-tailed). The latter difference was in the opposite direction from that hypothesized.

Further, H7 posited that the effect of a friend’s Facebook avoidance on relationship satisfaction would be moderated by excessive openness (as perceived by the respondent). Specifically, it was predicted that the friend’s Facebook use of the ‘avoidance’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive openness, such that: when excessive openness is high, ‘avoidance’ has a positive effect on relationship satisfaction. However, when excessive openness is low, the maintenance behavior, ‘avoidance’ has a negative effect on relationship satisfaction. Contrary to H7, the Avoidance X Excessive openness interaction did not emerge as significant ($\beta = .07$, $p = .99$). H7 was not supported. To obtain additional information, the correlation between ‘avoidance’ as a relationship maintenance strategy was calculated separately for respondents reporting high excessive openness and those reporting low excessive openness. Excessive openness was considered ‘high’ when respondents’ scores were above the median for excessive openness of 4.00 ($n = 117$), and ‘low’ when their scores were below the median ($n = 252$). Another correlational analysis was conducted to examine the relationship between Facebook avoidance and relationship satisfaction, in both conditions of high and low excessive openness. A test employing the Fisher $r$-to-$Z$ transformation (Cohen & Cohen, 1983) indicated that the correlation between avoidance and
relationship satisfaction for those reporting high excessive openness, \( r(115) = -.19, p < .01 \), did not differ significantly (in a one-tailed test) from the same correlation for those reporting low excessive openness, \( r(250) = -.29, p < .001 \) (test statistic \( z = 0.85, p < .05 \), one-tailed).

H8 hypothesized that the effect of a friends’ Facebook avoidance on relationship satisfaction would be moderated by the degree of excessive connection (as perceived by the respondent). Specifically, it was hypothesized that the friend’s Facebook use of the ‘avoidance’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive connection, such that: when excessive connection is high, ‘avoidance’ has a positive effect on relationship satisfaction. However, when excessive connection is low, the maintenance behavior, ‘avoidance’ has a negative effect on relationship satisfaction. Contrary to H8, the avoidance X excessive connection interaction did not emerge as significant (\( \beta = .07, p = .98 \)).

H8 was not supported. Then, to obtain further information, the correlation between ‘avoidance’ as a relationship maintenance strategy and relationship satisfaction was calculated separately for respondents reporting high excessive connection and those reporting low excessive connection. Excessive connection was considered ‘high’ when respondents’ scores were above the median for excessive connection of 3.00 (\( n = 171 \)), and ‘low’ when their scores were below the median (\( n = 198 \)). Further, another correlational analysis was carried out between Facebook avoidance and relationship satisfaction, in both conditions of high and low excessive connection. A test employing the Fisher \( r \)-to-\( Z \)-transformation (Cohen & Cohen, 1983) indicated that the correlation between avoidance and relationship satisfaction for those reporting high excessive connection, \( r(169) = .04, p = .63 \), differed significantly (in a two-tailed test) from the same correlation for those reporting low excessive connection, \( r(196) = -.30, p < .001 \) (test statistic \( z = 3.24, p < .01 \), two-tailed).
Next, H9 predicted that the use of the ‘positivity’ relationship maintenance behavior by the friend on Facebook would be positively related to relationship satisfaction. Consistent with H9, Step 1 of the hierarchical regression analysis showed that the positivity relational maintenance strategy was a significant positive predictor of relationship satisfaction ($\beta = .24, p < .01$). Therefore, H9 was supported.

H10 hypothesized that the use of the ‘supportiveness’ relationship maintenance behavior by the friend on Facebook would be positively related to relationship satisfaction. As predicted in H10, Step 1 of the hierarchical regression analysis showed that the supportiveness relational maintenance strategy was a significant positive predictor of relationship satisfaction ($\beta = .24, p < .05$). Thus, H10 was supported.

For H11, it was posited that use of the ‘social information seeking’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction. Step 1 of the hierarchical regression analysis showed that the social information seeking relational maintenance strategy was a significant negative predictor of relationship satisfaction ($\beta = -.25, p < .001$). However, since it was in the opposite direction of the hypothesized relationship, therefore, H11 was not supported.

Finally, H12 predicted that the use of the ‘passive browsing’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction. Step 1 of the hierarchical regression analysis showed that the passive browsing relational maintenance strategy was not a significant predictor of relationship satisfaction ($\beta = .07, p = .33$). Thus, H12 was not supported.

The following Table 12 presents a summary of findings pertaining to the related research questions and hypotheses in the present study.
Table 12

Summary of Findings Pertaining to the Research Questions and Hypotheses of the Study

<table>
<thead>
<tr>
<th>Hypothesis/research question</th>
<th>Findings</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Controlling for the intensity of Facebook use, age will be negatively associated with the frequency of use of relational maintenance behaviors by the respondent on Facebook.</td>
<td>Not supported.</td>
</tr>
<tr>
<td>H2a: Female-female dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads or cross-sex dyads, and cross-sex dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads.</td>
<td>Partially supported: CS dyads used positivity more often than MM dyads, and CS dyads also used social information seeking and passive browsing behaviors, more often than MM dyads.</td>
</tr>
<tr>
<td>H2b: Female-female dyads will communicate more frequently on Facebook than male-male dyads, and cross-sex dyads will communicate more frequently on Facebook than will male-male dyads.</td>
<td>Not supported.</td>
</tr>
<tr>
<td>H2c: Female-female dyads will interact more frequently using certain types of Facebook features (wall posts, “Like”, and comments) than will male-male dyads.</td>
<td>Partially supported: FF dyads used FB “Like” more often compared to MM dyads.</td>
</tr>
<tr>
<td>RQ1a: Does the mean frequency of use of each relational maintenance behaviors by the respondent on Facebook differ significantly according to nationality (United States vs. Malaysia)?</td>
<td>Malaysians used FB supportiveness, openness, avoidance, and social information seeking, significantly more often than did Americans.</td>
</tr>
</tbody>
</table>
RQ1b: Does the mean frequency of use of each relational maintenance behaviors by the respondent on Facebook differ significantly according to cultural value orientation? (Individualism vs. collectivism)?

The HCHI group used FB avoidance, social information seeking, and openness, significantly more often than the other three groups (i.e. LCLI, HCLI, and LCHI). The HC group engaged in FB supportiveness, positivity, and passive browsing behaviors, more often than the LC group. The HI group engaged in FB interaction planning behaviors more often than the LI group.

RQ2: Does the perceived frequency of a friend’s use of five relational maintenance behaviors (positivity, supportiveness, openness, interaction/interaction planning, and avoidance) depend upon whether the channel of interaction is face-to-face or Facebook? Does the latter effect depend upon whether the respondent is from United States or Malaysia?

Malaysians engaged in positivity, supportiveness, openness, interaction, and avoidance, more often in FtF than on FB. Americans engaged in positivity, supportiveness, openness, and interaction more often in FtF than on FB, but there is no significant difference in avoidance across FB and FtF.

RQ3: What is the relationship between the intensity of Facebook use and perceived frequency of use of Facebook maintenance behaviors by the respondents (positivity, supportiveness, openness, interaction planning, avoidance, social information seeking, and passive browsing)?

