Biography, Well-being and Personal Media:
A Qualitative Study of Everyday Digital Photography Practices

by

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To Amy, Finn and Lula.

We made it.

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Abstract

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Debates persist in both popular discourse and the academic literature about the relationships between technology use and well-being. In my dissertation research, I investigate these relationships within a particular set of practices: personal and everyday digital photography production and sharing.   Synthesizing across literature from anthropology, sociology, psychology, human-computer interaction, social computing and information studies, I draw a connection between the evidentiary and communicative aspects of photography and the ways in which biographies, personal narratives and life stories relate to an individual's sense of well-being.

I put forth two research questions in response. First, how are biographies built and maintained in the context of personal digital photography – how is the biographical work of this mode of personal media accomplished? Second, can we

establish and describe the relationships between personal photography biographical work and well-being?

I addressed these research questions by conducting a qualitative study of 23 photographers, using at-home interview and observation sessions as primary data, coupled with a variety of participant-specific secondary data, such as photographic media and electronic communications, both private and public.

The main contribution of this dissertation is the development of an analytical model of biography work, set in the specific context of personal digital photography. In response to my first research question, I identify five main types of biography work in the data: procedural work, representational management work, connection work, introspective work and interest/hobby work. I describe a variety of sub-themes representative of each type of work, as well as ways in which those practices are mutually supportive. In response to my second research question, I illustrate the interconnections between photography practices, biography work and well-being, while emphasizing these connections are neither linear nor singular in character.

By focusing on a specific setting of personal media within this broader debate about technology and well-being, I provide a specific contextualization of the relationships between tools, practices and well-being at the level of the individual. In so doing, I advance investigation of the topic beyond deterministic impact models of technology, emphasizing instead the bounded agency of the individual to deploy available socio-technical resources.

Chapter 1

Introduction

If I could tell the story in words, I wouldn't need to lug a camera.
-- Lewis Hine (in Sontag, 1977)

1.1 Background

Over the last decade, we have seen the rise of so-called "social media," online systems that support social interaction, content dissemination and information transfer, typically through immense public networks of participants. These systems -- Facebook, Twitter, Wikipedia, Myspace, and the like -- have seized the imagination of both researchers and the public. In this study, however, I attend to a related but distinct domain, that of *personal media;* that is, media created and used at the level of the individual, in everyday, non-commercial and non-institutional contexts. These are the pictures of snapshot photography, the pixilated home movies captured on a cell-phone, and the journal entries scribbled in an old notebook. The visibility and accessibility of personal media may have increased in our current age of social media, but they are by no means identical sets. Personal media production, even when reliant on technologies more modern than paper and pen, has a historical lineage that far predates (and will far outlive) current obsessions with systems such as Facebook and Twitter.

Personal media exist in an odd place in our culture, and embody a seeming wide range of contradictory characteristics. Often invisible by virtue of their ubiquity, personal media are locally important, but externally banal. That is, they

can be extremely relevant for the producers and their intended audiences ("look, a picture of the new baby!"), but nothing more than background noise for those without a direct personal connection to the producer. At various times, personal media are both social and individual in focus, public and private, protected and shared. Personal media production is probably the most pervasive form of creative symbolic expression in which individuals currently engage, but at times, it can be devalued even by direct participants as unimportant or a chore.

In this dissertation, I assert that technologies of personal media present a special opportunity to address a broader argument in our culture – that of the relationships between technology and well-being. This is a persistent and at times divisive debate, which pre-dates modern digital technologies of computing and networking, but has become more strident in recent years in response to the broad and sweeping changes to our culture, industries and lifestyles in response to the rise of current information and communication technologies (ICTs): the Internet, the World Wide Web, mobile digital communications and near-ubiquitous computing technologies.

In particular, a persistent and ongoing debate on the relationship of ICT and well-being has appeared in the fields of internet research, computer-mediated communication and human-computer interaction over the last two decades. Consider two influential papers in this space: Kraut et al. (1998), which raised "the internet paradox…a social technology that reduces social involvement and psychological well-being," and Kraut et al. (2002), which "revisited" the paradox and suggested a contrary set of findings, at least for extroverted personality types. In response to both these papers, additional work has been generated by a number of researchers. Yet the conflicting findings in this line of research have continued; for instance, a meta-analysis of 16 related survey studies by Shklovski et al. (2006) demonstrated a mix of weak and contradictory effects. Contradictory stances appear as well in the popular press and in our everyday language, often underpinned by an impact model of technology, in which technology "makes us" more or less social, makes us connected or isolated, helps us or hurts us.

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One reason underlying these disputes may be because we are conflating too many factors: individual differences of personality and ability, types of sociality and community, cultural influences and technological affordances. I believe the conflicting research results about the relationship between ICT and well-being suggests a need for more detailed descriptions of specific socio-technical settings, the processes and social interactions which may impact well-being in those settings, and the practices deployed by individuals toward these ends.

So too do we need to attend to the multiple dimensions of well-being, deploying a more comprehensive understanding of this concept. Much of the research mentioned above conceptualizes well-being solely in terms of social connection or isolation; other research focuses on a medicalized view of well-being, addressing the issue in terms of health care and patient support. Though accurate at times, these views are also limited. We are not always patients, and not everything that provides us with happiness, meaning and resilience in our lives is necessarily social. Another need is to pull away from an impact model in these discussions, asking not how technology *affects* our well-being, but rather, when concerned about the paths to well-being, asking what we do *with* technology.

In this dissertation, I investigate the relationships between ICT and well-being in a specific technologically-mediated setting that is both old and new, personal digital photography. This form of vernacular and everyday media production has a lineage that dates back to the 19th century, and many of the content conventions and social practices surrounding snapshot photography have persisted for decades. At the same time, digital production, editing and transmission are engendering transformation in this area, as well as making personal photography more visible to researchers and the public at large than ever before. As researchers and designers of technology, we often privilege the story of *transformation* – how new tools can and are changing the way that we work, play and learn. But there is value as well in understanding the story of *continuity* – how consistent conventions persist in the practices and habitus around technologies, and what underlying social processes are revealed in turn. This study seeks to

address both of those stories, examining the transformation of personal photography in the networked age, as well as drawing a thread of continuity with the content and use patterns of the past.

Individuals use their personal photography in many ways; photography helps record our memories, to structure our experiences, and to support relationships, as well as to communicate and share our perceptions of our lives with those we care about. These activities tie to different dimensions of well-being across several analytical perspectives. Thus, the domain of personal digital photography is a prime setting in which to investigate the relationships between ICT and well-being; this is the case domain for this study.

1.2 Study Overview

To develop my argument, I first investigate what is known about individuals' engagement – production and use – with photography. In chapter 2, I synthesize various streams of literature concerning photography to show that participants in this type of media production are building and maintaining their life stories, their *biographies*. I use the concept "biography" in this study deliberately instead of the related concepts of "self" or "identity," as biography emphasizes a time dimension that is important for addressing both the role of memory in the use of photography, as well as the evidentiary, resource-like character of photographic images. Biography is, in the words of Anselm Strauss (1993), "identity articulated over time," the coherent and socially situated account of a life, past, present and future.

What about biography is important enough to require the effort and *work* of producing, organizing and disseminating personal photography? Drawing on research from psychology, sociology, linguistics and cultural studies, I show in chapter 3 that biographical practices are likely to be related in several ways to psychological well-being, itself a varied and multi-faceted concept.

Based on the literature in presented in chapters 2 and 3, I put forth two research questions in response. First, how are biographies built and maintained in

the context of personal digital photography – how is the biographical work of this mode of personal media accomplished? Second, can we establish and describe the relationship between biographical work and well-being?

I addressed these research questions by conducting a qualitative study of 23 *everyday* photographers, using at-home interview and observation sessions as primary data, coupled with a variety of participant-specific secondary data, such as photographic media and electronic communications, both private and public. These data allowed me to examine individuals' perceptions and practices of personal digital photography, in order to investigate how these practices are related to processes of biography and well-being. As a descriptive qualitative study, the goal of this project was not to test specific hypotheses, but rather to provide rich contextual detail and insight into a particular domain of human behavior and technology use. Additional information about methodology, participant recruitment, data collection and analysis are provided in chapter 4.

