Visible Pathways: A Life Course Perspective on Technology Use and Relationship Reconnection

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THESIS
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DEDICATION

This dissertation would not have been possible without the loving support of my family, and so it is dedicated to you...

To Tom, my understanding and incredibly patient husband and partner - your total support and encouragement allowed me to pursue my vision. This achievement belongs to you too.

To Molly, Ryan and Patrick - you believed, and never doubted, that I would accomplish this goal which kept me moving forward despite times of my own uncertainty. May you take this experience as inspiration for you, too, to reach for your dreams.

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SUMMARY

This study explores the intersection between the life stage and internet use by using a mixed methods approach. The first stage of research employed a repeated, cross-sectional analysis of two secondary, large scale survey datasets to examine trends and patterns of internet use among and between various birth cohorts of younger, midlife and older adults. Seeking complementarity, or the elaboration and illustration of these patterns, data from interviews with 23 internet-using midlife adults between the ages of 45 and 65 years was analyzed in the second phase to surface attitudes toward the internet, social network sites, and privacy and the strategies employed in connecting with others using these media. The theoretical lens of the life course served as a foundational framework, providing an essential bridge between adult developmental progression and the socio-historic context of the emergence of the internet as an everyday communication medium.

Analysis of the survey data highlighted that as age increases, internet use declines rapidly and that age is strongly related to the adoption of individual practices and technologies such as social network sites, listening to music online and microblogging. But because engagement in various activities is not uniform with midlife and older adult birth cohorts, as might be expected with gradually increasing rates of digital skills and access, the presence of other influences was also indicated.

Analysis of the interview data provided illustration of some of these influences with respect to midlife adults. Midlife adults have a heightened temporal attentiveness tied to the recognition of life’s finitude and one’s own mortality, and this creates a pervasive awareness of how specific technologies are perceived, used and experienced. Uses and applications that
propagate trivial information, such as microblogging or status updates that detail moment-by-moment activities, are seen as having little added-value. Other activities are perceived as time efficient or rich in their ability to bridge to earlier memories and places. The temporal orientation intersects with life reflection and review processes at midlife as well, often leading to an assessment of important relationships and giving rise to renewed efforts of using internet technologies to connect with others, especially with those from one’s past.

A tension between identity expression and privacy arises online and midlife adults rely on prior experience to navigate the conflict, resulting in the use of social strategies, rather than technological interventions, as boundary management tools. The social role transition characteristic of midlife lends itself to a keen awareness of the multiple contexts and audiences that are addressed online. Consequently, midlife adults attempt to draw clear delineations between what they perceive as personal and professional contexts.

Interpersonal connection is a primary driver of the use of internet communication technologies at midlife, and initial participation is often prompted by younger friends and family. Once engaged, midlife adults actively employ social network sites to communicate with extended family, friends and professional colleagues due to their functional efficiency. The operational characteristics of email and social network sites, such as contextual search and an asynchronous nature, invite and support the reconnection of dormant relationships in novel and significant ways. Reconnection of these lapsed ties at midlife illuminates a form of internet use that diverges from that of younger persons. Reconnection with truly dormant ties is rare for young people: shorter life spans mean fewer opportunities to experience these events, but
because these technologies—designed to maintain weaker forms of connection—are introduced at earlier points in life, they may never be experienced.
I. INTRODUCTION

Two seemingly unrelated incidents helped to crystallize the focus of this research. The first involved two 70+ year old high school friends and the use of email to reconnect with long ago classmates. Meredith\(^1\), the first of the two, had taken a fall while travelling and was confined to a nursing home during her rehabilitation, unfortunately far from her family support network. Realizing that her friend’s stay would be brightened by a card or note from some “long-lost” high school friends, Mary Pat, the second of the pair, sent out a recruitment email to a number of former classmates whose addresses she had gathered at their most recent high school reunion. This request was then forwarded on by recipients to other members of the class. Imagine both women’s surprise when over 100 cards, notes and small gifts arrived at the nursing home from across the US, many from friends who had not been in touch with either woman in decades. The good wishes and messages became a form of social support and encouragement during Meredith’s recuperation process.

The second incident encompassed a dialogue between parents as they moved their children into a college dormitory. At a gathering of the parents of the newly arrived students, one alumna parent relayed to the other that her classmates were using Facebook, a social network site, just as the incoming freshmen do—to connect with their classmates. She commented that her former college classmates were “slowly gathering on Facebook.” And, despite that many relationships had lapsed in the intervening years between their college days and the present, friendships were beginning to regenerate, in some cases after a gap of almost

\(^1\) Names have been changed to protect the identity of the participants.
20 years. Facebook had become a “place” to reunite and reconnect, enabling the sharing of information and memories across time and space.

These apparently unconnected incidents capture two provocative dynamics. First, digital communication media, in these instances email and Facebook, possess specific attributes that played an important role in the reconnection of inactive portions of each individual’s ego-centric social network\(^2\). Email enabled an efficient, simultaneous broadcast communication to an ego-centric network of relationships which shared a specific context. The ability of each recipient to forward the message to their own subnets became an effective means of rebroadcast to the broader socio-centric high school network. The display of the email distribution list, collectively reflected in multiple forwarded emails, became the visible manifestation of the group’s socio-centric network, allowing members to discern who was included and, perhaps more importantly, who was left out.

Facebook similarly provides a display of ego-centric social networks. Though users lack the ability to differentiate specific relationship contexts, the associative search functionality of the medium serves a parallel function: users are able to apply known criteria (for example, name and school affiliation or name and a known relationship with a common friend) to pinpoint the identification of a specific individual. Parsing the networks of friends for lost or former contacts creates alternative, visible and navigable pathways to reestablish dormant connections. Because social relationships made throughout an individual’s life are patterned

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\(^2\) Three types of social networks are typically identified by social and behavioral researchers: ego-centric networks; socio-centric networks; and open system networks (Kadushin, 2004). Ego-centric networks are also referred to as personal networks, and all relationships within the network connect to a single node or individual. Socio-centric networks can be thought of as “networks in a box” or networks that are bounded in a closed system, such as all the members of a high school graduating class. Open system networks are networks in which the boundaries are unclear, such as a network of corporations who do business with one another.
around specific contexts such as work, hobbies and interests, and school, the associative and contextual capabilities provided by each medium are important mechanisms to enable connections and reconnections easily and efficiently within socio-centric networks.

Second, the type of connections made in each of these two incidents was uncommon: relationships that had become dormant or inactive over time. Many socio-centric networks contain inactive links, or connections that once existed but are no longer utilized. These reconnections represent a bridge to an individual’s past: the preexisting nature of the relationships underscores a certain temporality to the connections, invoking both the life trajectories of the individuals and the cyclicality of the underlying relationships. These temporal dimensions are intertwined: relationship reconnection can only occur with relationships that have been established and have lapsed, among individuals who have achieved the necessary longevity and life stage at which it is feasible to reestablish some form of connection.

Moreover, these reconnections also represent an important, but largely invisible, phenomenon: a conversion of tie strength. In these examples, the lapsed, inactive ties were converted into weak ties, opening the possibility for the exchange of social resources such as and information and support. Inherent in this conversion is relationship potential: the reconnection can once again lapse, remain in a weak state or develop into a stronger relationship connection. Cyclicality of relationships is not uncommon in the life course of individuals, and research has noted that junctures of relationship regeneration and renewal are often tied to specific life events such as the departure of children from the family home and retirement from the work force (Spencer & Pahl, 2006). Thus, the age or life stage of the individuals involved is not
insignificant, and may provide some meaningful insight into the way these communication technologies are used at varying points throughout the life course.

Viewed in the context of life course studies, these particular relationship reconnections are seen as innovation, or a departure from more traditional practices, in their use of newer forms of information and communication technologies. The socio-historic location of midlife and older adults\textsuperscript{3}, those between the ages of 45 and 75 years, has meant that this group of adults has experienced relationship development paths outside of the influences of the internet, and outside the use of newer communication technologies such as email, search engines and social network sites. Social network sites in particular are seen as a communication medium that supports the creation and maintenance of a larger number of weak connections (Donath, 2007); by supporting the active and passive maintenance of weak and latent ties, social network sites enhance the possibility that these weaker links will become stronger, and thus more valuable, over time (Ellison, Steinfield & Lampe, 2007; Pearson, 2009). Research connected with how these technologies facilitate relationship reconnections, and how use of these technologies changes throughout the life course with respect to relationships, has heretofore been absent from the literature surrounding internet and social network site use.

With the highest rates of internet adoption (Pew Internet, 2010c), it is perhaps no surprise that teens and young adults have been a primary focus in much internet-related research to date. Research themes have reflected the issues and internet-related activities that

\textsuperscript{3} In this work, the term “midlife adult” specifically connotes that group of individuals between the ages of 45 and 65, and its use specifically is distinguished from the term “older adults,” which has generally been used by scholars in gerontological literature to refer to those individuals aged 65 to 74 years (e.g., Rogers, Mayhorn & Fisk, 2004; Wahl & Mollenkopf, 2003). As detailed in Chapter 3, midlife adults are of particular importance to this research because individuals in this cohort had generally transitioned from the education and training phase of their life course prior to the emergence of internet use in everyday use.
concern young people, including the exploration of identity (boyd, 2006; Donath, 2007; Donath & boyd, 2004; Turkle, 1995; Valkenburg & Peter, 2008), surveillance as a playful activity (Albrechtslund, 2008), disclosure and privacy (Gross & Acquisti, 2005; boyd & Heer, 2006) and the use of the internet as play (Bruner & Kumar, 2005; Lee, Cheung & Chen, 2005; Rosen & Sherman, 2006; van der Heijden, 2004). The technological practices that teens and younger adults use to build and maintain social relationships have also been considered in sociological and communication literature (e.g., Bumgarner, 2007; Donath & boyd, 2004; Ellison, Steinfield & Lampe, 2007; Hargittai, 2007; Huffaker & Calvert, 2005; Joinson, 2008; Raacke & Bonds-Raacke, 2008), however these explorations of the use of communication technologies, and social network sites in particular, to maintain relationships is centered more on establishment of new connections, rather than regeneration of lost ones. A focus on the uses and activities of young persons presents a form of temporal research bias as the preoccupation with the practices of a younger population has excluded from study the differentiated use that may occur at later points in life.

Midlife and older adults have been slower to adopt the internet and related applications and technologies than younger adults, which perhaps may explain why their practices have been less well-studied as a distinct population. In some instances, researchers have viewed midlife and older adults’ lower participation rates in new technologies as a literacy issue, reducing the differences in practices as a proficiency dichotomy (Harrison & Rainer, 1992; Selwyn, Gorard, Furlong & Madden, 2003; Teo, 2001). This approach however diminishes the cultural and cohort differences which surface in response to progressively mediated
communications. Interpreted alternatively, the differences in use may also signal that such as embedded relational practices and value concerns may also impact use.

More recently, research has pointed to increasing participation rates in newer communication technologies by midlife and older adults (Zickuhr, 2010). Subtle distinctions in attitudes toward and use of specific applications have been detected when comparing older and younger adult users, especially with social network site use and in the performance of household activities such as shopping and banking (Jones & Fox, 2009; Madden, 2010). The two examples discussed at the beginning of this chapter illustrate how the specific attributes a technology may be influential in its use at a later point in the life course or in the life cycle of a particular relationship. This leads to questions of whether practices related to communication technologies and perceptions of specific benefits or affordances may differ between older and younger users, and how the context of the life course might influence use at various points.

The differences in technology habits between younger persons and older adults, while widely acknowledged, are surprisingly under-documented. For example, the use of social network sites is much more pervasive for younger persons than midlife and older adults (Jones & Fox, 2009), but do other technological applications and practices, such as email, blogging and text messaging, also diverge in their usage by mature and younger populations? In what uses and habits are the two groups similar? Can these differences be explained through demographic characteristics alone such as educational attainment and income levels, or are there cultural norms and values, such as concerns about privacy and security, which shape these practices? How are the attributes of various technologies perceived as useful by mature adults, and how do these compare to what we know about the view of younger adults? How do
life experiences and longevity shape these perceptions, and how might life experience factor into perceptions of how various media might be used? Younger adults typically conduct many relationships of varying quality across multiple digital media forms, but how do the relationships of mature adults benefit through the use of technology, and in which ways are they diminished?

The process of developing personal relationships is fundamentally a communicative act: it necessarily contains elements of information exchange, occurring through verbal, nonverbal and environmental channels (Morton & Douglas, 1981), but also contains aspects of ritual within a social context (Carey, 1989). As a critical function to the development and maintenance of interpersonal relationships (Taylor & Altman, 1987), communication processes and their quality are strongly associated with relationship satisfaction (Meeks, Hendrick & Hendrick, 1998; Stanley, Markman & Whitton, 2002) and personal well being (see Segrin, 2005). Increased communicative interactions have been shown to result in increased attraction and relationship solidarity (Homans, 1974). Thus, the use of communication technologies which facilitate interaction or result in increased interaction between individuals is socially relevant due to its corresponding impact on relationships (Adams & Stevenson, 2004). These relational effects of mediation are of particular interest to communication researchers, along with the factors that shape media use and influence its users’ perceptions. One way to understand these effects is to focus on specific uses of communication technologies in relationship exchanges.

It is a focus on the practical qualities that underlie social exchanges, an orientation to the ordinary activities that everyday people engage in to manage interpersonal problems and make decisions in groups, which is perhaps the distinguishing hallmark of communication
research, setting it apart from the disciplinary research of such fields as biology or economics (Craig, 2010). This research carries through on this focus, and attempts to connect everyday communicative practices using what are now considered mundane communication technologies, and relate these to the ordinary practices of developing and maintaining interpersonal relationships.

Specifically, this research explores the unique approaches to and perspectives that midlife adults bring to their use of specific communication technologies such as email and social networking sites, and their application in building, maintaining and regenerating social relationships. It is intended to fill a gap in the literature on the technological practices of midlife adults as differentiated from their younger counterparts, and also on how various communication technologies might be utilized at different stages in the life course. Of particular interest will be the use of technology by mature adults to regenerate dormant relationships and maintain weak relationships, in contrast to those studies of older adults which involve the use of technology as a mechanism to enhance social and emotional support (e.g., Selwyn et al., 2003; see also Blaschke, Freddolino & Mullen, 2009 on the use of information and communication technologies). Also of interest will be how the experiences of longevity and the life course mediate the use of various technologies, and whether these experiences alter perceptions of the attributes that individual technologies offer. Results related to these considerations may provide insight on the acceptance or adoption of specific applications by various user groups, and also on how the same might be utilized differently at various points in the life trajectory. It is anticipated that the experiences of midlife adults and internet-related
mediation of their important relationships may offer important contrasts to the practices related to the social connectivity of younger persons.

The exploration of the use of newer communication technologies by midlife adults for relationship creation, maintenance and regeneration requires a theoretical framework based on two key concepts, life course and interpersonal relationships. The following section will review the literature related to these concepts and their intersections with technology use.
II. LITERATURE REVIEW

The use of communication technologies by mature adults to create, maintain and regenerate relationships can be uniquely viewed through a life course perspective, which considers not only the social and historical context of the individual, but also the temporal dimension provided by life trajectories and experiences over the life span. The first section in this chapter reviews the key principles of life course theory, and suggests how it contextualizes this research. The second section describes the research literature on personal relationships and their subtle gradations, typically reflected through the qualities of relationship strength and relationship longevity, and relays how these qualities have been viewed by researchers.

A. Life Course Perspective

Age is an important societal concept as it provides an organizing framework for social institutions such as the family, education, and work and underlies the structure of the legal system with respect to rights, responsibilities and entitlements. Age lends a temporal dimension to the lives of individuals in three important ways: (a) it serves as a chronological and developmental marker within the individual’s life span, from birth to death, approximating the physiological aging process; (b) it serves as a template of the social timetable for the assumption of central social roles and important events such as marriage and retirement; and (c) it serves as a location index in the greater progression of historical and social change indicating, for example, whether an individual was born before or after the Great Depression, World War II or the invention of the internet (Elder, 1975). Shaping even the most mundane of social interactions, an individual’s age significantly factors into his or her behavioral disposition,
notions of self concept and identity, and the setting of goals and expectations (Settersten, 2003a).

In social science research, however, age is often a conflated variable as it represents the effects of each of these three distinct age-related dimensions: (a) the aging effect, or physical and cognitive change associated with maturation; (b) the period effect, or the consequence of influences that occur through time and which tend to be uniform across cohorts; and (c) the cohort effect, or the effect that results from the unique socio-historical time at which the individual (or group of individuals) is born. The life course perspective attempts to segregate out these effects in its recognition that cohorts, or that group of individuals born at the same point in historical time, do not age alike; thus, one goal of life course research is to identify the distinctive experiences that a cohort shares, and also the differential effects these cause between adjacent cohorts (Settersten, 2003b). In other words, by not assuming that today’s mature adult population is merely chronologically older than the younger groups that follow, life course scholarship attempts to identify the processes and mechanisms that underlie age-related effects (Settersten, 2003b).

Life course theory maintains that aging is a process that begins at birth and continues throughout the life span (Elder & Johnson, 2003), and that movement through the developmental process of human life—infancy, adolescence, old age, etc.—does not adequately explain the differences in life outcomes for individuals. Instead, a more holistic approach is required, which connects the macroscopic aspects of social structure and social change with the microscopic dimensions of an individual’s life trajectory and developmental processes (Giele & Elder, 1998). This paradigm, known as life course theory or the life course
perspective, considers an individual’s social and historical contexts, social relationships, personal agency and the timing of and adaptation to major life events into a conceptual framework for explaining differences in life course outcomes for an individual (Giele, 2009; Giele & Elder, 1998).

1. **Principles of Life Course Theory**

Drawing on action theory (Parsons, Bales & Shils, 1953) and Burke’s (1945) “grammar of motives” (Giele, 2009), life course theory is characterized by four key principles that guide research on matters of problem identification and conceptual development (Elder, 1998; Giele & Elder, 1998). The first principle of life course theory is that of historical time and place, which emphasizes that the individual’s developmental path is embedded in and shaped by the socio-historical and geographic location he or she experiences over a lifetime. Social contexts such as geopolitical events like war; economic cycles like a recession; social and cultural influences such as emergence of the internet as a communication medium; and physical contexts such being born into extreme poverty shape an individual’s perceptions, behaviors and choices in an interactive process. Both the general and specific contexts of an individual’s location can be understood to be socially and individually patterned in a way that affects the individual’s life history. Life events, such as birth, marriage or retirement, characterize these patterns and can identify collectives of larger cohorts of people who share such experience at similar points in time. Thus, the cohort is an important concept in life course study, as it delineates a group of individuals who experience a particular event at a specified period in time, such as birth, marriage or becoming a parent (Glenn, 2005; Ryder, 1965). Life course research delineates both the distinctive experiences within cohorts, as well as the differential effects between them.
(Rostow, 1978; Ryder, 1965), demonstrating that each cohort responds in its own way to a particular phenomenon. Cohorts, then, represent “the link between social change and life course patterns, between historical time and lifetime” (Elder, 1975, p. 179).

The second principle, timing in lives, suggests that the impact of major life transitions or events is contingent on when they occur in a person’s life and how successfully he or she adapts to these changes to reach individual or collective goals. The life course perspective recognizes that work is the central organizing activity in modern life. Thus, scholars frequently partition the life course into three distinct periods: education and training; continuous work activity; and leisure and the absence of work (Settersten, 2003b). The timing and sequencing of major life events such as accumulating education and wealth, transitioning in and out of the work force, or marriage and childbearing have long term consequences and affect subsequent life transitions. Off-age timing of life events—such as becoming a teenage parent or marrying very early—and the spacing and duration of events can be a source of life disadvantage and socioeconomic consequence, as it decreases the chances for success in other goals such as completing an education. In addition, sociologists recognize that the effects of advantage and disadvantage often accumulate over time, a condition referred to as the “Matthew effect” (Merton, 1968). Thus, the concepts of timing, sequencing, spacing, density and duration are important parameters for describing and analyzing life experiences and trajectories (Settersten, 2003b).

Linked lives is the third principle of life course theory, and establishes that lives are interdependent and that social and historical contexts are reflected in an individual’s reciprocal relationships with family and his or her broader network of social ties. Individual development
and outcomes are bound and shaped by these relationships (Elder, 1998) as, for example, the stresses of both macro-level events such as war and micro-level events such as the death of a parent can be mitigated or aggravated by the network of emotional and economic support that relationships provide or do not provide.

Finally, the principle of *human agency* states that individuals are active agents who construct their own life trajectories by mediating social structures, making individual life choices, and setting goals. While the ability to make specific choices may depend on historical and social contexts, this principle suggests that the individual adapts his or her behavior with the opportunities and constraints of the surrounding environment to meet his or her own needs. Thus, life course scholarship, in its view of individual development, seeks to integrate perspectives oriented toward personal agency with those that emphasize the dominance of social structures.

In the quest generate knowledge and understanding, life course studies are distinguished by an approach that employs multiple and systematic comparisons, both of the individual at various points in the life span and between cohorts, currently, historically and cross-culturally. The goal of such research is to identify the processes and mechanisms through which differences are created, and to understand how these uniquely impact the development process and life outcomes.

2. **Life course perspective and technology use**

Research on technology practices grounded in the life course perspective is concentrated in the fields of gerontology, sociology and computer science. In examining this literature, two major themes emerge. The first revolves around the dimensions of a perceived
digital divide between older and younger adults. This literature encompasses the need for system design that incorporates the realities of aging on physiology and cognition (Charness, 2003; Freese, Rivas & Hargittai, 2006; Rogers, Stronge & Fisk, 2006; Schieber, 2003), issues of connectivity and skills acquisition (Charness & Holley, 2004; Selwyn et al., 2003), and the significance of perceptions and attitudes toward technology adoption (Czaja et al., 2006; Loges & Jung, 2001). While these areas encompass dimensions of technology use over the life course, and particularly at later stages in life, the focus of these studies is gaining access to technology so that its benefits might be realized, and not how practices of engagement may differ at various life stages.

The second major theme of technology use in the life course perspective focuses on the use of assistive technologies and how these qualitatively impact life outcomes. Research in this area concentrates on how the use of technology impacts factors such as quality of life (Ahn, Beamish & Goss, 2008; Wahl & Mollenkopf, 2003) and how technologies may alter the experience and ordering of life events and transitions such as parenthood (Friese, Becker & Nachtigall, 2008) and social structures such as work (Chan, Marshall & Marshall, 2001). This focus on outcomes is a major emphasis of life course scholarship; however, as life outcomes are typically assessed at later life stages (i.e., after age 65), much of the research on technology and the life course centers on older adults. Areas yet to be explored include how technology use differs at various life stages, and comparative work on how specific technologies, encountered at differing points in the life trajectory, affect life outcomes.
3. Summary

Taken together, the four principles of life course theory provide a conceptual framework for examining the use of communication technologies by midlife adults for the creation and maintenance of their social relationships, and in particular with relationship reconnections, in three important ways. First, life course theory recognizes that midlife adults are situated in a specific time and place, and that adults in this life phase experienced the emergence of the internet as a significant communication medium at a different point in their life trajectory than that of younger persons. The emergence of the internet as an everyday technology occurred subsequent to the educational phase of most of the group’s members; therefore learning opportunities to acquire the necessary skills for use were reduced. Importantly, midlife adults had previously created, maintained and regenerated social relationships under conditions that were not mediated by internet communication technologies. Consequently, life course theory suggests that the social and individual patterns of both relationship formation and maintenance and internet usage by midlife adults are expected to be distinct from those of other individuals who may have encountered the medium at other points in the life trajectory, especially those who encountered it in an educational setting.

Second, life course theory anticipates that the social and historical contexts of an individual’s life will be reflected in his or her relationships, and the internalization and integration of these contexts mitigate and aggravate the network of support that relationships provide. Thus, the emergence of the internet as a significant means of communication would be foreseen by life course theory as potentially affecting an individual’s network of social relationships by enabling more or fewer connections, or by impacting the quality of those
connections. Further, the timing in life of the internet’s arrival would be seen as having differing effects on these relationships, enabling greater or lesser support to be received and transmitted at the point of significant life events and transitions. Under life course theory, how effectively a phenomenon is internalized and integrated into an individual’s life and network of relationships potentially influences life outcomes, positively or negatively. Thus, the timing of the introduction of new communication media within the life trajectory may be a significant factor in not only whether and how each is used, but may ultimately impact in life outcomes because of the support that is diminished or enabled through use.

Finally, life course theory emphasizes that the significance of life transitions or events is contingent on when they occur in an individual’s life. This further contextualizes how the emergence of the internet as a communication medium may influence and its use and perception by mature adults. The choice of using of the internet for specific purposes such as relationship reconnections may also be impacted by specific life stages and events, such as a transition from the work place to retirement, the presence of children in the home, or a change in marital status. In their work on friendship, Spencer and Paul (2006) note periods of relationship renaissance at the juncture of empty nesting and retirement, providing evidence of the importance of timing of life stages for particular activities. This evidence implies that the intersection of the development of individual relationships and movement along the life trajectory might prove fertile for examining individual agency and outcomes of internet use.

In sum, research that considers communication technology practices through the lens of the life course, that which examines how communication technology practices may differ at
varying points in the life course, would fill a void in the literature and also provide a deeper understanding of the interactive effects between life stage and technology use.

**B. Informal, Personal Relationships**

The linked lives principle of life course theory acknowledges the importance of the relationships that exist between individuals, and implicitly recognizes that various forms of relationships provide access to distinct varieties and amounts of resources and levels of support. Gradations of relationships are difficult to capture however, because of the subjective nature of a relationship, i.e., that its degree of strength is based on the perception of one or both individuals (Allan, 1992). Friend relationships span across a continuum of intimacy, encompassing a range of forms from acquaintances to casual friendship to close friendships (Blieszner & Roberto, 2004), and terms such as “social connections,” “social ties,” and “friendships” are used interchangeably to designate these informal, personal associations (Fingerman & Lang, 2004). The most well-developed body of scholarly work on relationships concerns the sociological treatment of friendship; consequently this work is reviewed in the following section. Social network researchers also examine relationships as a structural component of knowledge and resource networks; associated attempts to gauge level of relational support have resulted in a widely-encompassing characterization of relationships as ties; therefore the second part of this section discusses the concept of ties and their various forms.

1. **Friendship**

While friendship, or informal personal relationships, is a subject that is clearly a significant aspect to the lives of many individuals, it has received surprisingly little sociological
attention (Adams & Allan, 1998; Willmott, 1987). There are few external grounds to characterize friendship because what matters in a relationship is the perspective of one or both individuals. As a consequence, there is no clear agreement on its precise definition (Allan, 1992; Matthews, 1986; Spencer & Pahl, 2006; Willmott, 1987), and researchers have tended to concentrate on limited categories of friendships such as an individual’s identification of “best” or “true” friends, or a specified number of people with whom an individual has socialized within a recent period of time (Allan, 1992; Willmott, 1987). The friendships of children, and their developmental significance, have been studied more actively than those of adults (Blieszner & Adams, 1992; Blieszner & Roberto, 2004; Hartup & Stevens, 1997; Pahl, 2000), and studies of adult friendships have centered on women (see O’Connor, 1992), the role friendship plays in social support for older adults (see Allan, 1979; Matthews, 1986; Willmott, 1987), the differing natures of friendship and kinship (Allan, 1979; Pahl & Spencer, 2004) and friendship differences between members of different socio-economic groups (Allan, 1979; Willmott, 1987). Almost all of this research has focused on active, rather than dormant or latent, relationships (Matthews, 1986).

Friendship, from a life course perspective, considers two temporally-related and interdependent trajectories within the context of a larger socio-centric network: the developmental path of the individual with respect to social, emotional and psychological experiences and abilities; and the evolutionary progression of a relationship along a continuum of intimacy (Blieszner & Roberto, 2004; Fingerman & Lang, 2004). A personal relationship is viewed within this framework, as a dynamic entity that reflects each of the influences of personal development, life stage experiences, and relationship phase (Blieszner & Roberto,
Friendship is seen as distinct from other types of relationships due to its voluntary and non-exclusive nature, contrasting sharply with forms such as: familial relationships, which often entail specific norms and obligations shaping its structure, duration and dynamics; romantic relationships, which entail exclusivity and a limited duration or conversion to a familial relationship; and professional relationships, which are often influenced in their composition by larger social and economic forces.

A few themes emerge from the research on friendship. First, the context of relationships, that is the circumstances under which they are generated, plays an important role in their significance. Simmel (1955) identified these contextually relevant relationship subnets as social spheres, suggesting that they develop as a function of the individual’s interests, age and gender, and social structures such a family, religion and cultural interests. Others have extended this notion, maintaining that relationships arise around a broader array of focal points that might include individuals, places, social positions, activities or groups (Feld, 1981; Feld & Carter, 1998; Kadushin, 1966). In particular, social institutions that individuals routinely participate in such as universities, child care centers and synagogues provide a strong foundation for friendships (Matthews, 1986; Small, 2009). Educational settings and workplaces are particularly meaningful for organizing and maintaining relationships, as evidenced by the multitude of networks of alumni groups and ex-coworkers that meet formally and informally once a group of individuals depart a particular organization or institution. The concept of relational multiplexity (Haythornthwaite, 1998; Wellman, 1988) builds on notion of social spheres (Simmel, 1955) and relationship foci (Feld, 1981; Feld & Carter, 1998; Kadushin, 1966) and suggests that the more relations shared by two individuals, and the more frequently the
relations are maintained, the stronger and more intimate the bond between them will be. Thus, two individuals sharing the bonds of being co-workers and attending weekly church meetings may share a stronger bond than two individuals who merely meet up at annual meetings of a professional organization or share a common religious affiliation.

Along these lines, life stages and events such as attending school, family formation and dissolution, work and retirement also provide considerable opportunities for developing, maintaining and ending friendships (Spencer & Pahl, 2006; Rawlins, 1992; Willmott, 1987). Major life transitions such as the entering and exiting of major romantic partnerships and having children serve as critical junctures for the strengthening and weakening of friend relations, and several studies have addressed the effects of these transitions on the development of friendship networks (Feld & Carter, 1998; Lamme, Dykstra & Broese van Groenou, 1996; Leik & Chalkley, 1997). For mature adults especially, life events such as children leaving the home and retirement serve as points of “relationship renaissance” as these adults once again have time to “re-establish contact with fossil friends, nurture ‘pick up where you left off’ friends,” and make entirely new friendships based on new activities and hobbies (Spencer & Pahl, 2006, p.98).

Second, relationships that endure over time become increasingly important as the individual ages (Matthews, 1986; Rawlins, 1992; Spencer & Pahl, 2006), oftentimes despite geographic distance and sporadic contact. “Old” friends are often considered “best” friends (Rawlins, 1992), but friendships that lie dormant for a period of time and are then reactivated when circumstances become favorable also are often characterized similarly (Matthews, 1986). There may be no interaction between friends for years because of situational factors
(geography, inaccessibility), and yet the friendship may continue to provide an important source of identity validation (O’Connor, 1992).

Finally, several characteristics of modern societies have complicated the friendship process, thus communication strategies are important to friendship maintenance (Blieszner & Adams, 1992; Duck, 1991). Increasing rates of short-term cohabitation, divorce and remarriage create difficulty in maintaining friendships throughout the life course; higher levels of geographic mobility, longer work hours and commuting times, and increases in business travel hinder the maintenance of friendships made in other contexts (Spencer & Pahl, 2006). Communication is a major component of maintaining longer distance relationships, and the frequency of contact and communication mechanism (email, periodic face to face visits, annual Christmas cards) factor heavily in the strength of the relationship connection (Finchum, 2005). Adams (1998) argues that changes in technology that facilitate increased contact between individuals contributes to increased solidarity in relationships, though she notes that, with a few exceptions, the effects of electronic communication on friendship are rarely studied. Several researchers have studied the qualitative differences between online and offline friendships (Buote, Wood & Pratt, 2009; Chan & Cheng, 2004; McKenna, Green & Gleason, 2002; Parks & Floyd, 1996), however these studies have tended to compare relationships that were initiated in the online environment with those that arose offline in a dichotomous manner, and did not examine online activity in friendships that concurrently existed in a face-to-face environment.

What is also evident through a review of the friendship literature is that, with a few exceptions (e.g., Duck, 1977; Greif, 2009; Spencer & Pahl, 2006) research has tended to focus is
on “close” or “true” friends or kin (Matthews, 1986). The effect of this concentration has been to curtail attention on the gradation of relationships and diminish the significance of weaker relationships despite their role in providing informational, social or developmental support (Adelman, Parks & Albrecht, 1987; Fingerman, 2004; Granovetter, 1973).

Sociologists who have focused on social network analysis have tried to address this oversight through a conceptualization of relationships as ties, and by assigning value to relationships of varying strength and purpose with a quantification of the interactivity that transpires between the nodes. This quantitative characterization dichotomizes relationships into those that are “strong” and those that are “weak,” and overlooks the contextual influences and subtle variance that friendship relationships hold. Viewing relationship connections as ties necessarily incorporates a broader definition than friendship: the use of interaction significance as the classifying condition lacks the contextual basis for distinguishing familial, romantic and professional relationships from more voluntary connections. It also disregards the temporal contexts and trajectories of both individual development and relationship progression. What this characterization does permit, however, is an examination of less strong forms of relationship connection, and thus is of value for examining relationship reconnection. The following section explores the scholarship on relationship ties and the various forms they take.

2. Relationships characterized as ties

   a. Strong, weak and latent ties

   The characterization of interpersonal relationships as “ties” was promoted by Granovetter (1973) in an attempt to provide linkage between the micro-level of the social
relations within small groups and the macro-level of large scale social phenomena such as community organization, social mobility and political structures. He argued that examining the nature of the relationship in the context of social network theory provided greater insight to the understanding of how micro-level social forms such as cliques facilitate larger societal structures such as communities, typically by providing for the transfer of important resources such as information. Granovetter specifically characterized interpersonal relationships as being made up of “strong,” “weak” and “absent” ties, with the relative strength of a tie composed of a “(probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie” (p. 1361). He noted that weak ties provide important and non-redundant access to social capital resources such as information in ways inherently distinct to those provided by strong ties, with the two forms frequently referred to as bridging (weak tie) and bonding (strong tie) capital (Gittell & Vidal, 1998). As simplifying assumptions, he presumed that each form of tie is relatively independent of one another, that ties are “positive and symmetric” (p. 1361, note 2), meaning that and that the amount of time spent together between two individuals serves as a practical indicator of the strength of the relationship, drawing on Homans’ notion that “the more frequently persons interact with one another, the stronger their sentiments of friendship for one another are apt to be” (as cited in Granovetter, 1973, p. 1362). By examining the nature of the relationships between individuals in this manner, Granovetter demonstrated the relevance of weak ties in larger-scale social phenomena such as diffusion of innovation (by using the example of rumor transmission) and social mobility (transmission of job opportunity information).
Adelman, Parks and Albrecht (1987) further explain the importance of weak ties to individuals. They argue that weak ties provide distinctive functions in the social support process: extending access to information, good and services; promoting social comparison with dissimilar others; facilitating low-risk discussions of high-risk topics; and fostering a sense of community (p. 133). Due to their sheer number relative to strong ties, weak ties extend an individual’s “reach” into the community by providing subtle mechanisms for the spread of information, thereby fostering a sense of community; they forge the crucial linkages between clusters of strong ties that make large-scale collaborative action possible. And this abundance is connected with expendability: weak ties are less forgiving of poor behavior than strong ties, hence they perform a behavior regulation function for individuals (Fingerman, 2004). Weak ties tend to serve more limited functions than strong ties (for example, providing debate on a given topic or a comparison to dissimilar others) but by doing so, they contribute to an individual’s sense of self esteem and identity in their service as developmental benchmarks (Fingerman, 2004). And though the support provided through weak links is more limited in scope and restricted by context, it is these very limitations that maintain their importance to the individual: the social distance which naturally occurs in weak ties liberates individuals from the constraints of strong ties that tend to limit change and creativity.

Strong ties, alternatively, may be thought of as those involving larger time commitments, such as close friends and family members, and weak ties are those with which only occasional contact is made, such as friend of a friend or a former co-worker; absent ties includes both lack of an association between individuals and those relationships without substantial significance, such as a “‘nodding’ relationship between people living on the same
street” (Granovetter, 1973, p. 1361). In a research setting, various measures of tie strength have been used to indicate the strength of ties, including: the unidirectional characterization (i.e., one member of the relationship dyad) of the “closeness” of a relationship (close friends and relatives as strong ties versus neighbors or friends of friends as weak ties); frequency of contact (more frequent contact indicates a stronger tie); bidirectional acknowledgement (i.e., both members of the relationship dyad) of the association; duration of the relationship; the provision of emotional support in the relationship; and the social homogeneity of those joined in a tie (see Marsden & Campbell, 1984).

The understanding of ties was enhanced by the addition of the concept of latent ties, an element enabled in computer-mediated environments (Haythornthwaite, 2002). Noting that “a tie is said to exist between communicators wherever they exchange or share resources such as goods, services, social support or information,” Haythornthwaite argued that communication and media are critical to the way in which ties are maintained (2002, p. 386, emphasis added). As tie strength increases, the number and type of information and resources exchanged and the range of media forms used to communicate also increases, a correlation that is termed as “media multiplexity” (Haythornthwaite, 2005). Early research efforts related to relationships were influenced by themes of the reduced “media richness” of the online environment (see Trevino, Lengel & Daft, 1987), and therefore were oriented to understanding how forms of computer-mediated communication were perhaps unsuitable for providing support to strong ties (Haythornthwaite, 2005). It is the reduced level of cues of the online environment that provides a benefit to weak ties, as it “extend[s] communication possibilities by crossing time and space, providing means of keeping local and remote operations informed simultaneously,
drawing in more peripheral participants, and providing access to a wider set of contacts” (Haythornthwaite, 2005, p. 388).

The notion of “latent ties,” or “a tie for which a connection is available technically but that has not yet been activated by social interaction” (Haythornthwaite, 2005, p. 389) enhances Granovetter’s conceptualization of smaller social structures. The technical attributes offered by many online applications (such as membership in the same network on a social network site) or larger social structures (such as an invitation to a board meeting) enable this sort of tie: specifically, it is not established by the individual, but rather by a mechanism embedded in the functioning of a larger organization or system. Strong and weak ties are fostered and strengthened through use of a wide variety of media which is initiated at the discretion of the individuals involved. Alternatively, latent ties must be fostered to strengthen by two factors: a communication structure established by the larger organization or system (a technical implementation) and a social mechanism to initiate the contact (a social implementation) (Haythornthwaite, 2002, 2005,).

This perspective is a significant contribution to the identification of ties as relationships as it adds an important distinction: it characterizes ties as a form of exchange or resource sharing such as with information, goods and services, and support. Haythornthwaite’s view adds a definitional requirement of reciprocity that serves to connect the amount of resources exchanged with the underlying strength of the tie; ties range in their degree of potency from latent to strong, with corresponding levels of resource sharing. The mere exchange of communication (i.e., an exchange of information) does, in this view, constitute a form of tie, albeit an extremely weak one. More importantly, perhaps, the conception of latent ties as ties,
despite through which only the potential for exchange exists, become important to the understanding of how these micro-level social forms of relationships transform or convert into forms of social and informational support.

b. Dormant relationships

Superficially, it is easy to recognize that weak ties can become strong ties both as a function of the duration of the tie and also as a function of the amount of resources that are shared between the individuals. The opposite is also presumed to be true as well, that as the exchange of resources declines and the amount of time spent together decreases, relationships also diminish in their strength. Digging deeper, however, a form of relationship that is less well-accounted for is what might be characterized as a dormant relationship, one which was once active and relatively strong, but which has lapsed under the stressors of time, distance and circumstance, such as those relationships between former college friends, close neighbors, or work colleagues who have lost touch because of geographic moves, career changes, work team succession or divergence in life trajectories. Like latent ties, dormant ties possess relationship potential, or perhaps more accurately reactivation, to move to stronger relationship forms (though often not restored to former levels) with mere contact, and often do not require substantial resource sharing or frequency of contact for such strengthening due to their historical activity (Wellman, 1979). Granovetter simplified these relationships as absent ties, yet upon reflection they actually represent a special category of weak connections: unlike the connection represented by a “nodding relationship” between loosely acquainted neighbors, these weaker associations represent relationships that have been degraded through time and distance, but which may be reactivated at a significantly accelerated pace. Literature on
friendship accounts for these ties as “suspended” or “situationally dormant” (Babchuk & Bates, 1963) and as “latent friendships” (Adams, 1998), terms intended to recognize the relationships’ psychological importance and also a simultaneous lack of further development.