Intensity of FB use was significantly correlated to all seven FB RMBs.

(Continued)
<table>
<thead>
<tr>
<th>Hypothesis/research question</th>
<th>Findings</th>
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<tr>
<td><strong>H3:</strong> The magnitude of the positive effect of the friend’s use of ‘openness’ as a Facebook maintenance behavior on relationship satisfaction is moderated by the degree of <em>excessive closedness</em>, such that: when excessive closedness is high, the magnitude of the positive effect of ‘openness’ on relationship satisfaction is significantly greater than when excessive closedness is low.</td>
<td>Not supported. No significant relationship between FB ‘openness’ with RS, when ECL is either high or low.</td>
</tr>
<tr>
<td><strong>H4:</strong> The effect of the friend’s Facebook use of the ‘openness’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of <em>excessive openness</em>, such that: when excessive openness is high, the maintenance behavior, ‘openness’, has a negative effect on relationship satisfaction. However, when excessive openness is low, the maintenance behavior, ‘openness’, has a positive effect on relationship satisfaction.</td>
<td>Not supported. No significant relationship between FB ‘openness’ with RS, when EO is either high or low.</td>
</tr>
<tr>
<td><strong>H5:</strong> The magnitude of the positive effect of the friend’s use of ‘interaction planning’ as a Facebook maintenance behavior on relationship satisfaction is moderated by the degree of <em>excessive autonomy</em>, such that: when excessive autonomy is high, the magnitude of the positive effect of ‘interaction planning’ on relationship satisfaction is significantly greater than when excessive autonomy is low.</td>
<td>Not supported. No significant relationship between FB ‘interaction planning’ and RS, when EA is either high or low.</td>
</tr>
<tr>
<td>Hypothesis/research question</td>
<td>Findings</td>
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<td><strong>H6:</strong> The effect of the friend’s Facebook use of the ‘interaction planning’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive connection, such that: when excessive connection is high, the maintenance behavior of ‘interaction planning’ has a negative effect on relationship satisfaction. However, when excessive connection is low, the maintenance behavior, ‘interaction planning’ has a positive effect on relationship satisfaction.</td>
<td>Not supported. No significant relationship between FB ‘interaction planning’ with RS, when ECONN is either high or low.</td>
</tr>
<tr>
<td><strong>H7:</strong> The effect of the friend’s Facebook use of the ‘avoidance’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive openness, such that: when excessive openness is high, ‘avoidance’ has a positive effect on relationship satisfaction. However, when excessive openness is low, the maintenance behavior, ‘avoidance’ has a negative effect on relationship satisfaction.</td>
<td>Not supported. No significant relationship between FB ‘avoidance’ with RS, when EO is either high or low.</td>
</tr>
<tr>
<td><strong>H8:</strong> The effect of the friend’s Facebook use of the ‘avoidance’ maintenance behavior on relationship satisfaction is moderated by the dialectical force of excessive connection, such that: when excessive connection is high, ‘avoidance’ has a positive effect on relationship satisfaction. However, when excessive connection is low, the maintenance behavior, ‘avoidance’ has a negative effect on relationship satisfaction.</td>
<td>Not supported. No significant relationship between FB ‘avoidance’ and RS, when ECONN is either high or low.</td>
</tr>
<tr>
<td>Hypothesis/research question</td>
<td>Findings</td>
</tr>
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<tr>
<td><strong>H9:</strong> Use of the ‘positivity’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.</td>
<td>Supported. Significant positive relationship between FB ‘positivity’ and RS.</td>
</tr>
<tr>
<td><strong>H10:</strong> Use of the ‘supportiveness’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.</td>
<td>Supported. Significant positive relationship between FB ‘supportiveness’ and RS.</td>
</tr>
<tr>
<td><strong>H11:</strong> Use of the ‘social information seeking’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.</td>
<td>Not supported. Significant negative relationship between FB ‘social information seeking’ and RS.</td>
</tr>
<tr>
<td><strong>H12:</strong> Use of the ‘passive browsing’ relationship maintenance behavior by the friend on Facebook will be positively related to relationship satisfaction.</td>
<td>Not supported. No significant relationship between FB ‘passive browsing’ and RS.</td>
</tr>
</tbody>
</table>

*Note.* FB = Facebook, FtF = face-to-face. RMB = relational maintenance behavior. CS = cross-sex, FF = female-female, MM = male-male. HCHI = high collectivism and high individualism, LCLI = low to moderate collectivism and low to moderate individualism, LCHI = low to moderate collectivism and high individualism, HCLI = high collectivism and low to moderate individualism. HC = high collectivism, LC = low to moderate collectivism, HI = high individualism, and LI = low to moderate individualism. EA = excessive autonomy, ECONN = excessive connection, EO = excessive openness, ECL = excessive closedness. RS = relationship satisfaction.
Chapter V

Discussion

The main purpose of this study was to examine how close friendships in two different cultures (U.S. and Malaysia) are maintained on Facebook, based on the relational dialectics perspective. The first objective of the study was to examine individual differences (age and friendship dyads) in the use of Facebook maintenance behaviors. Next, the study assessed cross-cultural variations in Facebook maintenance behaviors, based on the respondent’s nationality and cultural value orientation. Cross-cultural difference in maintenance behaviors across channel of interactions was also examined. Further, this study investigated the relationship between intensity of Facebook use and Facebook maintenance behaviors. Finally, another main objective of this study was to test the moderating role of dialectical contradictions (autonomy-connection and openness-closedness) in the relationship between Facebook maintenance behaviors by the close friend and relationship satisfaction. Guided by the relational dialectics theory, tests were used to analyze these relationships. Therefore, in the current chapter, the findings of the study according to these research objectives, with implications are discussed. Additionally, the limitations and future direction of study in this area are offered.

Summary and Implications

Individual Differences in Facebook Maintenance Behaviors

Age differences in Facebook maintenance behaviors. There are certain individual differences that may influence the use of Facebook maintenance behaviors, such as age, gender, and friendship dyads. The first goal of this study was to examine age differences in Facebook maintenance behaviors; it was predicted that after controlling for intensity of Facebook use, age would be negatively associated with Facebook maintenance behaviors (H1). However, when
intensity of Facebook use was held constant, age was not related to the frequency of use of Facebook relational behaviors. Thus, younger and older users of Facebook were alike in terms of how often and what types of Facebook maintenance behaviors they engaged in with their close friends, after taking into account the intensity of Facebook use.

In interpreting these results, several things should be noted. First, zero-order correlations indicated that there is weak, positive relationship between intensity of Facebook use and age. Next, as previously highlighted, the measure for the intensity of Facebook use consisted of three items including total number of Facebook friends, active Facebook use (minutes/day), and the attitudinal items in the Facebook Intensity Scale. The zero-order correlations conducted between age and the three items used to measure intensity of Facebook use revealed that although there is no significant correlation between age and Facebook use (minutes/day), there is a significant, negative relationship between age and total number of Facebook friends, and a significant, positive relationship between age and the attitudinal items in the Facebook Intensity Scale.