The main contribution of this dissertation is the development of an analytical model of biography work, set in the specific context of personal digital photography. I detail this model in chapter 5, explaining the five main types of biography work that appeared in the data: procedural work, representational management work, connection work, introspective work and interest/hobby work. I also describe a variety of sub-themes that illustrate individual practices representative of each type of work, as well as the ways in which those practices are mutually supportive. In the conclusion of chapter 5, I show how the connections between photography practices, biography work and well-being are present, while being neither linear nor singular in character.

By focusing on a specific case of personal media within this broader debate about technology and well-being, I provide a more specific contextualization of key tools, relationships and practices, allowing for a more detailed analysis at the level of the individual. In so doing, I reground this debate in a way that advances investigation of the topic beyond deterministic impact models of technology,

emphasizing instead the agentic character of the individual to deploy the socio-technical resources that are available to them.

Chapter 2

Personal Photography & The Virtual Home Mode

In this chapter, I summarize key themes from several bodies of literature on photography. In particular, I highlight Chalfen's concept of the home mode (1987) of media production, which places everyday and vernacular photography into a specific social and communicative context. This context helps delineate the types of participants and practices that are the focus of this dissertation. Next, I address critiques and applications of the home mode concept in more recent literature. I conclude with the presentation of an operational definition of the "virtual home mode," a conceptual extension of Chalfen's original model that addresses changes in technology and social conventions related to photography in current digital, online and computer-mediated contexts.

2.1 Photography: Background

Photographic technology and practice dates back to the early 1800s. While originally an expensive, time-consuming and cumbersome process, this had changed radically by the early 20th century, as access to cheap and easy-to-use cameras (such as the Kodak Brownie) had spread photographic practice throughout all levels of society. Vernacular and amateur "snapshot" photography became pervasive throughout the 1900s. The 1983-84 Wolfman Report, an annual marketing report targeted at the photographic industry, noted that 93.2% of all U.S. families owned a camera at this time, and took an average of 126 still photographs per household each year (as cited in Chalfen, 1987, p. 13-14). The reduction in costs for photography since the early 1980s (both for digital cameras themselves

and the near-zero marginal cost of each digital photo) and the increasing pervasiveness of camera-enabled cell phones (Chalfen, 2006) has only increased the number of photos taken in recent years. A 2010 white paper produced by the Photo Marketing Association industry, an industry trade group, reported that among U.S. households, there were 122 million digital cameras currently in use and another 141 million camera phones. In addition to being ubiquitous in our culture, snapshot photography is emblematic of a particular context of personal media production – home mode production – that I focus on in this study.   As such, a brief examination of the literature about photography is a logical beginning for this analysis.

Much of the literature concerning photography comes from traditions of art history/criticism or photojournalism. In the former, writers have focused primarily on the photograph as a fine art object; in the latter, the focus has been on photographs serving professional documentary or social justice functions. When social scientists address domains such as photography, they have generally tended to focus on professionals in the arts, notes Becker (2002), leaving large areas of important activity understudied. As such, there has been a general lack of systematic analysis of amateur, personal and familial photos—their distinctive characteristics, social implications, motivations and functions.

Even when noting the lack of attention paid to amateur photography, many of these same writings then turn around and do the same. Perego (in Frizot, 1994), for instance, bemoans that personal/familial photography is only paid attention to in the context of famous individuals but he then employs well-known artists from the turn of the century as his primary examples (Degas, Toulous-Lautrec, etc). In a dissertation detailing a historical account about the social, economic, and technical factors shaping the rise of amateur photography, Griffin (1987) sets up the topic of familial/home mode photography, but primarily for the purpose for scoping it out of his argument. Griffin's focus on "amateurs" is akin to Stebbins' (1992) later description of those engaged in "serious leisure"; these are people that joined organized camera clubs, showed in exhibitions, and so forth. In Griffin's study,

serious amateurs are specifically delineated from purely snapshot photographers: snapshot photographers differ from amateur photography "both in pictorial form and in the context of activity which engender that form" (1987, p. 79). The serious amateurs intentionally strip their photos of "any vestiges of home-mode functions" to distinguish their photos and prevent their assimilation into more everyday contexts.

Similarly, when the value of snapshot/personal photography is raised in the photography literature, it is usually not approached from the perspective of the photographer, but rather as serving secondary functions, such as providing documentary evidence for historians. For example, Frizot (1994) notes that "the most modest photography carried out at a country fair…teaches us more about social behavior with regard to photography than any detailed description of the ritual of the photographic pose as practiced by Disdéri or Nadar [influential French fine-art photographers from the late 1800s] " (p. 748).

In addition to neglecting personal photography, the majority of the photography literature also focuses primarily on the object itself, rather than actions related to photography – producing them, displaying them, *using* them. There are several key exceptions to this generalization however. Specifically, Bourdieu's (1965/1990), Barthes' (1981) and Sontag's (1977) books on photography provide key insights into deeper implications of photography both as activity and as medium. I introduce illustrative points from these texts throughout the discussion below.

2.2 The Home Mode

Anthropologist Richard Chalfen addressed the gap in the research literature in regards to personal and familial photography when he delineated and examined what he called the *home mode*. In Chalfen's (1987) original definition, the home mode is a form of pictorial communication (such as snapshots, home movies and home video) that supports "a pattern of interpersonal and small group

communication centered around the home… This concept of *mode* allows us to place pictures, as symbolic forms, into a process of social communication" (pg. 8). By delineating and then studying the home mode, Chalfen's goal was "to learn how people have organized themselves socially to produce personalized versions of their own life experiences…examining how a 'real world' gets transformed into a symbolic world" (p. 10). Throughout this dissertation, I use Chalfen's concept of the home mode to help frame both practices and participants of interest.

The scope of "home" in this framing is that of a social context, not just a geographical one. Rather, the term *home* denotes the symbolic audiences of intimates that this mode of production serves, addressing familial functions rather than marketplace logic. In addition to characterizing the audience, the home mode also describes both process characteristics (production and usage) and object characteristics (content, form and functionality). In Chalfen's original analyses, as well as in related work by Musello (1979, 1980), recurrent patterns in both home mode process and objects were highlighted. These patterns are instructive for understanding this mode of communication, as well as helping delineate the home mode from mass-audience, broadcast and professional media. In addition, Chalfen's model asserts that home mode media serves four "functional categories" in people's lives: documentary/evidentiary, preservation, memory and cultural membership. I will explain these points briefly below, with a particular focus on how each advances the work of this particular dissertation project. I use later critiques and extensions to Chalfen's original model to further motivate this research project, as well as to outline an emerging concept of the *virtual home mode*.

Because the home mode is conceived as being fundamentally a communicative act, I will focus first on summarizing the activity in the home mode, what functions it serves, and then what kinds of evidence (in the form of regularized patterns of content) illustrate these activities.

2.2.1 Social/Communicative Focus of the Home Mode

As noted above, Chalfen's concept of the home mode was framed as primarily serving social and communicative activities--the shared activities of taking photographs, of displaying them and of discussing around them. There are three main findings and implications of this focus that I will discuss in this section:

1) Rather than being stand-alone information objects, home mode media serve instead as support for and location of sociality.
2) Image-based communication invites and requires symbolic interpretation.
3) The need to consider all components of home mode "events," including production, editing and public display, and the myriad of participants that engage in such events.

Support for and location of sociality:

First, despite their communicative functions, home mode snapshots do not tend to serve as stand-alone information objects, as 'carriers' of content or communication messages. The photos themselves do not tend to creative visual stories or visual narratives. Rather "the narrative remains in the heads of the picturemakers and on-camera participants for *verbal* telling and re-telling during exhibition events. Significant details remain a spar of the context; the story does not appear in the album or on the screen; it is not 'told' by the images" (Chalfen, 1987, p. 70). Instead, the images serve as a *location* (literally and symbolically) for storytelling.