Organizational behavior theorists have highlighted and emphasized this weakening and reactivation of relationships in the workplace environment. Due to rapid changes in the complexity and structure of organizations in the networked information environment, the forming and re-forming of project teams within and across formal organizational structures has become commonplace. Recognized as knotworking (Engeström, Engeström & Vähäaho, 1999), intensional networking (Nardi, Whittaker & Schwarz, 2000, 2002), or coalition building (Zager, 2002), this work-related activity is characterized by the forming of teams of workers to complete a specific project or task. Unlike traditional team structures which persist over time and are typically supported within a single organization, these project teams devolve and desist once a particular task or project is complete. As a consequence of the fluidity of these team structures, individuals have focused on the development of personal networks or communities as a source of resources to perform work assignments.

Individual relationships in this setting tend to ebb and flow, depending on the underlying project activity or specific work assignments (Nardi, Whittaker & Schwarz, 2000, 2002). There is also a temporal dimension to relationships: over time, the pattern of formulating and reformulating teams, or “knots,” effectively changes individual relationships and the overall network, due to the relative success or failure of the joint work effort. Care and nurturing of relationships which may be temporarily “dormant” due to work inactivity is a
component of relationship maintenance that enables the relationships to be regenerated as new work assignments occur (Nardi, Whittaker & Schwartz, 2000).

While not having been examined in the same way, individuals’ personal relationships share such an ebb and flow pattern over time as well. Examples might include friendships from an educational setting such as high school or college, or work relationships that diverged subsequent to a job change. As communication technologies become more mundane and pervasive in the personal (as opposed to the professional) sphere, it is common to see individuals increasingly use such technologies to nurture and maintain these relatively dormant relationships in the same way as has been previously done in organizational settings. The following section highlights the emerging literature on the use of technology with these less formal, social relationships.

3. **Relationships and technology use**

An important focus of research on relationships and technology has been the extent and effects of media use. Media multiplexity theory (Haythornthwaite & Wellman, 1998; Haythornthwaite, 2005) introduces media use to the principle of relationship multiplexity, and proposes that media use is a characteristic of the strength of the relationship: those in stronger relationships use more media with greater frequency to connect with one another than those in weaker relationships (Baym & Ledbetter, 2009; Boase, 2008; Haythornthwaite, 2002). Media multiplexity also argues that the use of one medium reinforces the use of other media, rather than displacing it (Hogan, 2003; Robinson, Kestnbaum, Neustadtl & Alvarez, 2002), i.e., the use of email reinforces the use of the telephone, rather than substituting for it. Research has demonstrated that the oral/written nature of messages and the public/private nature of
communication media are relevant factors in media use and relationship strength, though message synchronicity/asynchronicity may also be relevant in gender-predominant or largely textual communication environments (Hargittai, 2007; Ledbetter, 2009).

The use of technology for relationship maintenance is an emerging area of research focus, and has been an active area of scholarly debate (e.g., Briggle, 2008 and Cocking & Matthews, 2001). Examining through the lens of strong and weak ties, Haythornthwaite (2002) found that the strength of relationship ties was correlated the use of internet-related technologies to build and maintain relationships, as newer media forms add the means and opportunities for previously unconnected individuals to communicate, and that the internet is particularly useful in converting latent ties into weak ties. The use of social network sites has been demonstrated to support weak tie relationships in the building of social capital (Ellison, Steinfield & Lampe, 2007; Subrahmanyam, Reich, Waechter & Espinoza, 2008), and weak ties, not strong ones, experience growth through the use of internet technologies within a community (Hampton, 2003).

Few studies have examined the impact of information and communication technology practices on the development trajectories of relationships, as the focus has been on media use within existing relationships or the development of relationships initiated in the online environment. The use of more traditional communication technologies such as the telephone and postal mail for support of friend relationships have been rarely studied, especially for distant relationships (Johnson, 2001; Rohlfing, 1995). More recently, however, internet-related communication technologies such as email have been identified to serve as support mechanisms for close relationships and relationships in transition (Boneva & Kraut, 2002;
Cummings, Lee & Kraut, 2006; Finchum, 2005; Ledbetter, 2009). There has been little, if any, research on how media use in relationships might vary by the life stage of the individual or through the life course generally (Adams & Stevenson, 2004).

Recent mainstream media reports suggest adults at various life stages use social media in different ways and for different purposes than their younger counterparts. One account described how Facebook offered a less threatening space to connect an adoptee with her birthmother, after numerous attempts for face to face meetings had been rebuffed (Field, 2010). In another report, the writer recounted a battle of a woman who was dying of cancer; through Facebook, friends of the patient were able to obtain medical updates and provide emotional support in ways that may have been deemed too tiring, too intrusive or too personal to experience on a face to face basis (Brotman, 2010). In both of these cases, Facebook was used to create a social space for relationship interaction, providing the necessary geography of a buffer zone that enabled an appropriate social distance to be maintained and allowed relationships to progress at a pace that was comfortable for all parties.

These uses of social network technology demonstrate the multiplicity and complexity of relationships that are mediated today. Studies of friendship have demonstrated that the milestones of exiting the educational system, parenthood, empty nesting and retirement provide a rich and variegated lens through which technology practices and relationships can be viewed. The life course perspective offers the ability to view the use of communication technologies in the context of relationships and life events in a way that has not been explored through current communication scholarship.
4. **Summary**

In summary, when considering how individuals develop and manage their relationships, and how communication technology use may support relationship trajectories, several salient points emerge from the work on friendship and relationship tie connections. First, the context of relationships is a very important component of relationship development and maintenance; thus how communication technologies support these varying contexts, and the technology’s ability to differentiate and bridge various contexts, may be an important consideration in their use.

Second, as individuals age, the longevity of relationships becomes increasingly important to them, and even lapsed or dormant relationships have potential for filling a niche in the relationship repertoire. The significance of relationship reconnections is not well understood, as scholarly attention has centered on strong and existing relationships and their role in emotional and social support. The ability of newer information and communication technologies to facilitate the reconnection of lapsed or dormant relationships, and also support their conversion into sources of social and informational support, are significant aspects of their use, and are important mechanisms to understand.

When considering the life trajectories of individuals, the timing of relationship reconnections may be significant as well. Spencer and Paul’s (2006) notion of relationship renaissance, which is pinpointed between the junctures of empty nesting and retirement, occurs during midlife. Without the demands of young families or newly launched careers, midlife adults have enriched capabilities of focusing energy toward developing personal resources—investing, so to speak—in areas of social importance and relevance. This timing also
represents an opportunity for nostalgic recollections, prompting reconnections with people and interests of the past. Viewed in the context of the life course, these connections and reconnections present a unique window on how technologies may be used to nurture relationships that may offer valuable forms of support.

Finally, scholarly attention on informal, interpersonal relationships has keyed on a trajectory model of acquaintanceship and increasing intimacy that results in relationship termination or dissolution, and has not focused on the role of dormant or lapsed relationships, except in organizational settings. The incorporation of more sophisticated information and communication technologies in everyday life provides considerable and enabling opportunities for the maintenance of these types of weaker connections. How various communication technologies might be used to create and support more and varied, and especially weaker, relationship forms is an important area for investigation.

In conceiving relationships as ties, weaker relationship forms can be examined through a quantitative characterization that approximates relationship quality, however this strategy requires a broader definition of relationships which diminishes the significance of relationship context, its trajectory, and the life events and transitions of the individuals involved. Conceiving relationships as friendship in its many and variegated strengths incorporates these contextual aspects, but academic attention to weaker relationship forms has been lacking. This research is intended to expand scholarly attention to relationships and technology use in three ways. First, it will enhance understanding of communication technologies’ role in supporting weak relationship forms, such as those found in relationship reconnections, as these relationships may hold the potential to be converted into sources of social and informational support.
Second, it will expand awareness of how newer forms of information and communication technology may be used differently at various points in the life course through a specific exploration of the attitudes, perceptions and practices midlife adults bring to internet use. Finally, findings of this research may point to ways in which friendship and relationships have evolved through the influences of newer communication technologies such as email and social network sites.

C. Conclusion

In conclusion, life course theory provides a strong foundation for examining the use of technology in relationship behaviors of mature adults as promotes the contextualization of significant life events, such as the incorporation of the internet as an everyday communication technology. Life course theory recognizes that socio-historical context of the lives of mature adults may provide for internalization and integration of such an event into their relationship networks in a different manner than other cohorts, which may lead to differing patterns in relationship behaviors and, ultimately, differing outcomes in measures such as social and informational support. Finally, life course theory gives credence to the significance of life transitions and events, suggesting that contexts such as the presence of children in the home or events such as entering or leaving the work force may affect the adoption and use of particular communication technologies for specific purposes, and in particular for uses such as relationship reconnection.

Literature related to the sociology of friendship also provides a foundation to examine the use of technology by mature adults to build and maintain informal interpersonal relationships. Relationship building and maintenance appears to follow a cyclical pattern,
following a trajectory of acquaintance and increasing intimacy. Outside of organization literature, dormancy and time-related gaps in relationships appear to have received little attention, yet these weaker relationships may provide important resources such as informational and social support. Midlife adults are often at a juncture in life stage where both new relationships are initiated and old or dormant relationships experience a renaissance, thus studying this cohort provides an opportunity for examining relationship practices related to the creation, maintenance and regeneration of friendships. Their distinctive life circumstances of creating and maintaining adult friendships with and without the influence of internet-related communication technologies provides an additional window for comparison, furthering the understanding of the longer term impact of these technologies on social relations.
III.  METHOD

A.  Rationale

Interest in the mature adult population, defined as those individuals over the age of 40, is fueled by its sheer size and rapid growth as a percentage of the overall populace over the past 30 years. Comprising approximately 36.0% of the population in 1979 (US Census, 1979), adults age 40 and older have grown to 45.1% of the population (US Census, 2007), and are projected to be 47.6% of the population by 2025 (US Census, 2008). Mature adults bring considerable financial muscle to the consumer economy and their voting rates are significantly higher than those of the population on average—64.5% in the November 2008 presidential election, as contrasted with 48.4% of adults under the age of 40 (US Census, 2010). Fueling this rapid growth, advances in medical technologies has considerably transformed the health status of this age group over the past 50 years, resulting in a significantly increased expected lifespan for individuals and marked improvements in the quality of life at advanced ages (Martin, Freedman, Schoeni & Andreski, 2009).

The use of information and communication technologies by adults over the age of 40 is markedly different than usage by younger adults, both in the applications used and in the heterogeneity of users. The Pew Internet & American Life Project (PIP) estimated in January 2010 that while 74% of all adults reported at least occasional use of computers and the internet, only 70% of adults aged 50 to 64 and 38% of adults aged 65 and older report these activities (Rainie, 2010). But while these usage disparities exist, it is significant that internet use and technology deployment have grown steadily for midlife and older adults over the past five years. PIP data suggests that the 70% of adults over the age of 45 used the internet in May
2010; a figure which has grown from 55% in December 2005 (Zickuhr, 2010). Broadband usage for this demographic has expanded over this time period as well, with 84% of midlife and older adult internet users accessing through broadband, up from 29% in December 2005 (Zickuhr, 2010). Their use of social media is also increasing: 42% of internet users over the age of 45 use a social network site such as Facebook, LinkedIn or MySpace, nearly double that figure of a year ago (Madden, 2010). Facebook considers adults aged 35 and older to be its fastest growing demographic (Facebook.com, 2009), and Quantcast reports that 80% of LinkedIn’s user base is age 35 and older (Quantcast.com, 2009).

The dramatic penetration of newer information and communication technologies into the daily life of all adults has decidedly impacted the social relations between individuals. While technology participation rates of mature adults may be lower than that of their younger counterparts, the differing emphases and usage patterns experienced by mature adults have not been reflected in scholarly research activities, especially in the area of relationship management. To date, studies of how technology is employed by adults to create and maintain relationships have focused on college students and “emerging” adults aged 18 to 29 years of age (Baym & Ledbetter, 2009; Bumgarner, 2007; Dwyer, 2007; Ellison, Steinfeld & Lampe, 2007; Joinson, 2008; Steinfeld, Ellison & Lampe, 2008; Subrahmanyam, Reich, Waechter & Espinoza, 2008); significantly less attention has been placed on comparative research between birth cohorts, with studies on the differences between young and older (as in over 65 years of age) adults predominating (Pfeil, Arjan & Zaphiris, 2009; Wilson & Nichols, 2008). Almost no attention has been given to how usage patterns change over time or throughout life trajectories.
This study focuses on the communication technology practices of the specific group of midlife adults, those between the ages of 45 and 65 years of age. This age cohort is not a serendipitous selection. Life course scholarship acknowledges a tripartition of life stages, with work as the central organizing experience: education and training as preparation for work; continuous work activity; and leisure and the absence of work (Settersten, 2003b). The internet’s prevalence as a communication medium is acknowledged to have appeared in the late-1990s (Haythornthwaite & Wellman, 2002), after the transition from the education and training life phase had been completed for this cohort. Its abrupt arrival and rapid deployment ensured that the process acquire the necessary skills for everyday use was substantively different than the process experienced by younger adults who encountered internet use during the education and training phase of their life course. Further, midlife adults experienced relationship development trajectories largely unmediated by this form of electronic communication technology, providing differing relationship practices and contexts than what has been encountered by younger adults. These differences in skills acquisition and relationship patterns are one way in which midlife adults can be distinguished as a cohort from younger persons; a second distinction lies in their position in the life course, one further along the life trajectory than that of younger people, but not having yet reached another life event milestone, retirement, which re-orders lifestyles and activities.

Email and, more recently, social network sites have become commonly-used communication media for all adults (Jones & Fox, 2009; Madden, 2010), and their use by adults to support close relationships is an emerging field of inquiry (Finchum, 2005; Jacks & Salam, 2009; Ledbetter, 2009). Thus, a study of how midlife adults use these particular communication
technologies to create and maintain relationships may offer a more nuanced perspective on how usage varies throughout the life course, and a view of internet use that is differentiated from the patterns typically observed in younger adults. Focus on the use of email and social network sites by midlife adults to support relationship reconnections will also provide an enhanced understanding of how technologies support weaker relationship forms, remedying a gap in the literature. As use of these technologies grows among all adults, it becomes increasingly important to understand these more subtle divergences in behaviors, practices and perceptions between individuals. Segregating and identifying these differences can lead to a deeper awareness of both the cultural influences on technology use and technology’s impact on social relations, and offer pathways to understanding the potential benefits and detrimental effects of greater communication mediation between individuals.

B. Research Questions

A life course perspective on the use of communication technology by midlife adults to create and maintain relationships necessarily makes comparisons to other groups such as younger persons, but also examines how usage changes over time. Both forms of comparison are revealing: intercohort analysis exposes age- and cohort-related differences between groups, while intracohort analysis gives a rendering of the effects occurring within specific groups over a particular, socio-historic period. Thus, satisfaction of the first requirement requires a comparative description of the communication technology use by midlife and older adults and younger adults. In addition to highlighting the differences in practices between each group, this examination might also draw attention to the unique and similar ways in which technology is used and practiced by various cohorts. A second form of cohort comparison
examines how technology use may be changing within individual cohorts over time, highlighting changes in the use of communication technologies for specific purposes and possibly revealing innovation in such areas as relationship management. The mundane use of internet-related communication technologies presents an opportunity to examine period effects of internet use among all groups. The first research question is designed to capture the subtle variations occurring within and between cohorts:

**RQ1: How does the life course relate to internet use?**

Midlife and older adults have a unique vantage point to examine the subtle effects of internet mediation on relationships as the formative period of their lives, which includes patterns of relationship acquisition and development, occurred prior to its everyday use. The use of the internet to generate and maintain relationships is therefore a second area for exploration. Studies of the effects of technology use by young adults suggest that bridging relationships, or weaker ties, are encouraged by the use of social network sites (Ellison, Steinfeld & Lampe, 2007). Whether this use of technology holds true with midlife and older adults is yet unknown, so weak connections, and dormant or lapsed relationships, are an area of specific focus. Midlife and older adults, due to their longevity, have accumulated many relationships and the socio-historical context of the internet’s emergence into everyday life presents occasions and opportunities for regeneration and growth of weaker forms. Also of interest is the ways in which midlife and older adults use technologies in their relationships, and whether these may be related to relationship patterns in less mediated contexts. This
distinctive intersection for examining the use of communication technologies and relationships, leads to a second research question:

**RQ2: How does the life course relate to use of the internet for relationship connection?**

Exploration of the types of midlife and older adult relationships that are supported or diminished by technology use would add to the general knowledge of how technology use and relationships are intertwined, and give perspective on the differing usage patterns of communication technologies at various points in the life course.

C. **Mixed Methods Research Design (Survey/Interviews)**

To answer these research questions, a mixed methods strategy was used, combining quantitative analysis on two datasets collected by the Pew Internet & American Life Project (2006, 2009) with qualitative analysis collected through group interviews of midlife adults who use the internet. Combining qualitative and quantitative research methods into a mixed methods design provides a more general picture of a particular issue under study, solving the qualitative problems of generalizability through the addition of quantitative findings (Bryman, 1992). Using qualitative and quantitative data collection and analysis techniques either in parallel or sequentially, mixed methods research answers questions that a single methodology cannot and provides stronger inferences as the combination of methods are complemented to minimize each method’s weakness (Tashakkori & Teddlie, 2003). By linking quantitative and qualitative research methods a dual research perspective is provided, with the perspective of
the researcher fueling the quantitative approach and the qualitative method providing the perspective of the subject (Bryman, 2008; Tashakkori & Teddlie, 2003).

Greene, Caracelli and Graham (1989) identify five reasons for using mixed methods research: *triangulation* seeks to offset the biases and limitations of each individual method to enhance the validity of the findings; *complementarity* seeks elaboration, illustration, enhancement or clarification of the results of one method with the results of a second method; *development* seeks to use the results of one method to develop or inform the other method; *initiation* seeks the discovery of a paradox and contradiction; and *expansion* seeks to expand the breadth and range of inquiry by using different methods. This research uses a mixed methods design to seek complementarity: qualitative data elaborates on and illustrates the trends and patterns inferred from the quantitative analysis of survey data. Differences in the datasets are as illuminating as their points of similarity (Brannen, 1992).

When designing mixed methods research, four criteria must be considered: *implementation, priority, stage of integration, and a theoretical perspective* (Cresswell, Plano Clark, Gutmann & Hanson, 2003). The sequential explanatory research design used in this research incorporates these four criteria. *Implementation* pertains to the sequence used for collecting both quantitative and qualitative data, which can be concurrently or in phases; this project employs an empirical secondary analysis of existing datasets as the first stage, and using results from the first stage as a guide, collection and analysis of group interview data as a second phase. *Priority* denotes the emphasis placed on the data, specifically designating whether more emphasis is placed on the quantitative or qualitative data. This research gives priority to the qualitative data, using the qualitative results to explain and interpret the findings.
of quantitative study. The quantitative data is used to characterize individuals along certain traits of interest related to the research questions and to guide purposive sampling of participants for the qualitative study; the quantitative phase also provided the initial question template for the interview guide used in the interviews. *Stage of integration* refers to the stage of inquiry at which the qualitative and quantitative approaches are integrated: this may occur at the research question identification stage, within data collection, within data analysis, or in interpretation of the data. Integration for this project occurred within data interpretation, although results from the quantitative analysis were integrated into the qualitative data collection phase, providing a framework for the interview guide and guidelines for sample selection in the qualitative phase. Finally the *theoretical perspective* relates to the formal or informal set of assumptions that the researcher brings to the study. This research is guided by the theoretical perspective of the life course, of which the four main principles provide an “accepted set of background assumptions that guide and provide a common ground for research” (Colby, 1998, p. ix).

The strengths of sequential explanatory design include the distinct phases of the data collection and analysis, and its primary weakness is the amount of time that is required for two distinct data collection and analysis processes (Cresswell et al., 2003). Giving one method priority over the other diminishes this weakness, as does the use of existing datasets for the quantitative phase.

Each of the research questions were addressed in Phase I and Phase II of the research process. The first research stage undertook an empirical description of the technological practices of internet-using adults, with a specific focus on the habits and applications used by
birth cohorts of adult internet users. The goal of this phase of the research was to surface patterns and trends of communication technology use that may be significant for the development and maintenance of social relationships. A cohort analysis of the two datasets, used as a repeated cross sectional design, enabled a better understanding of the differences in internet use between younger and older adults, and in patterns of change in each cohort’s practices. Cohort analysis is particularly useful for understanding change when period influences—in this case the introduction and mainstream usage of internet-related communication technologies—have greater effects among younger adults than older ones, as it makes substantial intercohort differences visible and allows for the examination of trends within cohorts during the times under consideration (Glenn, 2005).

The second stage of this research included a series of unstructured individual and small group interviews with adult internet users. The objective in this phase was to obtain a richer and more detailed understanding of attitudes, perceptions and habits of use of internet-related communication technologies and their use in relationship reconnections, and also to achieve a more faceted description of the decision-making processes employed toward specific technologies’ use.

1. **Phase I – Analysis of Pew Internet & American Life datasets**

The Pew Internet & American Life Project (PIP) is one of seven research projects of the Pew Research Center, a non-partisan, non-profit organization that provides information on issues, attitudes and trends pertinent to the United States and the world. The organization does not take policy positions on issues, and its research is funded by the Pew Charitable Trusts. PIP has researched and provided timely analysis of social impact of the internet in the United States
through the use of random phone surveys, internet surveys and qualitative methods since March 2000 (Pew Internet, 2010a, 2010b). Survey research is performed by Princeton Survey Research Associates International (PSR), a large, internationally-recognized, independent survey research organization; PSR adheres to the Code of Professional and Ethical Practices established by the American Association of Public Opinion Researchers (AAPOR, 2010).

The availability of internet usage data from PIP makes it an excellent starting point to begin to answer these specific research questions. Because it is designed to measure trends on a wide variety of topics, the data are useful for exploring the practices and perceptions of American adults.

a. **Samples**

i. **Sample 1 – Digital Footprints 2006**

Between November 30 and December 30, 2006, PIP and PSR conducted a large-scale randomized, telephone tracking survey on 2,373 (n=2373) adults aged 18 years and older; of those sampled 1,623 were internet users (n=1,623). A copy of the questionnaire and interviewer script is attached as Appendix A; surveys were conducted solely in English. Units were identified from telephone exchanges in the continental United States by random generation of the last two digits of telephone numbers selected on the basis of their area code, telephone exchange, and bank number. For each contact, the interviewers first asked to speak with the youngest adult male currently at home and, if no youngest adult male was available, then the youngest adult female was requested. Sample demographic weighting, based on the US Census Bureau’s March 2006 Annual Social and Economic Supplement, was used in the analysis of the data to compensate for nonresponse bias. The response rate for this survey was
calculated to be a product of the working number rate (48.1%), the contact rate (72.6%), the cooperation rate (40.7%), the eligibility rate (86%) and the completion rate (91.9%), for an overall response rate of 27.1%.

ii. Sample 2 – Reputation Management 2009

During August and September, 2009, PIP and PSR conducted a large-scale randomized, telephone tracking survey on 2,253 (n=2253) adults aged 18 years and older; of those sampled 1,698 were internet users (n=1,698). A copy of the questionnaire and interviewer script of the English version is attached as Appendix B; surveys were conducted in English (n=2,179) and Spanish (n=74). Two samples were created by Survey Sampling International, LLC, a landline sample and a cellphone sample. Units in the landline sample were identified with probabilities proportional to their share of listed telephone households from active blocks that contain at least three residential directory listings, and selected through a random generation of the last two digits of landline telephone number. The cellular sample was drawn through a systematic sampling from dedicated wireless 100-blocks and shared service 100-blocks with no directory-listed landline numbers. Calling times were staggered throughout the day and over days of the week to maximize potential contact with respondents. For landline contacts, half of the interviewers first asked to speak with the youngest adult male currently at home and, if no youngest adult male was available, then the youngest adult female was requested; the other half of landline interviewers first asked to speak with the youngest adult female, then the youngest adult male. Cellphone interviews were conducted with the person who answered the phone, after verifying that the respondent was an adult. Sample demographic weighting, based on the US Census Bureau’s March 2008 Annual Social and Economic Supplement, was used in
the analysis of the data to compensate for selection and nonresponse bias. The response rate for this survey was calculated to be a product of the working number rate (42.1% for landlines and 58.4% for cellphones), the contact rate (78.1% for landlines and 69.3% for cellphones), the cooperation rate (25.5% for landlines and 23.0% for cellphones), the eligibility rate (95.9% for landlines and 70.0% for cellphones) and the completion rate (95.9% for landlines and 98.1% for cellphones), for an overall response rate of 19.1% for landlines and 15.6% for cellphones.

   b. **Survey Instrument**

   The questionnaire used by PIP in 2006, the *Digital Footprints* study, is attached as Appendix A. The questionnaire used by PIP in 2009, the *Reputation Management* study, is attached as Appendix B.

2. **Phase II – Interviews**

   The primary weakness in using a secondary dataset to address these research questions lies in the fact that the survey instruments were not designed for such a purpose, thus the interpretive validity of the data may be diminished. To offset this limitation, the addition of a qualitative research phase was added to the research design to provide illustration and explanation to the quantitative data analyzed in the first phase of the study. The second research phase incorporated unstructured individual and small group interviews with adult internet users between the ages of 45 and 65 years to explore practices, attitudes and decision-making with respect to communication technology use in the creation and maintenance of relationships.
a. **Sample**

Sampling in qualitative research differs markedly from the process undertaken in traditional survey research, as it typically involves deliberately selected cases. The goal is to manage the diversity of the variation and variety in the phenomenon under study in a manner to capture empirical data as far as possible (Flick, 2007). There are several purposive sampling strategies recommended to maximize the data quality: attempt to integrate extreme or deviant cases to arrive at an understanding of the phenomenon as a whole; select particularly typical cases for their view from the center; aim for maximal variation in the sample to disclose the range of variation and differentiation in the field; select cases according to intensity with which the experiences are given; and select critical cases, or those cases in which the experiences or processes to be studied become especially clear (Patton, 2002). To determine an appropriate sample, the quantitative data analyzed in the first phase was used as a guide to incorporate maximal variation of internet use patterns. Qualitative studies which have examined the technology practices of adults have achieved these objectives with samples in the range of 20 to 35 cases (Blitt-Cohen & Litwin, 2000; Dwyer, 2007; Selwyn, 2004).

b. **Data collection**

Because internet use, and particularly the use of email and social network sites, was a key characteristic of potential interviewees, the recruitment strategy incorporates these media. Interviewees self-identified in response to requests made through group email lists and postings on discussion boards and group pages of social network sites such as LinkedIn.com and Facebook.com. In addition to requesting self-nomination, viewers of the emails and postings were asked to pass the recruiting materials on to other individuals who might meet the sample
qualification criteria. Due to the length of the interviews, a small stipend, in the form of a $25 Amazon.com gift certificate, was offered to those who participated.

Interviews took primarily took place in public libraries and coffee shops, convenient to the participant’s home or workplace. Interviews were digitally recorded with the respondent’s consent and transcribed, as were field notes containing metadata such as setting, time and date, observations on the disposition of the respondent and setting of the interview, and notes related to the interview content itself.
IV. RESULTS – PHASE I

The life course perspective necessarily makes use of comparisons between various groups of individuals, typically segregated into birth year cohorts. By examining how patterns differ between groups of individual (intercohort analysis) and how changes within a group manifest over time (intracohort analysis), the effects of a group’s age (or the physiological and psychological changes due to a progression through time), the period (environmental shifts that occur over the time in question), and cohort (characteristics attributable to groups’ specific time and place in history) can be better understood. Internet use refers to the actions and practices surrounding popular internet-enabled technologies such as email, search engines, and social network sites. This study encompasses both an examination of the adoption patterns for these technologies and the progression of those patterns over time to better understand how the life course relates to internet use.

To address the research questions of this study, an assessment of the specific internet activities being conducted by various birth year cohorts was a necessary first step, ideally addressed through a quantitative approach, such as by examining measures of internet activity and making comparisons of these between and among cohorts. A survey conducted on behalf of the Pew Internet & American Life Project in 2009 surveyed a wide range of internet activities conducted by adults, and many of the items were replicated from 2006. This repetitive survey lends the ability to examine the two resulting datasets as a repeated cross sectional design. The survey items included measures of the use of internet technologies such as email, search engines and social network sites, and activities such as online dating, blogging, creating
websites and sharing one’s own creations online. Using these datasets, two types of comparative analyses were undertaken. First, a comparison of the two datasets enabled a cohort analysis which highlighted pattern differences between birth cohorts along with changes in each cohort’s practices over time; second, the more recent 2009 dataset was analyzed for a detailed description of the current internet practices of mature adults, because it contained a more robust range of variables concerning internet use. For each dataset, it should be noted that analysis was performed on the internet-using adult subset only, as these were the participants of interest.

A. **Sample Characteristics**

The 2006 sample included 1,623 internet-using adults between the ages of 18 and 88 years ($M = 46.4, SD = 15.7$), with men representing 47.8% of the respondents. African Americans comprised 7.8% of the sample, Hispanics represented 5.6%, and Whites were 82.7%. Educational attainment was evenly distributed among those with a high school degree or less (26.0%), those with some college or vocational training (31.8%), those with a college degree (24.9%), and those with post graduate training (16.5%). About two-thirds of the sample reported being married or living with a partner (65.3%), and 34.0% of the sample reported living with a child under the age of 18 years. Household income levels were evenly distributed between under $30,000 (16.1%), $30,000 to under $50,000 (20.5%), $50,000 to under $100,000 (26.7%) and $100,000 and over (14.5%). The sample was weighted for the analysis, based on the US Census Bureau’s March 2006 Annual Social and Economic Supplement, to compensate for nonresponse bias.
The 2009 sample included 1,698 internet using adults between the ages of 18 and 92 years ($M = 47.3$, $SD = 16.6$), with men representing 42.9% of the respondents. African Americans comprised 8.5% of the sample, Hispanics represented 7.4%, and Whites were 79.3%. Educational attainment was more heavily distributed among those with a high school degree or less (31.7%) and those with some college or vocational training (29.4%), while those with a college degree (22.7%) and post graduate training (16.1%) were smaller proportions. Almost two-thirds of the sample reported being married or living with a partner (63.4%), and 32.1% of the sample reported living with a child under the age of 18 years. Household income levels were evenly distributed between under $30,000 (24.6%), $30,000 to under $50,000 (22.2%), $50,000 to under $100,000 (34.2%) and $100,000 and over (19.0%). To compensate for selection and nonresponse bias, the sample was weighted based on the US Census Bureau’s March 2008 Annual Social and Economic Supplement in the analysis.

In comparison, the two samples were similar in size, age and household status; however the 2009 sample had a higher proportion of female respondents, reported slightly reduced household income, and moderately lower educational attainment. The 2009 sample was comprised of a lower percentage of respondents who identified as White and Non-Hispanic and a slightly higher percentage of Hispanic respondents. Weighting the samples to reflect the 2006 and 2008 Annual Social and Economic Supplements in the analysis renders these differences negligible and presents the opportunity for valid cohort comparisons and trend analyses.

B. **RQ1: How Does the Life Course Relate to Internet Use?**

The first research question concerns patterns of internet use and particularly how these might be differentiated at varying points in the life trajectory. To address this question, a cohort
analysis was performed on the two samples comparing specific internet activities. Intercohort analysis was realized by comparing the birth year cohorts of one dataset with one other to identify the differences in the adoption of certain technological practices between groups; intracohort analysis was accomplished by comparing the identical birth year cohorts in each dataset to understand the patterns of individual development and change for a given cohort. Thus, the intercohort comparison exposes aging and cohort differences between groups, while intracohort analysis gives a rendering of the period effects over the three year period between the surveys.

Life course studies acknowledge a partition of the life trajectory into three primary phases: an educational phase; a continuous work phase; and a leisure, or sometimes called retirement, phase. Data are broken into birth cohorts that correspond to this tripartition: the first cohort (birth years of 1991 to 1980) translates roughly to the final stages of the education and training phase of most adults, the second through fourth cohorts (1979 to 1965, 1964 to 1955, and 1954 to 1945) corresponds to the continuous work phase of most adults; and the final two cohorts (birth years of 1944 to 1935, and 1934 and earlier) matches to the leisure or retirement phase of the life path. These are summarized as follows:

- Born 1991 to 1980, or age 21 to 29 years in 2009
- Born 1979 to 1965, or age 30 to 44 years in 2009
- Born 1964 to 1955, or age 45 to 54 years in 2009
- Born 1954 to 1945, or age 55 to 64 years in 2009

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4 A standard cohort analysis would break the data into three year cohorts to deliberately match the time interval between the datasets. This affords the opportunity to compare groups independently of one another. The brief time interval between surveys, however, renders the three year cohort subsamples to sizes too small to eliminate sampling error. Thus, larger cohorts are presented for this analysis.
• Born 1944 to 1935, or age 65 to 74 years in 2009
• Born 1934 and earlier, or age 75 years and older in 2009

1. **Cohort analysis**

As is detailed in Table I, there are few striking differences in specific internet activities between the cohorts including: use of email and search engines; creation of blogs and webpages for the self or others; or sharing one’s own creations online. With the exception of email and the use of search engines for information one oneself, internet activities have increased moderately over the three year interval between surveys, and the reported use of a given activity generally scales down as age increases.

The modest increases over the three year interval are somewhat deceptive, however, as in several cases the increases are not distributed evenly among the cohorts. Reports of creating a blog, for example, increased moderately between 2006 and 2009 for the overall sample from 7.3% to 10.4%; however this change consisted of declines for the youngest birth cohorts and more significant increases for midlife adult birth cohorts (born 1964 to 1955 and 1954 to 1945). Creating webpages for both the self and others saw similar patterns of movement with the increases more significantly represented in the 1964 to 1955 cohort. These changes in activity levels may represent several competing factors: increased use of microblogging in the form of status updates on sites such as Facebook and Twitter by the youngest adults may have replaced blogging activities and webpage creation, resulting in declines in these activity in the youngest birth cohort; simultaneously increases in the digital skill levels of midlife and older adults may have enabled greater levels of participation in these forms of self-expression. A third possibility
is that the popularity of blogging and webpage creation has risen as a mechanism of self-expression with midlife adults.

Using a search engine to find information on oneself also saw increases among all cohorts during the survey interval as well, increasing moderately from 46.2% in 2006 to 55.6% in 2009 for the overall sample. Looking only at the overall number masks a sharp rise in this action by younger adults (born later than 1979), much smaller increases by midlife adults (born 1945 to 1964), and large increases by older adults (born prior to 1945). This may indicate a greater awareness of the availability of personal information online, but also may be reflective of advances in digital skills levels among older cohorts.

In an overall sense, a rise in digital skill levels of midlife and older adults almost certainly plays a role in the increases in blogging, webpage creation and the use of search engines to discover information on oneself, and thus would be considered age- or period-related effects because the increases occur in conjunction with time, along with corresponding increases in multiple cohorts; a potential rise in popularity of these technologies as a self-expression mechanism or as an expansion of a technology’s usefulness, however, would be considered a cohort effect, another possibility for such a shift. The second phase of this research was designed to gain a better understanding of the nature of these changes.

Email use appears to be an exception to the pattern of increases in internet activities over the survey interval: email use, which previously showed no correlation to age, appears to have a small but negative relationship to age in the more recent sample \( r = .01, p < .4 \) in 2006, and \( r = -.05, p < .03 \) in 2009), declining modestly over the three year period to 89.4% in 2009 from 93.0% in 2006 for the overall sample. More marked decreases in usage were reported in
the midlife adult (born 1945 to 1964) and older adults (born prior to 1945) cohorts, while reported use among the younger cohorts (born after 1979) stayed about level. This decrease may indicate a real decline in the use of email for all adults, as this change falls outside of the 95% confidence interval of 2.7%, but the larger decreases reported by older and mature adults are particularly noteworthy because they additionally contradict recent reports of uniformity in email use among all age groups (Zickuhr, 2010). The larger decreases in email use within older cohorts may signal a shift in how these technologies are used and perceived, and the use of email for relationship maintenance and reconnection purposes is a point of further exploration in the qualitative phase of this research.

**TABLE I**

**COMPARISON OF 2006 AND 2009 INTERNET ACTIVITIES BY BIRTH COHORT**

<table>
<thead>
<tr>
<th>Birth Cohort</th>
<th>2006 (n=1575)</th>
<th>2009 (n=1539)</th>
<th>2006 (n=1577)</th>
<th>2009 (n=1540)</th>
<th>2006 (n=1576)</th>
<th>2009 (n=1539)</th>
<th>2006 (n=1541)</th>
<th>2009 (n=1541)</th>
<th>2006 (n=1578)</th>
<th>2009 (n=1541)</th>
<th>2006 (n=1575)</th>
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<tr>
<td>Birth Cohort</td>
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<td>2006 (n=1576)</td>
<td>2009 (n=1539)</td>
<td>2006 (n=1541)</td>
<td>2009 (n=1541)</td>
<td>2006 (n=1578)</td>
<td>2009 (n=1541)</td>
<td>2006 (n=1575)</td>
<td>2009 (n=1540)</td>
</tr>
<tr>
<td>Born 1988-1980</td>
<td>88.9%</td>
<td>90.5%</td>
<td>52.4%</td>
<td>65.7%</td>
<td>25.7%</td>
<td>15.4%</td>
<td>42.7%</td>
<td>37.6%</td>
<td>31.9%</td>
<td>19.4%</td>
<td>30.0%</td>
<td>18.8%</td>
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<td>(21-29 years in 2009)</td>
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<tr>
<td>Born 1979-1965</td>
<td>93.6%</td>
<td>92.7%</td>
<td>55.1%</td>
<td>63.1%</td>
<td>8.8%</td>
<td>13.1%</td>
<td>23.6%</td>
<td>35.9%</td>
<td>14.7%</td>
<td>15.1%</td>
<td>14.5%</td>
<td>17.0%</td>
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<tr>
<td>(30-44 years in 2009)</td>
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</tr>
<tr>
<td>Born 1964-1955</td>
<td>92.8%</td>
<td>89.2%</td>
<td>50.9%</td>
<td>52.6%</td>
<td>3.6%</td>
<td>9.0%</td>
<td>20.7%</td>
<td>23.4%</td>
<td>9.9%</td>
<td>13.5%</td>
<td>7.5%</td>
<td>12.0%</td>
</tr>
<tr>
<td>(45-54 years in 2009)</td>
<td></td>
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</tr>
<tr>
<td>Born 1954-1945</td>
<td>93.0%</td>
<td>87.0%</td>
<td>41.9%</td>
<td>47.8%</td>
<td>2.5%</td>
<td>7.2%</td>
<td>14.8%</td>
<td>24.2%</td>
<td>9.2%</td>
<td>8.4%</td>
<td>9.5%</td>
<td>10.9%</td>
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<tr>
<td>(55-64 years in 2009)</td>
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<tr>
<td>Born 1944-1935</td>
<td>95.0%</td>
<td>87.8%</td>
<td>28.9%</td>
<td>47.1%</td>
<td>1.7%</td>
<td>4.7%</td>
<td>13.9%</td>
<td>16.9%</td>
<td>4.4%</td>
<td>5.8%</td>
<td>3.9%</td>
<td>4.1%</td>
</tr>
<tr>
<td>(65-74 years in 2009)</td>
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<td></td>
</tr>
<tr>
<td>Born prior to 1934</td>
<td>95.5%</td>
<td>85.5%</td>
<td>25.8%</td>
<td>44.0%</td>
<td>2.2%</td>
<td>7.7%</td>
<td>9.1%</td>
<td>12.1%</td>
<td>1.1%</td>
<td>11.0%</td>
<td>5.6%</td>
<td>5.5%</td>
</tr>
<tr>
<td>(75+ years in 2009)</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Sample</td>
<td>93.0%</td>
<td>89.5%</td>
<td>46.2%</td>
<td>55.0%</td>
<td>7.3%</td>
<td>10.0%</td>
<td>21.5%</td>
<td>27.4%</td>
<td>12.7%</td>
<td>12.6%</td>
<td>12.2%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

Results are weighted to US Census Bureau’s Annual Social and Economic Supplement for the respective years.
2. **Analysis of the 2009 dataset**

Comparing the 2006 and 2009 datasets provides a view of how internet use changed over the three year period between surveys through a same-cohort analysis of the activities and actions of adult internet users. A more detailed description of the practices of adults at various points in the life course is permitted by a cross-sectional analysis of the 2009 dataset, as this survey contained a more robust range of items regarding internet and social media use. These results are summarized in Table II. In addition to providing detail on a wider variety of technologies and applications, the larger set of survey items also permits an analysis of how the use of various technologies and applications might be related to one another, and the resultant activity groupings compared for differences between cohorts. These results are summarized in Tables III and IV.