Thus, when controlling for intensity of Facebook use, the moderate, negative relationships between intensity of Facebook use and frequency of use of each relationship maintenance behavior (except for passive browsing) could be due partly to the components of intensity of Facebook use that is related with age. Furthermore, although previous research (e.g. Ellison et al., 2014) have indicated that younger users tend to spend more time on Facebook and also engaged in Facebook maintenance behaviors more frequently, their study did not control for the intensity of Facebook use. Therefore, these reasons may account for the finding indicating that age is not significantly related with the use of Facebook maintenance behaviors, when controlling for the intensity of Facebook use.
Friendship dyads and Facebook maintenance behaviors. Another goal of this study was to explore the influence of friendship dyads over Facebook maintenance behaviors. It was predicted that female-female dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads or cross-sex dyads, and cross-sex dyads will engage in Facebook relational maintenance behaviors more frequently than will male-male dyads (H2a). There was a significant effect of friendship dyads in the use of four out of seven Facebook maintenance behaviors (positivity, openness, social information seeking, and passive browsing). Most unexpected was that cross-sex dyads were found to use openness, social information seeking, and passive browsing on Facebook, more often than female-female dyads. This result is in contrast to findings in the prior study by Vitak (2012), who found that female-female dyads used more Facebook maintenance behaviors compared to other types of friendship dyads. However, findings on face-to-face maintenance behaviors by the close friend were more consistent with past studies (Oswald et al., 2004), where female-female dyads in this study used certain maintenance behaviors (face-to-face supportiveness, positivity, and openness) significantly more often than did male-male dyads.

Friendship dyads, Facebook communication frequencies, and Facebook feature use. It was also predicted that female-female dyads will communicate more frequently on Facebook than will male-male dyads or cross-sex dyads, and cross-sex dyads will communicate more frequently on Facebook than will male-male dyads (H2b). There was no significant difference in communication frequency on Facebook across the three friendship dyads. This finding is also unexpected; as past studies have indicated that female-female dyads tended to communicate more often on Facebook compared to other friendship dyads (Vitak, 2012). There was also no significant effect of friendship dyads observed in face-to-face communication frequencies among
close friends. Finally, it was predicted that female-female dyads would interact more frequently using certain types of Facebook features than will male-male dyads (H2c). The analysis using the combined use of seven Facebook features across friendship dyads indicated that there is no significant effect of friendship dyads in the use of Facebook feature use. However, when analyzing each Facebook feature separately, female-female dyads were found to use Facebook “Like” significantly more often than did male-male dyads, which paralleled past findings by Vitak (2012) on the use of Facebook “Like” across friendship dyads.

Together, these findings had several implications. First, perhaps what matters to the friendship dyads in this study is not how often they communicate online, but rather, how they communicate, e.g. through the use of specific types of Facebook features and maintenance behaviors in order to strategically maintain their close friendship. Further, specifically for female-female dyads, Facebook is perhaps a supplementary tool in the friendship maintenance process. Next, compared to same sex friendship dyads, regular use of certain Facebook maintenance behaviors by cross sex dyads (positivity, openness, passive browsing, and social information seeking) raises the possibility of cross-sex friends using Facebook to achieve certain relational goals, such as escalating their platonic relationship to the next stage (i.e. romantic relationship). This is a possibility, as more than half of the 97 pairs of cross-sex dyads were young adults from the age of 18-25 years old, and although they were asked to self-report maintenance behaviors with a ‘close friend’ there was no specific instruction detailing that the friendship had to be strictly platonic with no romantic interest.

Relatedly, previous studies have indicated that relationship maintenance strategies such as the frequency of use of Facebook ‘openness’ and ‘positivity’ can lead to positive relational outcomes such as greater liking and satisfaction (e.g. Craig & Wright, 2012; Ledbetter et al.,
2011; McEwan, 2013) while strategies such as Facebook ‘passive browsing’ and ‘social information seeking’ behaviors are easily performed and can be indirect strategies that can be used to obtain information about the relational partner, increase predictability, and to reduce relational uncertainty. Finally, as Guererro and Chavez (2005) have found that maintenance behaviors between cross-sex friends tended to increase especially if they have romantic intent, and decreased if partners wished to maintain relationships at the current level, it is possible that for some cross-sex dyads friends in the present study, these strategies were used on Facebook with the specific intention of escalating their platonic friendships into romantic territories.

**Cross-cultural Variability in Facebook Maintenance Behaviors**

**Facebook maintenance behaviors across nationality.** The next set of research questions explored cross-cultural differences in Facebook maintenance behaviors. First, one research question asked if the mean frequency of use of each relational maintenance behavior on Facebook differed significantly according to nationality (RQ1a). Findings showed that Malaysian respondents used certain Facebook maintenance behaviors (supportiveness, openness, social information seeking, and avoidance) significantly more often than did Americans. Overall, based on the current samples of Americans and Malaysians used in the present study, it appears that the regular use of Facebook supportiveness, avoidance, and social information seeking by Malaysians reflected some elements of their group-level cultural values, such as their strong collectivistic tendencies in caring for other in-group members, and their non-confrontational approach to social life (Ye, 2006; Abdullah, 2001).

More intriguing is the result indicating that Malaysians were more open on Facebook compared to Americans, as this contradicted previous findings on cross-cultural variability in SNS use which found that Americans tended to spend more time in SNS and exchanged more
SNS self-disclosures (e.g. Cho, 2010; Xu & Mocarski, 2014). However, as the Malaysian culture tends to favor sensitivity towards others and indirect communication (i.e. Bakar et al. 2007), the Malaysian sample in this study may feel more comfortable expressing their private thoughts and feelings indirectly through Facebook rather than through face-to-face communication. This is a possibility as findings also revealed that the Malaysian sample preferred using more private forms of communication available on Facebook (i.e. private messages and instant chats), rather than more public forms of communication (i.e. status updates) compared to the American sample. Also, prior research have indicated that for collectivistic societies, engaging in self-disclosures online maybe regarded as information sharing with other in-group members, such as friends in their social network (e.g. Qiu, 2013). This is plausible, as findings indicated that Malaysians engaged in sharing related activities on Facebook (i.e. sharing contents, videos, and links) significantly more often than did Americans. These latter findings raises the possibility of whether motives for using Facebook varies according to culture, and provides an interesting area to explore in future research. In summary, it appears that for the current sample of American and Malaysians Facebook users in this study, the use of Facebook maintenance behaviors and Facebook related activities by the respondent appeared to reflect the respondent’s nationality, in terms of their main cultural preferences and proclivities.

**Facebook maintenance behaviors across cultural value orientation.** The next research questions addressed if the mean frequency of use of each relational maintenance behavior by the respondent differed significantly according to cultural value orientation (RQ1b). As the Internet promotes global communication, social interactions between individuals from different cultures are becoming increasingly common. With the use of new communication technologies, it is possible to embrace or adopt elements and values from a different culture without having to
physically travel to another country. Thus, an individual’s cultural orientation may not only reflect their nationality, but may change and vary based on their own experiences and social interactions, such as when an individual becomes exposed to different cultural elements and when they obtain the opportunity to interact online with members outside of their own culture. In this study, as expected there was a significant difference in the cultural dimension of individualism-collectivism based on the respondent’s nationality, where the Malaysian sample was overall more collective than the American sample. However, the current Malaysian sample also scored higher in individualism overall compared to Americans, and had higher scores in vertical individualism. This is surprising as past studies has grouped United States as a society that is more vertical, in terms of individualism (Sivadas et al., 2008), and Malaysia tends to emphasize more on collectivism rather than individualism (Abdullah, 2001; Abdullah & Gallagher, 1995; Zawawi, 2008). Therefore, based on these findings, cultural orientations may not only be based on an individual’s nationality, but can also be centered on their individual tendencies in the cultural dimension of individualism and collectivism.