This point is a crucial one, both in our understanding of the home mode, and in that it provides a key connector across the literature. In the photography literature, this point is reinforced by Seabrook (in Spense and Holland, 1991), in his examination of photo albums of working class UK families.   As he notes, these photos don't tell the story directly, but rather they "illustrate a story" or "amplify

biographies" (p. 172). The photo albums of Seabrook's subjects served as a focal point both for the narrative and for meditation on the meaning behind that narrative: "The narrative is cathartic and often very moving; it will often be followed by a reflective silence of almost religious significance, a meditation on the mystery and ultimate inexplicability of our presence on earth" (p. 173). In doing so, Seabrook posits that family photos (photo albums) provide a connection with the oral history tradition. His work also highlights the different roles that exist in this setting, delineating the generation, ownership and stewardship of family photographic histories. For instance, these roles tended to be gendered; men were most often the picture takers, but women were those who remember and told the accompanying narratives.

A set of similar themes can be found in other areas of scholarly literature. One such theme appears in Brown and Duguid's writings on the "social life" of documents and information (1996 & 2002). In this paper and related book, the authors emphasized the important role of shared documents (broadly construed, not just photographs or home mode media) as a location for social activities. Documents do not serve simply as "darts" which deliver information, but rather support social worlds via common ground, reflexivity and shared awareness of activity. Documents are the beginning rather than the end of a process. They "underwrite social interactions; not simply to communicate, but also to coordinate social practice" (Brown & Duguid, 1996, p. 3). A document provides shared context and strategies of interpretation, rather than just shared meaning.

Another point of connection may be drawn with Becker's descriptions of folk art activities in his broader sociological analysis of "art worlds" (1982). Here, Becker notes that for many instances of folk art, the social cohesion function of engaging in the act of art production is often more important than the quality of art object being produced. Two examples from Becker illustrate this. The first of these (p. 246) is the act of singing "happy birthday." While singing is a form of artistic expression than can involve years of training, precise technique and a detailed set of professional practices, these aspects are not primary concerns in the setting of a

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birthday celebration. Rather, what is important is that the social functions supported by singing are served, rather then the aesthetic qualities of the output. Put another way, what matters is not that it gets done well, what matters is that it gets done at all. The second example is that of groups of quilters gathering for companionship and fun, rather than for maximizing efficiency or production quality. Becker quotes one such quilter, who recounted that "anyone that dropped in would [participate], even if they couldn't stitch straight. Course we'd take out their stitches later if they was really bad. But it was for talking and visiting that we put in quilts in the summer… Had to have a screen porch 'cause sometimes you'd quilt and visit till midnight by lamplight with the bugs battin' against the screen." (p. 255-256)

These points of comparison serve to underscore the importance of home mode *activity* as often being an end unto itself, rather than just being a means to generate a concrete object (for example, a photograph).   The act of *producing* is at least as important to examine as the *product*. As well, the secondary uses and mediating functions of the photos must be included in any complete model of the home mode.

Yet while emphasizing the social/communicative nature of the home mode, I assert that a focus solely on social interaction ignores an important individual component to these activities. The home mode may be used as a location for the retelling of memories and family memories, but we tell such stories to ourselves as well as to others.   This important self-directed aspect is lacking from much of the prior work on the home mode. Indeed, Chalfen (1987) goes so far as to scope individual considerations out of his analysis, stating that the emphasis on social and communicative processes is primary, taking "precedence over psychological explanations" (pg. 8). As I progress in this literature review and this study as a whole, I will repeatedly emphasize both the individual and social aspects of the home mode. In my examination of the relationship of home mode media to participant's well-being, I assert that these two aspects are deeply intertwined; an accurate model requires attending to both.

Images and interpretation:

As stated above, home mode photography should not typically be treated as stand-alone information objects, encapsulating a single bounded message. Rather, it is more accurate to consider them as part of a longer ongoing dialogue among known participants in which images and representations both rely on and serve pre-existing common ground. Such dialogues are not always straightforward however, because of the symbolic character of image-based communication.

Sontag (1977) notes that photographic representation of particular events, acts and participants "persuasively" conveys a tacit assertion: "that time consists of interesting events, events worth photographing" (p. 11). In the context of the home mode, Sontag's comment suggests an interesting legitimization function. Participants take and share these photos to attest to the fact that everyday life is interesting and worthwhile, worth documenting and implied by the process of sharing, of value to someone else. Sontag continues to develop this concept, noting "to photograph is to confer importance… In the open fields of American experience, as catalogued with passion by Whitman and as sized up with a shrug by Warhol, everybody is a celebrity," at least in their *own* life stories (p. 28).

This process of representation is not necessarily simple, however. All pictures, as with all representational media, have multiple concurrent readings available to them.   Photographic representations in particular seem to force a need for *interpretation*. "Pictures – as all symbolic forms—are 'multi-vocalic' (Turner, Sebeok) or 'polysemic' (Barthes): they 'say' many things" (Chalfen, 1987, p. 122). There are many tricky layers of intersubjective assumption (and assumed intentionality) that exist between photographer, subject and viewers, and these always need to be addressed via processes of interpretation. This interpretive step is so important, in fact, that Chalfen calls it "the key of reality construction in the home mode" (p.126).

Components of the home mode "event":

The focus on communication, sociality and activity in the home mode, coupled with the localized interpretations of the meaning of home mode photos suggests a need to consider multiple phases, components and participants in the home mode. Chalfen's methodological approach to this problem was the construction of an analytical matrix that Musello (1980) refers to a "sociovidistic framework" (p. 104). This matrix is a framework for observation and description – a 5x5 grid with Events (planning, shooting: on-camera, shooting: behind-camera, editing, exhibiting) and Components (participants, settings, topics, message form, code). While set in the photography context, this framework can clearly be mapped to other forms of media production, such as audio recording, video, and so on. Together, the on-camera and behind-camera activities described in this table jointly comprise the *home mode event*.

While most of these components and events are fairly self-explanatory, additional clarification is warranted for several items. The *participants* cell in the framework was meant to be interpreted broadly, included both people on- and off-camera at a shooting event. *Form* means physical shape or "kind" of photo. Examples in the home mode include wallet photos, family album snapshots, framed wedding photos, and so on. The physical form provides key cues to the intended usage and exhibition settings for a given picture. *Code* refers to the style and message characteristics of image construction and composition. "Description of code includes information on habits, conventions and/or routines that have structured shooting and or editing event to give a certain 'look' to images…also describes the patterns of social habits and conventions within the photograph" (Chalfen, 1987, p. 32).

For Chalfen (1987), *editing* includes "any action(s) which transforms, accumulates, eliminates, arranges or rearranges images" (p. 23). These actions take place after shooting but before public exhibition. In contrast, Musello (1980) makes a distinction between *editing* and *processing* activities. However, I believe

that these are reasonably considered different aspects of a similar set of events, and have grouped them as such. This is particularly the case in digital photography, where the differences between the two phases are more arbitrary. Finally, *exhibiting* refers to any display, showing or sharing of photographic materials in a public context, even in cases when audience is limited to one person. In particular, Chalfen suggested that researchers should attend to the related social behaviors and relationships of participants at the exhibition event.

My point here is not that research on the home mode requires the use of Chalfen's analytic matrix; I do not intend to use this as a coding device in my study, for instance. But it is conceptually useful, in that this type of framework highlights aspects that must be attended to in an analysis of the home mode, positioning the photograph in a larger context of production and use.   In doing so, this reminds us as researchers to attend to all the various stages and aspects of *actual* behavior surrounding home mode photography.

2.2.2 Functional Categories of the Home Mode

In Chalfen's (1987) original conception, the home mode serves four "functional categories": Documentary/Evidentiary, Preservation, Memory, Cultural membership. While these categories are distinct, they are not exclusive and devoid of overlap. Briefly, I will explain each of in turn, discuss how they are informative to this project, and highlight potential concerns of casting these aspects of the home mode as being "functional" in character.

The first category is that of *documentary/evidentiary* functions. Here, home mode media provides data and evidence to construct and support familial stories. But this occurs selectively, via regularized patterns of inclusion and exclusion. Essentially, we document and create photographic evidence for the memories that serve familial stories and facilitate the retelling of those stories; we tend to exclude representations that are locally irrelevant, unpleasant or socially inappropriate. A lengthier discussion of these patterns of inclusion and exclusion will be addressed

in section 2.3. In Chalfen's conception, this is not a specifically diaristic function, in the sense that a diary supports daily self-reflection and a space for evaluation of positive and negative experiences alike. Rather, this function serves the construction of an edited and, perhaps, idealized representation of a life.