As a corollary to the trends of internet activities reported in the comparative cohort analysis (Table I), older birth cohorts also lag behind younger cohorts in their reported use of a variety of appliances that might be used to access the internet. Age is strongly and negatively correlated to use of devices such as an iPod or mp3 player \((r = -.4, p < .001)\), gaming consoles such as XBox or Playstation \((r = -.4, p < .001)\), and portable gaming devices such as a Nintendo DS \((r = -.2, p < .001)\). This strong association between the use of such devices and age is emphasized even within the midlife birth cohorts; for example, the 1955-1964 cohort (or younger midlife adults aged 45 to 54 years) reports use of such devices more than twice as frequently as the 1945-1954 cohort (older midlife adults aged 55 to 64 years). A t-test analysis
of the use of access devices between these two cohorts evidences sharp differences, and suggests this as a potential avenue for exploration in the next phase of this research: iPod/mp3 players (t(661) = 6.66, p < .001, eta² = .063); gaming consoles (t(638) = 6.68, p < .001, eta² = .065); and portable gaming devices (t(638) = 3.20, p = .001, eta² = .015). Notably, one device stands out against this trend of declining use of internet access appliances in the age progression: eReaders are the sole device that older birth cohorts report using with greater frequency than younger cohorts, though adoption of this device was still reported at nascent levels in 2009. Age does not appear to be associated with reports of their use (r = -.003, p < .07).

Mobile access to the internet is more actively used by younger cohorts than older cohorts, particularly through their use of cellphones. While wifi internet connections appear somewhat comparable between birth cohorts, accessing the internet via cellphone, however, shows stark contrasts between the birth cohorts: 47.8% of the youngest cohort reports access the internet through this method, as compared to 20.4% of the younger midlife cohort born 1955 to 1964, and only 13.8% of the older midlife cohort born 1945 to 1954. Correspondingly, the relationship between accessing the internet via cellphone and age is strongly negative (r = -.33, p < .001), and again a significant difference in this activity is reported between the two midlife cohorts. The 1955-1964 cohort (younger midlife) and the 1945-1954 cohort (older midlife) demonstrated differences (t(591) = 2.15, p = .03), though the magnitude of this difference was small (eta² = .008).

In addition, younger cohorts are more likely to conduct other internet-related activities on their cellphones than mature adult cohorts, and the correlations between such activities and
age are also strongly negative; these include: accessing email \((r = -.225, p < .001)\), sending and receiving photos \((r = -.325, p < .001)\), using the global positioning system features \((r = -.175, p < .001)\), and downloading applications \((r = -.313, p < .001)\). Small but significant differences again exist between midlife cohorts. For example, adults born 1955 to 1964 (younger midlife) and those born 1945 to 1954 (older midlife) differ in their use of the global positioning system features on their cellphones \((t(582) = 2.57, p = .01, \eta^2 = .011)\) and with downloading applications to their cell phones \((t(593) = 2.22, p = .03, \eta^2 = .008)\).
## TABLE II

**INTERNET ACTIVITIES BY BIRTH COHORT**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Devices</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eReaders</td>
<td>1621</td>
<td>4.1%</td>
<td>1.5%</td>
<td>7.1%</td>
<td>4.1%</td>
<td>2.3%</td>
</tr>
<tr>
<td>iPod or mp3 player</td>
<td>1628</td>
<td>71.4%</td>
<td>65.0%</td>
<td>53.5%</td>
<td>28.9%</td>
<td>21.1%</td>
</tr>
<tr>
<td>Gaming console</td>
<td>1627</td>
<td>63.8%</td>
<td>55.3%</td>
<td>40.5%</td>
<td>17.7%</td>
<td>7.6%</td>
</tr>
<tr>
<td>Portable gaming device</td>
<td>1624</td>
<td>24.2%</td>
<td>38.0%</td>
<td>19.4%</td>
<td>10.6%</td>
<td>5.3%</td>
</tr>
<tr>
<td><strong>Connection</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WiFi</td>
<td>912</td>
<td>87.4%</td>
<td>83.3%</td>
<td>82.5%</td>
<td>80.3%</td>
<td>69.4%</td>
</tr>
<tr>
<td>Wireless broadband</td>
<td>881</td>
<td>31.5%</td>
<td>36.7%</td>
<td>35.9%</td>
<td>30.5%</td>
<td>27.8%</td>
</tr>
<tr>
<td><strong>Cellphone Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access the internet</td>
<td>1471</td>
<td>47.8%</td>
<td>42.5%</td>
<td>20.4%</td>
<td>13.8%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Send or receive email</td>
<td>1474</td>
<td>42.1%</td>
<td>37.1%</td>
<td>23.2%</td>
<td>19.6%</td>
<td>11.2%</td>
</tr>
<tr>
<td>Send or receive pictures</td>
<td>1482</td>
<td>74.6%</td>
<td>64.6%</td>
<td>51.3%</td>
<td>46.2%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Use gps feature</td>
<td>1478</td>
<td>25.0%</td>
<td>18.7%</td>
<td>14.6%</td>
<td>8.0%</td>
<td>7.0%</td>
</tr>
<tr>
<td>Download applications</td>
<td>1475</td>
<td>41.7%</td>
<td>31.6%</td>
<td>17.1%</td>
<td>10.9%</td>
<td>6.3%</td>
</tr>
<tr>
<td><strong>Internet Activities</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>eMail</td>
<td>1627</td>
<td>90.0%</td>
<td>92.7%</td>
<td>89.2%</td>
<td>87.0%</td>
<td>87.8%</td>
</tr>
<tr>
<td>Online dating services</td>
<td>1629</td>
<td>9.6%</td>
<td>8.0%</td>
<td>6.4%</td>
<td>5.3%</td>
<td>3.5%</td>
</tr>
<tr>
<td>Listen to music online</td>
<td>1627</td>
<td>67.3%</td>
<td>57.4%</td>
<td>47.5%</td>
<td>37.9%</td>
<td>20.3%</td>
</tr>
<tr>
<td>Research</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>family/genealogy</td>
<td>1628</td>
<td>27.2%</td>
<td>26.4%</td>
<td>28.7%</td>
<td>29.5%</td>
<td>32.6%</td>
</tr>
<tr>
<td>Maintain a blog</td>
<td>1627</td>
<td>16.3%</td>
<td>13.1%</td>
<td>9.1%</td>
<td>7.2%</td>
<td>4.7%</td>
</tr>
<tr>
<td>Use social network sites</td>
<td>1624</td>
<td>73.0%</td>
<td>55.3%</td>
<td>38.5%</td>
<td>26.7%</td>
<td>19.2%</td>
</tr>
<tr>
<td>Remix digital content</td>
<td>1628</td>
<td>19.3%</td>
<td>13.8%</td>
<td>14.1%</td>
<td>15.5%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Share creations online</td>
<td>1629</td>
<td>38.7%</td>
<td>35.9%</td>
<td>23.4%</td>
<td>24.2%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Twitter or microblog</td>
<td>1627</td>
<td>34.1%</td>
<td>24.2%</td>
<td>10.5%</td>
<td>9.6%</td>
<td>6.4%</td>
</tr>
<tr>
<td>Visit virtual worlds</td>
<td>1615</td>
<td>4.5%</td>
<td>3.4%</td>
<td>3.8%</td>
<td>2.5%</td>
<td>2.9%</td>
</tr>
<tr>
<td>Maintain own webpage</td>
<td>1629</td>
<td>19.3%</td>
<td>15.1%</td>
<td>13.5%</td>
<td>8.4%</td>
<td>5.8%</td>
</tr>
<tr>
<td>Maintain webpage for others</td>
<td>1628</td>
<td>20.6%</td>
<td>17.0%</td>
<td>12.0%</td>
<td>10.9%</td>
<td>4.1%</td>
</tr>
<tr>
<td>Comment on news or blogs</td>
<td>1627</td>
<td>32.1%</td>
<td>26.2%</td>
<td>25.2%</td>
<td>22.4%</td>
<td>14.5%</td>
</tr>
<tr>
<td>Use search engine to search info on self</td>
<td>1629</td>
<td>65.7%</td>
<td>63.1%</td>
<td>52.6%</td>
<td>47.8%</td>
<td>47.1%</td>
</tr>
<tr>
<td>Use other sources to search info on self</td>
<td>1611</td>
<td>25.9%</td>
<td>23.3%</td>
<td>18.7%</td>
<td>13.0%</td>
<td>18.0%</td>
</tr>
</tbody>
</table>

1 Results are weighted to US Census Bureau’s 2009 Annual Social and Economic Supplement.
As evidenced by the cohort comparison detailed in Table II, reports of various internet activities by adult internet users generally decrease as age increases. However, the correlations are not uniform and consistent. Small negative correlations exist between age and activities such as online dating ($r = -.09, p < .001$), blogging ($r = -.13, p < .001$), remixing digital content ($r = -.08, p < .005$), visiting virtual worlds ($r = -.05, p < .05$), creating webpages for others ($r = -.14, p < .001$), sharing one’s own creative work online ($r = -.18, p < .001$), and commenting on newsgroups, blogs or photo sharing sites ($r = -.16, p < .001$). Curiosity about the availability of online information about oneself also appears to have slight correlations with age, as evidenced by the use of search engines to seek information about oneself ($r = -.15, p < .001$) and the use of other online sources such as Facebook or Flickr to seek information about the self ($r = -.11, p < .001$).

Stronger negative correlations, however, exist between age and activities such as accessing music online ($r = -.30, p < .001$), using social network sites ($r = -.40, p < .001$), and microblogging ($r = -.28, p < .001$). The sole exception to these negative trends is researching family history or genealogy online, an activity which evidences a slight increase as age increases ($r = .048, p < .03$).

These differing relationships between various internet activities and age suggest that internet use may be related to more than just the level of digital skills and internet access. Contrasting, for example, blogging (low correlation with age) and microblogging (high correlation with age), activities that require similar skills sets, lends credence to the notion that particular internet activities may be linked to the perceptions and attitudes of the users and not just proficiency with the technological aspects of use.
3. Principal component analysis of internet activities

Conventional wisdom might suggest that participation in internet activities may occur in groupings; for example, some internet activities such as microblogging may be associated with other uses such as listening to music online. To explore how internet activities might be related to one another, a principal component analysis was performed on 32 items related to technology use. The sample size was adequate to perform such analysis, with a subject to item ratio in excess of 27:1. The correlation matrix evidenced several items with coefficient of greater than .30, evidencing appropriateness of this method (Tabachnick & Fidell, 2001); the Kaiser-Meyer-Olkin value was .74 and the Bartlett’s Test of Sphericity reached significance ($\chi^2(496) = 1452.4, p < .001$), further supporting the factorability of the correlation matrix. Promax rotation, an oblique method, was selected in anticipation that the extracted components may be correlated.

A principal components analysis revealed the presence of 11 components with eigenvalues exceeding 1, explaining 61.3% of the variance collectively. An inspection of the screeplot revealed a clear break after the second component however, accounting for only 22.3% of the variance. Parallel analysis identified eight components for retention; however inspection of these components revealed fewer than three variables loading on five of the eight components. Following the method outlined by Costello and Osborne (2005), it was decided to retain three components as each had three or more variables of a .5 or greater component loading, and all variables loading with a factor of greater than .32 were included (Tabachnick &

5 A principal axis factoring analysis was also conducted on the data using the same 32 variables and a promax rotation method. The factor analysis similarly converged in 20 iterations on 11 factors, with each of the three primary factors loading the same variables as the principal component analysis. The factor correlation matrix displayed a factor correlation between the first two components of .41, validating the use of the promax rotation method.
Fidell, 2001); this three component solution explained 28.2% of the variance, with 15.7% from
the first component, 6.6% from the second component, and 5.9% from the third component.
The three components showed strong variable loadings, with all variables loading substantially
on only one component, as summarized in Table III.

### TABLE III
FACTOR LOADINGS FOR EXPLORATORY FACTOR ANALYSIS WITH PROMAX ROTATION OF
INTERNET ACTIVITIES

<table>
<thead>
<tr>
<th>Variable</th>
<th>Pattern Coefficients</th>
<th>Structure Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Content Creation</td>
<td>Internet Mobility</td>
</tr>
<tr>
<td>Maintain own webpage</td>
<td>.940</td>
<td>-.059</td>
</tr>
<tr>
<td>Maintain webpages for others</td>
<td>.759</td>
<td>.014</td>
</tr>
<tr>
<td>Maintain a blog</td>
<td>.719</td>
<td>-.060</td>
</tr>
<tr>
<td>Comment on news or blogs</td>
<td>.625</td>
<td>-.024</td>
</tr>
<tr>
<td>Share creations online</td>
<td>.600</td>
<td>-.006</td>
</tr>
<tr>
<td>Remix digital content</td>
<td>.567</td>
<td>.091</td>
</tr>
<tr>
<td>Freq of email access on cellphone</td>
<td>-.080</td>
<td>.818</td>
</tr>
<tr>
<td>Download applications</td>
<td>-.011</td>
<td>.763</td>
</tr>
<tr>
<td>Use gps feature on cellphone</td>
<td>.063</td>
<td>.626</td>
</tr>
<tr>
<td>Freq of internet use from other than home or work</td>
<td>.003</td>
<td>.434</td>
</tr>
<tr>
<td>Freq of social network site use</td>
<td>-.122</td>
<td>.127</td>
</tr>
<tr>
<td>Use social network sites</td>
<td>-.015</td>
<td>-.141</td>
</tr>
<tr>
<td>Twitter/microblog</td>
<td>.177</td>
<td>.264</td>
</tr>
<tr>
<td>Number of social network sites profiles</td>
<td>.260</td>
<td>-.034</td>
</tr>
</tbody>
</table>

¹Communality
Note: Major factor loadings for each item are shown in boldface. Rotation converged in 13 iterations
Examination of the components reveals three distinct groupings of technology practices in which this sample of internet-using adults participate. The first of these is characterized as Content Creation, and includes activities such as maintaining a webpage for oneself or others, blogging, commenting in newsgroups or on blogs or online photos, sharing creative works online and remixing digital content. A second group of practices incorporate a dimension of mobility to internet use, and include factors such as accessing email through a cellphone, downloading applications for internet use on a cellphone, using the global positioning system feature on a cellphone, and accessing the internet from a location other than home or work; these are collectively termed as indicators of Internet Mobility. The third dimension of internet activity centers on Social Media Use, and includes variables relating to the use of social network sites and microblogs as well as the frequency of social network site use and the number of social network site profiles created. Each of the components appears to have a logical consistency among the variables; in other words, the groupings “make sense.” The correlations between the three components are low: Content Creation and Internet Mobility demonstrate an $r$ of .28; Content Creation and Social Media Use display an $r$ of .22; and Internet Mobility and Social Media Use express an $r$ of .01.

To examine how age may be related to each of these groups of internet activities, the variables associated with each of these three components were used to construct three indices: a Content Creation Index ($\alpha = .732$); an Internet Mobility Index ($\alpha = .641$); and a Social Media Use Index ($\alpha = .859$). Each of the scales gave equal weighting for each variable used in its construction. The Content Creation Index ($M = 1.3, SD = 1.88$) ranged in value from 0 to 12: a low level of content creation activity was indicated by a score of 0 to 3; a moderate level was
indicated by a score of 4 to 7; and a high level was indicated by a score of 8 to 12. The Internet
Mobility Index ($M = 7.6, SD^2 = 4.04$) ranged in value from 0 to 24: a low level of mobile internet
use was indicated by a score of 0 to 8; a moderate level was indicated by a score of 9 to 16; and
a high level was indicated by a score of 17 to 24. The Social Media Use Index ($M = 2.8, SD =
3.63$) ranged in value from 0 to 80: a low level of social media use was indicated by a score of 0
to 26 a moderate level was indicated by a score of 27 to 54; and a high level was indicated by a
score of 55 to 80.

The correlations between these indices are moderate to strong, lending credence to the
notion that patterns of the use of specific technologies are related. Specifically the correlations
demonstrate that content creators are also frequently consumers of social media and mobile
internet users: the Content Creation and Internet Mobility Indices demonstrate an $r$ of .32; the
Content Creation and Social Media Use Indices display an $r$ of .52. Mobile use of the internet
and social media use are less closely aligned as their respective Indices express an $r < .01$. All of
these correlations are significant at the .01 level. Age remains negatively correlated with each
of the indices: moderately with Content Creation ($r = -.21, p < .001$) and Internet Mobility ($r = -
.22, p < .001$); and most highly with Social Media Use ($r = -.47, p < .001$).

Though following the established trend of internet activity participation generally
decreasing as age increases, the scales more finely describe overall participation levels in each
of the areas of Content Creation, Internet Mobility and Social Media. Classifying scores into a
zero, low, medium or high category reveals some interesting dynamics among all three indices.
For the Content Creation Index, the percentage of “high” and “medium” scorers is low with few
distinctions between cohorts; however the examination of “zero” scorers and “low” scorers,
while relatively constant across the cohorts when summed, reveal a dramatic shift from “low” to “zero” scores as age increases. This indicates an increasing level of non-participation (as opposed to low participation) in Content Creation activities at advanced ages, potentially indicating both skills gaps and relevancy issues in this area of internet use.

Alternatively, the Social Media Use and Internet Mobility Indices offer more distinct differences between cohorts, along with small but significant distinctions between midlife cohorts. For example, the Internet Mobility Index evidences a statistically significant break between midlife adult cohorts (t(148) = 2.18, p = .03, eta² = .031), with the behaviors of the 1955-1964 cohort (aged 45 to 54 years) more closely aligned with that of the cohort just younger than with the cohorts just older. Distinctions in the Internet Mobility Index appear through the incidence of “low” scorers for older adult cohorts, indicating low levels of participation in these activities, and may be reflective of life course position and a reduced presence in the workplace. The Social Media Use Index likewise evidences a break in the midlife cohorts (t(644) = 3.79, p < .001, eta² = .022). Cohort differences in the Social Media Index are strong in the “zero” and “low” levels of participation with older cohorts, with significantly higher percentages of non-participation in older cohorts than what is indicated by those aged 44 years and younger.

4. **Hierarchical multiple regression models**

Hierarchical multiple regression was used to assess the ability of other demographic measures such as income, educational attainment, gender, household status, and race/ethnicity to predict scores of the internet activities indices after controlling for the influence of age. Educational attainment had a slight predictive effect on all three indices,
consistent with other studies on the demographic composition of internet users (Czaja et al., 2006; Hargittai, 2007), and income and gender factored slightly in mobile access to the internet. Other variables such as household status and race/ethnicity demonstrated negligible or statistically insignificant effects, as summarized in Table IV.

**TABLE IV**

**HIERARCHICAL MULTIPLE REGRESSION PREDICTING INTERNET ACTIVITY INDICES**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Content Creation Index</th>
<th>Adj R²</th>
<th>β§</th>
<th>Adj R²</th>
<th>β§</th>
<th>Adj R²</th>
<th>β§</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 - Age</td>
<td>0.04</td>
<td>-0.24***</td>
<td>0.05</td>
<td>-0.29***</td>
<td>0.22</td>
<td>-0.52***</td>
<td></td>
</tr>
<tr>
<td>Step 2 - Income</td>
<td>0.06</td>
<td>0.07*</td>
<td>0.10</td>
<td>0.17**</td>
<td>0.23</td>
<td>0.05</td>
<td></td>
</tr>
<tr>
<td>Step 3 - Education</td>
<td>0.07</td>
<td>0.12***</td>
<td>0.11</td>
<td>0.13**</td>
<td>0.23</td>
<td>0.10***</td>
<td></td>
</tr>
<tr>
<td>Step 4 - Male</td>
<td>0.07</td>
<td>0.05</td>
<td>0.12</td>
<td>0.10*</td>
<td>0.24</td>
<td>-0.05</td>
<td></td>
</tr>
<tr>
<td>Step 5 – Household</td>
<td>0.07</td>
<td>0.12</td>
<td>0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Married/Living with Partner</td>
<td></td>
<td>0.07</td>
<td>-0.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children Under 18 in Home</td>
<td></td>
<td>-0.04</td>
<td>-0.09</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Step 6 – Race/Ethnicity</td>
<td>0.07</td>
<td>0.12</td>
<td>0.24</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NonHispanic</td>
<td>-0.02</td>
<td>-0.07</td>
<td>-0.05</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other NonHispanic</td>
<td>0.02</td>
<td>-0.03</td>
<td>-0.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hispanic</td>
<td>0.02</td>
<td>-0.04</td>
<td>-0.05*</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*p < .05, **p < .01, ***p < .001
§ Standardized coefficients

When interpreting these results, it should be recalled that age, as a dominant predictor of internet activities reflects more than just physical and psychological maturation of an individual. The life course perspective recognizes the principle of linked lives, i.e., that lives reflect the social and historical contexts in their reciprocal relationships with others. Thus, cohort patterns of internet activities mirror not only the progression of the individual against
time (an age effect), but also the networks of relationships that are technologically available to the individual (a cohort effect). Thus, we would potentially expect to see age contribute less significantly as a predictor of content creation and internet mobility, internet uses that may only occasionally involve directed and specific interactions with others, than with social media use which does involve directed and specific interactions with others. In this sense, then, the technological activation of an individuals’ network is also reflected in the age variable, and contributes additional weight as a predictor in these models.

In summary, two findings from the principal component analysis are important for the qualitative phase of this study. First, distinguishing contrasts in internet use exist between the midlife adult cohorts of the 1955-1964 birth years (younger midlife, aged 45 to 54 years) and the 1945-1954 birth years (older midlife, aged 55 to 64 years), as evidenced by scores in the Content Creation, Internet Mobility, and Social Media Use Indices. This provides clarification for participant selection in the qualitative research phase: interviewees were purposively selected to fall evenly between these two cohorts. Second, the distinctions between low scorers and non-scorers in these same indices suggest fewer “dabblers” in these three forms of internet activities and large numbers of non-participants. Interview participants were selected purposively from levels of each of the “low,” “medium,” and “high” scores to maximize data variability.

C. RQ2: How Does the Life Course Relate to Use of the Internet for Relationship Connections?

The second research question considers how the life course may be related to the use of the internet with relationships, or how the life course may be reflected in the use of internet
technologies for relationship connectivity. To answer this question, comparisons between various birth cohorts and within a single cohort over time is again a starting point. Of interest with this question are the practices surrounding internet technologies such as email, search engines, and social network sites, but the specific focus is on how these technologies may be directed toward managing and maintaining interpersonal relationships. As with the first question, the two Pew datasets can be utilized for intercohort and intracohort comparisons, particularly with respect to practices involved with locating and being located by others through the internet, attitudes and perceptions of the availability of personal information online, and the use of social network sites to make connections with others.

1. **Cohort analysis**

The disparate adoption rates between the older and younger birth cohorts are also reflected in various activities that might be taken to make relationship connections online. Table V details reports by birth cohort of specific internet activities that may be associated with relationship connections: creating a social network site profile, using online dating sites, using a search engine to find information on an individual from one’s past, searching for social network site profiles, being found online by someone from one’s past, and taking steps to limit the availability of online information about oneself. Again, there are few striking differences in connecting activities between the birth cohorts and, like the previous set of internet activities, engagement in these activities generally increased moderately over the three year interval between surveys, scaling down in frequency as age increases. An exception to this pattern is taking steps to limit the availability of online information about oneself, for which reported
activity has actually declined over the survey interval across all cohorts except for the oldest adults.

As with the first group of internet activities, adoption of specific connection activities are not uniform among the various cohorts, and notable differences between younger and older cohorts appear in the creation of social network profiles and the use of search engines to find information about oneself. Creation of social network profiles increased sharply for the overall sample over the survey interval, from 16.8% in 2006 to 38.4% in 2009, but it is an activity that is strongly and negatively correlated to age ($r = -.4$, $p < .01$ in 2006, and $r = -.5$, $p < .01$ in 2009). The oldest birth cohort (born 1934 and earlier) did not report significant social network profile creation in either sample. Strikingly, while the rate of increase in profile creation was high in youngest cohort at 27.1% (an increase of 16.1 percentage points between 2006 and 2009), it increases markedly in the older birth cohorts: to 218.9% for the 1955-1964 cohort; 179.7% for the 1945-1954 cohort; and 507.1% for the 1935-1944 cohort. The lower rates of change/adoption in younger adults may signal a nearing in saturation levels for use of social network site technologies, while significantly higher reports of profile creation with the older cohorts may also be indicative of increased sophistication and more widespread use of these technologies among those cohorts. The next phase of this research will explore some of the more subtle attitudes and perceptions that surround these seemingly high adoption rates, and examine how perceptions of the attributes of these technologies factor into their usage.
TABLE V

COMPARISON OF 2006 AND 2009 INTERNET CONNECTION ACTIVITIES BY BIRTH COHORT

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Born 1988-1980 (21-29 Years in 2009)</td>
<td>59.4%</td>
<td>75.5%</td>
<td>7.3%</td>
<td>11.4%</td>
<td>36.9%</td>
<td>55.9%</td>
<td>59.5%</td>
<td>64.3%</td>
<td>30.6%</td>
<td>56.4%</td>
<td>47.6%</td>
<td>44.6%</td>
</tr>
<tr>
<td>Born 1979-1965 (30-44 Years in 2009)</td>
<td>18.4%</td>
<td>54.4%</td>
<td>6.8%</td>
<td>8.0%</td>
<td>43.1%</td>
<td>53.0%</td>
<td>33.2%</td>
<td>55.3%</td>
<td>20.7%</td>
<td>47.7%</td>
<td>43.0%</td>
<td>33.9%</td>
</tr>
<tr>
<td>Born 1964-1955 (45-54 years in 2009)</td>
<td>11.1%</td>
<td>35.4%</td>
<td>8.1%</td>
<td>6.5%</td>
<td>39.3%</td>
<td>42.2%</td>
<td>32.1%</td>
<td>41.9%</td>
<td>20.2%</td>
<td>32.2%</td>
<td>36.1%</td>
<td>27.1%</td>
</tr>
<tr>
<td>Born 1954-1945 (55-64 years in 2009)</td>
<td>6.9%</td>
<td>19.3%</td>
<td>3.3%</td>
<td>5.2%</td>
<td>30.8%</td>
<td>37.7%</td>
<td>20.9%</td>
<td>24.5%</td>
<td>18.9%</td>
<td>24.6%</td>
<td>34.1%</td>
<td>28.2%</td>
</tr>
<tr>
<td>Born 1944-1935 (65-74 years in 2009)</td>
<td>2.8%</td>
<td>17.0%</td>
<td>1.1%</td>
<td>3.5%</td>
<td>33.3%</td>
<td>39.5%</td>
<td>10.3%</td>
<td>15.5%</td>
<td>15.2%</td>
<td>21.5%</td>
<td>33.3%</td>
<td>17.5%</td>
</tr>
<tr>
<td>Born 1934 and earlier (75+ years in 2009)</td>
<td>0.0%</td>
<td>3.3%</td>
<td>2.3%</td>
<td>0.0%</td>
<td>23.6%</td>
<td>23.1%</td>
<td>12.1%</td>
<td>16.7%</td>
<td>10.3%</td>
<td>19.1%</td>
<td>16.1%</td>
<td>23.9%</td>
</tr>
<tr>
<td>Total Sample</td>
<td>16.8%</td>
<td>38.4%</td>
<td>5.2%</td>
<td>6.6%</td>
<td>36.5%</td>
<td>44.5%</td>
<td>30.9%</td>
<td>42.0%</td>
<td>20.3%</td>
<td>36.0%</td>
<td>37.5%</td>
<td>30.2%</td>
</tr>
</tbody>
</table>

1 Results are weighted to US Census Bureau’s Annual Social and Economic Supplement for the respective years.

Similar to reports of profile creation, the use of a search engine to find information on individuals from one’s past increased substantially among all cohorts, though large increases were not reported by the oldest adults; likewise the search of social network site profiles for information about others increased in the sample overall from 30.9% in 2006 to 43.5% in 2009, with only moderate increases reported by midlife adults (born 1945 to 1964) and much larger increases reported by the youngest cohorts (born 1965 and later).

Taking steps to limit the availability of online information about oneself is an action that decreased over the survey interval for all birth cohorts, declining from 37.5% in 2006 to 30.8%
in 2009 overall. This somewhat surprising decrease may be reflective of a growing sense of futility of such actions by all internet users, or perhaps a general realization that the availability of online information is less harmful or intrusive than initially anticipated. Specific actions related to online privacy are discussed in a later section with respect to the 2009 sample, however differences in percentages of the various cohorts reporting this activity (with higher levels reported in the younger birth cohorts) indicate that the general area of personal information availability may be an influence in how individuals engage in their relationships through online communication media. The attitudes surrounding the availability of personal information in the online environment and how these attitudes and perceptions play into social network site use are explored in the next section and also in the interview phase of the study.

2. **Privacy**

Developing and maintaining interpersonal relationships through the internet involves the exchange of personal information in a wide variety of forms and formats, including photos and videos, status updates, or even posting news items that are reflective of one’s personal values and convictions. A frequently cited concern with internet activity is the issue of privacy with respect to personal information (Acohido, 2010). To explore how privacy might impact internet use, and thus the use of the internet for relationship connections, a principal component analysis was performed on eight items related to privacy: changing privacy settings on social network sites; filtering status updates on social network sites such that only certain groups might view them; deleting friends on social network sites; removing one’s name from photos posted online; worry about online information; taking steps to limit online information; asking to have personal information removed from websites; and posting comments
anonymously on a regular basis. Again, the sample size was adequate to perform such analysis with a subject to item ratio of 84:1. The correlation matrix evidenced several items with coefficient of greater than .30, evidencing appropriateness of this method (Tabachnick and Fidell, 2001); the Kaiser-Meyer-Olkin value was .74 and the Bartlett’s Test of Sphericity reached significance ($\chi^2(28) = 528.0, p < .001$), further supporting the factorability of the correlation matrix. Promax rotation, an oblique method, was selected in anticipation that the extracted components may be correlated.

Following the method outlined by Costello and Osborne (2005), it was decided to retain only one component which had four variables of a .5 or greater component loading, and all variables loading with a factor of greater than .32 were included (Tabachnick & Fidell, 2001); this solution explained 30.6% of the variance.$^6$ The component showed strong variable loadings, with four variables loading substantially on only the single component, as summarized in Table VI.

---

$^6$ The principal components analysis revealed the presence of three components with eigenvalues exceeding 1, explaining 57.0% of the variance collectively. An inspection of the screeplot revealed a clear break after the second component however, accounting for only 44.5% of the variance. Parallel analysis identified all eight components for retention; however inspection of the components revealed fewer than three variables loading on seven of the eight components.
TABLE VI
FACTOR LOADINGS FOR PRINCIPAL COMPONENT ANALYSIS WITH PROMAX ROTATION OF PRIVACY ACTIONS

<table>
<thead>
<tr>
<th>Variables</th>
<th>Pattern Coefficients</th>
<th>Structure Coefficients</th>
<th>Communalities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Privacy Actions</td>
<td>Privacy Concerns</td>
<td>Privacy Actions</td>
</tr>
<tr>
<td>Delete Friends</td>
<td>.764</td>
<td>-.227</td>
<td>.687</td>
</tr>
<tr>
<td>Filter Own Updates</td>
<td>.714</td>
<td>.089</td>
<td>.739</td>
</tr>
<tr>
<td>Remove Name from Photos</td>
<td>.693</td>
<td>-.042</td>
<td>.683</td>
</tr>
<tr>
<td>Change Privacy Settings</td>
<td>.637</td>
<td>.119</td>
<td>.672</td>
</tr>
<tr>
<td>Worry About Online Info</td>
<td>-.206</td>
<td>.918</td>
<td>.093</td>
</tr>
<tr>
<td>Limit Online Info</td>
<td>.221</td>
<td>.647</td>
<td>.435</td>
</tr>
<tr>
<td>Post Comments</td>
<td>.092</td>
<td>.062</td>
<td>.061</td>
</tr>
<tr>
<td>Anonymously</td>
<td>.320</td>
<td>.229</td>
<td>.414</td>
</tr>
</tbody>
</table>

Major factor loadings for each item are shown in boldface. Rotation converged in 4 iterations.

Examination of the components reveals that actions taken to protect online privacy may depend on the internet activities in which the individual partakes. The variables loading onto the first component all directly relate to social network site activities. Deleting friends, filtering status updates so that they are directed to specific groups, removing names tags from photos and changing privacy settings are specific privacy enhancing options found on social network sites such as Facebook, LinkedIn, and Flickr.

Because the Privacy Actions Index concerns social media use, which was revealed earlier to have a strong correlation with age, a second measure, Privacy Concerns, was constructed by summing responses for the two variables loading onto the second component in the principal component analysis: worry about the availability of personal information online and taking steps to limit the amount of personal information available online. Rather than specifically
concern social media use, these two variables relate more to general concerns about the availability of personal information online. Examination of the two variables related to Privacy Concerns reveals only a moderate correlation \( (r = .325, p < .001, n = 1675) \), and suggests something of a paradox. Presumably, if one was concerned about the availability of personal information online, it might be expected that actions restricting such information would be taken. This moderate correlation level, however, confirms previous research that concern about privacy online is not equivalent to taking action regarding privacy online (Acquisti & Gross, 2006; Acquisti & Grossklags, 2004). This apparent dichotomy presented an opportunity for exploration in the interview phase of this study, particularly as it relates to the use of specific internet communication activities, and is discussed in more detail in Chapters V and VI.

Notably, the factors loading into the Privacy Actions Index are all technological implementation of privacy guarding activities. Individuals also employ social strategies to perform and enact privacy, such as being selective about friend connections on social network sites or limiting the availability of non-demographic personal information such as emotional or political content (Ellison, Vitak, Steinfield, Gray & Lampe, 2011). These social strategies, as contrasted with technological implementations, are explored as a discussion point in the interviews as mechanisms to enact privacy in the online environment.

To examine how age is related to Privacy Actions, the variables were used to construct an index, the Privacy Actions Index \( (\alpha = .668) \); scores for this index ranged from 0 to 4 \( (M = 1.98, SD = 1.37) \). The correlation between age and Privacy Actions was found to be low and negative \( (r = -.26, p < .001) \). The two variables related to Privacy Concerns were summed to
obtain a measure of Privacy Concern, and was found to be less strongly associated with age with a low and negative correlation ($r = -.13, p < .001$).

Somewhat unsurprisingly, the correlation between Privacy Actions and the Social Media Use Index is moderate ($r = .28, p < .001$). This suggests that taking action to protect the availability of information online may be related to social media use, and may indicate that social media use somehow factors into a greater awareness of how the privacy of personal information may be enacted online.

A hierarchical regression analysis reveals that other demographic variables, such as income, education levels and some race/ethnicity factors such as being Hispanic or African American do not strongly influence Privacy Actions either; gender and Other NonHispanic ethnicity, however, does provide a slight influence. As summarized in Table VII, being female and of “Other NonHispanic” ethnicity (e.g., Asian) are related to undertaking Privacy Actions, though their impact on the predictive value of the overall model is minimal.
### TABLE VII

**HIERARCHICAL MULTIPLE REGRESSION PREDICTING PRIVACY ACTIONS INDEX**

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Privacy Actions Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Adj R²</td>
</tr>
<tr>
<td><strong>Step 1 - Age</strong></td>
<td>.07</td>
</tr>
<tr>
<td><strong>Step 2 - Income</strong></td>
<td>.06</td>
</tr>
<tr>
<td><strong>Step 3 - Education</strong></td>
<td>.07</td>
</tr>
<tr>
<td><strong>Step 4 - Male</strong></td>
<td>.07</td>
</tr>
<tr>
<td><strong>Step 5 – Household</strong></td>
<td>.08</td>
</tr>
<tr>
<td>Married/Living with Partner</td>
<td>.03</td>
</tr>
<tr>
<td>Children Under 18 in Home</td>
<td>.04</td>
</tr>
<tr>
<td><strong>Step 6 – Race/Ethnicity</strong></td>
<td>.08</td>
</tr>
<tr>
<td>African American, NonHispanic</td>
<td>- .04</td>
</tr>
<tr>
<td>Other NonHispanic</td>
<td>.09*</td>
</tr>
<tr>
<td>Hispanic</td>
<td>.05</td>
</tr>
</tbody>
</table>

* *p < .05,* ** *p < .01,* *** *p < .001

§ Standardized coefficients

---

3. **Social network site users**

Finally, because social network sites are designed in a way that views the ultimate user as a group of individuals, and not a single individual (Shirkey, 2005), they provide the opportunity to examine the practices that individuals use to seek out and manage relationships contained therein. Table VIII summarizes the survey items related actions that individuals may engage in to develop and maintain relationship connections in the online environment, and breaks these out between the entire sample of internet users and the smaller subsample of social network site users.
TABLE VIII
COHORT COMPARISON OF INTERNET AND SOCIAL NETWORK SITE USERS ON ACTIVITIES RELATED TO RELATIONSHIP CONNECTIONS$^1$

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Create SNS profile</td>
<td>64.0%</td>
<td>91.1%</td>
<td>35.4%</td>
<td>80.9%</td>
<td></td>
</tr>
<tr>
<td>Google self</td>
<td>64.2%</td>
<td>72.9%</td>
<td>52.6%</td>
<td>69.5%</td>
<td></td>
</tr>
<tr>
<td>Search for info on others from past</td>
<td>52.5%</td>
<td>64.9%</td>
<td>42.2%</td>
<td>63.4%</td>
<td></td>
</tr>
<tr>
<td>Search for SNS profiles</td>
<td>59.5%</td>
<td>70.0%</td>
<td>41.9%</td>
<td>63.1%</td>
<td></td>
</tr>
<tr>
<td>Contacted by someone from past</td>
<td>50.6%</td>
<td>67.2%</td>
<td>32.2%</td>
<td>55.7%</td>
<td></td>
</tr>
<tr>
<td>Limit online information about self</td>
<td>37.9%</td>
<td>43.7%</td>
<td>27.1%</td>
<td>36.6%</td>
<td></td>
</tr>
</tbody>
</table>

What is immediately striking about this breakout is the diminishment of the cohort disparity in engagement in each of the activities when only social network site users are considered: while some cohort declines continue to be evident among social network site users, the magnitude of the declines is significantly less than what is found among internet users overall, especially in the younger midlife cohort born 1955 to 1964. Independent-samples t-tests compared reported engagement in various activities related to relationship reconnections between the cohort of younger adults (born 1965 to 1988) and that of younger midlife adults born 1955 to 1964, both for the overall sample and for social network site users. Mean differences on the various activities are small, and eta² ($\eta^2$) analysis compares significance of these differences; the results are summarized in Table IX. Comparison of eta² for the various

$^1$Results are weighted to US Census Bureau’s 2009 Annual Social and Economic Supplement.
relationship reconnection activities demonstrates how cohort differences diminish for users of social network sites.

**TABLE IX**
**ETA² (η²) COMPARISON BETWEEN YOUNGER ADULTS (BORN 1965-1988) AND YOUNGER MATURE ADULTS (BORN 1955-1964) ON RELATIONSHIP RECONNECTION ACTIVITIES**

<table>
<thead>
<tr>
<th>Activity</th>
<th>Internet Users</th>
<th>SNS Users</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create SNS profile</td>
<td>.073</td>
<td>.013</td>
</tr>
<tr>
<td>Google self</td>
<td>.012</td>
<td>.001</td>
</tr>
<tr>
<td>Search for info on others from past</td>
<td>.009</td>
<td>.000</td>
</tr>
<tr>
<td>Search for SNS profiles</td>
<td>.027</td>
<td>.003</td>
</tr>
<tr>
<td>Contacted by someone from past</td>
<td>.032</td>
<td>.010</td>
</tr>
<tr>
<td>Limit online information about self</td>
<td>.012</td>
<td>.004</td>
</tr>
</tbody>
</table>

This diminishment of cohort disparities among social network site users in activities related to reconnecting with others from one’s past also presented an opportunity for exploration in the interview phase of the study. Chapter V presents more detailed finding of how social network sites provide support to midlife adults for relationship reconnection activities and how the developmental aspects of midlife relate to social network site use for this purpose.