Further, based on the individualism-collectivism cultural dimension, highly collectivistic individuals were significantly more supportive and positive on Facebook compared to those who were low or moderate in collectivism. This finding is expected, and paralleled previous research indicating that social media activities vary based on individualism-collectivism tendencies. For instance, a previous study by La Rose et al. (2014) found that those with higher collectivism scores viewed social media activities as a natural part of their social and relational life. Due to their emphasis on group harmony, individuals with high collectivism tendencies also appreciated social media interactions and were more motivated in interacting with their in-group members online. Possibly, this may also explain why those with high scores in collectivism were more
positive and supportive on Facebook compared to those who had lower scores in collectivism. However, more surprising were findings indicating that those who scored high in both collectivism and individualism were found to perform more maintenance behaviors than any other groups and those high in individualism engaged in more Facebook interaction planning compared to those who had low to moderate scores in individualism.

In summary, based on the current samples of Malaysians and Americans in this study, although maintenance behaviors maybe driven by one’s nationality, the respondent’s tendencies in the cultural dimension of individualism and collectivism also influenced the types of Facebook maintenance behaviors used in close friendships. Further, as these cultural value orientations of horizontal and vertical individualism and collectivism emphasize on equality/inequality and hierarchy in relationships, future studies could extend literature on relationship maintenance and culture, and corroborate these findings by focusing on a cross-cultural examination of relationship maintenance behaviors and cultural value orientation (i.e. horizontal and vertical individualism and collectivism), and compare them across different types of relationships, such as family relationships (e.g. parent-child versus siblings) and work relationships (e.g. subordinate-employer versus peer-like work colleagues).

**Relational maintenance behaviors across culture and channel of interaction.** The next goal explored if the perceived frequency of a friend’s use of the relational maintenance behaviors depended upon the channel of interaction, and the respondent’s nationality (RQ2). Findings indicated that for the present study, across culture, respondents perceived that their friend engaged in maintenance behaviors across face-to-face interactions rather than on Facebook, and these results were replicated for the Malaysian sample. However, Americans perceived that their friend engaged in friendship maintenance behaviors more often in face-to-
face interactions, with the exception of avoidance. Since United States is a low-context culture favoring open and direct communication with an emphasis on speed, accuracy, and efficiency (e.g. Hofstede, 2001), avoidance is perhaps not a highly effective or culturally relevant friendship maintenance strategy for Americans, and therefore, this would explain why Americans do not engage in avoidance (across face-to-face and Facebook), and why there is no significant difference in the use of avoidance across channel of interaction, compared to Malaysians. Overall, regardless of culture, except for the use of avoidance for Americans, the current sample of Americans and Malaysians Facebook users in the present study perceived that maintenance behavior by their close friend occurs more frequently in face-to-face interactions rather than on Facebook. As such, for close friendships, perhaps maintenance needs are being fulfilled in face-to-face interactions rather than through mediated communication.

**Intensity of Facebook Use and Facebook Maintenance Behaviors**

Additionally, the next research question analyzed the relationship between intensity of Facebook use and the seven different types of Facebook maintenance behaviors (RQ3). There was a significant correlation for all seven relationships. Thus, intense Facebook users were more likely to engage in various types of Facebook maintenance behaviors including Facebook supportiveness, openness, positivity, interaction planning, avoidance, social information seeking, and passive browsing. These findings also mirrored findings from prior research (e.g. Dainton & Berkoski, 2013; McNelis, 2013; Muise, et al., 2009; Utz & Beukeboom, 2011), which indicated that among relational partners who maintained romantic relationships through Facebook, heavy Facebook users engaged more frequently in different types of maintenance behaviors (e.g. Facebook jealousy, advice giving, and task-sharing), in order to keep track of their partner. Thus, this results is consistent across close friendships; intense Facebook users were more likely to
engage in Facebook maintenance behaviors more often than inactive users, as they were perhaps more invested in maintaining online friendships through Facebook. As previously highlighted, the multimedia multiplexity theory (Haythorntwaite, 2004) has postulated that strong-tie relationships such as close friendships can be characterized with multi-modality, or interaction with a relational partner through use of many available media. As close friendships may require more maintenance (e.g. Oswald, et al., 2004), perhaps intense users of Facebook who felt emotionally connected to Facebook and more integrated into the Facebook environment, also perceived Facebook as one of the available and effective tool needed to maintain close friendships, and therefore, is more driven to maintain this relationship through frequent and various types of Facebook maintenance behaviors.

**Relationship between Dialectical Contradictions, Facebook Maintenance Behaviors, and Relationship Satisfaction**

The next hypotheses aimed to examine the relationship between dialectical contradictions, Facebook maintenance behaviors, and relationship satisfaction (H3-H8), based on the relational dialectics perspective. Overall, certain results for the hierarchical multiple regressions indicate that some of the findings were not consistent with the traditional thinking about the nature of dialectical tensions (Baxter & Montgomery, 1996) in relationships. First, although the zero-order correlations of the dialectic variables of excessive openness and excessive closedness with relationship satisfaction were negative and significant as would be expected (and consistent with the predictions of relational dialectics theory), excessive openness and excessive closedness were not significant at Step 2 of the hierarchical regression model. It is only after relational maintenance behaviors are held constant (or controlled for), that they appear to have no effect on relationship satisfaction. Also, zero-order correlations indicated that
excessive openness and excessive closedness were significantly correlated, and they were also significantly correlated with some of the Facebook maintenance behaviors, with correlation coefficients that ranged from .12 to .30. Therefore, the non-significant result for excessive openness and closedness in Step 2 could be partially ascribed to the correlations between these dialectical tensions and some of the Facebook maintenance behaviors used by the friend.

Further, Step 3 in the hierarchical regression model indicated that dialectical tensions did not moderate the relationship between Facebook relational maintenance behaviors and relationship satisfaction. This can be partly attributed to the fact that the relationships studied seemed to be ones where the respondents reported that they had fairly happy relationships, with relatively low levels of dialectical tensions, where the means of three dialectical tensions (i.e. excessive autonomy, excessive connection, and excessive openness) were below the midpoint of the 7-point scale. This suggests that dialectical tensions were not a serious problem for most of the respondents. For instance, it is possible that the positive effect of a Facebook maintenance behavior (e.g. Facebook openness) on relationship satisfaction was not dependent upon a dialectical tension (e.g. excessive openness or excessive closedness), when the relevant dialectical tension is not really a problem in the relationship, for most of the respondents.