The next category is that of *preservation* functions, including the symbolic "capturing" and "encapsulation" of memory. Several points from Barthes' (1981) philosophic mediation on the meaning of photography are salient here, and so I will detail them in order to illustrate this function. First of these is Barthes' assertion that photography is a form of symbolic acquisition. This acquisition provides us with possession of a surrogate for an object we value or an individual we hold dear. Photographic acquisition also underpins a "consumer's relation to events, both to events which are part of our experience and to those which are not—a distinction between types of experience that such habit-forming consumership blurs" (p.156).

Related to this consumer model for Barthes (1981) were technologies of image making and image duplicating, which allow us to "acquire something as information (rather than experience)...furnishing knowledge dissociated from and independent of experience" (p.156). In turn, once transformed into information, it can be "fitted into schemes of classification and storage…Reality as such is redefined—as an item for exhibition, as a record for scrutiny, as a target for surveillance" (p. 156). Clearly, this last form of acquisition is particularly intriguing when viewed from an Information Studies perspective. It indirectly casts photography as a process of *informating* (Zuboff, 1988) and nods towards issues raised in Bowker & Star's (1998) broader examination of "classification and its consequences." By raising these points, Barthes presages concerns that may become intensified in the virtual home mode condition.

Next, Barthes also draws connections between photography and death. For Barthes, photos are the embodiments of the passage of time, and thus at some deep level, he believes that photography represents an attempt at defeating (or at the very least, slowing) death and change. Photography is particularly suited to these

functions because it captures and verifies the past in a way that artistic representation (such as a painting) never will -- "they were there; what I see is not a memory, an imagination, a reconstitution... but reality in a past state" (Barthes, 1981, p.82). As such, photography points out the transience of things, the inevitable passing of time.   And yet, the photograph does not capture the transience itself. Instead, what is preserved is a concrete point of reference, which in turn serves to force our reflection about time and change. "The Photograph does not necessarily say *what is no longer*, but only and for certain *what has been*. This distinction is decisive" (p. 85). Sontag (1977) too supports this connection, stating that "photographs actively promote nostalgia. Photography is an elegiac art, a twilight art. Most subjects photographed are, just by virtue of being photographed, touched with pathos…All photographs are memento mori. To take a photograph is to participate in another person's mortality, vulnerability, mutability" (p. 15). Even in this context, we see photography as underscoring a participatory and social act.

But in relating to death, Barthes (1981) believes photography also serves a crucial function -- "for Death must be somewhere in a society" (p. 92). Photography shifts the social location for representations and reconciliations (individual and collective, ritualized and locally created) of death. Chalfen notes that one recurrent set of participants in family photos is that of an older relative with a baby. This pairing expresses kinship, continuity and intergenerational ties; perhaps in doing so, it also represents a version of that reconciliation with death and transience. Bourdieu (1965/1990) highlights this theme as well: "While seeming to evoke the past, photography actually exorcizes it by recalling it. As such, it fulfils the normalizing function that society confers on funeral rites, namely at once recalling the memory of the departed and the memory of their passing, recalling that they lived, that they are dead and buried and that they continue on in the living " (p. 31).

Chalfen's third category includes *memory functions*. Memory here is framed in a social/communicative context, rather than an individual/internal context. This category again emphasizes the home mode artifact as a location and locus for the

"telling" and enactment of memories, rather than as a "container" for memories. Photos from early childhood in particular illustrate how home mode media tend to maintain but also shape our memory of long-ago events. As noted in previous sections, verbal connection to imagery is very important; home mode images are not standalone information objects. Either supplementary text is needed, or "image custodians" are required to fill in the context, story, act as interpretive guides, and so on. Interpretation is a complicated and essential process in the home mode setting (despite superficial appearances to the contrary). Indeed, Chalfen proposes that representation and interpretation in the home mode are interesting to study in part *because* they are typically treated as unproblematic. So by directing the verbal interpretive process, the image custodian controls the associated meaning to a large degree.

The final category of functions relate to *cultural membership* (at multiple levels of 'culture' from the very large to the local culture of the family and/or peer group). We both signify our cultural membership via our photographic practices and social uses, as well as have those practices and uses shaped in turn by our cultural membership. Chalfen (1987) labels this as "Kodak Culture," in which picture taking and picture showing are both conditioned and shaped by "non-institutionalized norms and by folkways….guided by unspoken and unrealized social conventions" (p.47). For instance, under standard home mode conventions, it would considered strange and unusual if a new parent did not take and share photos of their newborn. As an example of use that is both shaped by and serves cultural membership, consider the exchange of photographic images, particularly taken at social events such as weddings and formal parties. The patterned reciprocity of these exchanges serves to reify and reinforce social structure and organization. Chalfen points out, "They represent a special kind of personal gift that carries meta-messages of high approval, congratulations, acknowledgment of group membership, conveying the general statement that 'these people are doing it right'" (p. 84).

This is not the only reasonable way to organize the functions of home mode photography. Musello (1979), for instance, offers a related but alternate categorization of functions: Communion, Interaction, Presentation of Self and Documentation. In Musello's categorization scheme, *communion* functions serve to document, strengthen and reify group relationships, values and beliefs. *Interaction* emphasizes photographs as "means to a social interaction" where the act of taking or showing is more important than the photo itself – the act as signifier of importance (p. 109). *Presentation of self* occurs via three approaches: 1) "idealization" (formal, posed pictures, individuals looking their best), 2) "natural portrayal" (candid shots, representing a best portrayal though in everyday contexts), and 3) "demystification" (less flattering shots, including self-parody, mugging for the camera, and unintended candid pictures, such as throwing up at a party). *Documentation* functions support the retention of memories, "capturing" the moment – though again, Musello notes that it is better to think of the photos as "'keys' to memory" rather than the actual memory content. Documenting change is flagged as a particularly characteristic and important function of HMP photography, as well as "family correspondence," using photos as "surrogates" for distant relatives (p. 112 -113).

The similarities between Chalfen's and Musello's functional categories are clear. Though the labeling and boundaries of functional categories may vary between different conceptions of the home mode, what is common is the primacy each places on social and communicative acts. As previously noted, these are not bounded, exclusive categories; at times, the functions can be complementary or contradictory. For instance, reflection seems a key concept in the discussion of *preservation* above, but that is in conflict with the selective and idealized representations created in the documentary function. But throughout we also are reminded of the core symbolic aspects of home mode media.

There is an issue to be flagged in regards of the term "function," particularly in the context of this study, in that it may suggest an overly utilitarian perspective on the relationship of well-being and the home mode. By recounting Chalfen's and

Musello's explanations of these categories, I am not endorsing a purely functionalist perspective (nor do I believe they were necessarily promoting such a view). Instead, rather than viewing these categories as indicative of deterministic processes, I consider them as possible framings of the types of social and symbolic relations in which the home mode is deployed. In this light, these categories draw our attention to the kinds of interactions, personal and collective, that the home mode may facilitate. They again emphasize the deeply intertwined personal and social aspects of the home mode, as well as the deep—albeit localized— significance that this mode of media production and use has for its participants. In addition, these categories provide a working taxonomy in which to consider the multiple concurrent processes of the home mode. To avoid being sidetracked on a discussion of the meaning and implications of "function" then, I will re-label these as the *activities* of the home mode; focusing our attention on the behaviors, uses, work and practices present in the home mode.

2.2.3 Patterned Inclusion and Exclusion

Chalfen (1987) and Musello (1979) both asserted that home mode content followed regularized patterns of inclusion and exclusion. Each researcher also emphasized the importance of these regularities in their analyses. As I expand on these points, it should be emphasized that these patterns of inclusion and exclusion were strong tendencies, rather than strict rules. Exceptions existed in the photo albums that Chalfen examined in his data, for a variety of idiosyncratic reasons. Yet the presence of strong patterns was clear; for example, Chalfen found that more than 90% of the images in a family's snapshot collection typically included people.