**D. Conclusion**

Taken together, these results provide a foundational description of the reported engagement in internet activities throughout the life course. On the surface, these results suggest that age, repeatedly, is a significant and negative predictor of internet engagement in
an overall sense, and decidedly is related to the adoption of individual practices and technologies. The implementation of various activities is not undertaken uniformly in this sample however, as might be expected with increasing rates of digital skills and access: older cohorts report a more accelerated adoption of some activities such as webpage and social network profile creation than what is reported by younger adults, while adoption of other activities such as using a search engine to find information about the self are reported at somewhat slower rates. These varying adoption rates of individual technologies and practices are perhaps one of the clearest indications that factors, in addition to digital literacy skills and internet access, may be involved in the adoption of internet technologies and practices by various birth cohorts. In other words, cohort declines in internet use cannot be explained solely through a progression of exposure to the internet and proficiency with the technology.

Instead these differing rates of use, slightly more pronounced in connection activities such as with social network site profile creation and searching for individuals from one’s past, may also suggest that the networks of individuals potentially have less of a technology presence in older birth cohorts and this further dampen internet use. In other words, internet use is not only impacted by the environment in which an individual lives, but also by the network of individuals to whom one is connected, the linked lives principle of the life course perspective. When social networks are not as actively engaged in technology implementations (such as social network sites), we might expect that the members of those networks would evidence reduced levels of internet connecting activities when compared to those who have technologically-enabled networks. Thus, it is not surprising that older adults, whose social networks have been accumulated without the everyday mediation of the internet, would
demonstrate reduced levels of internet activities and use, particularly when it comes to connection with others. The diminishment of cohort disparities in activities among social network site users of all life stages reinforces this position.

The Internet’s arrival into everyday use occurred in the mid-1990s, with 50% of US high schools reported internet connectivity by 1998 (Wells & Lewis, 2005). This arrival coincides within the stage of continuous work during the life course, and situates a group experiencing pre-internet education and pre-retirement that was born between 1945 and 1964. This is a stage that is typically considered midlife in the US, and one that has received less attention in the field of life course studies. Midlife is sometimes characterized as a “bridge” period in the life course (Hunt, 2005; Neugarten, 1971), a conduit between youth and old age. From an internet use perspective, this cohort presents an interesting research opportunity: midlife adults are sufficiently experienced to develop a life course lens toward technology use, but are not as far along the life trajectory to have developed the physical impediments associated with old age such as cognitive declines, failing sensory capabilities, and dependency on physical support mechanisms. Examination of the practices of midlife internet users provides a vantage point that reflects this bridge position between youth and old age, and the significance of relationship connections in both of these other life phases are expected to be reflected in their approach to internet use.

The next chapter explores in greater detail how midlife adults engage their social networks via the internet and specifically explores the attitudes and perceptions of midlife internet users in several key areas: attitudes toward the internet, privacy and social network site use; social strategies related to connecting, disconnecting and not connecting with others;
strategies related to privacy in the online environment; and reconnection experiences. The chapter details how perceptions and attitudes of midlife adults relate to internet use overall, and how the developmental aspects of midlife influence internet use for relationship connections. Because midlife adults report use of email and search engines (to find information, not necessarily to gather information on individuals or oneself) at rates nearing those reported by younger users, the very ubiquity of these technologies offers important insight into the strategies for sociality and privacy and how technologies are used to socialize at different points in the life course. Additionally, the interviews enabled examination of alternative uses of social network sites, as the midlife participants detailed their adoption of these technologies, already heavily used by younger adults, to reconnect with dormant relationships.
V. FINDINGS – PHASE II

The first phase of this research made use of inter- and intracohort analyses to examine differences in internet activities between various birth year cohorts, and how changes in these practices manifested within a cohort over time. The resulting foundational description of internet use patterns at different phases in the life course repeatedly pointed to age as the variable which negatively predicted internet engagement in an overall sense, and decidedly related to the lack of adoption of certain individual practices such as the use of social network sites and microblogging. Additionally, older cohorts did not implement new types of internet activities uniformly, as might be expected with increasing rates of digital skills and internet access: some activities such as webpage creation and blogging were adopted at a more accelerated pace than younger adults, while other activities such as using a search engine to find information about the self were reported a slower rates. The varying adoption rates are an indication that cohort declines in internet use are not explained solely through a progression of exposure to the internet and skill-related proficiency with the technologies.

Within a life course perspective, it is important to recall that age is recognized as a conflated variable representing the effects of three distinct age-related dimensions: (a) the aging effect, or physical and cognitive change associated with maturation; (b) the period effect, or the consequence of influences that occur through time and which tend to be uniform across cohorts; and (c) the cohort effect, or the effect that results from the unique socio-historical time at which the individual (or group of individuals) is born. Thus, for midlife and older adults internet use may be reflective of the aging effect, and we might expect to see decreases in usage patterns related to the physical and cognitive declines associated with older age levels.
Internet use patterns would also display a period effect, which should be somewhat similar for all cohorts; this is demonstrated by increases in internet use and is associated with its introduction and increasing incorporation into everyday life. Finally, internet use patterns should also reflect a cohort effect, resulting from the unique socio-historical time at which midlife and older adults were born. It is this last dimension of age which is often overlooked by researchers when examining internet use patterns, yet it provides powerful influences in the adoption and use of internet technologies for relationship maintenance and development.

Analysis of the survey data demonstrated that differing rates of use are slightly more pronounced in connection activities, such as social network site use and searching for others from one’s past, than with other internet activities such as blogging. Recall that significant portions of the life trajectories of midlife and older adult cohorts occurred prior to the internet becoming a mundane communication medium. The linked lives principle makes clear that the lack of prior internet mediation impacts not only how midlife and older adults understand relationships to be developed and maintained, but also how technologies might play into these practices. Moreover, the networks developed by these individuals throughout their life course, the networks they were born into so to speak, are comprised of other members of the cohort; thus, the competencies and expectations in communication and connection practices of the overall cohort amplify those of the individual. More pronounced disparity in internet connection activities suggests that the social networks of older individuals have a reduced technology presence, therefore it is perhaps unsurprising that adults in older cohorts demonstrate reduced levels of internet use in connection activities with others. In other words, the linked lives principle of the life course perspective, that outcomes are not only impacted by
the environment in which an individual lives, but also by the network of individuals to whom one is connected, results in a cohort effect on internet use. The diminishment of cohort disparities in internet activities among social network site users, whose networks have a higher technology presence, serves to reinforce this interpretation.

Though socio-historic location of midlife adults means that this particular group of adults has experienced relationship development paths outside of the influences of the internet, their status as a member in the “bridge” period in the life course (Hunt, 2005; Neugarten, 1971; Wahl & Kruse, 2005), the conduit between youth and old age, implies that relationships will be developed and maintained with individuals who are members of other, and especially younger, cohorts in which internet communication technologies are commonly employed. Moreover, the life course principle of human agency reinforces that individuals adapt their behavior within the opportunities and constraints of the surrounding environment to meet his or her needs. These factors provide a pathway to examination of internet use and relationships at midlife, and a qualitative approach was used as a second phase of the research process to explore attitudes and perceptions toward the use of internet technologies for relationship development and maintenance in greater detail. Twenty-three internet-using midlife adults were interviewed regarding their use of the internet, and social media specifically, to develop and maintain relationships and to reconnect with individuals from their past.

A. Sample

As determined in the quantitative phase of this research, internet activities for the adults surveyed in this study revolve around three principal activities: content creation,
internet mobility and social media use. The dimensions of social media and mobile access, in particular, provide a specific focus to the investigation of how internet technologies support various forms of relationship connections. These dimensions were therefore used to design a purposive sample, using a strategy that aimed for maximal variation (Patton, 2002) to disclose a range of variation and differentiation in internet and social media use. The survey items that were associated with the internet use dimension variables were replicated in an online prescreening survey to ascertain scores for the Internet Mobility and Social Media Use Indices. The online survey, presented in Appendix C, was promoted via discussion board postings, social media profile wall postings and email listservs.

Based on the results of this online prescreening survey, 31 internet-using adults representing a range of uses of Social Media and Internet Mobility were invited to participate in 45 to 75 minute interviews. Qualitative studies which have examined the technology practices of adults have employed samples in the range of 20 to 35 cases (Blitt-Cohen & Litwin, 200; Dwyer, 2007; Selwyn, 2004). Twenty-three individuals agreed to participate in the interviews. The range of participant’s Social Media Use Index and Internet Mobility Index scores are displayed in a scatterplot in Figure 1 below. Fifteen females and eight males participated in the interviews, with ages ranging from 46 to 64 years: ten participants fell into the younger, born 1955 to 1964, birth cohort and thirteen participants fell into the older, born 1945 to 1954, birth cohort. Overall, the sample reflected a diverse range of individuals, reflective of the composition of the greater metropolitan area of Chicago. To protect participant’s privacy, no data on employment or income was obtained; however, through participant disclosures during the individual interviews it was evident that a wide range of occupations were represented in
the sample. Students, individuals seeking employment, and those who had permanently left the workforce to stay home with children or take care of ailing relatives were also represented.

FIGURE 1
INTERNET MOBILITY AND SOCIAL MEDIA USE INDEX SCORES FOR PARTICIPANTS

![Graph showing Internet Mobility and Social Media Use Index Scores](image)

B. Data Collection Method

Participants were interviewed by the researcher in a location convenient to the participant between June 8, 2011 and October 7, 2011; typically, interview locations were public libraries and coffee shops. As detailed in the interview plan, presented as Appendix D, interviews keyed on four primary topic areas: availability of online personal information and vehicles for discovery of such information; general practices with respect to social network site use; connection and disconnection practices on social network sites; and incidence of reconnection with dormant social relationships. Participants received a $25 Amazon.com gift certificate in compensation for their time. All interviews were recorded with the permission of
the participant. After the interviews, the recordings were transcribed into text files by a paid transcriptionist, and completed transcriptions were individually verified by the researcher. In all, 995 minutes (16.6 hours) of interviews were recorded and transcribed, with individual interviews ranging from 30 minutes to one hour in length.

C. **Data Analysis Method**

Using qualitative data analysis software, the transcripted dialogs were categorized into themes using a concept-driven structure (Gibbs, 2007), alternatively referred to as categorization (Dey, 1993, p. 99) or a template approach (Crabtree & Miller, 1999), which included initial themes of: attitudes regarding the internet, privacy and social media sites; and social strategies related to reconnecting, privacy protection and identity management. These themes were developed from and reflected the key questions that formed the framework for the unstructured interviews, and included the following:

- Privacy attitudes
- Social network site attitudes
- Internet attitudes
- Social strategies regarding connecting, disconnecting and not connecting to others
- Privacy strategies
- Reconnection incidents

Analysis of the transcripts was guided, but not confined, by these initial themes and new codes were assigned in an inductive process that described new themes that emerged from the data (Fereday & Muir-Cochrane, 2006). These additional themes included new topics, such as
identity management across media platforms, or expanded on an existing thematic base, such as information sharing as a social strategy related to relationship maintenance. In all, 1,721 segments, or units, of the interview transcripts were identified as falling into 435 individual ideas. These ideas were reassembled and clustered into related concept groupings, and then the concepts were then clustered as they related to each of the research questions (Fereday & Muir-Cochrane, 2006). Themes were distilled from these clusters. Finally, the themes were corroborated, or scrutinized, to ensure that the clustered themes were representative of the initial data analysis and assigned clusters (Braun & Clarke, 2006; Fereday & Muir-Cochrane, 2006). This process involved several iterations, and preceded the interpretative phase in which the individual units were connected into an explanatory framework to answer the research questions.

**D. Findings and Discussion**

Midlife is viewed as a “period in the middle,” both comprising a conduit life phase between younger and older generations (Hunt, 2005; Neugarten, 1971) and also defining the midpoint of the life course of the individual’s own existence. Previous research has indicated that midlife represents a developmental vantage point at which individuals recognize that they are aging (Atchley, 1988) and have an increased awareness of the finite nature of their own life (Carney & Cohler, 1993). Often this leads to an engagement in life review and reflection (Lachman, 2004; Lachman, Lewkowicz, Marcus & Peng, 1994; Stewart & Vandewater, 1999), processes through which individuals naturally look back to see what has been done and look ahead to see what is still left to do while the possibility to make changes still exists (Lachman et al., 1994). Perceived as a distinctive period in the life cycle, and qualitatively different from
other periods (Neugarten, 1968), it is the characterization of midlife as a “turning point between the rise and decline of the flow of life” (Wahl & Kruse, 2005, p. 7) that perhaps has been echoed most strongly regarding this point in the life course. Yet this life stage, while clearly delineated from a conceptual point of view, defies definition from an objective calendar point of view (Wahl & Kruse, 2005).

From a cognitive development perspective, developmental tasks and everyday demands are not comparable between midlife adults and those at other ages. Unlike adults in younger and older cohorts, midlife adults experience both developmental growth and loss: professional expertise and proficiency in family matters (such as dealing with adolescents) are finally realized, while high level physical functioning (such as with team sports or fertility) begins to decline (Heckhausen, 2001). Family obligations peak at midlife due to aging relatives and children leaving the home to establish their own families (Martin & Zimprich, 2005) and job demands and workloads are relatively stable (Townsend, 2001). Contrasting with younger cohorts where cognitive development is strongly influenced by education and training and older cohorts in which physiological decline plays a major role, cognitive performance at midlife is perceived as being at peak levels for such high order and complex functions as vocabulary, verbal memory, inductive reasoning, and spatial orientation (Willis & Schaie, 1999).

Significant role changes may occur at midlife: children often move out of the family home to establish their own households leaving “empty nests”; aging older relatives may shift caregiving efforts to younger family members from those older; and career transitions may occur due to workforce reentry, efforts to hold ground against younger colleagues, or declines in career opportunities. Despite these transitions, self-esteem is typically highest at midlife
(Robins, Trzesniewski, Tracy, Gosling & Potter, 2002) and the sense of personal control and power is at its peak (Dörner, Mickler & Staudinger, 2005; Lachman & Prenda Firth, 2004). Midlife adults tend to be more secure about themselves and the paths they are following, unlike their young adult counterparts, and most have achieved balance between societal expectations, personal goals and environmental demands; the sense of well-being is generally higher than in young adulthood (Dörner, Mickler & Staudinger, 2005).

Studies of self narratives at midlife emphasize the growing significance of physical and temporal aspects of identity, as that these become more frequent in thoughts and feelings (Dittmann-Kohli, 2005). There is an awareness of past identity in later life, which provides a “remembered context and conditions to the development of the present identity and selfhood” (p. 341). Work identity, a central aspect of midlife, can be threatened due to perceptions that innovation is more easily absorbed at younger ages and chances at career success become fewer (Dittmann-Kohli, 2005); yet work goals and perceived success become more personal and less conventional at midlife, as individuals obtain a clearer picture of their own strengths and deficits, and adjust goals and ideals accordingly (Axelrod, 1999).

While friendships play an important role in well-being at midlife, having large number of friends is not as important at midlife than it is for younger adults (Carstensen, 1992), and large social networks become less satisfying than at earlier points in adulthood (Carney and Cohler, 1993). Because of the high number of social roles filled at midlife, it is a period that allows for the least time for friendships (Antonucci, Akiyama & Merline, 2001). However, weaker forms of relationships, such as neighbors and those found through membership in volunteer organizations and religious groups, provide important sources of support at midlife, which
translates into increased health and well-being for individuals (Antonucci, Akiyama & Merline, 2001; Pillemer, Fuller-Rowell, Reid & Wells, 2010). The primary transition with respect to relationships at midlife is the way in which they are experienced: “What may have brought satisfaction in younger life may no longer do so in older age” (Carney & Cohler, 1993, p. 217).

1. **RQ1: How does the life course relate to internet use?**

To address how the life course generally, and midlife specifically, relates to internet use, the interview plan incorporated questions surrounding the use of the technologies of email, social network sites and search engines. Frequently, participants also made reference to related technologies such as blogs, microblogging, text messaging and chat as further illustration and clarification on specific points. From these conversations, two primary themes emerged that related to midlife and the use of these technologies: a temporal awareness that governs perceptions of a technology’s potential and a desire to manage the multiple audiences and contexts that are concurrently available through technology use. Taken together, these themes reflect the attitudes and perceptions that bring into focus two major affordances of internet use for midlife adults: the capacity to more effectively manage time and space and the facilitation of relationship connection and maintenance. It is these affordances which govern internet engagement at midlife, providing description and detail on how internet use may differ from other points in the life course.

Detail related to the emergent themes is specified in Table X below. Themes were developed from major repeating ideas occurring in the data. Number of Interviews specifies the number of participants that discussed each topic; Number of Mentions relates to the number of
instances in which ideas appeared. Presentation of this quantitative data is intended to give the reader a sense of the resonance of these themes within the data.

**TABLE X**

**LIFE COURSE AND INTERNET USE BY MIDLIFE ADULTS**

<table>
<thead>
<tr>
<th>Theme</th>
<th>Repeating Ideas</th>
<th>Number of Interviews</th>
<th>Number of Mentions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporal Awareness</td>
<td>Time consuming to use and learn</td>
<td>19</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Time’s value impacts how content is viewed</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Provides connection to the past</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Management of Multiple Contexts</td>
<td>Selectively create content</td>
<td>23</td>
<td>480</td>
</tr>
<tr>
<td></td>
<td>Professional/public context is distinct from personal</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Actively manage impressions</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Privacy is a function of selectivity and access</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affordances Govern Use</td>
<td>Ability to manage time and space</td>
<td>23</td>
<td>252</td>
</tr>
<tr>
<td></td>
<td>Mechanism for relationship maintenance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. **Temporal awareness**

As previously mentioned, the midlife experience brings an awareness of the finite nature of life and one’s own mortality. This results in a transformation of the experience of time and memory (Cohler & Galatzer-Levy, 1990; Neugarten, 1979), altering an individual’s temporal perspective on their own life from one of “time lived” to one of “time left to live.” Thus, time for those in midlife is perceived as being a relatively more limited resource than at earlier points in life, and this perspective is reflected in a pervasive awareness of the relationship between time and technology use.
Participants frequently noted a time constraint in relation to technology use, that using technology consumes time both from the standpoint of time it takes to learn how to perform various activities online, such as uploading photos, and also the time it takes to master the intricacies of various features of internet technologies, such as privacy controls on social network sites. One participant described her reluctance to devote time to the learning process, implying that she did not have excess time to spend or invest:

“And I’m not on Facebook ... Facebook is one thing that’s for all your friends, and, I guess, they see what you do and pictures you post and various things. But I just don’t have a lot of time to learn how to do that safely.”

Interviewee #20, Female, Age 54

Another individual voiced concern that the time absorbed by using the internet takes time away from other, more important responsibilities.

“And the thing is that once you are on the internet, you can spend a lot of time. And that’s why sometimes I just don’t want to start. Because once I start, I’m there like for two hours, you know. And so I have so many things to do, so (she laughs).”

Interviewee #16, Female, Age 55

The sheer number of technologies and applications, too, creates time management issues resulting from the number of ways in which participants use them. There is a perception that engagement in specific technologies, such as a social network site or blog, entails a responsibility for updating and responding to others, effectively increasing the demands on available time. One participant whose network of social connections spanned the US and Europe described how she felt pressured to limit the number of social network sites she was active in, despite the fact that different sites enabled access to different parts of her network:
“You know, that’s the whole thing with the social media sites. That’s why I limited the number.... The problem is that once you start, you can’t ignore people.”

Interviewee #16, Female, Age 55

The awareness that one’s life is finite also places an emphasis on the value of time, which results in an increased focus on the way in which time is spent (Gould, 1993).

Participants perceived the posting of mundane information an indication that the individuals were wasting time, or had too much time available. As one participant described it:

[referring to posts by another individual] “... ‘I got up this morning, and not feeling that great. Went out to breakfast.’ And it says, ‘Oh, no! It’s Sunday, I’ve got to dot-dot-dot. Oh, it’s Monday, and I’ve got this project due.’ And I say, “Well, why aren’t you working on the project? Why are you Facebooking when you should be working on your project?”

Interviewee #11, Male, Age 60

Likewise, participants saw the value of their own time as jeopardized by the propagation of what they perceived as trivial information by others. Status updates posted by others which contain information on current activities such as stopping for coffee or going on a bike ride are assessed in the context of the time taken to generate and read each one. To participants these often represented information that they “didn’t really need to know” or “don’t care” about. This perceived oversharing, or the practice of providing more details than necessary, creates a time conflict by intruding on the ability to discern relevant information.

“I don’t know whether it’s Twitter or whatever it is, but they, you know, every time they turn around, they’re sharing something with you. They’re not even close. They’re business connections, or connections of connections. Next thing you know I’m getting hourly updates and, you know, it’s just, I call it more noise than I can consume.”

Interviewee #15, Male, Age 58
Participants also noted the time consuming nature of following this type of content, suggesting that there are other, more valuable, uses for time.

“And literally some of this is every, every 30 minutes. ‘Well, I’m now at Bonwit & Teller’s’ or ‘Oh, well now I’m walking down 5th Avenue, and oh, guess who I just saw.’ I mean, where do people have the time to follow others like that?”

Interviewee #14, Male, Age 64

Consistent with this attitude, participants suggested that the mundane nature of their own everyday activities is not sufficiently interesting to others to be noted in communications, commenting that they were just “not that interesting” (Interviewee #9, Female, Age 50) and no one would really care to hear about their ordinary activities. Rather, participants keyed on the importance of posting only significant or relevant news and information, suggesting it must be something “really important in my life” (Interviewee #16, Female, Age 55) or “specific and directed” (Interviewee #11, Male, Age 60).

Alternatively, the increased awareness of time at midlife also amplifies attention to its passage. Midlife adults develop a consciousness of the length of their past and recognize that a significant portion of their life has materialized (Dittmann-Kohli, 2005). Correspondingly, life review and reflection processes are then echoed in online activities. In effect, the internet enables midlife adults to make a connection between their past and the present, taking an important role in the processes of reminiscing and remembering. Fueled and enhanced by an increased availability of information, this activity takes various forms such as an online search to locate individuals from one’s past or participation in a discussion board thread regaling the activities of youth. One individual described his perspective on how technology facilitates these activities of recall:
“As you get older, reliving your childhood appeals to a lot of people in their 40’s and 50’s. And, therefore, to get back to your childhood, you have to get back to those people that were part of your childhood and the memories attached to all that. And I think you reconnect with those people, because there’s technology out there that makes it so much easier.”

Interviewee #10, Male, Age 50

The context and conditions which contribute to a remembered past identity (Dittmann-Kohli, 2005) may also be summoned up online as well. Another participant described how she used Google Maps to create a virtual visit to the neighborhood in which she grew up:

“So I used the Google Maps function. My sister reminded me that I could do that. To take a walk through the neighborhood and to go and explore a little bit more of [hometown], and just what did I remember and what didn’t I remember? And where are things? And how had things changed since I was there? So it was very cool to be able in effect, to walk through the streets. I’m sorry I couldn’t back through the alley…. It was like a mini vacation.”

Interviewee #7, Female, Age 62

Perceptions of the functionalities of individual technologies are also cast in terms of prior life experiences and a remembered past. One participant connected the use of the Facebook birthday reminder function to her childhood:

“I mean, I do, I have like a million birthday messages, and it was fun. I mean, and people want to get together and do stuff. It was, well, normally unless you’re in grade school, no one knows it’s your birthday (she laughs).”

Interviewee #18, Female, Age 54

Another participant likened search engine use her prior experiences of raising children:

“I mean, I think the internet is really amazing. You know you can look up, if you hurt yourself or you know you feel sick, and you’re trying to decide whether you should go to the doctor, you Google, you know put in your symptoms, change the words around, make sure that you get like three or four sites that say the same thing, and then you know that’s pretty good…. And so, I mean, I really like that. First there was Dr. Spock, and now there’s Google, for parents. And I loved the index in that Dr. Spock book.”

Interviewee #2, Female, Age 48
At midlife, the way time is spent becomes significant due to its limited quantity. Technology use is highly connected to perceptions of time in this sense, and considered in terms of cost and benefit, with time consumed as the currency. Specific technologies are selectively engaged, with some viewed as trivial and time wasting and others as a luxury activity. The implication of this heightened awareness of time is that technology use for midlife adult is perceived as an elective process, a choice related to how time is spent, and not an extension of existing communication activities or environments. Yet, because these technologies offer a means to connect the past to the present, they offer agency to midlife adults in the processes of life review and reflection. In short, the increased temporal awareness results in time becoming a criterion of evaluation of internet use by midlife adults, and bears a significant impact on how these technologies are understood and used.

b. Management of multiple contexts

Social role transition is a characteristic of midlife, as is simultaneous fulfillment of multiple roles. These potentially include both being a parent and a child, a caregiver to children living at home and also for aging parents, a volunteer and paid worker, and a spouse and partner. Perhaps because midlife adults are highly conscious of these varied and numerous responsibilities, participants indicated sharp awareness of the multiple audiences and contexts that internet communications address. This awareness results in a sensitivity to issues related to the management of privacy and identity, which are addressed in four primary ways: by selectively creating content; by attempting to make clear delineations between personal and professional spheres; through active impression management; and through strategies for privacy defense. Privacy for these participants is viewed as a dynamic process, primarily
accomplished by controlling the information that one generally makes available, but also through the careful selection of relationship connections.

The convergence of multiple forms of identity in one space is deemed a “context collapse” (boyd, 2008; Wesch, 2008) and social network sites, in particular, present occasions for this to occur both through the availability of profile information and in the opportunity for commenting activity on the postings of others. Participants indicated an awareness of the multiple audiences that are addressed in the online environment, both known and unknown, and also that the potential for context collapse and context loss exists. One participant described her awareness of the contextual issues related to social network site use, yet also noted her own agency in how these contexts are perceived:

“I see the entity of Facebook there. And what I put on there, people are going to respond to that. They’re going to see it in a very, very, in a small vacuum. I mean, even though Facebook has gotten a lot better, they’re only going to see that one portion of it. And you select what you put on there.”

Interviewee #17, Female, Age 55

One way in which participants manage the multiple contexts of the environment is by attempting to draw clear distinctions between their personal life and what they perceived as their public face, their professional persona. In their view, keeping the personal separate from the professional avoids potentially hazardous or uncomfortable situations. One participant connected online context collapse to his prior experience in managing multiple contexts:

“I’m starting to see this come up more in the forefront of, you know, do you really want your coworker to know, be your friend on Facebook? Do you want them to know things going on in your personal life and things of that nature? And I always thought that’s interesting, because I’ve seen what happens. I’ve seen what happens in the old way, when sometimes the wrong person, or someone, or something happens, and then all of a sudden there’s a, “Hmm... How do I, jockey my way [through this]?”

Interviewee #19, Male, Age 54
The desire to keep personal and professional contexts discrete online was echoed by another participant, who described how certain of her professional connections had become friends through long-term association. In her view, the once professional-only connections have become personal, and naturally they share information about interests and activities outside the workplace. She explained, however, that this type of self-disclosure was not appropriate with other professional contacts, some of whom she interacts with frequently. She consciously attempts to keep them separate:

“And so, it’s a way for us to stay connected and to know that Colleen in Hong Kong is doing Funky Dance and I’m doing Zumba. And I’m okay for her to know I’m doing Zumba, but it’s not okay for, you know, the Head of HR [or the] office hacks to know I’m doing Zumba. I don’t want to be associated with that... So there’s a small group of people that I, it is okay that we know our personal lives.”

Interviewee #16, Female, Age 55

Participants described distinct differences in their perceptions of various social network sites, especially between what they viewed as the “business” or “professional” context of LinkedIn and the “social” or “friends and family” context of Facebook. The professional context is seen as having certain etiquette, or rules which guide norms and behavior, and participants seem comfortable that these processes translate well into the online environment. One participant described her greater sense of confidence in utilizing LinkedIn because of its professional context:

“Okay, I think of LinkedIn by and large as a social network of working people. And as such, since I am old, there’s a certain level of decorum and etiquette associated with the work place. So, I guess I take comfort that there are certain boundaries that won’t be crossed in LinkedIn, whereas you know, Facebook seems like no rules.”

Interviewee #21, Female, Age 57
These differences also extend to how social norms are perceived in each environment. In a professional context, connection requests are understood to have an underlying motive of benefit to one or both parties, unlike in a personal context where relationships are generally seen as non-exploitive (Nussbaum, Pecchioni, Robinson & Thompson, 2000). Consequently, requests for connection from strangers are viewed differently, depending on whether they are received in a professional or personal context online. A participant described the difference in her reaction to a connection request from a previously unknown person, contrasting LinkedIn with Facebook:

“I don’t feel threatened on LinkedIn. It’s more just like, I think, trying to make a business connection. It’s not as creepy as, I don’t know why, but it’s just... If it’s from overseas or somebody, you know, it’s creepy on Facebook, but on LinkedIn I’m not as creeped out. I just figure it’s somebody trying to, a sales person, who’s just trying to widen the web or whatever.”

Interviewee #23, Female, Age 60

Participants see the professional and personal contexts of social network sites as fostering disparate functions, and these translated directly into the type of content that they place on the sites. LinkedIn, contextualized by participants as professional, is seen as both an online resource to obtain contact information about professional colleagues as well as a sort of resume containing one’s own employment and educational history; sites perceived as having a more personal context, such as Facebook, are seen as more fun, social and casual. One participant related how she perceived these differences by describing the content she posts on each of these sites:

“LinkedIn is more of a job thing. And like, you know, I wouldn’t put my resume on Facebook; there’s no reason to have my resume. I have a portfolio website that is actually, which there’s a link on LinkedIn to that. But I wouldn’t put that link on Facebook because it’s like, people that you know. It’s more of a
Midlife adults’ perceptions as to the propriety of actions and activities in these differing environments is perhaps indicative Bourdieu’s (1985) notion of habitus, or the embodied disposition to classify the world and social action (Couldry, 2004). The habitus of midlife adults, which includes a strong and distinct workplace component, provides a disposition for actions and activities online. In turn, these activities encourage a propensity to segregate the online environment and engagement in specific technologies into personal and professional fora.

Participants recognized that multiple audiences of varying contexts have the potential to misconstrue the intention or reading of a comment or remark, so they actively take steps to avoid misinterpretation. This is accomplished by carefully wording communications such as email and posted comments, and making explicit those circumstances in which humor or sarcasm is a part. This is a deliberate process that considers the possibilities for varying interpretations of the created content. One participant described her awareness of the missing social cues in online communications:

“I think even with e-mails... a lot can be lost. There can be a lot of inflection missing in an e-mail or any kind of a post. So I do try and think about how I’m wording things so that people know I’m using a little bit of levity or that this is not... sarcastic so much, that I’m making it clear that I’m not mad about something. ...[I do this by] choice of words and an occasional LOL.”

Interviewee #23, Female, Age 60

The care in avoiding misinterpretation is reflected in efforts to avoid unnecessary conflict or offense to others. Participants accomplish this by taking a measured approach regarding the topics of their created content. For some, this entails avoiding certain topics such...
as politics and religion as the subject of a general posting. One participant described how political comments, seemingly innocuous to some, created difficulty for a friend:

“I just recently just saw a friend of mine who mentioned that, she commented on some stuff that was of a political nature or what have you. And she got a lot of backlash from a couple of her friends. And she was quite surprised that they judged it so seriously when she was just making a comment about it. And I thought about that, and I thought, yeah, well, maybe there’s certain things you shouldn’t post out there or comment on, because people are going to take it the wrong way, and they’re going to give you a hard time about it.”

Interviewee #10, Male, Age 50

There is also concern regarding misinterpretation of the subject of posted content, and participants noted a consciousness of how various audiences might interpret a comment or posting in unintended ways. Another participant described how her daughter at times engages in social steganography (boyd & Marwick, 2011), the practice of encoding widely available messages in such a way that only certain individuals will detect a hidden meaning. She describes her awareness that this practice is recognized outside of the intended circle, and because the underlying message is unclear, misinterpretation by others is possible:

“I’m always worried about people reading the wrong thing. My daughter does tend to put up quotes, lyrics to songs. Sometimes I know that they pertain to certain people in her life, sometimes they don’t at all. But I know that other mom’s will say, ‘Who’s she talking about now?’ And I’m like [responding to her daughter], ‘Don’t.’ And so I would never do that, because I know there are people, everyone thinks it’s them you’re talking about, and it’s not... So I’m very conscious of what goes up there and how it’s viewed from other people.”

Interviewee #22, Female, Age 46

Recognizing multiple audiences also entails managing the impression that is made, and participants noted three ways in which these are conveyed: by the type of content made available; in the connections that are made; and through visual information that is available on oneself. First, participants noted their awareness that content is judged by those who consume
it, and they actively seek to avoid being pre-judged, particularly because of age, race or ethnicity, or religious affiliation. One participant described an experience in which she gained a heightened awareness to this potential:

“[A] professional colleague was commenting around Easter time about Jesus. And she made a derogatory remark about Christianity or such, and I really felt like what she had said really made a lot of sense. It was just something about, it was a very, it was I think it was in contrast to a lot of people who were saying, you know, ‘Oh, happy Easter, blah-blah-blah.’ …and I had put like a ‘like’ on it, because I thought that was, you know, pretty good to be out there and let your own opinion be known. Somebody else commented very negatively about that and said that, ‘If somebody had made a comment about Allah, that there would have been quite an uprising and so how can you say negative things about Christianity? If you said something negative about the Muslim religion then you’d be taken to cause as being prejudiced.’ So I just removed my post and went on… [I] figured it was not something I really wanted to get into.”

Interviewee #17, Female, Age 55

In order to avoid negative perceptions by others, participants indicated that they avoid posting emotional content and steer clear of “airing dirty laundry” about their daily concerns. One participant described how the content of her posts contrasted with those of her teenage son:

“I mean, I don’t think anyone needs to know like personal stuff. You know, as an older person, maybe you’re personal stuff is more serious than a younger person, who’s just mad because they’re teacher gave them a detention, you know. [As] an older person, a serious thing would be for me is, you know, I had a court date today. I have no support money. But I wouldn’t be putting that stuff on there. It’s much too serious, I think, for that forum.”

Interviewee #18, Female, Age 54

But perhaps more important than just avoiding certain types of content, participants suggested that this process of selecting what is posted is intended to present a crafted and appropriate image of themselves. Another participant described this content selection process in terms of how she wanted herself to be seen by others:
“If I’m having a bad day, and I want to complain there’s no way that I would post a complaint, a personal complaint that’s going to stay until the computer era is no longer around. You can’t erase your thoughts. If you have a bad day, you just don’t go near the computer, because it will be there 10 years from now. And I mean, my true friends know that I have a good side of bitch, a good slice of bitch. I don’t need the world to know (she laughs)... Yeah, so when I go on the computer I want to be upbeat, more positive than negative. And, you know, if I’m engaging with somebody in a conversation that I have a diametrically opposite opinion, I don’t want to, you know, break down and start saying, ‘Listen, you stupid, you know, whatever.’ I want to be able to say it very politely and, and more, that it’s okay that you’re expressing opinions.”

Interviewee #24, Female, Age 63

Second, online action, particularly the making of connections, was also seen as creating impressions that could be deemed unfavorably. For participants, connection activity requires consideration before an invitation is issued or accepted, as they do not want to be seen as “connection accumulators”; conversely, accepting invitations from others to connect is also considered from this external perspective. One participant described how she thinks about requests she receives on LinkedIn:

“If someone tries to ask me to join them on LinkedIn, if I don’t know them I’m a little bit, not leery, but a little bit cautious, because I don’t want to add someone who might not have a good reputation.”

Interviewee #23, Female, Age 60

For midlife adults, impressions are conveyed not only through the information that one posts, but also by those with whom one is associated.

Third, midlife adults have a heightened awareness of their own physical aging process, and this corresponds to sensitivity to visual content that they make available about themselves. Tagging is an identification process of linking names, places and events with visual content, typically photos and video clips. Several participants were candid about untagging photos they felt were unflattering or did not portray them in a good light; others suggested
they did not post photos at all because they did not have photos of themselves that they liked.

One participant described her motivations to untag photos:

“[It’s] usually because I don’t look good (she laughs). ‘Oh wow, that looks old. There’s an old looking picture. That one makes me look really fat, never mind.’ Or someone tagged me and it wasn’t, it was just a bunch of people in a room. It wasn’t a good picture and it didn’t make any sense, and so I untagged it.”

Interviewee #18, Female, Age 54

Finally, operating in multiple contexts is an activity at midlife that is tempered by concerns about privacy and security of personal information in the online environment. Most participants acknowledged the futility of controlling the online availability of some forms of personally identifying information such as address and phone information; this type of information appeared to cause less concern, a finding consistent with results of the quantitative analysis in Phase I related to activities to limit personal information about oneself. Participants did express concern for the potential misuse of other information about them, such as the content of their posts and status updates. One participant described his concerns:

“But, you know, there’s people out there right now with the technology, the understanding. Like I said, knowledge is power. And there’s a lot of knowledge out there about every individual. And I wonder sometimes what do you do with all this information? You know, it’s, I don’t know, I guess the old saying, ‘Whatever you say can and will be used against you.”

Interviewee #19, Male, Age 54

Privacy, for midlife adults, is a vulnerable and dynamic process that results not only from the boundaries one places around personal information, but also from the context in which information is available. Online information is persistent, replicable, scalable and searchable (boyd and Marwick, 2011), and participants are aware that these properties
contribute to the ability for information to be misused and decontextualized. One individual detailed how she thinks about communicating in the online environment:

“I make sure that it’s not able to be seen by the entire world. And, you know, you never put anything out there that, even if it’s a private e-mail from one person to another or even a private post on Facebook, that you wouldn’t want your—I mean, my mother has passed—but you wouldn’t want your mother to read, you know what I mean? …I’m mindful that anybody can read this.”

Interviewee #23, Female, Age 60

To combat the potential for the misuse of their personal information, participants’ primary strategy is to limit the amount and type of information they create about themselves. Profiles on social network sites contain only basic information, often containing minimally acceptable information such as “junk email account” addresses and major metropolitan locations instead of hometowns. As one person described her profile:

“You know, my one friend said, ‘Your site is really boring, [own name].’ And she’s right, it is boring, you know, but I chose to do that.”

Interviewee #6, Female, Age 59

Posting information on current activities or location were universally seen by participants as unnecessary and somewhat foolhardy. Citing security reasons, most participants indicated that they would not reveal online any indication that they were away from home. One participant explained his reasoning:

“I, call me old, I don’t know what it is, but I think Twitter is pretty ridiculous. Because, you know, do people really care what you’re doing every single minute of the day, even if they are your friends? ...I also go back to the privacy stuff. And I go, well, you know, when you tell them you’re going to your kid’s soccer game, if somebody knows where you live that’s the perfect opportunity to go to your house, knowing that you’re not going to be there, and you know, burglarizing it or whatever. So, again, back to the privacy thing, I think that’s kind of foolish.”

Interviewee #10, Male, Age 50
In addition to selectivity in the information they reveal, participants took an additional step in being selective about their relationship connections. Participants indicated that trust in their connections leads them to be comfortable with the level of disclosure in which they engaged. This perspective was summarized and elaborated on by one individual:

“In other words, my attitude is that if I want you to know what I’m up to, first of all I’ve got to trust you, and secondly, if I do, then I’ll decide what I’m going to let you know and what I’m not going to let you know. I don’t want you looking at my stuff just out there, and then making your own assumptions or whatever. So it’s the whole privacy thing. You know, you go far enough to get on social media, and you know that some of your life is going to be public. But again, going back to those privacy settings, adjusting it to what you feel comfortable with so that when people do search on you, hopefully they just find the information you want them to find.”

Interviewee #10, Male, Age 50

Nippert-Eng (2011) identifies three dimensions of privacy: the ability to control access to something, be it a place, object or piece of information; the condition of being alone or uninterrupted by the demands of others; and the freedom to make decisions without restriction. With respect to information, she maintains that the privacy goal is control, as information disclosure that is unintended is considered a breach of privacy. Selectivity in disclosure implies control, and a greater assurance of privacy. It through this process of selectivity, in both making connections and generating content, that participants manage the multiple contexts of the online environment. Active boundary management, making clear distinctions between personal and professional contexts and public and private personae, helps midlife adults to establish control of their identity and privacy.