Next, findings also indicated that the degree of excessive autonomy and the degree of excessive connectedness were positively correlated. This is unexpected as the traditional dialectics theory indicated that a person should perceive a relationship along a continuum from excessive connectedness to excessive autonomy, where partners strive to achieve ‘dialectical equilibrium’ by favoring one dialectical force over the opposing one, e.g. autonomy over connection. However, in their initial study on romantic relationships from the relational dialectics perspective, Baxter and Simon (1993) measured the dialectical tensions of excessive
autonomy and connection separately, so that each items for each tension were worded to reflect the dominance of a given dialectical pole. They argued that this was due to the dominance of a ‘dialectical moment’ in the relationship, where ‘the struggle of a dialectical oppositions naturally revolved around domination-subordination’ (Baxter & Simon, 1993, p. 233). Therefore, when excessive autonomy is high in the relationship, it would dominate over excessive connection. However, in the present study, as the levels of excessive autonomy and connection were correlated to one another, with relatively low levels of excessive autonomy and connection experienced in the relationship, there was no indication of domination-subordination and the respondents perceived these dialectical tensions as tolerable. In other words, these dialectical tensions co-existed in the relationship but were perceived as not extremely excessive or problematic. Thus, achieving ‘dialectical equilibrium’, with one relational partner choosing to achieve balance in terms of dialectical tensions in the relationship, when one opposing is dominating the other, was not necessary. However, as dialectical tensions tend to vacillate over time, these findings suggest that more quantitative work is needed, particularly a longitudinal study that aim to discern patterns of interaction between these two opposing dialectical poles, specifically in close friendships that is characterized by high levels of excessive autonomy and also excessive connection.

Furthermore, although the interaction between Facebook maintenance behaviors and these dialectical tensions did not emerge as significant, a series of comparison for the correlations coefficients using Fisher r-to-Z transformation indicated that the correlation did differ significantly for: (a) respondents high and low in excessive closedness, when examining the relationship between Facebook openness and relationship satisfaction in a one-tailed test (H3) (the difference was in the opposite direction from that hypothesized), (b) respondents high
and low in excessive connection, when examining the relationship between Facebook interaction planning and relationship satisfaction in a one-tailed test (H6) (the latter difference was in the opposite direction from that hypothesized) and, (c) respondents high and low in excessive connection, when examining the relationship between Facebook avoidance and relationship satisfaction, in a two-tailed test (H8).

Additionally, a post hoc analysis using separate hierarchical regression for Americans and Malaysians showed that there were some cross-cultural differences in how respondents from these two cultures perceived the relationship between dialectical contradictions, Facebook maintenance behaviors, and relationship satisfaction. For instance, with the Malaysian sample, dialectical tensions did not moderate the relationship between Facebook maintenance behaviors and relationship satisfaction. However, for the American sample, the interaction between avoidance X excessive connection emerged as a significant positive predictor to relationship satisfaction. Further post hoc tests using correlation analysis established that for Americans, avoidance negatively affects relationship satisfaction when there is low excessive connection, and using Fisher $r$-to-$Z$ transformation, results revealed that the correlation between avoidance and relationship satisfaction for those reporting high excessive connection, differed significantly (in a one-tailed test) from the same correlation for those reporting low excessive connection. Additionally, other cross-cultural comparisons in the post hoc tests also revealed that Americans perceived excessive autonomy as a significant, negative predictor to relationship satisfaction, while Malaysians perceived excessive autonomy and excessive connection as negative predictors to relationship satisfaction. Therefore, respondents from these two cultures had different perceptions in terms of the role of dialectical tensions in maintaining friendships. Collectively,
these latter findings suggest that future cross-cultural work on whether relationship maintenance strategies interact with dialectical tensions to affect relationship satisfaction may be warranted.

The final set of hypotheses examined the relationship between the remaining Facebook maintenance behaviors by the close friend and relationship satisfaction (H9-H12). Facebook passive browsing did not significantly predict relationship satisfaction among close friends (H12). Additionally, Facebook positivity and supportiveness were significant positive predictors to relationship satisfaction (H9 and H10), while Facebook social information seeking was a significant negative predictor to satisfaction (H11). The former is not surprising, as previous studies have indicated that frequent use of positivity and supportiveness tended to increase relational satisfaction in close relationships (Dainton, 2013; McEwan, 2013; Oswald et al., 2004). However, results for the latter was surprising, and it mirrored findings by Vitak (2012), who found that social information seeking on Facebook negatively predicted relationship satisfaction. A plausible explanation for this result that for the present study, respondents perceived Facebook social information seeking negatively as a maintenance strategy, as they may prefer more direct information seeking behavior from their close friend, such as through verbal means. Getting updated and finding out important information or events (e.g. wedding or birth announcements) about a close friend on Facebook, instead of directly through face-to-face communication, can also lead to a close friend feeling that their relational closeness is not where it should be, and thus social information seeking negatively predicted relationship satisfaction.

Further, Step 1 in the hierarchical multiple regression analysis indicated that both Facebook interaction planning and openness were not significantly related to relationship satisfaction. Relatedly, the paired sample t-tests used in examining the use of maintenance behavior across channel of interactions revealed that the respondents engaged in openness and
interaction behaviors more often in face-to-face interactions rather than on Facebook. Finally, a post hoc test using correlations analysis to examine the contribution of maintenance behaviors (face-to-face and Facebook) by the friend to relationship satisfaction revealed that face-to-face openness was a positive predictor to relationship satisfaction. Collectively, these results can be attributed to several reasons. First, specific to openness, the reason for the non-significant results between Facebook openness and relationship satisfaction may be attributed to the nature of Facebook self-disclosures, which differs compared to face-to-face disclosures. With Facebook disclosures, users may resent disclosures from Facebook friends, as they feel that they are being forced into the role of a ‘listener’, i.e. unwanted confidante (McEwan, 2013). Further, Zhang and Merolla (2009) indicated that sensitive or private relational information is sometimes not suitable to disclose online. Thus, close friends may feel that at certain times, self-disclosures on Facebook is not welcomed, especially if it’s excessive, constant, or inappropriate. Consequently, this would have adverse consequences to relationship satisfaction. In summary, while openness is a desired maintenance behavior, and crucial in maintaining close friendships at a satisfactory level, individuals may prefer engaging in face-to-face openness more frequently than on Facebook as the nature of Facebook self-disclosures might preclude it from being a significant positive predictor to relationship satisfaction.

Similarly, the post hoc analysis using correlations also revealed that while interaction planning behaviors was not a significant predictor to relationship satisfaction, the interaction maintenance behavior in face-to-face communication emerged as a significant positive predictor to relationship satisfaction. This finding is consistent with a previous study by Dainton (2013) in comparing Facebook maintenance behaviors and general maintenance behaviors. In that study, her findings suggested that Facebook maintenance behaviors might not be as crucial in
sustaining relationships at a satisfactory level, specifically when maintenance needs are already being fulfilled in face-to-face interactions. Similarly, for this study, planning future interactions on Facebook may not be necessary as these close friends may already be having constant contact, or repeated interactions in face-to-face communication. As such, these reasons may account for the non-significant result between interaction planning behaviors by the friend (as perceived by the respondent) on Facebook and relationship satisfaction.