In the context of this dissertation study, I wish to highlight three key points in regards to these content patterns. First, such patterns *facilitate* the activities of the home mode by focusing on key and positive events. Second, these patterns *support* the activities of the home mode by selective representation. Third, patterns of inclusion and exclusion *reveal* to researchers insights into the processes of

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creation and use; home mode objects are "precipitates of interaction" (Strauss, 1993, p. 194). Thus these patterns provide a degree of access into private activities and communications, concrete evidence of a decision making process, and allow for specific points of shared reference in interview data collection.

What were the patterns found in the earlier generation of home mode research? Broadly, Chalfen (1987) found that "snapshot photographs document key moments in an individual's life, a *life story*" (p. 70). The notion of home mode media facilitating the development of life stories is one that I will return to in the next chapter of this document. Examples of particular key moments and their visual communication in Chalfen's data included items such as:

1) Socially-defined life transitions, particularly ritual milestones through the stages of childhood and into adulthood (graduations, pageants, birthdays, bar mitzvahs, etc.)

2) Important and iconic new possessions, playing into themes of middle class material acquisition as connected to status and upward mobility (houses, cars, fancy coats, etc.)

3) Locally relevant milestones (baby learning to walk, lawn party, new haircut, etc.) and slightly atypical/noteworthy events (vacation activity, holiday activity)

4) Costumed children. Chalfen interpreted these cases documenting "trying on" different roles and new identities, as well as representing in some cases forward momentum toward adulthood.

This example list is by no mean comprehensive, but serves to illustrate the types of content representatively included.

Interesting as well was the finding of regularized exclusion (at least at the time of Chalfen and Musello's data collection) of certain types of topics and content. An important and recurring theme in this area is that all that could be done is not necessarily what *is* done; not all possible subjects are filmed or photographed in all possible settings. For instance, Chalfen's analysis takes note of all the people that *don't* appear in home movies or photos in his sample, such as

delivery men, family doctor, the mailman, and so on -- all the normal incidental interactions you may have in a day. Similarly, despite the quotidian character of the home mode, the truly daily and mundane activities of home life were not typically represented: making dinner, cleaning the house, going to work, getting ready for bed, bathroom activity, reading, watching TV. More broadly, the "patterned eliminations" (of divorces, deaths, unpleasant sides of life, dirty diapers of childhood, etc.) were not present in the home mode. So while it is true that home mode captures the ordinary and everyday, an interesting distinction can be drawn between activities that are banal because they are somehow beneath our attention or desire to record, and those that only seem banal to outsiders, because they have no vested interest in the local narratives being represented.

Given its deep culturally embedded nature, many aspects of home mode photography have taken on a *ritualized* character, and are often related to supporting and documenting rites of passage. Bourdieu (1965/1990) in particular addresses these aspects of photographic practice, including "ritual sacrilege" of how people pose, mug and act unusual for the camera, particularly at special events, such as all putting hands around each other, and so on. Because it is so ritualized and ceremonial in many settings, home photography is "stereotyped... in its choice of objects as in its expressive techniques" (p.38). Photographic ritual (in terms of content, settings, and behaviors) serves what Bourdieu refers to as the "domestic cult ritual," reinforcing the intimacy of the family in response to broader dispossession and societal pressures. The process of ritualization provides additional understanding for the regularization of inclusion/exclusion noted by Chalfen.

2.2.4 What Patterns of the Home Mode Reveal

The regularized patterns of the home mode are informative, as they serve to demonstrate how this mode of symbolic production is distinct from commercial and fine art modes of photography. This difference is not just a question of skill or content, but types of audiences and social actions that are being addressed as well. It also suggests that the conventions of the home mode must be approached in their own terms, not treated as a sub-standard version of professional photographic practices. To say that home mode producers are "doing it wrong" is a conceptual error on the part of the observer – it mistakes professional aesthetic standards as being the appropriate yardstick with the actual localized goals, meanings and relevance of home mode activities.

For example, snapshot photography is often concerned with the human subject only, which convention suggests will be at eye level and centered in the frame. As a result, a common (if perhaps unintentional) code characteristic of home mode photography is the inclusion of extraneous detail around the edges, irrelevant to the central subject. This is a major error in composition from a professional and fine-art aesthetic point of view, but systematically ignored by both the photographer and later viewers in the home mode, because it was irrelevant to the goal of "getting the shot." The importance of recording and the ritual act of participating in the shooting event trumped other concerns. As Moran (2002) succinctly asserts, the home mode aesthetic is "based on the subordination of form to function… [which] sutures on-and off-screen space with the shared life worlds of its participants" (p. 72 – 73).

As researchers, we need then to take the actions of participants and their localized meanings as the starting point, and not over-impose a singular interpretive frame in advance. Stanley's chapter "Well, who'd want an old picture of me at work?" (in Spense & Holland, 1991) illustrates out how this can be conceptually problematic and perhaps even result in misleading results. Stanley discusses a community history project of female factory workers in the UK, in

which the women were encouraged to bring in pictures of themselves at work. The researcher, coming in to the project with a tacit Leftist/pro-labor orientation, expected the factory workers to take pictures for reporting and power-reclamation purposes, such as documenting bad working conditions, disciplinary activities, and workplace inequity. However, these expected images were excluded by the workers themselves in favor of pictures of friends from work taken on break time and other similar representations of in-group socialization -- essentially, home mode imagery, expressed in the context of their workplace "home."

The author's conclusion from the project was that the exclusion of their expected protest imagery was indicative of power, class and gender struggles, and asserted these struggles are internalized into those that are disenfranchised. While there may be an aspect of truth to the internalization thesis asserted by Stanley, the bluntness of her findings seemed problematic, even self-fulfilling, and left points of unresolved tension in the reported behavior of the participants. For instance, at one point the researchers were confronted by the mismatch between their assumptions and the study participants' viewpoint, with the participants reminding them "the point was to show not 'work,' but 'us at work'" (p. 62). Yet, the researchers still expressed frustration at their subjects lack of interest in documenting the aspects of the work setting that the *researchers* found more compelling, choosing instead to focus on the personal relationships that were more meaningful to the study subjects.

Chalfen (1987) notes that professional and expert practice is often conveyed to home mode participants in the form of professional produced "how-to-do-it" (HTDI) literature, such as books, advertising and magazine articles. These materials emphasize how to make your creations "more professional, to "do it right" and "avoid mistakes" (p. 49). One of the key findings generated by the application of Chalfen's framework is that HTDI materials present a "paradigm of idealized behavior" (p. 49) that does not match actual actions. Rather, such materials impose assumptions about professional discourses and professional practices onto non-professional individuals and settings. He warns researchers not

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to take HTDI materials as representative of actual behaviors and conventions in the home mode, pointing out that in his studies, people were more likely to do the exact *opposite* of what the HTDI material suggested.

This point is overlooked by researchers such as Zimmerman (1995), who argued that home mode-type personal media is manipulated and co-opted by large-scale societal forces. These forces included consumerist ideologies, which serve the companies that sell cameras, film and related services to the home mode participants, as well as a broader culture of patriarchalism. Zimmerman's data drew largely from industry documentation such as sales reports from photo industry manufacturers, marketing research documents, advertising copy, and so on. Her focus was top-down, highlighting on how market discourses constrain and direct individual practices and behaviors into approved consumerist channels. In doing so, the individual and their lived experience disappear from her analysis. Later in her book, her evidence shifts to periodicals, including photography magazines such as *Photography* and *Popular Photography* and photography and home movies articles in broader audience publications such as *Better Home and Gardens*. Zimmerman takes the advice given by directive material as representative of the actual behavior of the end user. This is problematic, since as Chalfen's data showed, people engaging in home mode production largely ignored HTDI information, disregarding the more polished and "professional" practices and codes they were encouraged to adopt.

Through this, Zimmerman blurs her object of analysis between the social history of the activity and social history of the public discourse of the activity. This point is emphasized by a critical review from shortly after the book's publication, from Sklar (1997) who takes Zimmerman to task for her near-complete reliance on top-down discourse about home movies practices as a primary data source, highlighting in particular at how little (and how unrepresentative) actual home movie footage was examined. Sklar's review challenges Zimmerman's approach and findings, noting that actual practice is more diverse and complicated than the

public discourses, and asking, in effect, "how can you write a book on this while *not* actually looking at examples of the media itself?"