In summary, midlife adults are highly conscious of the multiple audiences and contexts in which internet-enabled communication takes place. To manage these competing demands, they engage in selective content creation, create distinction between professional/public and
private/personal contexts, and actively manage impressions by avoiding misinterpretation and negative images. Privacy is enacted through social strategies of selection, of what is created and to whom connection is made, and this perhaps begins to explain age differentials in implementation of privacy controls that surfaced in the quantitative results; it also sheds light in understanding the apparent contradiction between individuals being concerned about privacy and yet not engaging in the technological implementation of privacy controls. The net effect of these practices for midlife adults is that they take a more limited approach to participating in the online environment, and their use has an implicit, but subtle, emphasis on functionality.

c. **Affordances of internet use**

The attitudes and perspectives that midlife adults bring to their use of internet technologies color the ways in which these technologies are understood and used, yet at the same time, individual technologies have very real capacities which enable or constrain their ability to be utilized. Examining the affordances of technology, or “the features of a technology that make a certain action possible” (Graves, 2007, p. 332) focuses on the interplay of user interpretation with the material shaping and constraining potential of technology (Hutchby, 2001a) to derive meaning and significance for the users. Hutchby (2001b) argues that affordances are “functional and relational aspects which frame, while not determining, the possibilities for agentic action in relation to an object. In this way, technologies may be understood as artefacts which may be both shaped by and shaping of the practices humans use in interactions with, around and through them” (p. 444). For midlife adults, the affordances of
internet communication technologies center on two primary enabling capacities: the optimal management of space and time and an enhanced ability to manage and maintain relationships.

The temporal reconceptualization that occurs at midlife induces an awareness of time and space. This, in turn, impacts their understanding of the capacities of internet communication technologies, and is manifested in how they are utilized. Related to temporal awareness is the notion of psychological distance, a concept that is useful when contemplating the capabilities and features of digital communication technology. Psychological distance encompasses four distal experiences of reality: spatial distance, temporal distance, social distance and hypotheticality (Liberman, Trope & Stephan, 2007). Spatial distance is the physical space between individuals, and digital communication technologies readily bridge this space by connecting individuals in disparate geographic locations. Temporal distance is the distance represented by the passage of time, such as what separates the now from events occurring in the past or future; digital communication technologies possess a capacity to allow midlife adults to bridge time by enabling connection with individuals from one’s past and through granting access to information on historically significant places and events. Social distance is the difference between the self and others—those that are similar or dissimilar, those that have a different social status, or those that might be considered as ingroup or outgroup members. Digital communication technologies enable a form of social distance management; in a way that is inclusive yet not intimate, one on one communication may be undertaken with outgroup members using broadcast functionality, such as through posting status updates or through the use of group email. Finally, hypotheticality is the distance related to alternatives to reality, the
recognition of space between things that might have or should have happened but never materialized in the here and now.

For participants, internet communication technologies are viewed as tools that aid in overcoming the space and time constraints encountered in everyday life, constraints that can be understood in terms of time and psychological distance. Internet communication technologies afford midlife adults to manage time in two important ways: in the ability to save time and in the ability to produce time. They also offer the ability to manage space by granting the ability to overcome spatial distance, bridge temporal distance, and manage social distance.

From a temporal perspective, time saving is a capacity that is afforded by the internet’s ability to serve as a mechanism to gather information, especially news and knowledge, quickly and efficiently. Search engines overtly enable access to the various information sources, but the abbreviated format that certain sources employ to deliver information, such as news snippets on the homepage of a news outlet or the headline feed on an email homepage, also add to this information-gathering capability. One participant described how she gets news highlights via her mobile phone, in place of the more leisurely practice of reading the physical newspaper:

“I use the internet mostly to find out my news and I don’t take the time to read the newspaper even though I still get it delivered. So, I do use the internet for that. I tend to connect with the Tribune or the Times on my Blackberry regularly just to see if there’s anything new going on in the world. But I don’t really read in depth anymore and that’s, that’s the difference, you know.”

Interviewee #22, Female, Age 49

The internet also enhances the efficiency of the dissemination of information. For example, online photo sharing sites, such as Facebook or KodakGallery.com, have features such as tagging which are used for locating, identifying and disseminating pertinent material.
Another participant noted how photo sharing saves her time and also the need to contact the photo subjects individually:

“But you can reach a wider audience, you know, a wider group of people with the social media. You know, it is, it does make it a little easier.... I post the pictures. It gets tagged. And they’ve gone to every person who was in any of those pictures. ...and it was so easy to do. And I, I reached everybody rather than uploading each one on the computer with email.”

Interviewee #6, Female, Age 59

The internet and the asynchronous nature of email and social network sites also provides a means for midlife adults to produce time, through the accepted and expected interaction delays that use of certain internet communication technologies entail. Unlike more immediate forms of communication such as via telephone or face to face, asynchronous communication also allows for the processing of emotion such as surprise or guilt for not staying in touch, and to absorb information in stages. These delays provide participants with a backstage (Goffman, 1973) and permits production time that can be used to construct an appropriate display of self for others or for crafting a suitable communicative response. One participant described how a delay in responding to an email from a former roommate enabled her to repair a relationship that had been left on uncertain terms:

“And I liked being able to have some time. You know, she wasn’t, she wasn’t someone I ran into on the [commuter train line], and suddenly couldn’t think. You know, because that would be, that would be harder. Then you, you blurt out the first thing on your mind or something. But, in an e-mail you can even take a little time and, and actually write a few paragraphs that make sense. ...So that was the one reason I liked to take the time to do it, because sometimes, my first reaction is not the one I want people to know.”

Interviewee #20, Female, Age 54

From a spatial perspective, the internet affords midlife adults to overcome physical limitations. In addition to compressing the geographic distance between individuals, digital
communication technologies leave traces of activity, and savvy users can use these traces to virtually oversee the activities of others even when they are not co-present. Several participants described their use of the internet for surveillance purposes, to “keep tabs” on their children or even to bring themselves current on the activities of former associates. One participant described her motivation to set up a Facebook account, suggesting that she could monitor her niece’s activities without being in the same physical space:

“I really just wanted it [a Facebook account] so I could go online, and keep tabs on my niece because she has a Facebook page. She’s just turned 15. And also to just kind of snoop around at people from my past that I used to know that I used to work with, see what they’re up to. And then maybe take that and go over to LinkedIn and see what I can find out there. I also keep tabs just socially on people that I know.”

Interviewee #9, Female, Age 50

The ability to bridge temporal distance is another affordance of internet use which midlife adults take advantage. As detailed in the first section of this chapter, the internet proves to be a mechanism for adults to revisit past memories and reminisce with old friends. It provides the means to reconnect with individuals with whom one has lost touch, and also to engage with places associated with one’s youth. This ability to bridge temporal distance is appealing for midlife adults, as it gives them agency in the processes of reflection and review that occur at this life stage.

Another way in which the internet is instrumental in bridging temporal distance for midlife adults lies in the ability to preserve access to individuals over time. Profiles on social network sites are especially helpful to this endeavor, as they permit continual updating of contact information and provide linking mechanisms that endure through geographic moves
and life transitions. A participant described how his ability to reach people over time has improved through the use of this technology:

“You know, in today’s world, even if you have an up-to-date rolex [sic], or you try to keep it, you know, in touch with people via business cards, people change so much. And the old ways of being able to get in touch with people don’t exist anymore... You know, it used to be, I started at the old [former employer] Bank. And there were thousands of people working for [former employer]. And if you didn’t know someone you could call in, and you’d get some sort of operator, and they could find the person for you... Well, [employer] Bank has become [New] Bank. And when you call into [New] Bank, you don’t know if you’re calling Chicago, St. Louis, or whatever. They can’t, typically can’t find people for you. So if I knew someone that worked there and wanted to find them, I’d have no way of being able to do it through the ‘traditional means’ that I would have gotten in touch with people in the past.”

Interviewee #13, Male, Age 56

The ability to manage social distance is yet another way in which time and space are managed by midlife adults through use of the internet. Internet communication technologies enable midlife adults to take advantage of communicating at a distance, in a way that is at once immediate and inclusive yet not intimate. One participant described how the use of social network sites, rather than using a telephone, allowed him to manage the distance between himself and others, and this enabled him process rejection differently:

“I find the internet, LinkedIn, the social business networking, are so powerful and easier. You know, at least for me, it was a lot easier to reach out and try to create a connection with somebody versus the phone call, like the cold calling stuff. I hated that. You know, I hated the rejection, and you know, you felt it. You felt the sting of rejection, and with the internet for some reason... I had that filter, ...distancing from the emotional. You could, you could take the emotional piece in stages, and the emotional risk of rejection or confusion or whatever. I think the internet helps you masque that.”

Interviewee #15, Male, Age 58

Another use of internet communication technologies that proves useful to midlife adults to manage social distance is presented when facing a difficult personal situation. Participants
found utility in a social network site’s ability to communicate serious or complicated news on a more immediate basis to a broad audience, enabling one-on-one contacts to take place at a more welcomed or manageable point in time. Status updates, in particular, were seen to allow for more widespread dissemination of important news, while simultaneously maintaining distance between sender and receiver. This social distance may later be bridged through personal messaging features, email, and phone calls at the discretion of both sender and receiver. One participant described how a status update helped her convey difficult personal news to friends with whom her contact was sporadic:

“You know, my sister passed away suddenly.... You know, and it’s sort of like that one was a rough one for me, because my sister really did pass away, and it was so sudden. And then when I actually posted something, my close friends from college actually called me. So, it was just a way for me to tell people who are very close that I’m close with. You know, this is really what’s happened in my life, and to me in my life.”

Interviewee #16, Female, Age 55

In short, for midlife adults, the ability to use internet communication technologies to manage time and space are a key affordance, enabling them to optimize and produce time, as well as manage the spatial dimensions of everyday life. But the ability to facilitate relationship maintenance, a second key internet affordance, is what provides midlife adults with the greatest value.

The life review and reflection processes that occur at midlife understandably include an assessment of the important relationships in life, both family and friends. Family relationships are of central importance to midlife adults, and intergenerational relations, with parents and children, siblings, nieces, nephews and grandchildren, are a persistent factor. Relationships with friends, neighbors and work colleagues serve as important sources of both support and stress
(Antonucci, Akiyama & Merline, 2001). It is not surprising then, that the ability to maintain these numerous connections drives internet use at midlife. In particular, midlife adults use internet communication technologies to interact with younger and extended family members, to maintain professional connections, and to preserve contact with those individuals not frequently encountered in everyday life.

Connection with family, and particularly younger family members, is an initial motivating force for midlife adults in their engagement in many specific technologies. Participants frequently indicated that younger family members, such as their own children or nieces and nephews, first pulled them into the use of social network sites; a typical path to initial involvement with social network sites is an invitation by a younger family member to connect. Alternatively, participants with children sometimes noted that their initial involvement with social network sites was predicated on their child’s involvement; they followed their child’s lead into using these technologies to better understand the intricacies of use or to monitor the child’s activity.

[I started using Facebook] “partly because I wanted to stay in touch with family. I don’t use it for work, very concerned over the privacy issues, but I have a bunch of nieces and nephews and my family is scattered all over the country. So, basically to stay up with what folks were doing of the next generation who are so on Facebook, I signed up.”

Interviewee # 7, Female, Age 63

An ability to engage in “lightweight social surveillance” through use (Ellison, Lampe & Steinfield, 2009), the act of monitoring profiles and status updates for ephemeral events or major life changes, is augmented by the opportunity to periodically converse and share photos with younger family members, as well as those not frequently encountered. What results is a
valued sense of connection and continuity with these relationships, as described by one participant:

“LinkedIn is just a nice way to sort of stay in touch. [One] gentleman that I met, he’s a labor attorney and he changed firms. Well, I don’t interact with him professionally anymore. We got to be good friends [and I] found out from his LinkedIn Profile that he had changed [jobs]. So, you know, it’s a nice way to sort of keep a connection to people.”

Interviewee #21, Female, Age 57

There is recognition that social network sites are a predominant form of communication for young people, and this impels midlife adults toward its use to engage younger family members. As one participant noted:

“And I, I find that if I do want to interact with one of my nieces or nephews, that’s [meaning Facebook] the best way to do it, that or texting. You know, they don’t answer the phones like I do. And so the social media was really the place to go.”

Interviewee #6, Female, Age 59

The ability to maintain contact with extended family is also an important use of the internet at midlife, allowing for the discovery of mutual interests and camaraderie. Another participant described how her connection with a distant cousin was solidified via a social network site:

“So I will say Facebook has been really good for connecting. Like I’ve gotten to know cousins that live in Texas that I would see once every couple of years, but somehow you know, realizing that we’re both hockey fans and you know, and who would kid me or we both like to cook or whatever. And it was kind of nice to connect and easier then writing letters or picking up the phone, which you don’t tend to do.”

Interviewee #22, Female, Age 49

Midlife adults are often placed in the role of caregiver to aging or infirm elder family members which entails communicating the status of the cared-for individual’s condition to an extended family network. Social network sites can serve as a locus of information in the
occasional crises, such as a major health event, that arise in these caregiving situations, as they present an opportunity to disseminate information in an efficient and timely manner. The asynchronous nature of this technology enables communication to take place at junctures which are advantageous to all parties. One participant described how she communicated with extended family during the course of her mother’s illness; notably, she observes that in her view the ‘younger people,’ by this she means her adult children, nieces and nephews, don’t share this type of concern or connection with extended family:

“We keep in contact and we know what’s going on with their families. And you know, when someone’s sick, and when my mom died or was sick, they were all in contact with me constantly over Facebook. It was a very nice. I think that’s probably what younger people don’t have. I mean, we talked about, you know... What’s your mom’s treatment like? Can we come and see her?”

Interviewee #18, Female, Age 54

Further, the interaction that takes place can also function as a form of support for the caregiver. Another participant described how she used Facebook to provide emotional support to a distant cousin who was tackling a major health issue:

“And it’s mostly the relatives that you meet for like weddings and funerals, you know, they’re in the southern part of Illinois. Those are the ones you keep in touch with. I have another cousin who just had hip replacement in Vegas. And it was easy enough to keep in touch with her that way, because I can check every few days, ‘So, how are you doing today and stuff.’ And it’s better than just like picking up a phone to say, uh, you know. This way she can post it. Everybody sees it. And then you just move on.”

Interviewee #8, Female, Age 50

This ability to maintain connection via internet communication technologies extends into the professional realm for midlife adults as well. Intensional networking is a workplace practice of maintaining an awareness of the activities and whereabouts of teammates and colleagues and “keeping in touch” via carefully chosen communication media with those
contacts who may prove useful in the future (Nardi, Whittaker & Schwartz, 2000, 2002). It is a mechanism of cultivating potential sources of social capital, for preserving relational connections in the event they may be needed in the future. Participants frequently noted the value of a professional social networking environment such as LinkedIn to “keep all my contacts going” (Interviewee #16, Female, Age 55) or for “getting information out there” (Interviewee #13, Male, Age 56). One participant, who is currently thinking about a career move, described how LinkedIn enables this form of prospective networking:

“I’m a job changer; I’m a career changer, so I came from the corporate world, and then I became a teacher. And now I’m thinking, I love teaching, but the marketplace is not very good right now. So, I’m thinking I may have to do something else, differently, just for financial reasons. So I’m looking to LinkedIn a lot more. I’m on there more frequently now to try to network and make connections.”

Interviewee #9, Female, Age 50

The value in maintaining these connections for midlife adults, both from a professional and personal standpoint, lies in their ability to serve as potential sources of social capital, relationships that may at some point offer to fulfill such future needs as assistance in a job search, provide access to or locate sought-after information, or to generate personal satisfaction as companionship and camaraderie. Perhaps this potential is best summarized by one participant’s experience of tapping into these resources:

“[Facebook] is a lifeline for me. It’s been a lifeline for me since I had to go through a really bad time with my divorce—friends rallying, gathering, so many new friends that were old friends, people back in my life. It’s actually been a lifesaver for that, because you could feel really alone in a situation like that…. It’s been a savior in that way.”

Interviewee #18, Female, Age 54
d. **Summary**

Midlife, as a phase in the life course, brings perspectives to internet use that is reflective of its developmental aspects. The awareness of time, as a limited and increasingly valuable resource, impacts how the internet is perceived and employed at midlife. Because they are time consuming to use and learn, midlife adults approach certain internet technologies as an elective activity, as the time involved might be utilized in other ways. This temporal perspective leads to value judgments on the type of internet activities that midlife adults engage in, and in how content and applications are viewed. The temporal awareness is also evidenced in the ways in which midlife adults access the people and places of their lived past, share memories and reminisce.

Midlife adults also bring an awareness of the multiple contexts and audiences that are encountered via internet communications, and a heightened sensitivity for miscommunication and misunderstandings. To counteract these potential pitfalls, they selectively create content about themselves, their opinions and activities so that misperceptions and potential offense to others are attenuated. Attempts to distinguish distinct boundaries between the public/profession and personal realms help to avoid situations of unfavorable context collapse. Impressions are continually monitored such that what is given off evades negative response. As a result, privacy becomes a dynamic process that is primarily accomplished through selectivity in both connection and content creation. The net effect is a more limited approach to an online presence and a subtle emphasis on the functionality of internet use.

The affordances of internet use provided to midlife adults provide insight on these distinguishable patterns. The internet becomes a mechanism for midlife adults to manage the
spatial and temporal constraints of their everyday life. Its use increases time efficiency, bridges temporal interruptions, and produces time to craft responses and images that are deemed appropriate and desirable. Spatial management is accomplished through its capabilities for surveillance and creation of psychological distance in interaction.

The internet is also a vehicle for connection at midlife, and this drives its engagement and use. Midlife adults are often prompted to internet use in their desire to engage with younger family members, but it also becomes a vehicle to maintain contact with extended family and other not frequently encountered. Professional connections are sustained via internet use as well, and social network sites such as LinkedIn that emphasize a professional context provide mechanisms to preserve connection over time and through geographic and employment changes. These connections are valuable for midlife adults as they are a potential source of social capital in the form of information resources and in their potential to provide access to employment opportunities and social support.

2. **RQ2: How does the life course relate to use of the internet for relationship connections?**

To answer the question of how the life course relates to the use of the internet for relationship connections, the interview plan also incorporated questions relating to the use of social network sites for connecting to others and the underlying decision processes contributing to the internet’s use for maintaining connection with others. From the interview data, two primary themes emerged: the habitus of midlife adults, their face to face experiences with relationship development, ground connection activities; and reconnection with former friends and colleagues is a locus of connection activity. Considered in tandem with the temporal
awareness and desire to manage multiple contexts that midlife adults bring to internet use, these themes provide additional description and detail on how internet use varies at different points in the life course.

Detail on these emergent themes is described in Table XI below. Again, themes were developed from major repeating ideas occurring in the data. Number of Interviews specifies the number of participants that discussed each topic; Number of Mentions is the frequency of occasions in which ideas appeared. Presentation of this quantitative data is intended to give the reader a sense of the resonance of these themes within the data.

**TABLE XI**

**INTERNET USE AND RELATIONSHIP CONNECTION INVOLVING MIDLIFE ADULTS**

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a. **Connection reflects habitus**

Habitus is a theoretical construct that was developed extensively by Bourdieu (1972/1977) as a means to reconcile the notions of free agency and the role of social structures in shaping human action (Maton, 2008). As defined by Bourdieu, one’s habitus is the system of
dispositions toward action that are at once a product of the internalization of social structures and also a way of being: a tendency, propensity, or inclination that allows an individual to cope with unforeseen and ever-changing environments (Bourdieu, 1972/1977). The social arena, Bourdieu’s “field,” is a second construct of relevance and describes the space of interaction which, not unlike a football field, is contained and replete with its own implied roles, game rules and history (Thomson, 2008). Together with the context of the social arena (which includes the individual’s position within the social arena), these “ways of acting, feeling, thinking and being” (Maton, 2008, p. 52) produce individual and collective practices, choices to act in one manner and not another.

The socio-historic location of midlife adults, their location in the progression of time, has meant that this group of adults has significant life experience that was not influenced by the internet and that falls outside the use of newer communication technologies such as email, search engines and social network sites. As the internet was introduced into everyday use in the late-1990s (Haythornthwaite & Wellman, 2002), midlife adults experienced relationship development trajectories during formative life stages that were largely unmediated by forms of electronic communication other than the telephone, a technology that while bridging geographic distance still allowed individuals to maintain intimacy (Hutchby, 2001a).

In the manner conceived by Bourdieu, the online connection practices of midlife adults mirror this habitus and field of relationship development in two distinct areas: in the way connections, disconnection and decisions not to connect are understood and enacted; and in perceived and expected norms of interaction. As in more traditional models of relationship development, connection online for midlife adults in personal and professional contexts reflects
a choice toward affiliation with known individuals, rather than affiliation with those that might have been met in passing or who may share only a peripheral interest. Disconnection and decisions not to connect also mirror the practices of a face to face environment, with decisions not to associate tied to the reality of the face to face relationship or the lack of mutual benefit; disconnection reflects an evaluation that associated relationship costs are high relative to received benefit, overriding conventional wisdom that a low cost in maintaining online connections preserves their use. Finally the expectations for interaction reflect a preference for “playing by the rules” of the field, with professional etiquette and minimum levels of online interaction expected from those with whom one is connected.

i. Meaning of connection

Despite arguments that social network site connections do not possess characteristics of friendship (Condella, 2010; Tedesco, 2010), connection on social network sites does have meaning to midlife adults: connections are not just passing acquaintances, but have an underlying substance that is grounded personal history. Most participants report “knowing” their social network site connections, though this description takes on different interpretations depending on whether it is applied in a personal or professional context. One participant described “knowing” as “someone that I have known at some point in my life. We’ve either been friends or been in a professional relationship at some point” (Interviewee #21, Female, Age 57). Effectively, this leaves participants feeling that they are selective about with whom they connect, alternatively describing themselves as “picky” or “discriminating” about the process. As one participant described, her connections with others primarily fall into the
category of having a shared history, with only a few that falling outside this perceived boundary of “knowing”:

“I think they’re really broad on the spectrum. Some are very, very dear close friends to mine that I know I will have to my grave, and some are just sort of there. You know, it’s like, okay, you want to link in, okay. You know, because there is that social etiquette that makes it--I mean, unless you have a darn good reason not to link in with somebody, it’s a little rude to ignore it. So um, you know, I have like one or two of those that don’t have a real [strong connection], like they never hurt me or anything, but you know, it’s like a, oh, okay, whatever...”

Interviewee #21, Female, Age 57

Another participant described her personal connections in the context of her children, suggesting that the personal context involves a degree of familiarity with the immediate family and social preferences of the individual:

“And I use Facebook; ...those are really my close friends. Those are people who know me personally and that I want them to know I’m open to them knowing what’s happening in my kid’s lives. So that’s how I distinguish between Facebook and LinkedIn.”

Interviewee #16, Female, Age 55

Despite knowing most connections, participants typically do not use social network sites to actively engage with close friends and family. Media multiplexity theory suggests that those in stronger relationships use more media with greater frequency to connect with one another than those in weaker relationships (Baym & Ledbetter, 2009; Boase, 2008; Haythornthwaite, 2002) and the interview data supports this perspective in that social network sites were just one way, and not a preferred way, to maintain connection with close family and friends. Though acknowledging connection with these close ties, participants suggested that they utilize social network sites as a primary means of communication with extended networks or groups.
Other, more intimate, modes of communication are reserved for close connections, as one participant described:

“Normally if I want to communicate with family members, it’s still the traditional way. You’re going to pick up the phone and talk to them, or sometimes I’ll text or I’ll e-mail. I don’t feel like I have to necessarily go through Facebook to do that.”

Interviewee #10, Male, Age 50

It was not uncommon for participants to suggest that not enough of their “real” friends or close family members are on Facebook, thus social network sites were not considered to be a means to obtain information or communicate with these; although, children and grandchildren away at school or living in another part of the country did not fall into this generalization. Rather, participants used social network sites to monitor those relationships with which there was less frequent connection, such as extended family members, former colleagues and friends. As one participant, a jewelry maker, described:

“[I’ve] got a couple of customers on there that have Facebook that have actually had jewelry made with us. Then I have some of my relatives that I’m not especially close to. And basically I can see their life passing by, because they and their friends—they’re in their twenties, they’re my nieces—are very chatty about what’s going on. So even though they don’t call me or send me letters, I can follow their lives.”

Interviewee #24, Female, Age 60

Social network sites are therefore seen as a means to stay connected with a wider, more diverse group of weaker connections in the personal context, with connection implying an understanding of family structures and social preferences of the individual.

In a professional context, however, participants acknowledged that acceptable functions for social network site use include self-promotion and image maintenance, as well an ability to build connection in the interests of expanding potential business opportunities.
of an emphasis on the details of work-related accomplishment, and this is reflected in the content that is posted about oneself, such as educational and employment history, and in the content that is not posted. One participant described her reluctance to post information of a personal nature, her opinion, because she perceived of the context as professional:

“Yes, I have to be very careful because I run a business and I don’t want to say, ‘Listen, you’re a bunch of four letter word, ya-da, ya-da bigot.’ You know, I had to be very careful about how I phrased my thoughts and what I said so we don’t insult anyone’s delicate sensibility…. And, you know, reputation is everything.”

Interviewee #24, Female, Age 63

Connection in this professional context takes on a different meaning than what is evidenced in the personal environment. One participant, a photographer, described how the need to promote her business activity impacted her receptivity to connection in the professional context:

“Well, photographers have a very interesting problem with getting their work on the internet, getting traffic to their websites. Google is looking for words, and we make pictures…. So that’s why photographers have blogs. And using Facebook is just another way of generating an audience…. And I only have eighteen followers, on my blog through Blogger, but I have 303, right now, followers on Facebook. That’s a big difference…. I say yes to everyone, if I get a friend request, because I am using it to get my work out, not as a social networking thing.”

Interviewee #2, Female, Age 48

Participants reported they sometimes possess connections they have not met personally when using a social network site in a professional context. But because these are often introduced through a trusted mutual connection, these unknown connections are deemed to be “known” and acceptable:

“Most everybody, in fact, everybody is a personal connection, meaning I’ve met them. Now, if this person were to, in my network, were to say, ‘You
should meet so and so.’ Depending on my impression of the person that I know personally, I would probably say, ‘Yeah, okay.’”

Interviewee #9, Female, Age 50

A professional context implies that connections might be leveraged for personal gain such as access to a potential employment or business development opportunity. Another participant described her comfort level in such use, noting that an implied level of trust in one’s connections is what makes such a practice possible:

“I would be comfortable, let’s say I decided to go back to work. Let’s say somebody knew somebody that might know something about the industry or whatever, right? I would be totally comfortable, which probably speaks to the connection level I have with the people that are on LinkedIn with me, that I would be comfortable saying, ‘Hey, you know what, you know so and so. Could you introduce me to that person or whatever?’”

Interviewee #21, Female, Age 57

Some participants also indicated that the use of connections for this purpose was something to be merited out, which made them more selective about agreeing to professional connections. One participant described her reluctance to connect to unknown individuals because leveraging the connection may be uncomfortable or disadvantageous:

“I’ve had people, on the other end of it, because I was in marketing and PR, who would be job seeking, and call me all the time looking for contacts. And I very rarely gave them any, quite honestly, because I was really protective. It’s not that I didn’t want to help people, but these were my contacts. I nourished these relationships. I developed these relationships. And I don’t know, it’s kind of like LinkedIn, when you get people asking you, ‘I want to connect with you.’ I don’t know you from Adam. Why would I want to do this? That’s giving you an endorsement, not that I don’t want to help people, but I don’t want you to have access or put me in a compromising position to have to say no to you.”

Interviewee #9, Female, Age 50

Connection, then, for midlife adults incorporates the understanding of some form of an existing relationship with those with whom one is connected. In a personal context, this suggests a shared history or some form of weak tie relationship such as with extended family or
form former work colleagues. Notably absent from participants’ descriptions of personal connections were those individuals who were met in passing or who shared only a peripheral interest; such connections, perhaps because of the more personal nature of the information that is provided on a social network site, would not be deemed sufficiently close or valued for the personal disclosure that takes place. In a professional context, where information of a more personal nature is less frequently provided, the understanding of known connection is expanded, and includes individuals introduced by trusted intermediaries. Connections with lesser- or unknown others are made selectively, however, as they may imply some form of social capital exchange. Thus, a value judgment is associated with online connection for midlife adults, with value determined either by a shared relationship history or in the interpretation for mutual beneficence for the relationship. The association between online recognition of relationships and some form of personal value or benefit might allude to a more discriminating approach to connection by midlife adults, and may foreshadow a reduced level of connection activity.

ii. Disconnection and the decision not to connect

Decisions not to connect with others can also be seen as choices by midlife adults that reflect their understanding of their traditional, unmediated relationship practices. Participants note that the decision not to friend in a personal context is often based on “not knowing” the person making the request, though often they have connections in common. Requests of this nature are often “ignored” or placed in a “wait and see” category to be reevaluated in the event that the relationship progresses to a more substantial level. Other decisions not to friend are based on previous encounters, and reflect the reality of the face to face relationship. One
participant described her decision to not friend on this basis, because past history would not be accurately reflected in any form of online connection:

“...There are actually some people on there that I will not friend, that I know and have either had, well see, disagreeable work people that I’ve worked with. And I’m just like, I know you... but at the same time I’m like, no, because I don’t want to deal with you in any way, in any format (she laughs). And it’s easy enough, I’ve had a couple of requests that I’ve ignored. I’ve not like friended them and then unfriended them. It’s just been like, uh, no, ignore.”

Interviewee #12, Female, Age 46

Another participant also referred to the reality of the face to face relationship as the framework for not friending younger people. In her view, a social network site connection suggests or invites fewer distinctions in social roles, in this case between adult and teen. For her, establishing a boundary by not friending facilitates her ability to carry out her role responsibilities:

“I didn’t accept the younger kid’s friends. I just thought it was kind of inappropriate to be friends with the kids....I wasn’t interested in reading what they had to say on my Facebook feed, and I didn’t think they’d be interested in me either.... When I tell them that they can’t drink in my, you know these are 18-year olds, ‘You’re not drinking at a party at my house.’ I don’t want our relationship to be so casual that I comment on their silly things that they.... I think there needs to be that separation between being a parent and you know, being someone’s mom.”

Interviewee #18, Female, Age 55

Decisions not to connect in a professional context, conversely, are grounded in perceptions of potential benefit in return for engaging in a relationship. Particularly with unknown others, mutual benefit must be explicit; when benefit is unclear, connection is typically not undertaken. One participant delineated how he tries to ascertain mutual benefit in a connection request; when he cannot decipher it, he asks explicitly for an explanation:

“If I don’t see a reason for me to need to be connected to them, or them to need to be connected to me, then I may send them back a message saying,
‘Hey, you know, I appreciate your interest in wanting to connect with me, but what, in essence, what’s your motivation?’”

Interviewee #4, Male, Age 55

Another participant described how she often does not connect with those that she has no continuing interest in, despite some potential for mutual value. In her perspective, connection must have more than a minimal value; it must approach some level of equilibrium before she will connect:

“There are a lot of invitations I get that I don’t respond to, because of my position. I’m the gatekeeper for roughly 20 to 30 billion in fixed income pension money. So that means that everybody wants to connect to me, because I’m the buy side. So there are some folks, you know, a consultant relation’s person calls me, tries to set up a meeting. And maybe they get a meeting. And the next thing I get is a request to connect on LinkedIn. Well, frankly I didn’t like you’re marketing line, and you actually don’t care about me, so I don’t connect.”

Interviewee #7, Female, Age 62

Ignoring requests for connection is uncomfortable for most participants, despite that it is widely used as a means of evading undesired connection requests. Participants noted that they fear the appearance of being rude or discourteous in ignoring requests, similar to how this behavior would be perceived in an offline context. One participant cogently explained why she was uncomfortable with the online strategy to ignore requests:

“You know, sad to say I kind of ignore them, but I’m sure that that’s not the proper etiquette. I mean it’s like returning a phone call. I can’t tell you how annoyed I get when people don’t return my phone call. And they don’t know me. And I think it’s a common courtesy. Somebody has reached out to you. How long would it take to pick up the phone, and say, ‘Can’t help you,’ or an email that says, ‘Don’t know who you are, can you explain a little bit more of what you want?’ It really annoys me to have somebody e-mail me and say can you, you know, ‘Will you connect with me?’ I don’t know you. And I don’t want to invest the time to email you back to say, it just seems so rude, like impersonal, like you have to meet my standards (she laughs). Whereas if I met you at a cocktail party, I’d talk to you. I don’t get to say, ‘Well, who are you?’ first.”

Interviewee #9, Female, Age 50
Unfriending, or the process of disconnection, is seen as unusual and unnatural, especially given the careful consideration that participants give to the decision for connection. Participants noted that in their view it would be better to ignore a request, take time to evaluate the situation, rather than undo a connection. One participant described her reluctance to immediately connect with certain others in this way, suggesting the uncomfortable process of disconnection becomes even more so in the online environment:

“I don’t ever want to do that. I don’t ever want to hurt someone, you know. I mean, I just am cautious friending someone. And part of that is I don’t, I don’t want to. And have I had friends in my life that I’ve kind of drifted from on purpose? Yeah. Do I want to do that on a social media where everyone can see it? No, I don’t. So I hope I’m never in that situation. You know, because I wouldn’t want to do it.”

Interviewee #6, Female, Age 59

But unfriending activity does periodically take place with midlife adults, and also mirrors the offline processes of interpersonal relationship development. As interpersonal relationships grow from superficial to more intimate forms such as friendship, the pattern of interaction between parties is often described as a process of self-disclosure, in which the tension of privacy control and the hospitality of the social context and physical environment feature predominantly (Werner, Altman & Brown, 1992). Social penetration theory, first proposed by Altman and Taylor (1973/1983), describes this cyclical and dialectical process, and specifies that underlying the pattern of self-disclosure is a continual process of assessment: the individual constantly evaluates the costs and rewards gained from each interaction, determining satisfaction or dissatisfaction, and this appraisal governs advancement and continuation of the relationship. This evaluation process is also consistent with the principles of social exchange (Homans, 1958), which argue that an individual seeks to minimize the costs and maximize the
rewards of information sharing behavior. As long as the rewards outweigh the costs, two individuals will continue to share more and more personal information.

When it occurs, unfriending or disconnection, takes on these evaluative dimensions. Participants noted that unfriending arises most frequently when the costs of interaction outweigh the benefits. Costs in the online environment can be measured in several ways: time, “noise” or unwanted/undesired information disclosure, and loss of information control are some of the prices which participants mentioned. One participant described a disconnection incident in terms of the cost of his ability to be attentive to his other connections:

“I did [unfriend], and most of it was a lot of people who just sort of dribbled a lot of Twitter-like posts, and things like that. And it was even people maybe that I would have been interested in what they were doing, but just the volume was a gap…. And then you get somebody—like I go in and want to see what was happening, and there’d be 60 posts in a row from one person that was like Twitter-drivel and I can’t see what anybody else is doing on my whole Facebook [feed] because of you. So I just unfriended them.”

Interviewee #5, Male, Age 55

Another participant reported disconnecting over a perceived loss of trust, and the price for her was a lack of control over personal information:

“Yes, I remember I canceled [the connection], and it’s because of the friends that they had and I didn’t want my postings to be open to them. When I have friends, I kind of know, either I know or I don’t know how their settings are. So if I know that this person has a tendency for narcissism [which for this participant meant openly connecting with unknown others], I don’t want her or him as my friend, because I’m afraid whatever I post is open.”

Interviewee #3, Female, Age 50

In a professional context, this loss of trust often takes the character of ethical conduct or the breach of social codes, such as not pilfering the contact base of one’s colleagues. One participant, a mortgage broker, described how a co-worker violated her sense of fair play, and subsequently lost her trust and connection:
“One of my colleagues wanted to be my friend. And so I was like, sure, why not. He works in another office [of her employer], and he’s posted more than once, ‘Call me for a mortgage.’ Well, it’s like really? [He posted it] on his wall. Well, it’s going to be on my [wall too], and it’s like, no, no, no. So I defriended him, because it’s just like, ‘No, you’re not getting access to my contacts to try and promote your business and steal it from me. It’s just, I think it’s rude.’

Interviewee #23, Female, Age 60

The cost of maintaining a connection then becomes a constraint of connection for midlife adults. When it becomes sufficiently high, just as in the offline environment, relationships stop progressing and disconnection may result. It has been previously argued that one of the benefits of social network site use is the ability to reduce the cost of relationship formation, as the cost of building a relationship is a reduction in privacy and not in its maintenance (Donath and boyd, 2004). For midlife adults, however, the high cost of relationship maintenance becomes a limiting characteristic in online connection, and sometimes results in a decision to disconnect. The perspective of relationship costs presents a faceted understanding of online connection for midlife adults and reinforces the idea that prior experiences are reflected in their approach to internet use.

iii. Interaction expectations

Another way in which the habitus of midlife adults’ experiences in relationship development is evidenced is through expectations for interaction. Participants noted that certain behaviors are anticipated in the online environment, typically because they are also anticipated offline. The extension of birthday greetings provides an interesting illustration of how offline interactions create norms in the online environment. Most participants acknowledged sending or receiving birthday wishes, typically crediting the birthday reminder
function in Facebook. Their decision of whether to actually extend birthday greetings by posting a comment, however, is grounded in perceptions of what would take place in a face to face context:

“But I do appreciate that when I see it [the Facebook birthday reminder], where somebody who I know and probably would have said, ‘Happy Birthday,’ to them to their face, then I’d go ahead and say it on Facebook.”

Interviewee #5, Male, Age 55

And again, there is a difference in these expectations in professional versus personal environments. As one participant noted, one of the differences between LinkedIn and Facebook is that “I got some birthday wishes from Facebook, but I didn’t get those on LinkedIn” (Interviewee #15, Male, Age 58).

Rituals of courtesy are also anticipated in online interaction, just as they are expected in other more immediate communication modes. Introductions made between two individuals by a trusted intermediary typically involve an expectation of exchange, such as providing information on a potential employer or prospective business opportunity. The individual making the introduction uses some of his or her social capital to induce the connection. Because a use of social capital is implied, some initial activity by the introducing party is anticipated, an expectation carried over to the online environment. One participant indicated what she expected in a situation in which she is contacted by an unknown person seeking employment:

“And if you’re looking for a job, and somebody has referred me to you, why haven’t they, that person, at least sent me an e-mail or a message through LinkedIn to say, ‘Hey, I’m going to introduce you to Jane Smith, let me tell you a little bit about her. Could you help her out?’ And then I’ll connect with you, after I’ve talked with you.”

Interviewee #16, Female, Age 55
Again, these expectations are reflective of the perspective by midlife adults that value is contained in the act of connection online, and that value requires attention by all parties. This perspective is also echoed in an expectation for sociality in the form of reciprocating norms in online interactions. Participants are highly aware of connections that are only nominally present on social network sites, an awareness that incidentally appears to be facilitated by the birthday reminder function. Several participants noted instances where their previous year’s birthday greetings were the only activity evidenced on a connection’s wall:

“Well, (laughing) like my husband’s college roommate has a Facebook page.... I friended him, he accepted. A short time later I got that [birthday reminder] note and I went to his wall and I wrote ‘Happy Birthday.’ And I do that with people I know, I don’t do it with acquaintances I don’t really know. And then a year later, I got the same thing. I went to his wall, and the last thing on his wall was my birthday wish from the year before. What is the point of communicating with that person? You know?”

Interviewee #2, Female, Age 48

Another participant noted her impatience with those that do not adhere online to the reciprocating norms that are expected and anticipated in the offline environment:

“And if you don’t have the time to spend on a weekly basis, responding to people, you know, then you shouldn’t be on it. Because clearly if somebody’s sending you a message it’s really rude if you don’t get a response back.”

Interviewee #16, Female, Age 55

In a sense, inactivity is a breach of expectations and perceived to be a threat to the potential benefit of the connection, an indication that the relationship is potentially not valued by the other person.