Finally, some scholars, such as Ledbetter (2010) has suggested that maintenance behaviors can be context-specific, and certain behaviors such as interaction and task-sharing activities maybe more suited to the face-to-face context rather than online. Therefore, future studies could include other types of Facebook specific behaviors that would significantly contribute to relationship maintenance, as there may be other Facebook maintenance behaviors that were not captured in this study. For instance, the most recent studies on Facebook maintenance behaviors have focused on other types of Facebook specific behaviors such as using Facebook as an indicator of caring behavior (e.g. using Facebook features such as wall posts, comments, and private messages to send a note on a friend’s birthday, or offering condolences and support when a friend post bad news on Facebook), and using Facebook to share similar interests and joined activities (e.g. sharing videos or links with a friend on Facebook about a TV show or celebrity that they both like, or posting a photo so that a friend could share an experience even though he or she was not present during the experience), and using Facebook to cultivate social resources (Ellison et al., 2014; McEwan, 2013; Vitak, 2012). Therefore, future studies could validate these findings by examining these Facebook maintenance behaviors in another sample (i.e. different culture) and by investigating how these maintenance behaviors are associated to different types of relationship outcomes.
Limitations and Directions for Future Research

There are several limitations to the present study. The first limitation with the present study was the research design. First, this study utilized the self-administered online survey method. An acknowledged problem with using surveys is response accuracy and issues with recall; respondents may have difficulties in answering the survey instrument honestly and accurately. For example, respondents may have problems in providing precise estimates of their friend’s use of Facebook maintenance behaviors, particularly more covert maintenance behaviors such as passive browsing and avoidance, especially if they were not intense Facebook users. Furthermore, there may have been issues with social desirability, which is a ‘response determinant that refers to the tendency of people to deny socially undesirable traits or qualities and to admit to socially desirable ones’ (Phillips & Clancy, 1972, p. 923). Thus, respondents may have overestimated their use of certain relationship maintenance behaviors (e.g. supportiveness and/or positivity), and underestimated others (e.g. avoidance). With that in mind, future research could utilize the triangulation method when collecting data by using focus group interviews, or by using the experimental method in order to validate these findings and to compensate for some of the limitations linked to using survey as the research design.

Further, the large number of statistical tests conducted in the study raises the experiment wise probability of Type I error, where the probability of finding that an effect is significant in a study, when, in the real world, the effect is not significant. Additionally, as indicated in the correlation matrix between selected independent variables and the dependent variable, some of the relationship maintenance behaviors were highly correlated (positively) and, for this reason, some of the beta coefficients in the hierarchical regression could have been influenced by multicollinearity. Additionally, another limitation related to research design is the instructions given to
respondents in self-selecting a ‘close friend’ with whom they communicated both face-to-face and on Facebook. The results of the study may have been different if the instruction given to the respondents was modified to include other types of friendship characteristics (i.e. relationship closeness or intimacy, geographical distance, or commitment). For instance, the frequencies of dialectical tensions and relationship maintenance behaviors experienced in geographically close friendships characterized with a high degree of relationship closeness and commitment, might differ significantly as opposed to long-distanced friendships with considerably lower relationship closeness and commitment. Relatedly, the level of relationship satisfaction was generally high for the present study. In contrast, the levels of dialectical contradictions were also generally low, particularly for excessive autonomy and excessive connection. The results of the study might have varied, had the study focused on relationships that are characterized by high dialectical tensions, such as friendships with individuals experiencing unique challenges (e.g. friendships with physically/psychiatrically disabled individuals), friendships undergoing major life transitions (e.g. divorce, death of family member, graduation from college), or constant interpersonal conflicts, as these elements could influence relationship satisfaction. Thus, future endeavors on close friendships maintenance on Facebook and dialectical tensions should be more focused, by controlling for other additional variables regarding relational characteristics.

Another limitation concerns the sample of the study, which comprised of respondents from Malaysia and the United States. Due to the unequal sample sizes, Malaysian respondents outnumbered the American respondents. Therefore, the power of the statistical tests used in the present study is a little greater for Malaysian sample than for American sample, and interpretation of these results should be approached with that in mind. Relatedly, the sample used to represent Americans and Malaysians in this study is not truly representative of Facebook users
in both countries. For instance, in the main sample of undergraduate students, some of the respondents in the sample included international students currently studying and living in Malaysia and the United States, and they were also included in the data analysis. Thus, the inclusion of these international students could have influenced the results of the study.

Furthermore, one intriguing finding of the study was concerning the use of certain Facebook maintenance behaviors (i.e. openness, positivity, social information seeking, and passive browsing) by cross-sex dyads compared to other friendship dyads. This was surprising considering past literature on friendship dyads and maintenance behaviors. However, some communication scholars (e.g. Ledbetter et al., 2010) have suggested that communication technology can sometimes be used to buffer against intimacy, particularly when relational partners do not share relational goals, e.g. when one partner does not have romantic intent and the other one does. Future study should explore this further, particularly in the context of other emerging social media and mobile messaging applications (e.g. Twitter, Instagram, Viber, or WhatsApp), and how the usage of these new communication technologies influence dialectical tensions and maintenance behaviors among cross-sex dyads based on their relational goals (e.g. platonic versus romantic). Certainly, this would increase our understanding in terms of how cross-sex friendships are maintained, with the use of emerging communication technologies.

Next, as previously discussed, excessive openness and closedness were not significant predictors to relationship satisfaction in close friendships for respondents in the present study. This could be partly attributed to age; as the survey respondents were relatively young, issues concerning the dialectical tensions of openness-closedness are perhaps not highly relevant or important to them, in determining relationship satisfaction. However, as Baxter and Montgomery (1996) have acknowledged that there are an infinite number of dialectical tensions experienced
in close relationships, future studies could also examine more closely other types of dialectical tensions that maybe more instrumental and crucial in friendship maintenance among young adults, such as the dialectical tensions between judgment and acceptance (Bridge & Baxter, 1992; Rawlins & Holl, 1988), affection and instrumentality (Rawlins, 1992), or loyalty-disloyalty (Baxter et al., 1997).

In conclusion, close friendships are an important interpersonal tie that can survive a lifetime, and the use of social networking websites provides a convenient and easy avenue for its users to sustain such relationships in the digital age. According to the relational dialectics perspective (Baxter & Braithwaite, 2007; Baxter & Montgomery, 1996; Baxter & Simon, 1993), maintaining close relationships at a satisfactory level is a complex, interdependent, and nonlinear process that would require balancing opposing poles of dialectical tensions salient in the relationship, in order to achieve ‘dialectical equilibrium’. However, findings in this study indicate that, for the most part, the effect of relationship maintenance behaviors on relationship satisfaction did not seem to depend on the extent to which dialectical tensions were present. By sampling Facebook users from two distinct cultures, the present research is only able to provide a miniscule amount of evidence as to how close friendships in two different cultures are being maintained at a satisfactory level with the use of social media, in the midst of managing different dialectical tensions that occur in close relationships. Thus, it is important that communication scholars continue to increase their understanding on how close friendships are successfully maintained by managing the internal dialectical contradictions present in the relationship through the use of appropriate, relevant, and strategic relationship maintenance behaviors.
APPENDICES
Appendix A
Measure of Demographic Information

Instructions: Below are a series of questions about you. Please click the appropriate response or provide specific answers in the space given. Your answers will remain confidential and will not be shared with anyone. Thank you for your help!