Are these previous patterns of inclusion and exclusion still present in the current instantiation of the home mode? Are the patterns a direct result of the social functions and communicative context of the home mode, as Chalfen (1987) and Musello (1979) seem to suggest, or are they related to other influences? There are several plausible factors that may be driving changes, such as:

1) *New affordances of technology*. Changes in technology, while not necessarily deterministic, do influence photographic practices. For instance, devices such as cell phone cameras present individuals with the ability to have a camera at the ready in a wider variety of settings, and with less pre-planning required. The ability to disseminate and share photos more readily via ICT will clearly have an impact on what is captured and for which audiences. While these examples are current, this is not a wholly new issue, as the changing characteristics of camera technology have influenced snapshot photography since its inception.

   For example, Slater (in Spense & Holland, 1991) analyzed the market-driven influences of Kodak, emphasizing that in the first half of the 20th century, the company turned photography into a commodity product and domestic consumption good. Slater's historical analysis provides interesting examples of technical influences on practice that were embedded in the functionality and design of consumer-level cameras.   For instance, the rise of point and shoot camera saw simplicity of use increased, but as a trade off for reduced control (such as fixed focal length and depth of field) and reduced visibility of what could be controlled. These types of restrictions in turn reduce the available "codes and means of representation" (Slater, 1991, p. 53). To use language taken from the world of technology design, the affordances of particular photographic technology (Norman, 1990) restrict the diversity of the symbolic communication the user could generate.   It

should be noted as well, Slater states, that these affordances were not arbitrary, but rather dictated by market-shaping strategies on the part of the camera companies.

2) *Cost factors*. Digital photography compared to film photography has a much lower cost per shot. What appeared as patterned exclusion before might instead have been a patterned prioritization – some images may have fallen below a metaphorical threshold before may now be included. In some settings, it may be less costly (in decision making terms) to take *more* photos than to decide which photos to take.

3) *Shifts in cultural conventions*. Our concepts of family change over time. For example, divorce and the corresponding re-blending of families that may result from subsequent remarriages have become more prevalent and normalized since Chalfen's original work; perhaps related photographic representations have as well. We are also in the midst of seeing cultural shifts in the notions of private and public, which may influence either the kinds or amounts of photos taken and shared. Given that photos build on pre-existing shared context, patterns of inclusion and exclusion can be telling, revealing what messages are being conveyed, to whom and for what goals. So we would expect to see corresponding changes in the sociality and communication facilitated by and surrounding the home mode media.

The need to attend to these types of changes is flagged in critiques of Chalfen's (1987) original home model. Specifically of note is Moran (2002), who raises changes in family structure and changes as media technology as being necessary issues to address, if the concept of the home mode is to be intellectually valid. I will discuss aspects and implications of these changes to the home mode in sections 2.3 and 2.3.1 below, generating a working definition of the *virtual home mode*.

2.3 Extending the Home Mode

In this section, I present a critique of the home mode from James Moran (2002), particularly directed toward Chalfen (1987) and Zimmerman's (1995) work. Moran's critique underscores the limitations of the earlier home mode work and points toward two high-level issues that need to be addressed in a revised model: changes in the technology and economies of production and changes in concepts of family and "home."

The biggest joint failure of the earlier work on the home mode, states Moran, was to not appreciate the historical position of the paradigm they constructed to describe and evaluate. Moran's most specific critique of Chalfen is of his methodology, which Moran states is "jeopardized by formalist fallacies" (2002, p. 37). First, Moran believes that Chalfen looks too much at the images and the apparent symbolism represented therein, rather than determining what those images meant in specific social settings, and what producer intentions existed in regards to the photos. This error "conflates general formal conventions with specific cultural intentions, reducing the diverse subjective aims of home mode practitioners to the researcher's interpretation of an object image" (p. 37). In addition to being inaccurate, asserts Moran, such an approach is insufficient, in that it "cannot adequately account for or explain the broader range of family dynamics and ideologies of home" (p. 37). This may or may not be an accurate assessment, but seems to discount the fact that Chalfen *did* have additional data beyond the pictures themselves. Specifically, Chalfen (1987) mentions that he used questionnaires and conducted open-ended interviews with subjects, regarding their photographic and home movie practices. That said, the interview data did not play a very visible role in the write-up of Chalfen's findings, so Moran's criticism here is not entirely without merit.

Secondly, Moran asserts that Chalfen treats both pictures and movies as equivalent data, rather than attending to the specific historic and technological differences that will change their production, intentions and effects. Put another

way, Moran accuses Chalfen of not paying enough attention to the different context of uses, affordances of the technologies, or varying cost structures of production between both. This critique seems valid and forms a cornerstone of Moran's larger analysis of home video.

What then does a revised theory of the home mode need to address to avoid these errors? In particular, states Moran (2002), it needs to be able to address change. The first set of changes that must be addressed are those related to *technological and economic constraints*; that is, changes related to the tools and characteristics of production and their corresponding costs. In Moran's language "we must also consider the material and economic constraints of the apparatus and substrate" (p. 41). This is especially relevant as we continue to extend the study of the home mode into new digital contexts of production and use.

Moran's example medium for discussing technological change is videotape (set in contrast with earlier 8mm home movies), noting the lower per-unit cost, the increase in available recording time, and a capacity for videotapes to be reused. These characteristics dramatically expanded both the range and volume of behaviors that can be recorded during home mode video production. In addition, videotape introduces a new technique, on-camera narration, which reduced the need for strict genre conventions and standardized iconography, since verbal explanation of on-camera activities and contexts was now available. Video also provided better low light sensitivity, which meant a bigger range of indoor activities could be recorded.   In addition, video also supported new interaction and use forms, such as immediate viewing, even during the very event that is being captured. This in turn helped foster new forms of reflexivity, theatricality and self-conscious behavior on the part of home video participants.

By opening up all these various zones that had been unavailable or off-limits before due to technical constraints, home video "reveals that families have always been more complex and contradictory than home movies have generally portrayed them" (Moran, 2002, p. 43). For instance, many of the patterned eliminations that Chalfen documented are gone in the home video that Moran studied, suggesting

that part of these content characteristics may have been driven by economic logic (such as the forced prioritization of inclusion/exclusion, given the higher marginal cost of film versus that of video tape), rather than by social functions. Yet I would assert that we can still construe the construction of individual and familial biographies as a main endeavor of these new forms of home mode, even if the details and content characteristics included in those narratives change.

The second set of changes that need to be addressed in a revised theory of the home mode are those occurring in *family forms* and *familial ideologies*; that is, in the social contexts and representational subjects of the home mode. Both the structure of the family unit and corresponding supportive ideologies have changed since the introduction of photography in the 1800s, and will continue to do so. A robust model of the home mode must then be able to reflect and adapt to a changing concept of the home. For instance, Moran (2002) draws on ideas of Feminist scholar Kath Weston, who "refers to [the] new plurality of domestic patterns as 'families we choose,' whose members are adopted rather than ascribed" (p. 47). Although Weston was focusing on the rise in gay families, this point can and should be read as more broadly, including an ability to locate 'home' in a variety of contexts, including "the workplace, neighborhood and school. Thus, as well as nuclear families, we find vocational families, avocational families, educational families, and professional families" (Moran, p.48). In a veiled response to Zimmerman, this shifting of the meaning of family and location of home means that "the home mode's 'conservatism' may be redefined not necessarily as 'reactionary' or 'regressive,' connoting its political functions serving patriarchal capitalism, but more generally as 'reconstructive' or 'restorative,' connoting its ritual functions serving the need for meaningful community" (Moran, p. 48). An additional related change that I assert we must consider in the virtual home mode is the shifting of a physically located concept of "home" into mediated virtual space, disembodied and asynchronous.