In summary, the habitus of the relationship development experiences of midlife adults, which were primarily established in a period prior to the widespread introduction of the internet into everyday life, guide the behaviors and interaction expectations in their use of
internet technologies for relationship connection. Midlife adults make distinctions between the professional and personal contexts of social network site use, and consequently the underlying strategies for connection and the meaning of those connections are dissimilar; importantly, however, both forms of connection share an implicit sense of value in the connection. From a personal perspective, this value is based on “knowing” or having a shared history with the other person; professional connection is based on mutual beneficence and includes expectations of social capital realization. This sense of value in the connection is also reflected in decisions not to connect and disconnection, when the cost of relationship maintenance is factored in, and in expectations for interaction, as these are interpreted as indications of the value placed on the connection by others. Because it has been previously argued that social network sites are a low cost means of relationship maintenance (Donath and boyd, 2004), this conscious assessment of an online relationship connection’s value and potential demonstrates the nuance by which midlife adults approach and use social network sites for relationship connection.

b. **Relationship reconnection as locus of activity**

“For Hutchby, the point is that a technology is not a blank slate that society can interpret as it pleases. As he wrote, ‘Different technologies possess different affordances, and these affordances constrain the ways they can possibly be ‘written’ or ‘read’ ‘ (2001b, p. 447; emphasis in original). This narrow reading misses the added point that sometimes an affordance is an invitation—a sense present both in the everyday verb “to afford” and in the roots of affordance in cognitive psychology. As Hutchby has noted, psychologist J. J. Gibson (1986) argued that animals perceive the objects around them directly in terms of affordance; for the lizard, at a fundamental level, the rock means shelter. The idea of an action invited becomes clearest in the literature of design, where, for instance, the particular bend of a door handle is said to afford either pushing or pulling.” (Graves, 2007, p. 335)
Graves’ depiction of affordances as not only attributes of technology but also as an invitation to specific uses is appropriate when considering the use of internet technologies for relationship connection by midlife adults, and provides a key entry point into how these technologies may be perceived and used in a distinctive way at midlife. As described earlier, one of the affordances of internet communication for midlife adults is the ability to bridge temporal distance and access the past. This ability is evidenced clearly in the universal reports by participants of their use of the internet to reconnect with dormant social ties, or relationships that were once active and relatively strong, but which lapsed under the stressors of time, distance and circumstance.

Dormant ties are typically relationships between former college friends, close neighbors, or work colleagues who have lost touch because of geographic moves, career changes, work team succession or divergence in life trajectories, and represent a special category of relationships because of their prior history. The passage of time between connection points assumes that some significant individual changes may have occurred in the intervening period. Sometimes referred as “suspended” or “situationally dormant” (Babchuk & Bates, 1963) or “latent friendships” (Adams, 1998), dormant relationships often represent psychological importance but simultaneously lack of further development. The memory of past interaction that enables temporal distance to be overridden with mere contact, especially in extreme situations or emergency (Wellman, 1979); these relationships do not require substantial resource sharing or frequency of contact for such strengthening due to their historical activity.

The life review and reflection processes that occur at midlife typically encompass an assessment of important relationships, which sometimes leads to reconnection attempts with
individuals who were once important, but with whom connections has lapsed or fallen dormant. Relationship reconnections at midlife are thus an interesting mix of nostalgia and reunion, often filling the space previously taken up by career development and family obligations (Spencer and Pahl, 2006). An increased availability of time to devote to this process, connected to the stage in the life trajectory, plays significantly into this reconnection process, as described by one participant:

“But, I mean, admittedly that was a stretch of years where, you know, you’re raising kids, and you know, I, for me, I lost touch with a lot of those friends, because I’m busy raising kids, chasing them, coaching, working and traveling for work.... Now my kids are all, my last is going to be a senior at [name of university], and my time is a whole lot freer now. As are most of peers with, you know, all of us that put our kids through grade school and high school together, all of a sudden it’s like, ‘Wow, we don’t have all that stuff to do.’ I mean, more so, you know, I admittedly have more time to say, ‘You know, I really want to reconnect with people that were important to me, now that I have more time.’ And, and they do too, because they were around my age too. So it’s kind of, we’ve all got time freed up to devote to reconnecting with each other. So the first thing is we have to find each other.”

Interviewee #4, Male, Age 54

i. Finding through context

The process of making relationship reconnection in midlife is a strategic one, and is greatly aided by the availability of both self- and systemically-generated personal information in the online environment. Geographic mobility, name variations produced by marriage and divorce, and changes in employment easily thwart simple, search engine-based location efforts, but profiles on social network sites, and even email distribution lists, provide opportunities for contextual associations that aid in identifying the targeted individual. The importance that context plays in relationship formation and development is reflected in reconnection practices, as it becomes a form of identification in locating the alter of a dormant, dyadic relationship. In
short, the relationship context helps to ensure that the individual being searched for is definitively the correct person. One participant described how social network sites increased his ability to find people from his past:

“Well it was harder [before], because you couldn’t, didn’t necessarily know, how to find them. It [LinkedIn] makes finding people a whole lot easier.... And you don’t know where people are, or where people may have migrated to. And if they have a very common name, it could be very difficult to find them. And that’s where LinkedIn helps, because people normally post on their home, on their page, where they’ve worked and all that stuff”.

Interviewee #4, Male, Age 54

The contextual search capabilities offered by social network sites extend beyond being able to search the specific details of an employer or educational institution, as information on individuals’ relationships with others is also available and offers as an alternative means of identification. The visibility of friend/connection networks, typically made available in profile data, become an important finding aid for reconnection, serving as contextualizing information and also extending the reach of a search effort. One participant described how becoming connected with one long lost friend resulted in an entire subnet being reunited. In this case, the presence of the more enduring sibling relationships aided the group in reconstituting itself:

“Well, my friend Sue found me. And then she has, you know, three sisters. And then she friended my brother. And then my brother, a friend from the neighborhood found him. And then he friended me. And then, you know, his sister was my best friend growing up. And she friended me, and you know. You know, so, it kind of, between the bunch of us who started friending each other, it kind of was a spiral, you know.”

Interviewee #18, Female, Age 54

The enduring ties in a subnet such as a sibling or close family friend can serve as an important component of the reconnection process: they serve as anchors of past connection, often providing access to a broader array of connections. Another participant described how
she was able to use the connection networks of recently-located high school classmates to find other people from her high school class that she had lost contact with in this way:

“But I went to their sites, and they are friends with whole bunches of folks we all went to school with. So I followed up on their list of friends to connect and look up to see what happened to a whole bunch of guys from high school.”

Interviewee #7, Female, Age 63

Friend recommender algorithms, such as Facebook’s Friend Finder or LinkedIn’s People You May Know, provide a more systematized form of this contextual search process. The automated analysis of the social networks of an individual’s connections facilitates and encourages the reconnection process by presenting potential reconnection candidates. One participant explained how the automated prompting of LinkedIn’s People You May Know algorithm facilitated his reconnection with a former colleague:

“And it was, it was because of LinkedIn. I knew that I, where I could get in touch with this woman [previously], but I never bothered. But since it was so easy, it was right, served right out there in front of me, I wrote back to her.”

Interviewee #14, Male, Age 64

And the automated prompting may also act in tandem with the enduring anchor ties, resulting in additional reconnection possibilities. Another participant described how the Facebook algorithm identified the sister of one of his high school friends, which eventually led to reconnection with his friend:

“And, while I was in those two groups, you know, somebody came up on like “You Might Know,” and it was like, “Wow!” You know, this is somebody that, you know, I knew like a million years ago. And I knew her, actually was good friends with her older brother. And so, you know, I connected with her.... And you know, I've since connected with him.”

Interviewee #5, Male, Age 55
Several respondents reported that locating a targeted individual and gaining information on the individual’s life journey was sufficient to satisfy their curiosity, and they stopped short of making the reconnection. The availability of profile information enables a searcher to learn details about others as what Vinitzky–Seroussi (1998) describes as “objects of curiosity.” Vinitzky-Seroussi’s work involved identity constructions through the lens of high school class reunions, and she detailed how these former friends and connections serve as a looking glass or benchmark, allowing for validation of identity and personal growth. Similar to a personal encounter at a class reunion, social network profiles provide specifics on the lives of others that enable a similar type of function:

“Now I didn’t know them well enough, or it’s 40 years ago, and we haven’t stayed in touch so there’s no point in friending them necessarily. Because I don’t necessarily care what they’re doing day-to-day. But I did use it to go ahead then and see what had happened to a whole bunch of people that I hadn’t talked to in ages. You know, what happened to that guy that I had that crush on in 10th Grade (she laughs). Wow, that’s what he’s doing. That sort of thing.”

Interviewee #7, Female, Age 63

ii. Altered expectations

Aside from providing the means to reconnect, internet communication technologies offer some important benefits for individuals to manage the process of reconnection, including features that alter the spatial and temporal dimensions of the experience. Relationship reconnections are, by their very nature, temporal experiences which require individuals to acknowledge past identity as well as enact the present. Vinitzky–Seroussi (1998) suggests that individuals assume the continuity of one’s own identity over time and that class reunions, and by extension relationship reconnections, enable us to achieve and enhance that sense of continuous identity. Social network sites, particularly, offer the means to integrate these
multiple contexts of past and present both through the availability of profile information and in the opportunity for commenting activity on the postings of others. Participants described an awareness of the subtle ways in which comments and profile details signaled the multiple dimensions of identity, yet seemed comfortable that such a blending of contexts was not necessarily problematic due to their selectivity in making connections, a shared past history, and subtle expectations that significant individual changes may have occurred over the intervening period. One participant indicated his awareness of these contextual subtleties, and acknowledged that the trust in his connections is what lessens the identity and privacy threats:

“Some of my other friends that I’m obviously connected to don’t understand what that person and I had in common with a certain concert or a band that we liked or whatever. And they may view that and think, well, “Why would he like that kind of music? Or, I never thought he liked that kind of stuff.” And it really doesn’t bother me one way or the other. It’s just you’re conscious of the fact that certain friends don’t know other friends, and they may not know the context of why you’re talking about certain things. ...So the way I look at it is if I put it out there, it’s only my friends that are seeing it. And if they’re the only ones seeing it, I, I trust them, because they’re my friends.”

Interviewee #10, Male, Age 54

The asynchronous nature of internet communication technologies create opportunities for temporal management of reconnection events, which result in different communication expectations than what participants experience with other, more immediate, communication modes such as a phone call or a face-to-face encounter. Because the content of reconnection communications is seen as personal, it has a reduced immediacy relative to other, especially work-related, communications. One participant described how her response to a personal communication differs from communication that she receives in a work context:

“Um, if, you know, from work, you know, a work-related thing I usually try to respond right away. Well, there’s a hierarchy. If it’s from your boss, as soon as possible (she laughs). A colleague, soon or not necessarily--go to the
lady’s room first if you have to--to respond. Or just walk down the hall to wherever this person is. But, if it’s a personal e-mail, you have, you know, you have your choice almost.”

Interviewee #20, Female, Age 54

In addition, the response to a reconnection opportunity is seen as having an almost optional quality, that the expectation for a response, and especially an immediate response, is diminished. This may be related to the asynchronous nature of the communication medium with which there exists a reduced sense of social presence (Biocca, Harms & Burgoon, 2003), but also may be related to temporal distance of the relationship, i.e., that because the relationship is set in the past, it does not require an immediate response, or even a response at all. Another participant described how the asynchronous nature of email provides these temporal management capabilities in one sense, but also suggests that these capacities diminish his expectation for response:

“Uh, and you know, and I, I like asynchronous communication myself. You know, as I said, you know, earlier, it’s like I don’t necessarily like people who call me on the phone, because you know, most of the time I’m doing something. And, yeah, I look at the phone call as interruption. And I think I feel that same way about making phone calls, but you know when I send somebody an e-mail, I figure okay if they’re looking at e-mail, they’ve got time to look at e-mail, and then if they want to respond that’s fine. If they don’t, they can delete it.”

Interviewee #5, Male, Age 55

These differing response expectations provide an important advantage to participants on the receiving end of a reconnection attempt by allowing the time to process conflicting emotions such as surprise or guilt for not maintaining contact in the intervening period. These accepted and expected response lags also enable participants to produce appropriate responses to the reconnection efforts of others, particularly with relationships that may have been left on a less than positive note. One participant described his reaction to a reconnection
attempt by a former roommate, a relationship that had been left on less than desirable terms at their last point of contact:

“Um, well the initial contact since it’s online, I had a chance to think about it before I did anything about. As opposed to a phone call, you know, where you’re put out, you know, you’re in the moment and you have to make a conscious choice. Do I want to participate or what?”

Interviewee #15, Male, Age 58

The timing differential is critical to helping participants preserve and display an appropriate presentation of self, and can be instrumental in repairing damaged relationships. Another participant described how the asynchronous nature of the reconnection communication enabled her to craft an appropriate presentation of self, in another reconnection event where the previous point of contact had been left on poor terms:

“And I liked being able to have some time. You know, she wasn’t, she wasn’t someone I ran into on the L [commuter train], and suddenly couldn’t think. You know, because that would be harder. Then you, you blurt out the first thing on your mind or something. But, in an e-mail you can even take a little time and, and actually write a few paragraphs that make sense. …So that was the one reason I liked to take the time to do it, because sometimes, my first reaction is not the one I want people to know.”

Interviewee #20, Female, Age 54

iii. Connection and follow up

Not surprisingly, relationship reconnections are not always welcomed by the person being located. Many participants reported ignoring or disregarding requests from others, especially those who were not regarded as having a close relationship at an earlier point in time. Connection attempts by ex-partners were viewed as especially troublesome, as participants regarded such relationships as having ended or as having not continuing value. One participant described a reconnection attempt from her ex-husband in these terms:
“And then all of a sudden, I saw this friend request from my ex-husband, and I’m like, what? ...And it was just, not, kind of a freaky like, how did you find me? ...And I just thought it was weird, because it’s like that part of your life was, I mean there’s nothing to keep us connected. And there was a reason for the divorce and stuff. So why would you try to, you know. So yeah, he did try to reach out and I just deleted it.”

Interviewee #8, Female, Age 50

Alternatively, most participants reported some additional follow up interaction with their relationship reconnections after the initial contact. For certain individuals, this entailed keeping in touch at a distance: commenting on photos or news items that others post; monitoring status updates for major events in others’ lives such as job changes and children’s weddings; or sending birthday greetings.

“Interviewer: Do you stay in touch with them by any other means other than the Facebook connection?”

“No, and it’s usually once or twice. You know, ‘Oh, hi. Glad to know where you are. Did you attend the reunion? Are you going to? No.’ That’s enough. Yeah, there’s a, I think there’s a high school class page that I look at from time to time. And that’s sufficient. And if I have anything to say, I’ll [post] on that.”

Interviewee #14, Male, Age 64

In other instances, however, reconnections spark a stronger connection that is maintained through periodic email correspondence and the private messaging functions of social network sites. These weaker connections become a source of potential social capital for midlife adults, resources that might provide information, professional connection or social support at some point in the future. One participant described how she viewed these reconnected individuals:

“You develop a relationship, a reunion relationship with these people. And that’s very similar to what the Facebook thing does. I think you develop a
Facebook relationship. And a lot of that has really helped a lot in my professional work.”

Interviewee #17, Female, Age 55

Ultimately, however, participants agreed that the ability to locate dormant relationships and maintain a connection with located partners was greatly facilitated by today’s communication technologies.

“And I think you reconnect with those people, because there’s technology out there that makes it so much easier. I mean, I think that if you didn’t have all this, would you reconnect with those people? And I would say, ‘You know, probably not, because it’s so difficult, it would be so difficult to do that.’ You know, how did you do it in the past? Well, you had maybe family reunions or what have you. But what if they weren’t your family members? Would you go through all that effort to reconnect with them? Or would you even know how to find them? You know, people are able to move pretty readily now so, you know, they may not live in the same areas that you, when you knew them they lived in. Chances are very good that they don’t live in the same area. So, how would you find them? Well the technology, I think, is making it easier to find them. And if you can, then it’s a quick and easy way to relive the good old days and, and reminisce and reacquaint and find out what people are up to now, you know.”

Interviewee #10, Male, Age 54

In summary, relationship reconnections are a locus of activity for midlife adults on social network sites, and also a natural outgrowth of the processes of review and reflection that occur at midlife. Because the developmental processes at midlife involve such review and reflection, this type of activity is another affordance of internet technologies; they “invite” the reconnection process through an increased availability of personally identifying information and an enhanced ability to manage temporal and spatial experience of reconnection. An increased availability of information ensures that the correct individual is being located and provides contact information, important elements of the reconnection process. Moreover, the asynchronous quality of some internet communication technologies provides the ability to
manage the temporal and spatial aspects of the process in important ways; by altering expectations with respect to the timing of interactions, they permit a behind-the-scenes processing of emotional reactions to reconnection attempts and preserve the ability to appropriately present the self. These qualities are critical factors in enabling reconnections, facilitating interactions and easing the tension inherent in the reconnection process.

c. **Summary**

Midlife adults experienced relationship development and maintenance trajectories outside the influence of internet communication technologies, and consequently their relationship connection practices are guided by these experiences. In addition, the temporal awareness that is associated with midlife causes an association of relationship connection and time, and an interpretation of online connection as having value. This results in the strategies for connection, disconnection and decisions not to connect that reflect these priorities, grounding interpretations of connection in conceptions of mutual benefit, shared history and continuing cost/benefit assessment. This process of appraisal results in a degree of selection and selectivity with online connection at midlife, and a diminished appetite for increasing mediation of relationship maintenance practices, which effectively prioritizes face to face relationships. Thus, the value of internet communication technologies for midlife adults lies in their ability to manage and maintain weaker relationship connections, such as those with extended family and former friends and work colleagues, as these are optimized by the temporal and spatial management capacities inherent in the technologies.
E. **Conclusion**

Midlife represents a developmental vantage point in the life course at which an awareness of life’s finitude becomes evident and the temporal perspective shifts from “time lived” to “time left to live.” Processes of life reflection and review often occur in this period, as individuals seek to evaluate what has been accomplished in life while sufficient time still remains to make changes and adjustments. This increased temporal awareness is reflected in the attitudes and perceptions that midlife adults bring to their use of internet communication technologies, and lend insight into why disparities in use may continue after differences in access to broadband technology and digital literacy skills are resolved.

The value placed on time by midlife adults leads to a perspective toward internet use that results in a continual assessment of internet activities, content and applications. This appraisal process is reflected in perceptions that the internet is time consuming to use and learn, and thus places internet use into more of an elective activity for midlife adults, as they perceive that time might be utilized in other ways. Content and applications are viewed similarly, with perceptions of benefit governing consumption and use, and a functional or utilitarian approach to use is emphasized and effected.

An awareness of the multiple contexts and audiences that are encountered via internet communication technologies lead to a heightened sensitivity for miscommunication and misunderstandings by midlife adults, thus they are selective about the content they create about themselves and the boundaries they distinguish, especially between what they consider to be personal and professional contexts. Privacy is a dynamic process that is primarily accomplished through selectivity in both connection and content creation, and this selectivity
may begin to explain why safeguards such as privacy controls are not utilized as often in midlife; control of privacy is seen to be effected through selection in content and connections, and not through potentially unfamiliar and potentially complicated technological measures. This approach also results in a more limited online presence by midlife adults, not only because their life history occurred prior to digitization capabilities, but because they tend to selectively create and maintain content regarding the self and their own activities and reactions.

Relationship connection is the primary driver of internet use for midlife adults, and practices related to connection reflect an important affordance that internet communication technologies offer: the ability to manage space and time in an optimal fashion. Internet use provides individuals agency in time management through increased time efficiencies, bridging temporal interruptions, and enabling the time to produce responses and images that are deemed appropriate and desirable; spatial management capabilities include potential for surveillance and the creation of social distance in interaction. These capacities become important devices in relationship management, and prove instrumental in the use of internet communication technologies for connection.

The online connection practices of midlife adults reveal their habitus, or experiences of relationship development that occurred prior to the introduction of the internet into everyday use. Consequently when coupled with their temporal focus, choices made regarding connection in the online environment are perceived as reflective of value in the underlying relationship. Connection activity reveals values of “knowing,” shared histories, and mutual benefit, and decisions not to connect are also made in this context. Disconnection, though somewhat unpalatable because connection is made selectively, is also grounded in this concept of value.
and enacted when the costs of relationship continuation—in the form of attention, trust, and association—become significantly higher than the benefits. This evaluative approach to online connection in social network sites perhaps devalues these as a mechanism for maintaining connection with close family and friends, but they are seen as a vehicle for the maintenance of weaker relationships such as extended family, professional colleagues and distant friends.

Finally, the contemplative processes that occur at midlife often include assessments of important relationships with family and friends, and may result in reconnection attempts with friends and colleagues who were once close, but with whom connection has degraded through time, distance or other factors. Internet communication technologies such as email, search engines and social network sites invite these reconnection activities through increased online availability of personal information and the ability to manage the spatial and temporal aspects of this process. Consequently reconnection of dormant ties is a locus of activity in internet use at midlife. These reconnection events provide midlife adults a unique bridge between past and present, and a unique window to examine the differences in internet use at varying points in the life course. Midlife adults connect dormant relationships in ways that younger adults and teens are not necessarily capable of experiencing, because of their relatively shorter life spans, and may never experience, because these technologies—designed to maintain these weaker forms of connection—are introduced at earlier points in the life course.
VI. INTERPRETATION AND RECOMMENDATIONS

The purpose of this study was to examine the relationship between the life course and Internet use, and how these intersect with the use of Internet communication technologies for relationship connection. As a guiding framework, the life course perspective emphasizes that the historical context and networks into which individuals are born, the timing of events in one’s life trajectory, and individual agency all factor into how change is accommodated and adopted, ultimately resulting in differences in life outcomes. This study employed a mixed methods approach to examine Internet use by midlife and older adults: first analyzing two secondary datasets associated with the Pew Internet & American Life Project’s ongoing assessment of the impact of the internet on American lifestyles; and then further exploring attitudes and practices through interviews with 23 internet-using adults. This chapter focuses on three critical areas in which the life course and internet use intersect: the experience of space and time, privacy, and the conversion of dormant ties. These areas are important to highlight as they provide a more nuanced perspective on ways in which internet use is differentiated at various points in the life course.

A. Summary of Results

The strength of a mixed methods approach to research is that it enables questions to be answered in ways that a single method cannot by linking the dual perspectives of quantitative objectivity and interpretive description from the research subject (Bryman, 2008; Tashakkori & Teddlie, 2003). In this study, the underlying goal was complementarity: interviews were intended to elaborate on and illustrate the trends and patterns found in the analysis of the Pew
survey data, illuminating both similarities and differences between older and younger internet users. The theoretical lens of the life course serves as a foundational framework, providing an essential bridge between adult developmental progression and the socio-historic context of the emergence of the internet as an everyday communication medium.

On the surface, analysis of the internet use data from Phase I of this study suggests a somewhat simplistic perspective: that as age increases, internet use declines rapidly and that age is strongly related to the adoption of individual practices and technologies such as social network sites, listening to music online and microblogging. But because engagement in various activities is not uniform in midlife and older birth cohorts as might be expected with gradually increasing rates of digital skills and access, the presence of other influences may be also indicated. The principles of the life course perspective bring into focus key areas through which the life course, as opposed to age, may be relevant in contextualizing the interpretation of these findings.

The first principle of the life course perspective is historical time and place, which emphasizes that the individual’s developmental path is embedded in and shaped by the socio-historical and geographic location s/he experiences. The internet’s unexpected and rapid arrival as an everyday communication modality presented a disruption for most midlife and older adults who were established in ways of communicating with others, conducting business activities, and participating as citizens; therefore, their habitus, using Bourdieu’s (1972/1977) conception, reinforces certain ways of interacting with others that may not include digital mediation of their interactions, and thereby contribute to internet non-use.
Timing in lives is the second life course principle which emphasizes that the timing of transitions and life events is significant in determining eventual outcomes. This principle suggests that the timing of the introduction of the internet, after the education and training phase of life for most midlife and older adults was largely completed, is also a contributor to how internet use is accommodated, and reinforces the widespread perception that access and skills are primary drivers of slower adoption rates. This principle also indicates, however, that prior experiences with relationship development trajectories, not previously mediated by the internet, may affect internet adoption for use in relationships. This again evokes the idea of pre-existing habitus, underscoring the idea that the ways in which midlife and older adults interact with others is a necessary component to their internet use.

The linked lives principle establishes that lives are interdependent, and social and historical contexts are reflected in an individual’s social network. This principle suggests that not only is it relevant that midlife and older adults were born into cohorts that did not have the technological characteristics of today’s society, but that their networks of family and friends share these experiences. Thus, internet adoption for these groups might be slowed due to a lack of a network effect; that is, the value in using the internet is diminished because others in one’s social network do not use it. This argument resonates with diffusion of innovation theory (Rogers, 1995) which suggests that a critical mass of individuals is necessary for adoption of an innovation or change on a widespread basis; the lack of such a mass will therefore impact the rate of adoption of certain technologies within individual networks and reduced participation rates will be evidenced. The fourth life course principle, human agency, suggesting that while timing and networks effect outcomes hold significance, individuals make choices and set goals;
this principle offers a path toward understanding why internet patterns of use change over
time, and why some individuals more actively engage in internet activities than others. The life
course perspective therefore provides a framework for examining the internet adoption and
use patterns of midlife and older adults in greater depth, and point to specific areas that bear
further exploration.

A primary method for data analysis under the life course perspective is cohort analysis;
this method is useful for teasing out the age-period-cohort effects that are generally attributed
to age as a research variable. In this study, the cohort analyses which compared the 2006 and
2009 survey revealed clear patterns of increasing use of internet technologies and applications,
with the exception of email, across all cohorts, pointing to a period effect related to internet
use. The cohort analyses, supplemented by the regression models from the 2009 data analysis,
also pointed to with a strong inverse relationship between internet use and age, so the goal for
the second phase of the study was to place the use of these technologies within a surrounding
context in an effort to illuminate potential cohort effects.

Analysis of the use of specific internet technologies and applications, provided through
the cross-sectional analysis of the 2009 survey data, gave a preliminary indication of how aging
and cohort effects might become visible. A principal component analysis on participation in
various types of internet activities demonstrated three primary groupings for this sample:
content creation, internet mobility and social media use. Examining birth year cohort
participation in these activities reveals that “dabblers,” those individuals who participate in
these types of activities at low levels, drop dramatically at midlife and are replaced by a
corresponding increase in the number of non-users; this contrasts with younger adults, who
have much greater levels of low participation than non-use. The regression models underscore the significance of age and educational attainment as a variable for all three areas of internet use, but point strongly to age as a primary predictor of social media use and age and income as primary predictors of internet mobility.

The results also showed that one area in which midlife and older adults continue to lag younger counterparts is in access to the internet, but specifically on mobile devices and platforms. Low levels of use of various types of portable internet connection devices, such as iPods and gaming devices, and significantly reduced use of mobile phones for activities such as accessing the internet, receiving email and downloading apps suggest that midlife and older adults do not use the internet in a mobile sense in the same way as younger adults. Thus, inclusion of participants in the interview phase of the study who evidenced diversity in the Internet Mobility Index was a criterion for sample selection. Relationship connection has previously been determined as a primary use of SNS for teens and college students (boyd, 2008; Raacke & Bonds-Raacke, 2008), yet the survey data suggests that midlife and older adults do not perceive social media use for these purposes due to their low levels of adoption of these technologies. The regression models underscored the predictive value of age for social media use; therefore, diversity in the Social Media Use Index became the second dimensional criterion for sample selection in the interview phase.

The interview phase provided the opportunity to examine internet use in greater depth with midlife adults, and enabled linkages to be made between midlife as a developmental phase, midlife and older adults as a cohort who experienced relationship development patterns outside the emergence of the internet as a communication medium, and internet use patterns
generally. Analysis of the interview data provides background and depth to the results of the survey data analysis, and offers additional insight on how the life course may relate to internet use and how it may connect to internet use for relationship connection and maintenance.

Several key findings emerged from the analysis of interview data, and are concentrated in three primary areas.

First, a shift in temporal orientation at midlife intersects with the temporal and spatial experiences of internet use, and this impacts how specific technologies are perceived and use. The shift in temporal perspective that occurs at midlife, from one of “time lived” to “time left to live,” incorporates a heightened awareness of time’s value; thus, internet activities and actions are assessed in terms of their time cost. In this context, internet use is perceived as being traded for time spent in other ways, and the time expended in acquiring knowledge and skills is contrasted with the value of what is gained through use. Some uses and applications are seen as having little value, such as microblogging or status updates that detail moment-by-moment activities, and other activities are perceived as rich for the ability to bridge to earlier memories and places and in their time efficiency. The midlife temporal shift also leads midlife adults to use internet communication technologies to fulfill temporal and spatial needs, using asynchronous features to produce time and maintain social distance in relationships and employing the digital traces left by these technologies to overcome physical limitations for social surveillance. This temporal orientation intersects with life reflection and review processes at midlife as well, leading to assessment of important relationships and giving rise to renewed efforts of using internet communication technologies to connect with others, especially with those from one’s past.
Second, a tension between identity expression and privacy arises in the online environment and midlife adults rely on prior experience to navigate this process; this results in the use of social strategies, instead of technological interventions, as boundary management tools. The social role transition that is characteristic of midlife lends itself to a keen awareness of the multiple contexts and audiences that are addressed through internet communication technologies. Consequently, participants attempt to draw clear delineations between what they perceive as personal and professional contexts in the online environment. This leads to the use of separate venues for each context, for example, using LinkedIn for professional purposes and Facebook for personal purposes; divergence in connection strategies, with a greater number of more loosely affiliated ties in professional contexts; and differing expectations and social norms in each forum. Identity is carefully guarded and opportunities for misunderstanding and misperceptions are actively avoided. This is accomplished by selectivity in the content that is posted, for example, by eschewing controversial or emotional topics, and sidestepping occasions for conflict.

Privacy is managed through social strategies rather than through more sophisticated technical mechanisms such as privacy controls, filtered content or the use of group or list functionality. Participants often noted that profile information contains only minimal or “plain vanilla” information: contact information reveals “junk email” addresses and major metropolitan areas are listed instead of suburban hometowns. There is a deliberate avoidance of any location-based information on current activities, with many participants noting this as a security risk. Perhaps most of all, participants place trust in their connections to not violate their privacy expectations; because connection is selectively made by these midlife participants,
incorporating some form of shared history or relationship, revealed information is anticipated to be treated under the guidance of relational norms.

Finally, interpersonal connection is a primary driver of the use of internet communication technologies for midlife adults, and initial use is frequently prompted by younger friends and family. Once engaged, however, participants noted active use of social network sites for communicating with extended family and friends and keeping up with professional colleagues due to their functional efficiency. In addition, the operational characteristics of email and social network sites invite and support the reconnection of dormant ties in novel and significant ways. Contextual search capabilities, friend recommender algorithms, and asynchronous communication features enable the reconnection process to be accomplished with minimal risk and tension. A prior shared history with such connections enables reactivation to take place at an accelerated rate relative to new connections, making these relationships a key source of potential social capital. Importantly, because midlife adults use these technologies to reconnect these lapsed ties, this research illuminates patterns of internet use that diverge from those of younger adults and teens; reconnection with truly dormant ties are rare for younger persons: because of their relatively shorter life spans, they are events which younger adults are not necessarily capable of experiencing and may never experience, because these technologies—designed to maintain these weaker forms of connection—are introduced at earlier points in the life course.

**B. Discussion of Results**

Three key areas warrant further discussion for their potential in extending existing scholarship with respect to the use of the internet at varying points in the life course: how time
and space are experienced; the contextual nature of privacy management; and the potential of dormant ties as elements of network structure.

1. **Time and space**

Framing interview data from a developmental perspective gives a more clear indication of the aging effects that relate to internet use. It has been previously demonstrated that age-related declines in cognitive processing, psychomotor functions, vision and hearing negatively impact the use of technology and the internet (Charness & Holley, 2004; Freese, Rivas & Hargittai, 2006), and this is evidenced in higher rates of internet non-use in adults over the age of 65. The interview data presented here also highlighted the impact of an increasing temporal awareness toward internet use: an awareness of the finitude of life occurring at midlife transforms time into an increasingly valued resource. Hence, adults at midlife cast internet use in terms of a cost/benefit dichotomy which governs their engagement. While similar in some ways to the dichotomy of risk and opportunity that characterizes discourse surrounding teen and young adult use of the internet (Liau, Khoo & Ang, 2005; Livingstone & Helsper, 2007), it is important to recognize that the cost/benefit dichotomy is self-described, implying a consciousness to a potential tradeoff; with youth behaviors, the risk/opportunity dichotomy is presented as adult conception, and may not include a conscious choice by young internet users (Liau, Khoo & Ang, 2005).

This temporal awareness experienced at midlife extends beyond just a mere assessment of the time it takes to learn and use the internet. It also extends to value judgments on various applications and their utility with respect to the use of time, as well as the imposed use of time in consuming content generated by others. Those technologies that encourage the generation
of information that is not considered useful or important, such as microblogging, are perceived as creating a time conflict in two ways: by not creating added-value for the time and attention they utilize; and by intruding on or impeding the ability to discern useful information from the content that is available for consumption. Thus, technologies perceived as having little benefit or generating trivial interactions are less appealing to midlife and older adults, and adoption rates reflect these perceptions; an example is microblogging, which has been more actively adopted by teens and young adults.

Perhaps because of their heightened sensitivity to time, midlife adults conceptualize the affordances of internet communication technologies to include the ability to manage space and time on a more optimal level and this is also reflected in patterns of use. Various technologies offer the potential for re-experiencing time and space through their characteristics and capabilities (Carey, 1998); these include capacities for synchronicity or asynchronicity; the speed of message delivery; the systemic potential for connection; the capacity for message resilience and stability over long time spans and great distances; and flexibility for use both as message transmission and ritual. In a conventional sense, these capacities enable time-space compression (Harvey, 1989), swift transmission across wide geographic distance; but they also assume a key role in the ordering of time and in its manipulation, by representing both an objective and relativistic means of producing social order (Dubinskas, 1988), and by creating feasible spaces to engage in social practices (Benkler, 2006). Time in an objective ordering sense is a marker of sequences and events, and is measured by speed (Dubinskas, 1988). In a relativist time sense, communication technologies also to enable processes of ritual to unfold or develop over temporal distance, such as with the transmission of culture and relationships
across generations. In this sense, the temporal capacities of communication technologies can bridge and produce time, and re-order the temporal nature of relationships.

Participants in this study used internet communication technologies in manipulate time in both objectivist and relativist senses. The ability to gather and disseminate information quickly and efficiently through the use of search engines and social network sites is characteristic of the objective ordering capacity of these technologies, and was noted by participants as a key affordance of their use. The ability to locate and maintain information about individuals, especially those with whom connection had been lost, and the use of the asynchronous nature of email and social network sites to produce time and allow for the processing of emotion and production of an appropriate self are also examples of how these technologies exert objective social ordering capabilities. But digital traces of online activity, in the form of profiles, friend connections and email distribution lists, enable participants to bridge temporal distances as well. The use of GoogleMaps to revisit places of one's youth and the reminiscing activity among reconnected friends, accomplished through internet communication technologies, hold elements of ritual and transmit culture over time. These actions reflect the use of technology to manipulate time in a relativist sense, producing a subjective ordering aligned with life course progression.

The spatial dimensions of internet communication technologies extend to both create social space for interaction as well as extend interaction and social structures across distance. In a mundane, Cartesian sense, just as the placement of televisions and iPods become focal points for interaction, internet communication technologies serve as points of reference for relationships: social network sites are oriented around friend lists; email activity is oriented
around distribution lists. These virtual focal points become significant for the interactions they permit and encourage, and those they curtail and discourage; participants leverage these to make connections with others. Participants also employ characteristics of these media to manage the social space in which interaction takes place, using the asynchronous nature of email and social network sites to time responses at more convenient or socially appropriate times, and using their broadcast and one-to-one communication features to transmit information and manage social distance. The technologies produce a bounded social space, defining who is communicating with whom, and defining the circumstances and conditions under which interaction takes place. The linked lives principle of the life course becomes significant in determining whether and how midlife adults use of these technologies for the management of relationships, as network effects are amplified, both positively and negatively, by the network’s technological presence.

Beyond Cartesian notions of space and boundaries, internet communication technologies permit the inclusion of others who are not physically co-present. Sometimes referred to as time-space distanciation (Giddens, 1995; Thompson, 1995), this detachment of an interaction’s symbolic form from the context of its production enables individuals to achieve a degree of intimacy with one another, thereby overcoming physical limitations. Relationships with extended family and distant friends, maintained through email and social network sites by midlife adults, are bolstered through this capability to manipulate distance. In quite a different way, this spatial dimension of divorcing co-presence from interaction may also be coupled with the characteristics of digital media—persistence, replicability, and searchability—to perform surveillance functions, lightweight or otherwise. Savvy users use traces of digital
communication activity to oversee the actions of others when they are not co-present, such as with parents monitoring the online activities of their children or by an individual examining the Facebook Timeline of a friend. While these types of activities are not confined to midlife, the increasing awareness of physical limitation that occurs at this life stage raises the capacities of these technologies in significance.

When comparing and contrasting the use of internet communication technologies between younger and older adults, the subtleties of the temporal and spatial affordances become more distinct. For teens and young adults, the internet is viewed not only as a space of interaction, but also of entertainment, an environment through which sociality blends with listening to music, playing games and finding information (Zickuhr, 2010). Midlife participants, in their desire to manage multiple social contexts, alternatively employ internet communication technologies more selectively and with a decided sense of functionality; participants perceive that using them satisfied information needs, enabled the management of professional resources, and served as a discrete communication medium in their extended social relationships, thereby fulfilling a need to manage time effectively, a need made more explicit by the recognition of life’s finitude. Emerging and younger adults use the temporality of social network sites for identity exploration, engaging in social comparison and expressing idealized conceptions of the self they wish to become (Manago, Graham, Greenfield & Salimkhan, 2008); this manages hypotheticality, the psychological distance associated with potential. Midlife and older adults, perhaps because of a more limited vision of what remains in life, tend to use communication technologies to frame their perceived identity through discursive practices such
as using age as an identifying characteristic (Lin, Hummert & Harwood, 2004), an approach more grounded in reality than in what hypothetically could be.

Internet communication technologies are conceived to be spaces of flows, rather than spaces of places (Castells, 2001). The life course represents flow as well: of time, events, and life development and decline. At midlife, a heightened awareness of this flow provides orientation to the position of midlife in the life progression, and encompasses sensitivity to life’s finitude, to physical limitation, to past identities, to remembered contexts. This midlife orientation intersects with the temporal and spatial experiences of internet communication technologies to create unique perceptions and understandings of their affordances; and it is in the understanding and meaning of technology that differences in practices and use are created. Use of a life course perspective to study the use of internet communication technologies therefore exposes dimensions of temporality and spatiality inherent in their use, and leads to a more nuanced understanding how such dimensions may be exploited or employed in various ways.

2. **Privacy in Context**

As individuals age, they accumulate a myriad of contexts through which they develop relationships with others. Translation of these contexts to the online environment can be a complex process, especially with social media forms that initially were designed to collapse contexts into a single audience or forum (Marwick & boyd, 2010). Awareness of multiple relationship contexts, and how these shift in the online environment, was frequently highlighted in the interview data, and participants indicated a preference to minimize the attendant risks, including potential misunderstandings, offense to others and misuse of their
personal information. The strategies employed by participants to accomplish this are often social, and not technological, in nature; participants frequently opt for selectively posting content and making connection and maintain distinctions between personal and professional contexts, in lieu of reliance on technological implementations such as the privacy settings of social network sites. The result of these strategies is a more limited approach to participation in the online environment, and an implicit but subtle focus on functionality.

Distinctions made between personal and professional contexts by midlife adults are perhaps not very different from the preferences and strategies demonstrated by members of other birth cohorts; however a life course position of being in the continuous work phase of life provides a more well-defined set of norms and behaviors for the professional context. Youth and young adults (under age 25), still in the education and training phase of life, are not yet fully vested in careers and professional identities, thus entrenched norms in the professional context may hold reduced relevance. Context collapse for this group occurs between friends and family, school and home, and is accommodated through language (boyd and Marwick, 2011). The post-career status of older adults makes such distinctions between personal and professional more permeable as well. For midlife adults, however, the distinction in contexts is highly relevant and thus is an emphasis in online activity.