1. Please identify your gender.
   Male
   Female

2. What is your nationality (Malaysians)?
   Malaysian
   Non-Malaysian

3. What is your ethnicity (Americans)?
   White/Caucasian
   African American
   Asian American
   Others (Please specify): ____________

4. What is your age at your most recent birthday? ____________

4. What is the highest level of education that you have completed (Malaysians)?
   Less than secondary school
   Secondary school
   Diploma/Matriculation
   Bachelor’s Degree
   Master’ Degree
   Ph.D.

4. What is the highest level of education that you have completed (Americans)?
   Less than high school
   Some high school
   High school/GED
   Associate’s Degree
   Bachelor’s Degree
   Master’ Degree
   Ph.D.

5. If you are an undergraduate student, what is your level of study?
   First year/ Freshman
   Second year/ Junior
   Third year/ Junior
   Final year/ Senior
Appendix B
Measure of Friendship Characteristics

Instructions: Think of one close friendship that you initiated in face-to-face interaction, and continue to maintain in both face-to-face and Facebook interactions (choose one person only). Take note that this ‘close friend’ could be a male or female friend that you communicate with in both Facebook and face-to-face interactions. Provide answers about your friendship with that person throughout this survey. Please click the most appropriate response or provide specific answers in the space given.

1. Is this friend:
   Male
   Female

2. How long have you known each other? _____Year(s) _____Month(s) _____Day(s)

3. Please indicate to what extent have you used the following communication tools to interact with your close friend (1=never, 7=very frequently):
   Face-to-face communication
   Facebook

4. Please estimate the frequency with which you use each of these Facebook features with your close friend (1=never, 7=very frequently):
   Status Updates
   Private Messages
   Instant Facebook Chat
   Wall Posts
   Comments on Facebook photos/posts
   “Like” Facebook photos/posts
   Sharing contents, links or videos
   Others (please specify): __________
Appendix C
Facebook Intensity Scale

Identical to those used by:

Instructions: The following items describe your Facebook usage and activity. For items 1-6, click one response from 1 (Strongly Disagree) to 5 (Strongly Agree). For items 7-8, provide the most accurate response for each item.

1. Facebook is part of my everyday activity.
2. I am proud to tell people I’m on Facebook.
3. Facebook has become part of my daily routine.
4. I feel out of touch when I haven’t logged onto Facebook for a while.
5. I feel I am part of the Facebook community.
6. I would be sorry if Facebook shut down.
7. Approximately how many TOTAL Facebook friends do you have?

_______________ Facebook Friends

8. In the past week, on average, approximately how many HOURS AND MINUTES PER DAY have you spent actively using Facebook?

_______________ Hour (s) ______________ Minute (s)

Note: Responses to all eight items was standardized and summed to create an index of the intensity of Facebook use
Appendix D
Friendship Maintenance Scale for Friend (Face-to-face)

**Instructions:** People can do a variety of things to maintain their friendships in a state that they are satisfied with. The following items concern things that your close friend might engage in during face-to-face communication to maintain your friendship. Please indicate your level of agreement or disagreement with the following statements about your close friend’s face-to-face maintenance behaviors. Click one response from 1 (Strongly Disagree) to 7 (Strongly Agree).

Identical to items developed by: Oswald, Clark, and Kelly (2004)

A. Positivity
1. My friend expresses thanks when I do something nice for him/her.
2. My friend tries to make me laugh.
3. My friend tries to be upbeat and cheerful when he/she is together with me.
4. My friend reminisces about things we did together in the past.
5. My friend returns my messages.

B. Supportiveness
1. My friend tries to make me ‘feel good’ about who I am.
2. My friend lets me know that he/she accepts me for who I am.
3. My friend supports me when I am going through a difficult time.
4. My friend provides me with emotional support.
5. My friend lets me know that he/she wants the relationship to last in the future.

C. Openness
1. My friend shares his/her private thoughts with me.
2. My friend gives advice to me.
3. My friend shows signs of affection towards me.
4. My friend repairs misunderstanding with me.
5. My friend has intellectually stimulating conversations with me.

D. Interactions
1. My friend works together with me on jobs or tasks.
2. My friend does favors for me.
3. My friend makes an effort to spend time together even when he/she is busy.
4. My friend celebrates special occasions together with me.
5. My friend visits my home.

Identical to one of the six subscales in the Negative Maintenance Scale developed by: Dainton and Gross (2008)

E. Avoidance
1. My friend avoids me when he/she does not want to deal with me.
2. My friend avoids interacting with me when I am angry with him/her.
3. My friend avoids topics that lead to arguments.
4. My friend will not talk about a subject if it upsets him/her.
Appendix E  
Friendship Maintenance Scale for Friend (Facebook)

Instructions: People can do a variety of things to maintain their friendships in a state that they are satisfied with. The following items concern behaviors that your close friend might engage in Facebook to maintain your friendship. Please indicate your level of agreement or disagreement with the following statements about your close friend’s Facebook maintenance behaviors. Click one response from 1 (Strongly Disagree) to 7 (Strongly Agree).

Adapted from items developed by: Oswald, Clark, and Kelly (2004)

A. Positivity
1. My friend expresses thanks on Facebook when I do something nice for him/her.
2. My friend tries to make me laugh on Facebook.
3. My friend tries to be upbeat and cheerful with me on Facebook.
4. My friend reminisces about things we did together in the past on Facebook.
5. My friend returns my Facebook messages.

B. Supportiveness
1. My friend tries to make me ‘feel good’ about who I am on Facebook.
2. My friend lets me know on Facebook that he/she accepts me for who I am.
3. My friend supports me on Facebook when I am going through a difficult time.
4. My friend provides me with emotional support on Facebook.
5. My friend lets me know on Facebook that he/she wants the relationship to last in the future.

C. Openness
1. My friend shares his/her private thoughts with me on Facebook.
2. My friend gives advice to me on Facebook.
3. My friend shows signs of affection towards me on Facebook.
4. My friend repairs misunderstanding with me on Facebook.
5. My friend has intellectually stimulating conversations with me on Facebook.

D. Interaction planning
1. My friend makes plans over Facebook (e.g. through FB chats/groups/messages/apps) to work together on jobs or tasks.
2. My friend makes plans over Facebook (e.g. through FB chats/groups/messages/apps) to do favors for me.
3. My friend makes plans over Facebook (e.g. through FB chats/groups/messages/apps) to spend time together even when he/she is busy.
4. My friend makes plans over Facebook (e.g. through chats/groups/messages/apps) to celebrate special occasions together with me.
5. My friend makes plans over Facebook (e.g. through FB chats/groups/messages/apps) to visit me at home.
Adapted from one of the six subscales in the Negative Maintenance Scale developed by: Dainton and Gross (2008)

E. Avoidance
1. My friend avoids me in Facebook when he/she does not want to deal with me.
2. My friend avoids interacting with me in Facebook when I am angry with him/her.
3. My friend avoids topics in Facebook that lead to arguments.
4. My friend will not talk about a subject in Facebook if it upsets him/her.

Identical to two of the four subscales in the Facebook Relationship Maintenance Strategies developed by: Vitak (2012)

F. Social information seeking
1. My friend uses Facebook to find out things we have in common.
2. My friend uses Facebook to get to know me better.
3. My friend learns about big news in my life from Facebook.
4. My friend keeps up to date on my day-to-day activities through Facebook.
5. My friend checks/reads when I post updates to Facebook about my day-to-day activities.