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2.3.1 An Emerging Model of the Virtual Home Mode

In the overlapping fields of Human-Computing Interaction (HCI), Computer-Supported Cooperative Work (CSCW) and Social Computing, Chalfen's work has gained renewed attention amongst researchers interested in photographic practice and sociality mediated via photography, having been cited in studies such as Miller and Edwards (2007), Frohlich et al. (2002) and Van House et al. (2004, 2005, 2007). Other related work from these fields does not directly reference the home mode concept, but clearly addresses a similar set of activities, participants and functions, such as the camera phone research by Kindberg et al. (2005), Ling (2008), Ito (2005) and Okabe & Ito (2006). This interest argues for the ongoing analytic value of the home mode model, as well as underscoring the need to continue updating and revising it. In particular, we need to consider the ways that contemporary information and communication technology (ICT) and computer-mediated communication (CMC) may be supporting and changing the home mode, as it moves increasingly from the living room to networked communications.

As I alluded to in the introduction of this dissertation, an emergent model of the virtual home mode will need to map two things, *continuity* and *change* with earlier notions of the home mode. And indeed, the developing body of literature in this area suggests that both aspects are present. First, continuity – what aspects of the home mode do we see preserved? One primary recurring theme is the sociality facilitated by home mode photography. Indeed, all of the above studies reinforce this point; for example, Van House (2007) emphasizes that photosharing helps users of the photosharing system Flickr.com maintain relationships, building a kind of "distant closeness." In addition, many of the same content conventions of the home mode clearly persist, albeit with some emerging evidence of additional variations and extensions to those conventions.

Given the relationship between social/communicative behavior and content conventions, it is not surprising that many of the same conventions do appear to persist, in that they appear to be facilitating and underwriting a similar set of

relationships and behaviors in the virtual home mode. Yet as I've asserted, we need a revised model of the virtual home mode in order to be able to incorporate and address changes. The literature in this chapter section documents that interesting changes are afoot; here, I present three examples of studies that illustrate both the preservation of aspects of the home mode in new contexts, as well as related transformations.

First, Miller and Edwards (2007) used Chalfen's work to describe both the presence of home mode production in new online photo-sharing spaces (such as Flickr.com) as well as another distinct set of emergent amateur photo practices, amongst users the authors labeled "Snaprs." In the exploratory study the authors describe, Snaprs were a distinct and fairly homogenous group, whose practices were not intentionally located within the realm of the home mode. Rather, Snaprs were engaged in a new form of hobbyist practice, focused on the *taking* of large numbers of photos rather than the *sharing* of those photos, while simultaneously engaging a more generalized and public audience when they did share. These differences were apparent in the interviews with both groups of users, as well as being visible in differences in aesthetic/content conventions, tagging and labeling patterns and so on. Here, the presence of virtual home mode activity helped provide a clear comparison context for the Snaprs.

Next, in Cohen's (2005) paper on photoblogs, we see examples of photo behaviors that are more explicitly diaristic than Chalfen describes. In her study population, some of the amateur photographers express a desire to capture more and more of their daily lives, even wishing for a way to "collapse" (in Cohen's terms) the act of photography directly into the ongoing fabric of their moment-to-moment existence. One subject is quoted as saying "That's what I want, a camera on the glasses…So I can go around taking pictures by blinking" (p. 891).

While the goal of continuous image capture is shared by designers and proponents of "Lifelogging" systems (Sellen et al., 2007; Bell, 2001; Freeman and Gelernter, 1996), it is also a goal clearly in tension with the ways that patterned inclusion/exclusion in the home mode helps focus attention on key events and

direct idealized interpretations. We may hold a desire to capture and protect everything in our lives, an amplification of the "function" of encapsulation – symbolically holding onto the past. Yet ultimately, I anticipate that virtual home mode participants still will engage in some sort of focused selective attention. However, this does suggest an additional consideration for studying the virtual home mode, since the decreased cost per shot for digital photography (both in terms of money and time) does seem to encourage the taking of more pictures, compared to analog film. It may be that patterns of inclusion and exclusion will be expressed not only what is captured, but also what is retained, used or shared.

A third example comes from Okabe and Ito's work on emerging content genres and use patterns in Japanese camera phones (Ito, 2005; Okabe & Ito in Hoflich & Maren, 2006). These studies are successful in illustrating new behavior facilitated by new technologies that seems to fit with the core motivations and relationships of the home mode. Their "peer-to-peer news" category of cell phone photos, for instance, illustrates that production in the home mode leverages existing common ground and relationships for understanding and providing context, rather than intending to be broadly understandable or relevant. In addition, this research also demonstrates extensions occurring in the "techno-social" contexts surrounding photography. The ubiquity of camera phones in Japan has encouraged aspects of what might be considered home mode production to be conducted continually at a distance. Without the same constraints on timing and co-location that once existed, the researchers documented a corresponding *expectation* for much more constant communication in this mode, a type of lightweight but persistent interaction that the researchers call "virtual co-presence."

Such new behaviors raise a variety of interesting questions. For instance, as home mode communicative acts become less episodic and more habituated into the constant fabric of everyday life, does their ritual aspect diminish? Or are they more accurately viewed as ritualized behaviors finding new avenues and forms of expression, as Ling (2008) asserts? A broader and consistent framework for investigation supports these types of research questions.

Considering such examples, we may finally construct a working definition of the virtual home mode (VHM):

1) First and foremost, I use term virtual home mode to denote home mode activity conducted via networked digital ICT; that is, where social interaction and media sharing are conducted at least in part via computer-mediated communications. This need not necessarily be on a desktop computer *per se* – it is easy to see how rapid developments in mobile technology could move most or all of the phases in a home mode event (photographing, editing, organizing, displaying/distributing) onto mobile communication devices such as smart phones, PDAs, iPods and so on. At its core, the VHM centers around (though we cannot assume is exclusively limited to) the same types of symbolic/representational activities outlined at length in chapter section 2.2.3.

2) The virtual home mode overlaps with traditional notions of the home mode, but does not necessarily supplant it. Traditional print-based photographic practices clearly still persist, as do other new forms of hybrid home mode activity which bridge purely computer-mediated and collocated cases. For example, there is ongoing work (Lindley et al., 2008) focused around technology to display photography in the physical home. A robust concept of the virtual home mode should also be able to consider how aspects of related sociality are conducted in physical collocated settings.

3) The VHM targets, at least in part, a known audience. "Home" retains its same symbolic character (in that it implies an audience of intimates, often family, which one engages with over an extended period of time), but computer-mediated communication means that the boundaries of that symbolic interaction space are now fuzzier, moved increasingly beyond the physical delineation of domestic space. The access and disintermediation of digital media allows a variety of new amateur photographic practices, but media production that targets loosely coupled communities of interest or generalized

unknown audiences will not have the same ongoing character and common ground as VHM audiences.

4) At the same time, in the VHM, the possibility of additional secondary and tertiary audiences *is* increased, either intentionally (by conducting home mode activities in publicly accessible virtual spaces, such as posting photos that are world-readable) or unintentionally (due to unauthorized access and reuse, or the ease of duplication of digital media, allowing photographs to be readily passed along by audience members and participants).

2.4 Chapter Summary

In this chapter, I summarized key themes from several bodies of literature on photography, focusing particularly on literature about personal and everyday photography that framed these media acts through a social and communicative lens of interpretation. I extended Chalfen's concept of the home mode into an updated definition of the "virtual home mode," in order to address changes in technology and social conventions related to photography in current digital, online and computer-mediated contexts. Yet while the literature in this chapter delineates the types participants, social contexts and key dynamics that I will be addressing in this study, it leaves two key topics underdeveloped – the use of personal photographs in the construction of individual life stories, and the relationships between technology use and well-being. I clarify these topics, and their relationship to the shape of this research study in the next chapter.

Chapter 3

Perspectives on Well-being and Biography

The literature summarized in the Chapter 2 delineated the types of participants, social contexts and communication dynamics that I will be addressing in this study. In this chapter, I attend to two additional areas of literature: well-being and biography. In the former, I first discuss research on the relationship between ICT and well-being, which has primarily construed well-being in terms of sociality and isolation. Arguing for the use of a broader definition in this study, I then present two prevalent perspectives on well-being in the positive psychology literature, the hedonic and the eudaimonic.