Differentiation between contexts often raises the notion of privacy online, and how it might be enacted in various fora. Analysis of the first phase survey data indicated a negative correlation between the Privacy Actions Index and age, which could be interpreted as midlife and older adults either lacking the skills to engage in privacy protecting behaviors or as not being sufficiently aware of or concerned about privacy risk. Contrary to this interpretation,
analysis of the interview data led to a more detailed understanding of how midlife adults enact privacy online, and revealed the important of social strategies for its implementation.

Participants described various measures which they use to protect privacy online, and these fall into two distinct categories: social strategies and technological interventions. Social strategies relate to limiting the amount and type of information provided in the online environment, such as not filling out profiles fully, or completing them with only generic or “vanilla” information; providing false or misleading information such as “spam” email addresses, false phone numbers, or an alias; providing more general information than specified, for example, giving one’s residence as being in the greater Chicago metropolitan area, rather than a specific suburb; and not posting information on one’s location or activities, such as “I’m heading to a soccer match” or “checking in” at a coffee shop. Additional social strategies included being selective about what content is posted and in making connections, particularly within the context of individual social network sites; it is not unusual for participants to establish boundaries by connecting with certain individuals on one site, for example, Facebook, but not another, such as LinkedIn. These social strategies are perceived by participants as the first line of defense in protecting privacy in the online environment, and strategies vary by the context in which they are employed.

Technological interventions used by participants include using privacy controls; untagging photos and comments; deleting content; disconnecting from unwanted or untrustworthy connections; and creating groups, lists or circles of connections to segregate information flows. These measures were less frequently cited by participants as a means of protecting privacy, and were often described as being complicated to employ or so frequently
changed by the site provider that they are considered as ineffective. Returning to the survey
data, it is immediately clear that the Privacy Actions encompass variables that are technological
interventions only, and do not include the social strategies participants employ to maintain
their privacy.

Privacy is the “selective control of access to the self” (Altman, 1975, p.24). Theories of
privacy regulation (Altman, 1975) and communication privacy management (Petronio, 2002)
recognize a dialectic process between openness and closedness that is based on interaction.
Implied in this process is the establishment of boundaries: the establishment of openness
simultaneously partitions off areas of closedness. While privacy regulation theory is focused
more broadly on the linkage between privacy and disclosure, communication privacy
management theory considers privacy regulation in the specific context of private information.
It argues that disclosure relies on a rule-based boundary system that manages accessibility to
private information; hence, communication privacy management is a negotiated process,
between an individual and others, that establishes how information will be kept and managed.
Privacy maintenance therefore requires cooperation from others, and experience is a critical
element to how individuals gain boundary knowledge, skills and expectations over time
(Nippert-Eng, 2010).

Boundary management as a negotiation process is also an idea that resonates with the
framework of contextual integrity (Nissenbaum, 2010), a conceptualization that argues that
privacy is a normative process governed by four building blocks: information contexts; the
principal actors involved in the sending, receiving, and as subjects of information; information
attributes or types; and transmission principles which govern the constraint and flow of
information. Threats to privacy occur when context-relative informational norms are violated, or when information flows in ways that contradict the integrity of its context. This study offers an example of how these privacy management processes are extended and enacted by midlife adults in the online environment generally, and social network sites specifically.

Social network sites present challenges to the processes of privacy management in several ways. First, contexts for information disclosure are difficult to discern on social network sites because all relationships are typically treated as having an equivalent status. Thus, unless group, list or circle features are activated such that information can be disclosed selectively, information disclosure becomes multilateral, that is, information is shared among all parties uniformly. Moreover, information is disclosed on multiple levels within social network sites: to a user’s relationship connections, to entities who have profiles that are “liked” by the user such as fan pages and business websites, to application developers such as the creators of games. Some of these levels are transparent, and users are aware of the level of disclosure. Other levels are more opaque, revealed only in clickwrap agreements and jargon-filled privacy policy statements.

Second, the actors involved in information exchange in social network sites, the senders and receivers of information, as well as the information subjects, involve more than just users of these sites. Site providers, advertisers, application developers receive information that users submit, and track information about users’ activities both while users are on the social network site and at times even after the user have navigated away (Acohido, 2011). Finally, the transmission principles that govern the flow of information which are imbedded in the code of social network sites include the technological implementations of privacy controls and group
and list mechanisms. Participants in this study noted that these are often complex and cumbersome to understand and navigate, and so frequently undergo refinement by social network site providers that their utility is diminished.

In response to these challenges to contextual integrity, midlife participants fall back on experience to navigate privacy boundaries, and enact social strategies as their primary tool. Whether less trusting of technological implementations of privacy measures, or simply not having the necessary skills and literacy to deploy them, analysis of both survey and interview data suggest that these mechanisms are less readily relied upon. Instead, the interviews revealed that participants are selective about the amount and content of the information they post, avoiding certain topics and emotional content, releasing minimal levels of information, and do not disclose information on current activities and location; these are all mechanisms to preserve the contextual integrity of information that is disclosed. Fixed notions regarding the boundaries between personal and professional contexts are a manifestation of these tactics too, as boundaries mitigate the risk of contextual failure.

Ultimately, the use of these strategies shift the emphasis of the context of information disclosure away from the mechanisms of disclosure, such as email or chat, and away from the conditions under which information is provided, such as a medical or professional context. Instead, these strategies emphasize the significance of the relationship between individuals, as this is how privacy can tangibly be negotiated. Connection selectivity, which preferences a shared relationship history, enables a high degree of trust in the connections that are made online; this permits greater context transparency and minimizes potential harm in the event of a context failure. This may lead to a lower level of engagement for midlife adults in the online
environment, as meaningful relationships become the substance of engagement, and underscores a more task-oriented approach to internet use.

3. Dormant Ties and Reconnection

One point at which the survey results and interview findings diverged was in the area of relationship reconnection. Comparisons of younger and older birth cohorts indicated that younger adults born after 1964 reported internet contact by individuals from their past at significantly higher rates (near 50% overall) than midlife and older adults (approximately 25%), though all cohorts reported substantial increases in this activity over the survey interval. Analysis of the interview data identified this as a widespread phenomenon, however, as participants universally reported contact with individuals from their past, such as college roommates, former work colleagues and childhood friends. Reconnection, for participants in this study, is a locus of activity when using internet communication technologies for relationship purposes.

These differences in results of the two phases of research may be a result of a timing issue; the survey data was collected approximately 18 months prior to the interviews, and the intervening period saw large increases in social media use by all adults, and by midlife and older adults especially (Madden & Zickuhr, 2011). The earlier data may also reflect that the networks of midlife and older adults were not yet fully represented in the online environment, the lived lives principle of the life course as applied to the emergence of the internet. The predominance of this activity, as revealed through the interview data, indicated that reconnections are common and serve as a source of social capital for participants; they function as sources of information, reinforce participants’ identity and serve as social credentials once accomplished.
These results provide validation of the role of dormant ties in an individual’s social network, and fill a gap in the literature that describes how cognitive social structures (Krackhardt, 1987) connect to active social networks.

Interpersonal relationships are often characterized from a research perspective as “strong,” “weak” or “absent,” reflecting Granovetter’s (1973) characterization and emphasizing their structural aspects. Varying measures are used to indicate their strength, including media use; the “closeness” of a relationship; frequency of contact; bidirectional acknowledgement of the association; duration of the relationship; the provision of emotional support in the relationship; and the social homogeneity of those joined in a tie (Baym & Ledbetter, 2009; Gilbert & Karahalios, 2009; also see Marsden & Campbell, 1984). One weakness of these approaches is that the evaluation of relational quality presumes a connection that is active in nature, yet, research on friendship indicates that interaction frequency is not necessarily a measure of relationship quality (Marsden & Campbell, 1984), and friendships that lie dormant for a period of time and are then reactivated when circumstances become favorable are often characterized as close (Matthews, 1986; Nussbaum et al., 2000).

Cognitive social structures (Krackhardt, 1987) are distinguished from actual, observed social networks in that they represent an individual’s perception of the network. The concept arose from a desire by social network analysts to describe differences between actual and reported communication structures (Mongee & Contractor, 2003), but has been extended to capture the structural aspects of non-symmetric and non-reciprocated relationships such as friendship between a company president and workers (Carley & Krackhardt, 1996). The study of cognitive social structures has taken on new significance in recent years as research on virtual
organizations and knowledge networks seeks ways to identify underlying social structures and expertise as sources of problem solving and innovation (Mongee & Contractor, 2003).

Latent ties are a structural feature of social networks that is not immediately visible in an active network. These are ties recognized as technically feasible as a result of a social structure, such as membership in a group or affiliation with a local worship facility, but which have yet to be activated by a social action (Haythornthwaite, 2002, 2005). Specifically, latent ties are not established by the individual, but rather by a mechanism embedded in the functioning of a larger organization or system. While strong and weak ties are fostered and strengthened through use of a wide variety of media initiated at the discretion of the individuals involved, latent ties must be fostered to strengthen by two factors: a communication structure established by the larger organization or system (a technical implementation) and a social mechanism to initiate the contact (a social implementation). The conception of latent ties as ties, despite through which only the potential for exchange exists, however is important to the understanding of how micro-level social forms transform or convert into forms of social and informational support.

Dormant relationships, alternatively, are characterized as those that were once active and relatively strong, but which lapsed under the stressors of time, distance and circumstance, such as those relationships between former college friends, close neighbors, or work colleagues who have lost touch because of geographic moves, career changes, work team succession or divergence in life trajectories. These types of relationships are sometimes referred to as “suspended,” “situationally dormant” (Babchuk & Bates, 1963) or as “latent friendships” (Adams, 1998), terms intended to recognize the relationships’ psychological importance and
also a simultaneous lack of further development. From a purely network perspective, dormant ties can be classed as latent ties: the prior context of the relationship provides the technical structure that makes the connection possible; the missing element is social activation in the form of interaction.

What makes dormant ties a unique category of latent ties however is their affective dimension. Due to a prior shared history and memory of past interaction, the temporal distance between the present and past may be overridden with mere contact, especially in extreme situations or emergency (Wellman, 1979). And because of their historical nature, these types of ties do not rely on substantial resource sharing or contact frequency to strengthen; instead past activity is sufficient to accelerate the relationship strengthening process. Thus dormant ties exhibit efficiency: they are reactivated at a significantly accelerated pace and require less investment than newly established ties (Levin, Walter and Murnighan, 2011). Importantly, once activated these ties provide individuals with access to additional social capital resources in the form of access to more varied sources of information, social credentials and as reinforcement of identity, especially past identity.

The reconnection of dormant ties, supported in new ways by email and social network sites, enrich our understanding of friendship as well. As internet communication technologies facilitate more durable weak bonds and the ability to convert dormant connections into weak forms of relationships, they enable relationships to continue through processes of strengthening and weakening over time and throughout the life course. This expands the conceptualization of friendship to include a character that is textured and elastic, and enhances awareness of its gradations and varied role at different points in life. This research provides
new insight on how internet use, and the characteristics of social networking sites and email especially, invite and support the reactivation of dormant ties in novel ways, opening additional avenues for midlife adults to obtain social capital resources, which ultimately may impact life outcomes significantly and positively. In addition, as a structural feature, dormant ties offer a mechanism to add temporal depth to social network analyses and their use for predicting and identifying resources and knowledge.

C. **Limitations of Study**

In addition to issues related to the generalizability of qualitative inquiry, a limitation of this work lies in the use of secondary data. While the Pew Internet datasets provide access to high quality, generalizable data on a population that would otherwise economically unfeasible for a study of this nature, the use of survey items not specifically designed to answer the research questions of this study limits the extent to which the questions may be addressed through quantitative analysis. The items used in the survey, while topically relevant, did not completely attend to the use of various internet technologies, and this ultimately constrained the amount of analysis that could be performed.

A mixed methods approach, and specifically the addition of a qualitative methodology, is an attempt to compensate for the use of secondary data; interviews were employed to seek complementarity with the quantitative analysis. It is important to note however, that interviewing as a method has limitations as well. Due to the situational and individual factors inherent in interviewing, general conclusions may not be drawn through the analysis; small sample sizes and a lack of randomization in sample selection are additional factors that limit generalizability of the findings. Interviewing is also open to issues of reliability in the self-
reported behavior by respondents, and the lack of anonymity of participants leaves this form of research open to response bias. Because the researcher is considered an instrument of the study, this method is also open to interviewer bias in the form of subjectivity in interpretation of the data.

Another limitation lies in the temporal parameters under which the quantitative data was collected. The internet represents a rapidly evolving environment, exposing users to new technologies and applications virtually every day. The use of surveys to collect data is self-reported at a point in time, and does not reflect the evolution of platforms and users in this environment. A lack of longitudinal data on internet use generally, due to its relatively recent arrival as a communication technology, limits the statistical analysis that can be conducted to identify specific period and cohort effects of internet use. As future waves of Pew Internet research are conducted, additional statistical detail can be generated on the use of specific technologies among various birth cohorts, and cohort effects might be empirically isolated. The survey waves employed in this study were only three years apart; empirical analysis of three year cohorts for these sample sizes would have been subject to sizable error that would have rendered this form of analysis meaningless.

Participants for the qualitative phase of this study included internet users, and specifically social network site users, due to the recruitment strategies that were employed. Interviews were only conducted in English, and this may have underrepresented Latino respondents in the interview data that were reflected in the Pew survey data. In addition, while a diverse range of social network site use was represented, as measured by the Social Media Use Index, the overall use of social media is still only a growing trend representing just over
50% of all internet-using midlife adults in May 2011 (Madden & Zickuhr, 2011), the approximate time of the interviews. Representation of adults in the sample who do not use social media may have provided additional points of illumination related to the use of technology for relationship connection and on attitudes and practices concerning privacy in the online environment.

D. Implications for Further Research

The obvious next step for additional study of the relationship between the life course and technology use is the examination of internet use for social connection in later life stages such as retirement and old age, especially with respect to its impact on providing access to social capital resources such as sources of novel information and expressions of social support. The relationship between social support and physical and emotional well-being has been solidly established in gerontological and sociological literature, but the ways in which internet use might provide access to these additional resources have received much less attention. Thus, future studies might examine how internet use in older cohorts is understood and employed for these purposes specifically, so that mechanisms to deliver these important resources might be further developed and their use encouraged. Such studies might also lead to better understanding of how inequality is introduced and reinforced through the use of technology.

More importantly, however, this research points to how the subtleties of the life course connect to the use of technology in a broader sense, and suggests that as researchers study various practices, technologies and applications and their meanings, an individual's position within the life trajectory holds significance. For communication researchers, use of a life course perspective opens new avenues for the exploration of how technologies and practices of
interaction might vary at different points in the life trajectory, but also provides a framework for examining how individuals of differing life positions might interact with one another. Examples of these types of studies might include how connection via social network site technologies such as Facebook or MySpace might influence generational relationships, such as between grandparents and grandchildren, or how weaker forms of relationships, such as former classmates or newer acquaintances, are sustained or developed through the use of the various communication functionalities such as chat, messaging and wall posts. Study of the use of social network sites to support and maintain extended family relationships at midlife is related to both of intergenerational relationships and weaker relationship forms, and may point to new ways in which these technologies disrupt existing ecologies of family connection.

Use of a life course perspective also points to limitations in the way internet use has been studied in communication research; studying early or primary adopters of various technologies such as microblogging or social network sites, which for internet technologies often implied teens and young adults, has led to more limited conceptions of how identity or privacy might be enacted and misses junctures of contrasting internet use, such as how identity play may be engaged at younger ages and narrative autobiography crafted at older ages. The limited scope of these studies distort the total impact of internet technologies on interpersonal relationships, by amplifying the aspects that relate to development at younger life stages while diminishing uses and understandings of internet use that result from life experience.

The temporality invoked through the intersection of a life course perspective and the experience of internet use in another research trajectory. This study invites further investigation of how the internet and the use of specific technologies such as social network
sites might be challenging notions of how relationships change and develop over time and throughout life. The use of the internet for the reconnection of dormant relationships, coupled with an increased availability of personal information online, enables “re-discovery” of former friends and colleagues, and a concurrent inability to shed one’s past. The impact of these capacities may shift our understanding of friendship and connection, providing textural and temporal dimensions to important relationships, and also our sense of past identity, because the detail of everyday life is captured in more permanent ways. For example, future research might examine how the autobiographical capture that occurs in social network site use, through wall postings, the ability to “like” products and services such as movies, music groups and commercial entities, and the preservation of messaging activity, might impact reconnection activity or whether the use of social network sites to capture relationships digitally makes the reconnection of dormant relationships unnecessary at all.

Finally, spatiality is another dimension of internet use which is exposed through a life course lens. This study provides an initial examination of how spatial constraints at midlife may be negotiated through internet use by creating opportunities for interaction and enabling presence while not physically at hand. Spatial manipulation via technology holds implications for later life stages, where mobility often becomes more impaired, and also for individuals who face special challenges through disability and chronic health conditions. In a more abstract sense however, the uses of technology to enforce boundaries and partition private space are significant dimensions of spatial manipulation. This study addresses the issue of privacy with questions specific to the use of social network sites, and exposes context-specific enactment strategies used by midlife adults in their use of these technologies. The contextual sensitivity of
privacy intersects with how technologies might be used to manipulate space, thus future work might examine how arenas of privacy threat, such as social network sites, are manipulated by users in various contexts through behavioral norms to negotiate and enact spaces of disclosure and privacy.

E. Conclusion

The dramatic penetration of internet communication technologies into the daily life of all adults has decidedly impacted social relations between individuals. While internet use rates of midlife and older adults may be lower than that of their younger counterparts, interpersonal connection remains a driving force behind its use at all ages and life stages. The results of this study suggest that factors beyond digital literacy skills and internet access may impact the decision to engage, rather life stage and prior experiences factor significantly in how the internet and related technologies are perceived and utilized. These results offer several implications for theoretical development. First, they suggest that internet use is differentiated by life course stage, which intersects with the temporal and spatial experiences of communication technologies, resulting in differing perspectives on how these technologies are used and understood. Second, privacy and its contextual integrity are important factors in internet use, and may be accommodated through the use of social strategies in addition to technological interventions. Finally, internet communication technologies invite and support certain activities such as the reconnection of dormant relationships at midlife, demonstrating ways in which these technologies add temporal depth to social network structures, support relationships as potential social capital resources, and provide benefit to life outcomes.
This study represents one of the first attempts in communication research to use a life course perspective in examining internet use, and signifies an evolution in the understanding of technology practices as cohort-related phenomena. Life experiences and individual development are connected to the use of the internet through the attitudes we bring and in the technologies we choose to employ. By examining how these vary in different cultures and at different points in life, we arrive at a deeper understanding of what it means to grow up and grow old with technology. Ultimately, this gives us a more complete grasp of how technology is understood and the place it occupies in life.
REFERENCES


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APPENDIX A

Digital Footprints 2006 Questionnaire

Princeton Survey Research Associates
The Pew Internet & American Life Project
December 2006 Daily Tracking Survey

FINAL QUESTIONNAIRE
11/30/2006

N=2,200 adults 18 and older/Two-way form split
Field Dates: November 30, 2006 – December 31, 2006
Job#: 26060

Hello, my name is _________________ and I’m calling for Princeton Survey Research. We’re conducting a survey about some important issues today, and would like to include your household. May I please speak with the YOUNGEST MALE, age 18 or older, who is now at home? (IF NO MALE, ASK: May I please speak with the YOUNGEST FEMALE, age 18 or older, who is now at home?)

SEX RECORD RESPONDENT SEX

1 Male
2 Female

Q1 Overall, are you satisfied or dissatisfied with the way things are going in this country today?

1 Satisfied
2 Dissatisfied
9 Don’t know/Refused

Q2 Some people are concerned about their privacy today. We’d like to know how you feel about this topic. As I read the following, please tell me how important, if at all, each one is to YOU personally.

(First/Next) (READ ITEMS; RANDOMIZE) FOR FIRST ITEM AND AS NECESSARY: Is this very important to you, somewhat important, not too important, or not important at all?

a. Controlling who has access to your personal information
b. Not being monitored at work
c. Having individuals in social and work settings not ask you things that are highly personal
1 Very important
2 Somewhat important
3 Not too important
4 Not at all important
5 **(VOL)** Does not apply to me
9 Don’t know/Refused

Q3 Have you ever REFUSED to give information to a business or a company because you thought it was not really necessary or was too personal, or have you never done this?

1 Yes, have refused to give out information
2 No, have never done this
9 Don’t know/Refused

Q5 On a different topic...do you use a computer at your workplace, at school, at home, or anywhere else on at least an occasional basis?

1 Yes
2 No
9 Don’t know/Refused

Q6a Do you use the internet, at least occasionally?

1 Yes
2 No
9 Don’t know/Refused

Q6b Do you send or receive email, at least occasionally?

1 Yes
2 No
9 Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1); NON-USERS (Q6a=2-9 and Q6b=2-9) SKIP TO EMPL:

Q7 Did you happen to use the internet YESTERDAY?

1 Yes, used the Internet yesterday
2 No, did not use the internet yesterday
9 Don’t know/Refused
FORM A INTERNET USERS GET Q8-Q16:

IF USED THE INTERNET YESTERDAY (Q7=1), ASK:
Q8   Did you use the internet from home yesterday?
   1   Yes, used the Internet from home
   2   No, did not
   9   Don’t know/Refused

IF USED THE INTERNET YESTERDAY (Q7=1), ASK:
Q9   Did you use the internet from work yesterday?
   1   Yes, used the Internet from work
   2   No, did not
   9   Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q12  About how many years have you been an Internet user?
    _____ RECORD NUMBER OF YEARS
    0   Under a year
    99  Don’t know/Refused

IF ONLINE UNDER A YEAR (Q12=0) ASK:
Q12.1 About how many months is that?
    _____ RECORD NUMBER OF MONTHS
    99  Don’t know/Refused

ASK IF (Q7=2,9 OR Q8=2,9), DID NOT USE THE INTERNET FROM HOME YESTERDAY:
Q13  Do you ever use the internet from HOME?
   1   Yes, use the internet from home
   2   No, do not
   9   Don’t know/Refused

ASK ALL WHO USED THE INTERNET FROM HOME YESTERDAY OR IF YES IN PREVIOUS QUESTION (Q8=1 OR Q13=1):
Q14  How often do you use the internet from HOME — several times a day, about once a day, 3-5 days a week, 1-2 days a week, once every few weeks, or less often?
   1   Several times a day
   2   About once a day
   3   3-5 days a week
   4   1-2 days a week
   5   Every few weeks
   6   Less often
   9   (DO NOT READ) Don’t know/Refused
ASK IF (Q7=2,9 OR Q9=2,9), DID NOT USE THE INTERNET FROM WORK YESTERDAY:

Q15  Do you ever use the internet from WORK?

1  Yes, use the internet from work
2  No, do not
9  Don’t know/Refused

ASK ALL WHO USED THE INTERNET FROM WORK YESTERDAY OR IF YES IN PREVIOUS QUESTION (Q9=1 OR Q15=1):

Q16  How often do you use the internet from WORK — several times a day, about once a day, 3-5 days a week, 1-2 days a week, once every few weeks, or less often?

1  Several times a day
2  About once a day
3  3-5 days a week
4  1-2 days a week
5  Every few weeks
6  Less often
9  (DO NOT READ) Don’t know/Refused

FORM B INTERNET USERS GET MODEMB-PDA1:

MODEMB What kind of internet connection do you have at home? Do you use a dial-up telephone line, or do you have some other type of connection, such as a DSL-enabled phone line, a cable TV modem, a wireless connection, or a T-1 or fiber optic connection?

1  Dial-up telephone line
2  DSL-enabled phone line
3  Cable modem
4  Wireless connection (either “land-based” or “satellite”)
5  T-1 or fiber optic connection
6  Other (SPECIFY, MAKE SURE NOT ONE OF ABOVE)
7  (VOL) Do not have internet access/computer at home
9  (DO NOT READ) Don’t know/Refused

NETH  Do you happen to have a computer network that links your computers at home together, whether through a network cable or a wireless network? IF YES, PROBE: Is it through a network cable or wireless?

1  Yes, through network cable
2  Yes, wireless network
3  No
4  (VOL) Do not have computer at home
9  (DO NOT READ) Don’t Know/Refused
APPENDIX A (continued) 208

GAD1  Do you happen to have... (INSERT IN ORDER)

   a.  a desktop computer
   b.  a laptop computer

INT NOTE: IF R HAS LAPTOP/DESKTOP THAT THEIR EMPLOYER PROVIDED/PURCHASED FOR THEM, RECORD AS (1) YES

  1    Yes
  2    No
  9    Don’t know/Refused

IF HAVE LAPTOP (GAD1b=1):
LAP1  Is your laptop computer able to connect to the internet using a WIRELESS network, or not?

  1    Yes
  2    No
  9    Don’t know/Refused

IF LAPTOP IS WIRELESS (LAP1=1):
LAP2  Do you ever use your laptop to connect to... (INSERT IN ORDER)?

ASK a IF HAVE WIRELESS NETWORK AT HOME (NETH=2)
   a.  Your wireless network at home
   b.  A wireless network at work
   c.  A wireless network someplace other than home or work

  1    Yes
  2    No
  3    (VOL) Doesn’t apply to me
  9    Don’t know/Refused

IF USE LAPTOP TO CONNECT TO HOME NETWORK (LAP2a=1):
LAP3  When you use your laptop to connect to your wireless network at home, do you generally use it in one place in your home, or do you move it around with you and use it in different parts of your home?

  1    Generally use it in one place
  2    Move it around and use it in different parts of my home
  9    Don’t know/Refused

ASK ALL FORM B INTERNET USERS:
GAD2  Do you happen to have... (INSERT; ROTATE)

   a.  a cell phone that connects to the internet with a wireless connection
   b.  a personal digital device or PDA that connects to the internet with a wireless connection
APPENDIX A (continued) 209

(INT NOTE: IF SOMEONE HAS A CELL PHONE/PDA COMBO, RECORD AS A YES TO ITEM b, PDA)

1   Yes
2   No
9   Don’t know/Refused

IF HAVE CELL PHONE WITH WIRELESS INTERNET ACCESS (GAD2a=1):
CP1   Do you ever use your cell phone to access the internet or email... (INSERT IN ORDER)

   a. when you’re at home?
   b. when you’re at work?
   c. when you’re someplace other than home or work?

1   Yes
2   No
9   Don’t know/Refused

IF HAVE PDA WITH WIRELESS INTERNET ACCESS (GAD2b=1):
PDA1  Do you ever use your PDA to access the internet or email... (INSERT IN ORDER)

   a. when you’re at home?
   b. when you’re at work?
   c. when you’re someplace other than home or work?

1   Yes
2   No
9   Don’t know/Refused

ASK ALL INTERNET USERS WHO DID NOT USE THE INTERNET YESTERDAY (Q7=2,9):
WEB-A Next...Please tell me if you ever use the internet to do any of the following things. Do you ever...
(ROTATE ITEMS, BUT ALWAYS ASK "ACT01" FIRST)

ACT01  Send or read email [ALWAYS ASK FIRST]
ACT02  Get news online
ACT33  Use an online dating website
ACT46  Search online for a map or driving directions
ACT52  Use an online search engine to help you find information on the Web
ACT73  Rate a product, service or person using an online rating system
ACT84  View live images online of a remote location or a person, using a webcam
ACT100 Categorize or tag online content like a photo, news story or blog post
ACT102 Watch a video on a video-sharing site like YouTube or GoogleVideo

CATEGORIES WEB-A
1   Yes, do this
2   No, do not do this
9   Don’t know/Refused
ASK ALL INTERNET USERS WHO USED THE INTERNET YESTERDAY (Q7=1):
WEB-B Next...Please tell me if you ever use the internet to do any of the following things. Do you ever...
(ROTATE ITEMS, BUT ALWAYS ASK "ACT01" FIRST)

[IF YES ASK: Did you happen to do this YESTERDAY, or not?]

ACT01  Send or read email [ALWAYS ASK FIRST]
ACT02  Get news online
ACT33  Use an online dating website
ACT46  Search online for a map or driving directions
ACT52  Use an online search engine to help you find information on the Web
ACT73  Rate a product, service or person using an online rating system
ACT84  View live images online of a remote location or a person, using a webcam
ACT100 Categorize or tag online content like a photo, news story or blog post
ACT102 Watch a video on a video-sharing site like YouTube or GoogleVideo

CATEGORIES WEB-B
1   Yes, did this yesterday
2   Yes, do this (but NOT yesterday)
3   No, do not do this
9   Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
*GOO5 Have you ever used an online search engine to look up your OWN name or see what information about YOU is on the internet?

1   Yes
2   No
9   Don’t know/Refused

IF GOO5=1, ASK:
GOO6  When you search your own name, do you find anything about yourself on the internet, or not?

1   Yes, find things about myself on the internet
2   No, do not find anything
9   Don’t know/Refused

GOO7  How often do you use a search engine to look up your own name or see what information about you is available on the internet? Do you do this on a regular basis, every once in a while, or have you only done this once or twice?

1   On a regular basis
2   Every once in a while
3   Only once or twice
9   Don’t know/Refused
*GOO8 Are you surprised by how MUCH information you find online about yourself, by how LITTLE you find, or is it about what you expected?

1        How much information found online
2        How little information found online
3        What was expected
9        Don’t know/Refused

ASK IF FIND ANY INFO ABOUT SELF ONLINE (GOO6=1):
*GOO9 Do you find that most of the information about you is accurate, or not?

1        Yes, most is accurate
2        No, most is not accurate
9        Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
INFO1   We’d like to know if any of the following information about YOU is available on the internet for others to see – it doesn’t matter if you posted it yourself or someone else posted it. As I read each item, you can just tell me yes or no -- if you’re not sure if something is on the internet, just say so and I’ll move on.

(First/Next) How about...(INSERT IN ORDER)? FOR FIRST ITEM AND THEN ONLY AS NECESSARY: Is this available anywhere on the internet, or not – or are you not sure?

a. your email address
b. your home address
c. your home phone number
d. your cell phone number
e. your employer or the company you work for
f. your political party or political affiliation
g. things you’ve written that have your name on it
h. a photo of you
i. video of you
j. which groups or organizations you belong to

1        Yes
2        No
3        (VOL) Doesn’t apply to me
8        Don’t know
9        Refused
ASK ALL:
EMPL Are you now employed full-time, part-time, retired, or are you not employed for pay?

1   Employed full-time
2   Employed part-time
3   Retired
4   Not employed for pay
5   *(VOL)* Have own business/self-employed
6   *(VOL)* Disabled
7   *(VOL)* Student
8   *(VOL)* Other
9   *(DO NOT READ)* Refused

ASK ALL WHO ARE EMPLOYED (EMPL=1,2,5):
INFO2 Does your employer or company have its own website, or not?

1   Yes
2   No
9   Don’t know/Refused

IF COMPANY HAS WEBSITE (INFO2=1):
INFO3 Is there any information about YOU, personally, on your employer’s or company’s website – such as your biography, your contact information, or a photo of you?

1   Yes
2   No
9   Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
GOO10 Have you ever used a search engine to find information online about... *(INSERT; ROTATE)*?

   a. Family members
   b. Friends
   c. Co-workers, professional colleagues or business competitors
   d. Neighbors or people in your community
   e. Someone you are dating or in a relationship with
   f. Someone from your past or someone you have lost touch with
   g. Someone you just met or someone you were about to meet for the first time
   h. Someone you are thinking about hiring or working with

1   Yes
2   No
9   Don’t know/Refused

IF SEARCH ABOUT OTHERS ONLINE (any item GOO10a-h=1):
GOO11 How often do you use a search engine to find information online about another person? Do you do this on a regular basis, every once in a while, or have you only done this once or twice?
1 On a regular basis  
2 Every once in a while  
3 Only once or twice  
9 Don’t know/Refused  

GOO12 Thinking about all of the times you looked up information online about someone else...  

Have you ever looked online for... (INSERT. ROTATE)?  

ALWAYS ASK a FIRST:  
a. Someone’s contact information, like an address or phone number  
b. A photo of somebody  
c. Someone’s profile on a social or professional networking site  
d. Personal background information about someone  
e. Information about someone’s professional accomplishments or interests  
f. Someone else’s public records, such as real estate transactions, divorce proceedings, bankruptcies, or other legal actions  

1 Yes  
2 No  
9 Don’t know/Refused  

GOO13 When you look for information online about another person, how often are you able to find what you’re looking for? (READ 1-4)  

1 Always or almost always,  
2 Most of the time,  
3 Only some of the time, or  
4 Hardly ever? (incl."Never")  
9 (DO NOT READ) Don’t know/Refused  

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):  
INFO4 Have you ever used a search engine to find information online about a celebrity or other public figure – or have you never done this?  

1 Yes  
2 No  
9 Don’t know/Refused  

K31 Here’s another short list of activities people sometimes do online. Please tell me whether you ever do each one, or not.  

Do you ever...(ALWAYS ASK a-b FIRST, IN ORDER; ROTATE c-d)?  
a. Create or work on your own online journal or blog  
b. Create or work on your own webpage  
c. Create or work on webpages or blogs for others, including friends, groups you belong to, or for work
d. Share something online that you created yourself, such as your own artwork, photos, stories, or videos

1. Yes, do this
2. No, do not
9. Don’t know/Refused

SNS3 Have you ever uploaded photos online where others can see them?

1. Yes
2. No
9. Don’t know/Refused

IF POST PHOTOS ONLINE (SNS3=1):
SNS5 Thinking about the site you post photos to most often...how often, if ever, do you restrict who has access to those photos? Do you do this... (READ 1-3)

1. Most of the time,
2. Only sometimes, or
3. Never?
4. (VOL) The site I use does not allow this function
9. (DO NOT READ) Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
SNS7 Have you ever uploaded a video file online where others can watch it?

1. Yes
2. No
9. Don’t know/Refused

IF UPLOAD VIDEO FILES ONLINE (SNS7=1):
SNS9 Thinking about the site you upload video files to most often...how often, if ever, do you restrict who has access to those videos? Do you do this... (READ 1-3)

1. Most of the time,
2. Only sometimes, or
3. Never?
4. (VOL) The site I use does not allow this function
9. (DO NOT READ) Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
SNS11 Have you ever created your own profile online that others can see, like on a social networking site like MySpace or Facebook?

1. Yes
2. No
9. Don’t know/Refused
IF HAVE PROFILE (SNS11=1):
SNS12 Is your profile currently visible?

1 Yes
2 No
9 Don’t know/Refused

IF VISIBLE (SNS12=1):
SNS13 Is your profile visible to anyone, or visible only to your friends?

1 Visible to anyone
2 Visible only to friends
9 Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
INFO6 Do you ever worry about how much information is available about YOU online, or is that not something you really worry about?

1 Yes, worry about it
2 No, don’t worry about
9 Don’t know/Refused

INFO7 Do you ever take steps to try to limit the amount of information that’s available about you online, or is that not something you ever do?

1 Yes, try to limit info
2 No, don’t do that
9 Don’t know/Refused

SNS16 Based on the information that’s available about you on the internet, how easy do you think it would be for someone to locate or contact you if they wanted to? Do you think... (READ 1-3 IN ORDER)

1 It would be pretty easy, OR
2 They would have to work at it but they could locate you eventually, OR
3 It would be very difficult for someone to locate or contact you based on information they find online
9 (DO NOT READ) Don’t know/Refused

INFO8 Have you, personally, ever been contacted by someone from your past who found you through the internet, or has this never happened to you?

1 Yes
2 No
9 Don’t know/Refused

INFO9 Have you, personally, had any BAD experiences because embarrassing or inaccurate information was posted about you online, or has this never happened to you?
1 Yes
2 No
9 Don’t know/Refused

INFO10 Have you ever asked someone to remove information about you that was posted online, including things like photos or videos, or have you never done this?

1 Yes
2 No
9 Don’t know/Refused

IF ASKED SOMEONE TO REMOVE INFO (INFO10=1):
INFO11 What was it you were trying to get removed? Was it a photo or video, written material like a blog posting, or something else?

1 Photo or video
2 Written material like a blog posting
3 Something else (SPECIFY)
9 Don’t know/Refused

INFO12 Were you successful in getting it removed, or not?

1 Yes
2 No
9 Don’t know/Refused

DEMOGRAPHICS

(READ) A few last questions for statistical purposes only...

ASK ALL:
AGE What is your age?

_________ years (97=97 or older)
98 Don’t know
99 Refused
MAR Are you currently married, living with a partner, divorced, separated, widowed, or have you never been married?

1 Married
2 Living with a partner
3 Divorced
4 Separated
5 Widowed
6 Never been married
7 Single (VOL.)
9 Don't know/Refused (VOL.)

PAR Are you the parent or guardian of any children under age 18 now living in your household?

1 Yes
2 No
9 (DO NOT READ) Don’t know/Refused

IF PAR=1, ASK:
D2b How many of these children are age 11 or younger?

[RECORD NUMBER; RANGE=0-98]
99=(DO NOT READ) Don’t Know/Refused

IF PAR=1, ASK:
D2c How many of these children are between ages 12 and 17?

[RECORD NUMBER; RANGE=0-98]
99=(DO NOT READ) Don’t Know/Refused

IF D2B=1, ASK:
D2d Does your child who is 11 or younger use the internet or send and receive email?

1 Yes
2 No
9 (DO NOT READ) Don’t Know

IF D2B= 2-98, ASK:
D2e How many of your children who are age 11 or younger use the internet or send and receive email?

[RECORD NUMBER; RANGE=0-98]
99=(DO NOT READ) Don’t Know/Refused

IF D2C=1, ASK:
D2f Does your child who is between 12 and 17 use the internet or send and receive email?
1 Yes
2 No
9 (DO NOT READ) Don’t Know

IF D2C= 2-98, ASK:

D2g How many of your children who are between ages 12 and 17 use the internet or send and receive email?

[RECORD NUMBER; RANGE=0-98]
99= (DO NOT READ) Don’t Know/Refused

ASK ALL:
EDUC What is the last grade or class you completed in school? (DO NOT READ, BUT CAN PROBE FOR CLARITY IF NEEDED).

1 None, or grades 1-8
2 High school incomplete (grades 9-11)
3 High school graduate (grade 12 or GED certificate)
4 Technical, trade or vocational school AFTER high school
5 Some college, no 4-year degree (includes associate degree)
6 College graduate (B.S., B.A., or other 4-year degree)
7 Post-graduate training/professional school after college (toward a Masters/Ph.D., Law or Medical school)
9 (DO NOT READ) Don’t know/Refused

ASK IF EMPL DOES NOT EQUAL 7:
STUD Are you currently a full- or part-time student?

1 Yes, full-time
2 Yes, part-time
3 No
9 Don’t know/Refused

ASK ALL WHO ARE EMPLOYED (EMPL=1,2,5):
OCC What is your current occupation? OPEN-END, RECORD VERBATIM

1 Gave response (SPECIFY)
9 Refused

ASK ALL WHO ARE EMPLOYED (EMPL=1,2,5):
INFO14 In your current occupation, would you say you need to market yourself on the internet or make information available about yourself online, or is that not something you need to do for your job?

1 Yes, need to market myself/make info available online
2 No, not something I need to do
9 Don’t know/Refused
ASK ALL WHO ARE EMPLOYED (EMPL=1,2,5):
INFO15 Does your employer have any policies or guidelines about how you present yourself on the internet – for example, what you can post on blogs and websites, or what information you can share about yourself online – or do they not have any policies about that?

1 Yes  
2 No  
8 Don’t know  
9 Refused

ASK ALL:
HISP Are you, yourself, of Hispanic or Latino origin or descent, such as Mexican, Puerto Rican, Cuban, or some other Latin American background?