G. Passive browsing
1. My friend visits my Facebook profile page.
2. My friend browses my Facebook photo album.
3. My friend browses my Facebook profile page to see what I have been doing.
4. My friend browses photo albums posted in my Facebook profile.
Appendix F
Friendship Maintenance Scale for Respondent (Facebook)

Instructions: People can do a variety of things to maintain their friendships in a state that they are satisfied with. The following items concern behaviors that you might engage in Facebook to maintain your friendship. Please indicate your level of agreement or disagreement with the following statements about your Facebook maintenance behaviors. Click one response from 1 (Strongly Disagree) to 7 (Strongly Agree).

Adapted from items developed by: Oswald, Clark, and Kelly (2004)

A. Positivity
1. I express thanks on Facebook when my friend does something nice for me.
2. I try to make him/her laugh on Facebook.
3. I try to be upbeat and cheerful with him/her on Facebook.
4. I reminisce about things we did together in the past on Facebook.
5. I return his/her Facebook messages.

B. Supportiveness
1. I try to make my friend ‘feel good’ about who he/she is on Facebook.
2. I let my friend know on Facebook that I accept him/her for who he/she is.
3. I support my friend on Facebook when he/she is going through a difficult time.
4. I provide my friend with emotional support on Facebook.
5. I let my friend know in Facebook that I want the relationship to last in the future.

C. Openness
1. I share private thoughts with him/her on Facebook.
2. I give advice to him/her on Facebook.
3. I show signs of affection towards him/her on Facebook.
4. I repair misunderstanding with him/her on Facebook.
5. I have intellectually stimulating conversations with him/her on Facebook.

D. Interaction planning
1. I make plans over Facebook (e.g. through FB chats/groups/messages/apps) to work together with him/her on jobs or tasks.
2. I make plans over Facebook (e.g. through FB chats/groups/messages/apps) to do favors for him/her.
3. I make plans over Facebook (e.g. through FB chats/groups/messages/apps) to spend time together even when I am busy.
4. I make plans over Facebook (e.g. through FB chats/groups/messages/apps) to celebrate special occasions together with him/her.
5. I make plans over Facebook (e.g. through FB chats/groups/messages/apps) to visit him/her at home.
Adapted from one of the six subscales in the Negative Maintenance Scale developed by: Dainton and Gross (2008)

E. Avoidance
1. I avoid my friend on Facebook when I do not want to deal with him/her.
2. I avoid interacting with him/her on Facebook when he/she is angry with me.
3. I avoid topics on Facebook that lead to arguments.
4. I will not talk about a subject on Facebook if it upsets me.

Identical to two of the four subscales in the Facebook Relationship Maintenance Strategies developed by: Vitak (2012)

F. Social information seeking
1. I use Facebook to find out things we have in common.
2. I use Facebook to get to know my friend better.
3. I learn about big news in my friend’s life from Facebook.
4. I keep up to date on my friend’s day-to-day activities through Facebook.
5. I check/read when my friend post updates to Facebook about his/her day-to-day activities.

G. Passive browsing
1. I visit my friend’s Facebook profile page.
2. I browse my friend’s Facebook photo album.
3. I browse through my friend’s Facebook profile page to see what he/she has been doing.
4. I browse photo albums posted in my friend’s Facebook profile page.
Appendix G
Dialectical Contradiction Scale

Adapted from four of the six subscales in the Dialectical Contradiction Scale developed by: Baxter and Simon (1993).

Instructions: The following items describe issues, challenges and difficulties that may characterize your friendship. Please rate your level of agreement or disagreement with the following statements about your friendship. Click one response from 1 (Strongly Disagree) to 7 (Strongly Agree).

A. Dialectical contradiction of openness
   1. Our friendship would be better off if certain things were left unsaid between us.
   2. We are too honest with each other.
   3. We tell each other too many private thoughts.
   4. We know things about each other that we would be better off not knowing.

B. Dialectical contradiction of closedness
   1. We need to express more openly to each other what we are thinking or feeling.
   2. We need to be more direct with each other in saying what’s on our minds.
   3. We keep too many secrets from each other.
   4. We need to share our thoughts with each other more.

C. Dialectical contradiction of autonomy
   1. Our friendship suffers because of our individual goals or needs.
   2. We don’t know each other as much as we need to.
   3. We live too separate lives and don’t have enough time together.

D. Dialectical contradiction of connection
   1. The friendship is detracting from things we need or want to do as separate individuals.
   2. Our friendship is suffocating us as individuals.
   3. Our friendship hinders our freedom to do things as separate individuals.
   4. Our individual identities have become lost as a result of our friendship.
Appendix H
Horizontal and Vertical Individualism and Collectivism Scale

Identical to items used by:
Sivadas, Bruvold and Nelson, 2008

Instructions: People tend to hold different values as their guiding principle in relating with others. Please judge the following value items on the extent to which they constituted a guiding principle in your life. Click one response ranging from 1 (Strongly Disagree) to 7 (Strongly Agree).

1. My happiness depends very much on the happiness of those around me. (HC)
2. I would do what would please my family, even if I detested that activity. (VC)
3. I usually sacrifice my self-interest for the benefit of my group. (VC)
4. I enjoy working in situations involving competition with others. (VI)
5. The well being of my co-worker/friends is important to me. (HC)
6. I enjoy being unique and different from others in many ways. (HI)
7. Children should feel honored if their parents received a distinguished award. (VC)
8. I often do my “own thing”. (HI)
9. Competition is the law of nature. (VI)
10. If a co-worker/friend gets a prize, I would feel proud. (HC)
11. I am a unique individual. (HI)
12. I would sacrifice an activity I enjoy very much if my family did not approve of it. (VC)
13. Without competition it is not possible to have a good society. (VI)
14. I feel good when I co-operate with others. (HC)

Note: Horizontal Collectivism = HC, Vertical Collectivism = VC, Horizontal Individualism = HI, and Vertical Individualism = VI.
Appendix I
Relationship Assessment Scale (RAS)

Adapted from the items developed by:
Hendrick (1988)

Instructions: The following contain different items concerning relationship satisfaction in your friendship. Please indicate your level of friendship satisfaction. Click the most appropriate response for each item.

How well does your friend meet your needs?
1 2 3 4 5 6 7
Poorly Average Extremely

In general, are you satisfied with your friendship?
1 2 3 4 5 6 7
Very Average Very Satisfied

How good is your friendship compared to most?
1 2 3 4 5 6 7
Poor Average Excellent

How often do you wish you hadn’t gotten into this friendship? *
1 2 3 4 5 6 7
Never Sometimes Very Often

To what extent has your friendship met your original expectations?
1 2 3 4 5 6 7
Hardly at all Average Completely

How much do you like your friend?
1 2 3 4 5 6 7
Not Very Average Very Much

How many problems are there in your friendship? *
1 2 3 4 5 6 7
Very Few Average Very Many

Note: * = Reverse coded
Appendix J

Correlation Matrix for Selected Independent Variables with the Dependent Variable

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<th>Variable</th>
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* p < .05.
** p < .01.
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