1 Yes  
2 No  
9 (DO NOT READ) Don’t know/Refused

RACE What is your race? Are you white, black, Asian, or some other race? IF R SAYS HISPANIC OR LATINO, PROBE: Do you consider yourself a WHITE (Hispanic/Latino) or a BLACK (Hispanic/Latino)? IF R DOES NOT SAY WHITE, BLACK OR ONE OF THE RACE CATEGORIES LISTED, RECORD AS “OTHER” (CODE 6)

1 White  
2 Black or African-American  
3 Asian or Pacific Islander  
4 Mixed race  
5 Native American/American Indian  
6 Other (SPECIFY)  
9 (DO NOT READ) Don’t know/Refused

INC Last year, that is in 2005, what was your total family income from all sources, before taxes. Just stop me when I get to the right category… (READ 1-8)

1 Less than $10,000  
2 $10,000 to under $20,000  
3 $20,000 to under $30,000  
4 $30,000 to under $40,000  
5 $40,000 to under $50,000  
6 $50,000 to under $75,000  
7 $75,000 to under $100,000  
8 $100,000 or more  
9 (DO NOT READ) Don’t know/Refused

ASK FORM A INTERNET USERS WHO GO ONLINE FROM HOME (Q8=1 or Q13=1):
MODEM     What kind of internet connection do you have at home? Do you use a dial-up telephone line, or do you have some other type of connection, such as a DSL-enabled phone line, a cable TV modem, a wireless connection, or a T-1 or fiber optic connection?

1       Dial-up telephone line
2       DSL-enabled phone line
3       Cable modem
4       Wireless connection (either “land-based” or “satellite”)
5       T-1 or fiber optic connection
6       Other (SPECIFY, MAKE SURE NOT ONE OF ABOVE)
9       (DO NOT READ) Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
BBW     Do you happen to know what kind of internet connection you have at WORK, a high-speed connection or dial-up connection through a modem?

1       High speed
2       Dial-up
3       (VOL) None/Does not apply
9       (DO NOT READ) Don’t know/Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1)/NON-USERS END INTERVIEW:
D12     Finally, would you be interested in participating in another public opinion survey, not by telephone but online and at your convenience?

1       Yes
2       No
9       (DO NOT READ) Don’t know/Refused

IF D12=1, ASK:
D12a    So we can contact you online at a later date, could you give me your email address? Your email address will NOT be given, sold or otherwise made available to anyone else, or used for any reason except to contact you for a public opinion survey.

RECORD EMAIL ADDRESS
NOTE THAT WHEN RESPONDENT SAYS “AT”, TYPE:  @

D12b    Just to check, let me read that back to you. (READ EACH CHARACTER IN EMAIL ADDRESS.) Is that correct?

1       Yes
2       No

IF (2) NO, MAKE CORRECTIONS AND RE-READ EACH CHARACTER IN EMAIL ADDRESS.

THANK RESPONDENT: That concludes our interview. The results of this survey are going to be used by a non-profit research organization called the Pew Internet & American Life Project, which is looking at the impact of the Internet on people’s lives. A report on this survey will be issued by the project in a few months and you can find the results at its web site, which is www.pewinternet.org [w-w-w dot pew internet dot org]. Thanks again for your time. Have a nice day/evening.
Total n=2,250
National Tracking survey
n=1,690 landline RDD
n=560 cell phone RDD

Field Dates: August 18 – September 17, 2009
Interview language: English and Spanish
FORM SPLIT A/B: 50-50
Job#: 29057

LANDLINE INTRO:
Hello, my name is _________________ and I'm calling for Princeton Survey Research. We're conducting a survey about some important issues today, and would like to include you. May I please speak with the [RANDOMIZE: (“YOUNGEST MALE, age 18 or older, who is now at home”) / (“YOUNGEST FEMALE, age 18 or older, who is now at home?”)] [IF NO MALE/FEMALE, ASK: May I please speak with the YOUNGEST (FEMALE/MALE), age 18 or older, who is now at home?] GO TO MAIN INTERVIEW

CELL PHONE INTRO:
Hello, I am ___ calling for Princeton Survey Research. We are conducting a national survey of cell phone users. I know I am calling you on a cell phone. As a small token of our appreciation for your time, we will pay all eligible respondents $10 for participating in this survey.

This is not a sales call. [IF R SAYS DRIVING/UNABLE TO TAKE CALL: Thank you. We will try you another time...]

VOICE MAIL MESSAGE (LEAVE ONLY ONCE -- THE FIRST TIME A CALL GOES TO VOICEMAIL): I am calling for Princeton Survey Research. We are conducting a short national survey of cell phone users. This is NOT a sales call. We will try to reach you again.
SCREENING INTERVIEW:

S1. Are you under 18 years old, OR are you 18 or older?
   1  Under 18
   2  18 or older
   9  Don’t know/Refused

IF S1=2, CONTINUE WITH MAIN INTERVIEW
IF S1=1,9, THANK AND TERMINATE: This survey is limited to adults age 18 and over. I won’t take any more of your time...

READ TO ALL CELL PHONE

INTRODUCTION TO MAIN INTERVIEW: We’re interested in learning more about people with cell phones. If you are now driving a car or doing any activity requiring your full attention, I need to call you back later. The first question is...

INTERVIEWER:
If R says it is not a good time, try to arrange a time to call back. Offer the toll-free call-in number they can use to complete the survey before ending the conversation.

SEX RECORD RESPONDENT SEX (DO NOT READ)
   1  Male
   2  Female

Start Timing Module 1
Q1 Overall, how would you rate the quality of life for you and your family today? Would you say it is... excellent, very good, good, fair or poor?
   1  Excellent
   2  Very good
   3  Good
   4  Fair
   5  Poor
   8  (DO NOT READ) Don’t know
   9  (DO NOT READ) Refused
Q2  Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

1  Most people can be trusted
2  You can't be too careful
3  (VOL.) It depends
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

Q3  Now I’m going to ask you about various organizations and types of organizations. How much of the time do you think you can trust [INSERT ITEM; RANDOMIZE] [READ FOR FIRST ITEM, THEN AS NECESSARY: ...just about always, most of the time, only some of the time or never?]

{Modified Consumer WebWatch 2005}

a.  Large corporations
b.  Newspapers and television news
c.  Financial companies such as banks, insurance companies, and stock brokers
d.  News Web sites
e.  Social Networking sites such as Facebook, MySpace and LinkedIn
f.  Web sites that provide health information {new}

CATEGORIES
1  Just about always
2  Most of the time
3  Only some of the time
4  Never
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

NO Q4

Q5  Do you use a computer at your workplace, at school, at home, or anywhere else on at least an occasional basis? {PIAL Trend}

1  Yes
2  No
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

Q6a  Do you use the internet, at least occasionally? {PIAL Trend}

1  Yes
2  No
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused
Q6b  Do you send or receive email, at least occasionally?  \emph{(PIAL Trend)}

1  Yes
2  No
8  \emph{(DO NOT READ)} Don’t know
9  \emph{(DO NOT READ)} Refused

\textbf{SKIP NON-USERS (Q6a=2-9 and Q6b=2-9) TO Q10}

\textbf{ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):}

Q7  Did you happen to use the internet \textbf{YESTERDAY}?  \emph{(PIAL Trend)}

1  Yes, used the internet yesterday
2  No, did not use the internet yesterday
8  \emph{(DO NOT READ)} Don’t know
9  \emph{(DO NOT READ)} Refused

\textbf{ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):}

Q8  About how often do you use the internet or email from ... \emph{[INSERT IN ORDER]} -- several times a day, about once a day, 3-5 days a week, 1-2 days a week, every few weeks, less often or never?  \emph{(MODIFIED PIAL Trend)}

a.  Home?
b.  Work?
c.  Someplace other than home or work?

\textbf{CATEGORIES}

1  Several times a day
2  About once a day
3  3-5 days a week
4  1-2 days a week
5  Every few weeks
6  Less often
7  Never
8  \emph{(DO NOT READ)} Don’t know
9  \emph{(DO NOT READ)} Refused

\textbf{NO Q9}

\textbf{End Timing Module 1}
Start Timing Module 2
ASK ALL:
Q10  As I read the following list of items, please tell me if you happen to have each one, or not. Do you have... [INSERT ITEMS IN ORDER]? [Modified Gadgets 2007]

   a. A desktop computer
   b. A laptop computer [INTERVIEWER: This includes a netbook.]

IF LANDLINE SAMPLE, ASK Q10c
   c. A cell phone... or a Blackberry or iPhone or other device that is also a cell phone [Modified August 2008]
   d. An electronic book device or e-Book reader, such as a Kindle or Sony Digital Book
   e. An iPod or other MP3 player
   f. A game console like Xbox or Play Station
   g. A portable gaming device like P-S-P or D-S [Modified PIAL Teen trend]

CATEGORIES
1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF CELL PHONE SAMPLE, Mark Q10c=1.

IF Have Laptop (Q10b=1) and Internet User (Q6a=1 or Q6b=1), ASK:
Q11  On your laptop computer, do you use [INSERT IN ORDER]? [Spring 2009]

   a. Wi-Fi or wireless connection to access the internet [IF NECESSARY, READ: Wi-Fi is a short-range wireless internet connection.]
   b. Wireless broadband, such as an AirCard, to access the internet [IF NECESSARY, READ: Wireless broadband is a longer-range wireless connection, offered by many telephone companies and others.]

CATEGORIES
1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
IF USE WI-FI ON LAPTOP (Q11a=1), ASK:
Q12 When you access the internet using WI-FI on your LAPTOP computer, do you EVER do this [INSERT IN ORDER]? What about [INSERT ITEM]? (*modified Spring 2009*)

a. At home
b. At work
c. Someplace other than home or work

CATEGORIES
1 Yes
2 No
3 (VOL.) Does not apply/Do not work
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF USE WIRELESS BB ON LAPTOP (Q11b=1), ASK:
Q13 When you access the internet using WIRELESS BROADBAND on your LAPTOP computer, do you EVER do this [INSERT IN ORDER]? What about [INSERT ITEM]? (*modified Spring 2009*)

a. At home
ASK Q13b IF Q12b = 1, 2, 8, 9
b. At work
c. Someplace other than home or work

CATEGORIES
1 Yes
2 No
3 (VOL.) Does not apply/Do not work
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF Q12b=3 (Does not apply/Do not work), AUTOPUNCH Q13b=3.
IF HAVE CELL PHONE (Q10c=1), ASK:

Q14  Please tell me if you ever use your cell phone or Blackberry or other device to do any of the following things. Do you ever use it to [INSERT ITEMS. ALWAYS ASK a-b FIRST in order. ROTATE c-i.]? (Next, What about using it to... [INSERT ITEM]?)

   a.      Send or receive email
   b.      Send or receive text messages
   c.      Send or receive pictures
   d.      Play music
   e.      Send or receive Instant Messages
   f.      Access the internet
   g.      Get a map or directions to another location
   h.      Use the GPS feature on your phone to find your location
   i.      Download an application for your cell phone

CATEGORIES

1      Yes, do this
2      No, do not do this/Have not done this
3 (VOL.) Cell phone can’t do this
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF access internet on cell (Q14a=1 or Q14f=1), ASK:

Q15 Using your cell phone, how often do you access the internet or email – several times a day, about once a day, 3-5 days a week, 1-2 days a week, every few weeks, less often or never? {Spring 2009}

1      Several times a day
2      About once a day
3      3-5 days a week
4      1-2 days a week
5      Every few weeks
6      Less often
7      Never
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
IF access internet on cell (Q14a=1 or Q14f=1), ASK:
Q16 When you access the internet or email using your cell phone, do you ever do this [INSERT IN ORDER]? Next, do you ever use your cell phone to access the internet or email [INSERT ITEM]? {modified Spring 2009}

a. At home
ASK Q16b IF Q12b =1,2,8,9
b. At work
c. From someplace other than home or work

CATEGORIES
1 Yes
2 No
3 (VOL.) Does not apply/Do not work
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF Q12b=3 (Does not apply/Do not work), AUTOPUNCH Q16b=3.

IF Cell phone users WHO TEXT (Q14b=1), ASK:
Q17 You mentioned earlier that you use your cell phone to text message. On an average day, about how many text messages do you send and receive on your cell phone? [OPEN-END] [IF R cannot say/doesn’t know, enter 998, or refused, enter 999, THEN ASK Q17b]

_________ ENTER number of TEXT MESSAGES [RANGE 0-500. ENTER 500 if more than 500]
998 Don’t know/Can’t say/Could not guess
999 Refused

IF Q17=998, 999, ASK:
Q17b Well, on an average day, would you say you send or receive ... [READ]

1 No text messages on your cell phone
2 1 to 10 text messages
3 11 to 20
4 21 to 50
5 51 to 100
6 101 to 200
7 More than 200 text messages a day
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
IF Listen to Music on cell phone Q14c=1, ASK:

Q18 Still thinking about things you may have done with your cell phone, have you ever [INSERT ITEM IN ORDER] on your cell phone? Next, have you ever [INSERT ITEM] on your cell phone?

a. Purchased music
b. Listened to music streaming from a website

CATEGORIES
1 Yes, do this
2 No, do not do this/Have not done this
3 (VOL.) Cell phone can’t do this
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK ALL:
EMPL Are you now employed full-time, part-time, retired, or are you not employed for pay?

1 Employed full-time
2 Employed part-time
3 Retired
4 Not employed for pay
5 (VOL.) Have own business/self-employed
6 (VOL.) Disabled
7 (VOL.) Student
8 (VOL.) Other
9 (DO NOT READ) Refused
IF HAS ANY GADGET (any item Q10d-g=1), ASK:
Q19  Thinking about some of the electronic devices you have... Do you EVER access the internet using [INSERT IN ORDER]? (Next,) What about using [INSERT ITEM]? [IF NECESSARY: Do you ever use this to access the internet?] {MODIFIED Spring 2009}

ASK Q19a if Q10d=1
  a. Your electronic Book device or e-Book

ASK Q19b if Q10e=1
  b. Your iPod or other MP3 player {modified Spring 2009}

ASK Q19c if Q10f=1
  c. Your game console like Xbox or Play Station {modified Spring 2009}

ASK Q19d if Q10g=1
  d. Your portable gaming device like P-S-P or D-S {modified teen trend}

CATEGORIES
1  Yes
2  No
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

End Timing Module 2
Start Timing Module 3

ASK ALL INTERNET USERS WHO DID NOT USE THE INTERNET YESTERDAY (Q7=2-9):

WEB-A Next... Please tell me if you ever use the internet to do any of the following things. Do you ever use the internet to... [ASK Act01 FIRST, THEN ROTATE ITEMS]? {PIAL trend}

ACT01  Send or read email [Spring Tracking 2009]
ACT33  Use an online dating site [August Tracking 2008]
ACT34  Listen to music online at a website for a radio station, music store, recording artist or music service [May/June 2004]
ACT42  Research your family’s history or genealogy online [August Track 2006]
ACT58  Create or work on your own online journal or blog [August 2008]
ACT87  Use a social networking site like MySpace, Facebook or LinkedIn.com [Spring Tracking 2009]
ACT88  Take material you find online – like songs, text or images – and remix it into your own artistic creation [Gadget07 Q41]
ACT89  Share something online that you created yourself, such as your own artwork, photos, stories or videos [Gadget07 Q41]
ACT112 Use Twitter or another service to share updates about yourself or to see updates about others [Spring Tracking 2009]
ACT115 Visit virtual worlds such as Second Life [new]
ACT116 Create or work on your own webpage [new ACT label; Gadget07 Q41]
ACT117 Create or work on web pages or blogs for others, including friends, groups you belong to, or for work [new ACT label; Gadget07 Q41]
ACT118 Post comments to an online news group, website, blog or photo site [new ACT label; Gadget07 Q41]

CATEGORIES WEB-A

1  Yes, do this
2  No, do not do this
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused
ASK ALL INTERNET USERS WHO USED THE INTERNET YESTERDAY (Q7=1):
WEB-B Next...Please tell me if you ever use the internet to do any of the following things. Do you ever use the internet to... [ASK Act01 FIRST, THEN ROTATE ITEMS]? (PIAL trend)

[IF YES ASK: Did you happen to do this YESTERDAY, or not?]

ACT01 Send or read email {Spring Tracking 2009}
ACT33 Use an online dating site {August Tracking 2008}
ACT34 Listen to music online at a website for a radio station, music store, recording artist or music service {May/June 2004}
ACT42 Research your family’s history or genealogy online {August Track 2006}
ACT58 Create or work on your own online journal or blog {August 2008}
ACT87 Use a social networking site like MySpace, Facebook or LinkedIn.com {Spring Tracking 2009}
ACT88 Take material you find online – like songs, text or images – and remix it into your own artistic creation {Gadget07 Q41}
ACT89 Share something online that you created yourself, such as your own artwork, photos, stories or videos {Gadget07 Q41}
ACT112 Use Twitter or another service to share updates about yourself or to see updates about others {Spring Tracking 2009}
ACT115 Visit virtual worlds such as Second Life {new}
ACT116 Create or work on your own webpage {new ACT label; Gadget07 Q41}
ACT117 Create or work on web pages or blogs for others, including friends, groups you belong to, or for work {new ACT label; Gadget07 Q41}
ACT118 Post comments to an online news group, website, blog or photo site {new ACT label; Gadget07 Q41}

CATEGORIES WEB-B

1 Yes, did this yesterday
2 Yes, do this (but NOT yesterday)
3 No, do not do this
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

End Timing Module 3
Start Timing Module 4

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q20 Have you ever used an online search engine to look up your OWN name or see what information about YOU is on the internet? {Digital Footprints 2006 GOO5}

1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q21 Other than using a search engine, have you ever used other web sites or internet services to look up your own name or see what information about YOU is on the internet? [IF NECESSARY: Such as Facebook, Flickr or YouTube]

1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF Q20=1 OR Q21=1, ASK:
Q22 When you search your own name, do you find anything about yourself on the internet, or not? {Digital Footprints 2006 GOO6}

1 Yes, find things about myself on the internet
2 No, do not find anything
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF Q20=1 OR Q21=1, ASK:
Q23 When you search for your own name on the internet, are the first page of results mostly about YOU or are they mostly about SOMEONE ELSE with a name very similar or identical to yours? {new}

1 Mostly about you
2 Mostly about someone else
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
IF Q20=1, ASK:
Q24  How often do you use a search engine to look up your own name or see what information about you is available on the internet? Do you do this on a regular basis, every once in a while, or have you only done this once or twice? {Digital Footprints 2006 GO07}

1  On a regular basis
2  Every once in a while
3  Only once or twice
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

IF Q21=1, ASK:
Q25  Other than using a search engine, how often do you use other web sites or internet services to look up your own name or see what information about you is available on the internet? Do you do this on a regular basis, every once in a while, or have you only done this once or twice? {new}

1  On a regular basis
2  Every once in a while
3  Only once or twice
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

End Timing Module 4
Start Timing Module 5
ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q26 We’d like to know if any of the following information about YOU is available on the internet for others to see – it doesn’t matter if you posted it yourself or someone else posted it. As I read each item, you can just tell me yes or no – if you’re not sure if something is on the internet, just say so. {Digital Footprints 2006 INFO1}

(First/Next) How about...[INSERT IN ORDER]? READ FOR FIRST ITEM AND THEN ONLY AS NECESSARY: Is this available on the internet, or not – or are you not sure?

a. your email address
b. your home address
c. your home phone number
ASK Q26d if Q10c=1 or Cell Phone Sample
d. your cell phone number
ASK Q26e if EMPL=1,2,5
e. your employer or the company you work for
f. your political party or political affiliation
g. things you’ve written that have your name on it
h. a photo of you
i. video of you
j. which groups or organizations you belong to
k. your birth date

CATEGORIES
1 Yes
2 No
3 (VOL.) Doesn’t apply to me
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):

Q27 Have you ever searched online to find information about... [INSERT; ROTATE]? *(Modified Digital Footprints 2006 GOO10; trend with footnote)*

   a. Family members  
   b. Friends  
   c. Co-workers, professional colleagues or business competitors  
   d. Neighbors or people in your community  
   e. Someone you are dating or in a relationship with  
   f. Someone from your past or someone you have lost touch with  
   g. Someone you just met or someone you were about to meet for the first time  
   h. Someone whose services or advice you seek in a professional capacity like a doctor, lawyer or plumber

CATEGORIES

1 Yes  
2 No  
3 (VOL) Doesn’t apply to me  
8 (DO NOT READ) Don’t know  
9 (DO NOT READ) Refused

IF SEARCH ABOUT OTHERS ONLINE (any item Q27a-h=1):

Q28 How often do you search online to find information about other people? Do you do this on a regular basis, every once in a while, or have you only done this once or twice? *(Modified Digital Footprints 2006 GOO11; trend with footnote)*

1 On a regular basis  
2 Every once in a while  
3 Only once or twice  
8 (DO NOT READ) Don’t know  
9 (DO NOT READ) Refused
IF SEARCH ABOUT OTHERS ONLINE (any item Q27a-h=1):

Q29 Thinking about all of the times you looked up information online about someone else... Have you ever looked online for... [INSERT ITEM. ALWAYS ASK a. first, then RANDOMIZE]? [Digital Footprints 2006 GOO12]

a. Someone’s contact information, like an address or phone number
b. A photo of someone
c. Someone’s profile on a social or professional networking site
d. Personal background information about someone
e. Information about someone’s professional accomplishments or interests
f. Someone else’s public records, such as real estate transactions, divorce proceedings, bankruptcies, or other legal actions
g. Information about the relationship status of someone you know, for example, whether they are single or in a relationship

CATEGORIES

1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF SEARCH ABOUT OTHERS ONLINE (any item Q27a-h=1):

Q30 If you could no longer use the internet to look up information about someone else, what impact, if any, would this have on your life? Would you say a major impact, a minor impact or no impact at all? (new)

1 Major impact
2 Minor impact
3 No impact at all
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
ASK ALL
Q31 [IF NOT Internet User (Q6a=2-9 and Q6b=2-9), READ: As you may know, there is information on the internet about many people, some of which other people can discover by searching online. Now I am going to read you some statements about searching for information about people on the internet.]

[IF Internet User (Q6a=1 or Q6b=1), READ: Now I am going to read you some statements about searching for information about people on the internet.]

[READ To ALL] For each statement, let me know if you agree or disagree with the statement? The [first/next] statement is [INSERT IN ORDER]. [READ FOR FIRST ITEM THEN AS NECESSARY: Do you strongly agree, somewhat agree, somewhat disagree or strongly disagree?]

a. Getting to know new people now is easier and more meaningful because you can learn things online about the people you meet.
b. It’s not fair to judge people based on the information you find online.
c. It bothers me that people think it’s normal to search for information about others online.

CATEGORIES
1 Strongly Agree
2 Somewhat Agree
3 (VOL.) Neither agree nor disagree
4 Somewhat Disagree
5 Strongly Disagree
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

End Timing Module 5

Start Timing Module 6
ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q32 Have you ever created your own profile online that others can see on any social networking site like MySpace, Facebook or LinkedIn? [modified Spring 2008 SNS11]

1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
ASK If Has SNS Profile (Q32=1):

Q33  How many social networking web sites do you currently have a profile on? (Spring 2008 SNS16)

1  One
2  Two
3  Three
4  Four or more
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

ASK If Has SNS Profile (Q32=1):

Q34  [IF PROFILE ON ONE SNS SITE (Q33=1): On which social networking site do you have a profile?] [IF PROFILE ON MULTIPLE SITES (Q33=2,3,4,8,9): On which Social Networking sites do you have a profile?] [PRECODED OPEN-END. RECORD up to 5 answers] (New)

1  MySpace
2  Facebook
3  Linked In
4  Tagged
5  Bebo
6  YouTube
7  Flickr
8  Last.FM
9  Digg
77  Other (SPECIFY)
98  (DO NOT READ) Don’t know
99  (DO NOT READ) Refused

ASK If Has SNS Profile (Q32=1):

Q35  How often do you visit [IF Q33=1, ASK: the social networking web site where you have a profile] [IF Q33=2,3,4,8,9, ASK: the social networking web site with the profile you use most often]... several times a day, about once a day, every few days, once a week or less often? (Spring 2008 SNS20)

1  Several times a day
2  About once a day
3  Every few days
4  Once a week
5  Less often
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused
ASK If Has SNS Profile (Q32=1):
Q36 Thinking about the ways you use social networking sites... Do you ever... [INSERT IN ORDER]?
   a. Change the privacy settings for your profile to limit what you share with others online
   b. Keep some people from seeing certain updates
   c. Filter updates posted by some of your friends
   d. Delete people from your network or friends’ list
   e. Remove your name from photos that have been tagged to identify you
   f. Delete comments that others have made on your profile
   g. Post updates, comments, photos or videos that you later regret sharing

CATEGORIES
1 Yes, do this
2 No, do not
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK IF POSTED INFO AND REGRET SHARING IT (Q36G=1):
Q37 Have you ever tried to remove any of the information you regretted posting to a social networking site? {new}

1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK IF TRIED TO REMOVE REGRETTED INFO (Q37=1)
Q38 What were the types of items you tried to remove? Was it [INSERT IN ORDER]? What about [INSERT]?
   a. A photo or video
   b. Written material like a comment or blog posting
   c. Something else (SPECIFY)

CATEGORIES
1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

End Timing Module 6
ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q39 Do you ever worry about how much information is available about YOU on the internet, or is that not something you really worry about? *modified Digital Footprints 2006 INFO6*

1 Yes, worry about it
2 No, don’t worry about
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q40 Do you ever take steps to try to limit the amount of information that’s available about you on the internet, or is that not something you ever do? *modified Digital Footprints 2006 INFO7*

1 Yes, try to limit info
2 No, don’t do that
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q41 Have you, personally, ever been contacted by someone from your past who found you through the internet, or has this never happened to you? *Digital Footprints 2006 INFO7*

1 Yes, have been contacted
2 No, never happened
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q42 Have you, personally, had any BAD experiences because embarrassing or inaccurate information was posted about you on the internet, or has this never happened to you? *modified Digital Footprints 2006 INFO8*

1 Yes, had any bad experiences
2 No, never happened
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):

Q43 Have you ever asked someone to remove information about you that was posted on the internet, including things like photos or videos, or have you never done this?  \{modified Digital Footprints 2006 INF010\}

1 Yes, have done this
2 No, never did this
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF ASKED SOMEONE TO REMOVE INFO (Q43=1):

Q44 What were the types of items you asked to be removed? Was it [INSERT IN ORDER]? What about [INSERT]?  \{modified Digital Footprints 2006 INF011\}

a. A photo or video
b. Written material like a comment or blog posting
c. Something else (SPECIFY)

CATEGORIES
1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

IF ASKED SOMEONE TO REMOVE INFO (Q43=1):

Q45 Are you usually successful at getting this information about you removed, or not?  \{modified Digital Footprints 2006 INF012\}

1 Yes
2 No
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused
ASK ALL INTERNET USERS (Q6a=1 or Q6b=1):
Q46 Have you ever posted comments, queries or information on the internet [INSERT; RANDOMIZE]? How about [INSERT]?

a. Using your real name
b. Using a username or screen name that people associate with you
c. Anonymously

CATEGORIES
1. Yes
2. No
8. (DO NOT READ) Don’t know
9. (DO NOT READ) Refused

ASK IF POST USING REAL NAME AND ANONYMOUSLY (Q46a/b/c=1):
Q47 When you post information on the internet, do you usually use your real name, a username or screen name, or do you usually post anonymously?

1. Use real name
2. User name/Screen name
3. Anonymously
8. (DO NOT READ) Don’t know
9. (DO NOT READ) Refused

ASK ALL WHO ARE EMPLOYED (EMPL=1,2,5):
Q48 In your current job, would you say you need to make information available about yourself online in order to market yourself on the internet, or is that not something you need to do for your job? {modified Digital Footprints 2006 INF014}

1. Yes, need to market myself/make info available online
2. No, not something I need to do
8. (DO NOT READ) Don’t know
9. (DO NOT READ) Refused

ASK ALL WHO ARE EMPLOYED (EMPL=1,2,5):
Q49 Does your company have policies about how you present yourself on the internet – for example, what you can post on blogs and websites, or what information you can share about yourself online – or does it not have policies about that? {modified Digital Footprints 2006 INF015}

1. Yes, has policies
2. No, does not
8. (DO NOT READ) Don’t know
9. (DO NOT READ) Refused
End Timing Module 7

Start Timing Module 8

ASK IF USE INTERNET AT HOME (Q8a=1-6) AND FORM A

MODEMA At home, do you connect to the internet through a dial-up telephone line, or do you have some other type of connection, such as a DSL-enabled phone line, a cable TV modem, a wireless connection, a fiber optic connection such as FIOS (F-EYE-os) or a T-1? {Spring Tracking 2009}

1 Dial-up telephone line
2 DSL-enabled phone line
3 Cable modem
4 Wireless connection (either AirCard, “land-based” or “satellite”)
5 Fiber optic connection
6 T-1 connection
7 Other (SPECIFY, MAKE SURE NOT ONE OF ABOVE)
8 (DO NOT READ) Don’t know
9 (DO NOT READ) Refused

ASK IF USE INTERNET AT HOME (Q8a=1-6) AND FORM B

MODEMB At home, what type of connection do you do have to the internet... a dial-up telephone line, a DSL line, a cable modem, satellite connection, a connection to a fixed wireless provider, a wireless connection such an AirCard, a fiber optic connection such as FIOS (F-EYE-os) or a T-1? {MODIFIED}

1 Dial-up telephone line
2 DSL-enabled phone line
3 Cable modem
4 Satellite
5 Fixed wireless provider
6 Other Wireless such as AirCard or cell phone
7 Fiber optic connection
8 T-1 connection
9 Other (SPECIFY, MAKE SURE NOT ONE OF ABOVE)
98 (DO NOT READ) Don’t know
99 (DO NOT READ) Refused

End Timing Module 8
DEMOGRAPHICS

Start Timing Module 9

(READ) A few last questions for statistical purposes only...

ASK ALL:
AGE What is your age?

_________ years [RECORD EXACT AGE 18-96]

97  97 or older
98  Don't know
99  Refused

ASK ALL:
MAR Are you currently married, living with a partner, divorced, separated, widowed, or have you never been married?

1  Married
2  Living with a partner
3  Divorced
4  Separated
5  Widowed
6  Never been married
7  Single (VOL.)
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

ASK ALL:
PAR Are you the parent or guardian of any children under age 18 now living in your household?

1  Yes
2  No
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused
ASK ALL:
EDUC  What is the last grade or class you completed in school? (DO NOT READ, BUT CAN PROBE FOR CLARITY IF NEEDED).

1  None, or grades 1-8
2  High school incomplete (grades 9-11)
3  High school graduate (grade 12 or GED certificate)
4  Technical, trade or vocational school AFTER high school
5  Some college, no 4-year degree (includes associate degree)
6  College graduate (B.S., B.A., or other 4-year degree)
7  Post-graduate training/professional school after college (toward a Masters/Ph.D., Law or Medical school)
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

ASK ALL:
HISP  Are you, yourself, of Hispanic or Latino origin or descent, such as Mexican, Puerto Rican, Cuban, or some other Latin American background?

1  Yes
2  No
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

ASK ALL:
RACE  What is your race? Are you white, black, Asian, or some other race? IF R SAYS HISPANIC OR LATINO, PROBE: Do you consider yourself a WHITE (Hispanic/Latino) or a BLACK (Hispanic/Latino)? IF R DOES NOT SAY WHITE, BLACK OR ONE OF THE RACE CATEGORIES LISTED, RECORD AS “OTHER” (CODE 6)

1  White
2  Black or African-American
3  Asian or Pacific Islander
4  Mixed race
5  Native American/American Indian
6  Other (SPECIFY)
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused
ASK ALL:

INC  Last year, that is in 2008, what was your total family income from all sources, before taxes? Just stop me when I get to the right category... **[READ 1-9]**

1  Less than $10,000
2  $10,000 to under $20,000
3  $20,000 to under $30,000
4  $30,000 to under $40,000
5  $40,000 to under $50,000
6  $50,000 to under $75,000
7  $75,000 to under $100,000
8  $100,000 to under $150,000
9  $150,000 or more
98  (DO NOT READ) Don’t know
99  (DO NOT READ) Refused

ASK IF DUAL REACHED ON LANDLINE PHONE (LANDLINE SAMPLE AND Q10c=1):

L2. Now thinking about your telephone use... Of all the telephone calls that you receive, do you get **[READ AND ROTATE OPTIONS 1 AND 3—KEEP 2 ALWAYS IN THE MIDDLE]**?

1  All or almost all calls on a cell phone
2  Some on a cell phone and some on a regular home phone
3  All or almost all calls on a regular home phone
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

ASK ALL CELL PHONE SAMPLE:

C1. Now thinking about your telephone use... Is there at least one telephone INSIDE your home that is currently working and is not a cell phone?

1  Yes, home telephone
2  No home telephone
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused

ASK IF DUAL REACHED ON CELL PHONE (C1=1):

C2. Of all the telephone calls that you receive, do you get **[READ AND ROTATE OPTIONS 1 AND 3—KEEP 2 ALWAYS IN THE MIDDLE]**?

1  All or almost all calls on a cell phone
2  Some on a cell phone and some on a regular home phone
3  All or almost all calls on a regular home phone
8  (DO NOT READ) Don’t know
9  (DO NOT READ) Refused
ASK ALL:
ZIPCODE    What is your zip code?

____    ENTER ZIPCODE
99999    Don’t know/Refused

End Timing Module 9

ASK CELL PHONE SAMPLE ONLY:
MONEY10    That’s the end of the interview. We’d like to send you $10 for your time. Can I please have your full name and a mailing address where we can send you the money?  [INTERVIEWER NOTE: If R does not want to give full name, explain we only need it to send the $10 out to them personally.]

1    [ENTER FULL NAME] – INTERVIEWER: PLEASE VERIFY SPELLING
2    [ENTER MAILING ADDRESS]
3    [City]
4    [State]
5    [Confirm Zip code]
9    Respondent does not want the money (VOL.)

THANK RESPONDENT: That concludes our interview. The results of this survey are going to be used by a non-profit research organization called the Pew Internet & American Life Project, which is looking at the impact of the internet on people’s lives. A report on this survey will be issued by the project in a few months and you can find the results at its web site, which is www.pewinternet.org [w-w-w dot pew internet dot org]. Thanks again for your time. Have a nice day/evening.
Hello,

You are being asked to participate in a research study. Researchers are required to provide a consent form such as this one to tell you about the research, to explain that taking part is voluntary, to describe the risks and benefits of participation, and to help you to make an informed decision.

Researchers are trying to learn more about how adults between the ages of 45 and 65 years use the Internet. In order to determine your eligibility for the study, we ask that you fill out this preliminary survey. It will take about five minutes of your time.

To the best of our knowledge, responding to these questions will have no more risk of harm than you would experience in everyday life. Your participation in this research is voluntary. If you decide to participate, you are free to withdraw your consent and discontinue participation at any time.

If you are selected to participate further, a researcher will contact you via email to set up time for an interview.

Please contact the researchers if you have any questions about this study or your part in it, or if you have questions, concerns or complaints about the research:

Kelly Quinn, Doctoral Candidate at kquinn8@uic.edu
Zizi Papacharissi, PhD at (312) 996-3187 or zizi@uic.edu.

[ ] Yes, I agree to participate in this study by taking this preliminary survey

1.) In what year were you born?
(Drop down menu – Respondent will select a year between 1921 and 1993. If selected response is not between the years 1946 and 1966, then skip to Thank You! Page)

2.) Please tell me if you have ever used the Internet to use a social networking site like MySpace, Facebook or LinkedIn.com?
( ) Yes, as recently as yesterday
( ) Yes, but not as recently as yesterday
( ) No [Skip to Q. 5]

3.) How many social networking web sites do you currently have a profile on?
( ) One
( ) Two
( ) Three
( ) Four or more
( ) Don't know

4.) How often do you visit the social networking web site with the profile you use most often?
( ) Several times a day
( ) About once a day
( ) Every few days
( ) Once a week
( ) Less often
( ) Don't know

5.) Do you ever use the internet to use Twitter or another service to share updates about yourself or to see updates about others?
( ) Yes, as recently as yesterday
( ) Yes, but not as recently as yesterday
( ) No

6.) About how often do you use the internet or email from someplace other than home or work?
( ) Several times a day
( ) About once a day
( ) 3–5 days a week
( ) 1–2 days a week
( ) Every few weeks
( ) Less often than every few weeks
( ) Never

7.) Please tell me if you ever use your cell phone or Blackberry or other device to do any of the following things. Do you ever use it to send or receive email?
( ) Yes, I do this
( ) No, I do not do this

8.) Using your cell phone, how often do you access the internet or email?
( ) Several times a day
( ) About once a day
( ) 3–5 days a week
( ) 1–2 days a week
( ) Every few weeks
( ) Less often than every few weeks
( ) Never
9.) Do you ever use the GPS feature on your phone to find your location?
( ) Yes, I do this
( ) No, I do not do this

10.) Do you ever use your cell phone to download applications?
( ) Yes, I do this
( ) No, I do not do this

Email Information
Please supply your email address so that we can contact you to set up an interview.

________________________________________

Thank You!

Thank you for taking our survey. If you are selected to participate further, a researcher will contact you via email to set up time for an interview. Please contact the researchers if you have any questions about this study or your part in it, or if you have questions, concerns or complaints about the research:

Kelly Quinn, Doctoral Candidate at kquinn8@uic.edu
Zizi Papacharissi, PhD at (312) 996-3187 or zizi@uic.edu.
APPENDIX D

Interview Plan

I. Introduction
Begin with briefing of the research project, including the purpose of the interview, the use of a voice recording device, etc. Ask if there are any questions before the interview begins.

Obtain informed consent.

II. Online availability of personal information
Have you ever Googled yourself to see what information about you is on the internet? What did you find?
Do you ever look anywhere else online for information about yourself (offer Flickr, Facebook, if necessary)?
Do you ever worry about how much information is available about you on the internet, or is that not something you really worry about?
What kinds of online information do you worry about? Why?
Do you need to make information available about yourself online in order to market yourself or for your current job?

III. Social network site use
Do you use a social network site like MySpace or Facebook?
Thinking about the site you use most often, what kind of information do you put on your profile?
Do you have photos? What or who is in the photos?
Do you post status updates? What kinds of things do you post about?
Why did you decide to use a social networking site in the first place?
How did you decide which one to create a profile on?
How do you decide to connect or “friend” someone?
How do you find people?
Have you ever been asked to confirm a friend request from someone you don’t know or didn’t recognize, or someone you didn’t want to be friends with?
What did you do? Why?
What kind of previous connection did you have with that person?
Are you connected with any individuals whom you haven’t met in person?
   How did you connect with them?
   Do you share connections with others?
Have you ever made a friend request to someone you haven’t met face-to-face?
How did you decide to make that request?
What happened?
Have you ever changed the privacy settings to limit what you share?
What did you do?
Have you ever deleted people from your network or friends’ list?
Why or why not?
How did you decide to do that?
Thinking about your friends on [Site name], do you have particular groups are more active?
(looking for broad contexts, such as family, high school or college classmates, grandchildren)
Are you active on more than one social network site?
Are you friends with the same individuals on each site?
If so, how do you choose between sites for communication?
How do you distinguish your use between sites?

**Relationship connections – locating a former acquaintance**
If you wanted to get in touch with an old friend that you hadn’t seen in a long time, say from high school, college or a former work colleague, how would you go about doing so?
If that strategy didn’t work, what else might you try? Why?

**Email**
Have you ever used email to contact from someone from your past or someone you had lost touch with?
How did you find their email address?
Why did you choose email to contact that person? Did you consider other ways to contact them?
Did you have any additional communication after you sent the initial email?
   How do/did you communicate?

**Social network sites**
Have you ever made a friend request on a social network site to someone from your past or someone you have lost touch with?
How did you find them?
Why did you choose a social network site to contact that person?
Did you consider other ways to contact them?
How did they respond?
Did you have any additional communication after the friend request?
   How did you keep in touch with these people before you connected on [name of site]?

**Relationship connections – being located**
Have you ever been contacted by someone from your past who found you through the internet?
What happened?
How did they find you?

**Email**
Have you ever been emailed out of the blue by someone from your past or someone you have lost touch with?
How did they find you?
How did you respond?
Did you have any additional communication after the first email?
How frequently do you communicate with one another?
What means do you use?

**Social network sites**
Have you ever been asked to confirm a friend request from someone from your past or someone you have lost touch with?
How did you respond?
Did you have any additional communication after the friend request?
Are you still connected with that individual?
Do you ever post on their wall? Send messages? View their profile?
How frequently do you communicate with one another?
What means do you use?

**IV. Wrap up**
Is there anything else you might want to share about your internet use or use of social network sites?

Offer the opportunity to ask any additional questions, thank participant for their time and provide gift certificate for interview participation.
VITA

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MBA, Finance and International Business, Northwestern University, Evanston, Illinois, 1985

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**PRESENTATIONS:**