In order to bridge the communicative focus and domain-situated character of the home mode and photography literature with the more psychological perspectives of the well-being literature, I integrate literature across psychology, linguistics and sociology about life narratives and life stories, focusing on the concepts of biography and biographical work. I conclude this chapter with a summary of the process of mediation between biography, memory and artifacts such as photographs. Roughly speaking, the virtual home mode denotes the *who* and *where* of interest in this study. Well-being is the *why,* dealing with possible positive outcomes, while biography and mediation are the *what* and *how*.

3.1 Technology and Well-being

The various relationships between information/communication technology (ICT) and well-being have been an issue of interest in multiple academic disciplines. This has particularly been the case since the rise of the Internet gave

researchers an opportunity to examine the influence of a new communication infrastructure (with potentially large social impacts) as it was developed. In the fields of Human-Computer Interaction (HCI) and Computer-Supported Cooperative Work (CSCW), one line of research has emphasized a medicalized perspective on well-being, such as designing knowledge communities and self-assessment tools for those afflicted with particular chronic conditions and diseases (e.g. Mamykina et al., 2008, 2010; Hansen, 2007), and by addressing well-being with the language of healthcare and imagery of hospitals (e.g. Dubberly et al., 2010). The work in this area is has been valuable, but I question whether it is directly applicable to less clinical contexts. We are not all patients, and well-being (as will be discussed in section 3.2 below) need not always be a medicalized concern.

3.1.1 Internet "Paradoxes"

When examining non-medical contexts, other research into the influences of ICT and computer-mediated communication has largely approached well-being through the lens of social interaction. One persistent line of research in this area was initiated by Kraut et al.'s "Internet Paradox" paper (1998), in which the authors raised the apparent inconsistency of "a social technology that reduces social involvement and psychological well-being." In this longitudinal study of 73 Pittsburgh households during their first 1-2 years online, Kraut et al. found that greater use of the Internet was associated with negative social effects, such as declines in local household communication, reductions in the size of social circles and increased depression and loneliness. The authors suggested that possible causal mechanisms for this included displacement of other forms of social activity by Internet use, and the displacement of strong social ties with "poorer quality" relationships.

This line of work has generated many response and comparison studies. Among these was a follow-up published in 2002, again conducted by Kraut et al, entitled "Internet Paradox revisited." In a 3-year follow-up of the original

population sample, the researchers found that the prior negative effects had dissipated. Additionally, a second longitudinal study reported in this paper demonstrated *positive* effects of using the Internet on communication, social involvement and well-being (with well-being operationalized in terms of self-reported degrees of loneliness, positive/negative affect, time pressure and self-esteem). The data in this second study also suggested a mild "richer get richer" effect, in that participants with extrovert personality types showed decreased loneliness as Internet use increased, while introverts showed the opposite.

Rather than resolving the debate on the topic, these papers primarily illustrated the complexity of measuring the relationships between well-being and ICT use. These issues are perhaps best encapsulated by a meta-analysis conducted by Shklovski et al. (2006).   In this paper, the authors compared findings from 16 survey studies conducted between 1995 and 2003, each examining how Internet use can affect social interaction. The meta-analysis found no consistent associations between Internet use and social interaction with family members, and contradictory evidence in regards to the level of interactions with friends.   In the "Internet paradox" line of studies as well as the survey research evaluated by Shklovski et al, the primary focus was *social interaction* – the amount, channel and quality. Well-being is often mentioned, but viewed through the primary lenses of social communication and social support[1]. Well-being is treated more as a second order effect, emerging after social connection is dealt with.

Work in this line of research generally has taken one of two stances: the *augmentation* hypothesis or the *replacement* hypothesis (Shklovski, Kraut & Rainie, 2004). Broadly summarized, these stances take an optimistic and a pessimistic view of the impact of ICT, respectively. In the former, technology is viewed as a way of either building new connections or more effectively maintaining existing

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[1] In similar work conducted in sociology and political science at the time, the related concept of *social capital* is often invoked. (e.g. Putnam, 1995 & 2000).

ones[2]. In the latter, technology use is often considered in terms of limited time and attentional resource, and evaluated as to whether it is "crowding out" other forms of connection and communication, such as face-to-face interaction. Research rooted in the replacement hypothesis tends to take as a given that computer-mediated communication is inherently inferior to face-to-face communication.

These conflicting results in general seemed to be generated by two potential sources, one methodological and one sociological. As Shklovski et al. (2006) point out, cross-sectional design studies in their corpus produced results that were both ambiguous as well as generally in conflict with longitudinal designs. In addition, the first waves of these studies were conducted when the Internet was still a new technology in cultural terms, with low adoption rates in the general population (only 8% of the US population at the time of the first 'Internet Paradox' study) and technical constraints (such as lack of standardized software and slow, expensive connectivity). As such, they may have been less generalizable than originally expected, given the changes in the general socio-technical that which have occurred since then. This is a key point made by Haythornthwaite & Wellman (2002), arguing that as the Internet became more embedded in everyday life, we are required to re-evaluate the results, assumptions and framings of earlier research on the topic.

3.1.2 Areas for Investigation

Both the core questions and the conflicting results of the line of research described above help motivate and shape my current study. First, I believe there is a need for considering technology use as more a part of the detail and practice of everyday life, rather than as a separate, divorced category of activity. By considering everyday uses, we can address the embeddedness of technology in our current society and culture, as well as the increasingly blurred boundaries between

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[2] Though not always explicitly tied to Kraut et al's papers, this stance is also echoed in much of the research on online communities of the same era. (e.g Smith and Kollock, 1999).

different types of applications, software, websites and the functions supported by them. For example, at the time of this writing, Facebook is taken as the prime exemplar (both in terms of influence and pervasiveness) of a whole category of social networking software. Increasingly, it serves as a platform both for multiple types of software functions, previously dealt with in individual applications (e.g. email, instant messaging), as well as for consumer/producer relationships, such as becoming a fan of a given musician or following a consumer brand or store in order to gain access to coupons, private sales and similar bonuses. Should time spent using Facebook be considered inherently social then in nature? Or do we need to drill down into particular uses, at particular times, for particular ends? In an age of pervasive wireless connectivity, mobile web browsers and smart phones that outperform the home computers of the original Internet paradox research, does asking people how long and how often they are "online" still produce valid data? Does the framing of such questions even make sense any longer?

Second, I believe the conflicts present in earlier work emphasize a need for a more contextualized analysis of technology use, as well as deeper description of those uses across activity, purpose and outcome. Indeed, the need for more contextualized studies in this area appears in Shlovksi et al. (2006), who call in their conclusion for more differentiation between types of social relationships in such studies, in order to avoid obscuring effects in aggregate studies of internet use. In particular they write: "most recent research, especially theoretically-driven studies, that are targeted to understand particular uses of the internet for particular relationships will be more likely to discover how using the internet in these ways affects our social interactions and other important aspects of our lives. The current review of the literature has shown that it is time to focus on developing a more differentiated view of the Internet and its social outcomes" (p. 789).

Another area that presents opportunities for expanded research is a broader conception of well-being and well-being practices when considering social and psychological impacts of CMC and technology use. Social connection is important and clearly a key part of many predominant perspectives on well-being, but it is

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not the only consideration. I would argue that part of the underlying debates I noted in the introduction of this paper -- and indeed, some of the conflicting results which are particularly visible in the work conceptualizing well-being in terms of connection vs. isolation -- may come from using too restrictive and too singular a definition of well-being, focused too solely on issues of social capital and social support. Examining the positive psychology literature reveals multiple perspectives on the concept of well-being, as well as lively debate about the prioritization of approaches, and the role of seemingly key concepts such as happiness.

3.2 Two Perspectives on Well-being

In the psychology literature on well-being, there are multiple models of this concept, as well as attempts to unify across those models. In this section, I first summarize two main perspectives, the *hedonic* and *eudaimonic*. The former of these perspectives focuses on happiness and the subjective perception of well-being; the latter focuses on processes of achieving a "life best lived." Both are aligned with the broader goals of the positive psychology movement, which seeks to define, assess and understand positive or above-baseline psychological functioning, rather than simply treating mental health as the absence of illness (for additional summaries and overviews of positive psychology, see Seligman & Csikszentmihalyi, 2000; Gable & Haidt, 2005; Peterson, 2006).

I will not present an extensive analysis of the experimental methods, scale verification and statistical results in the literature supporting each perspective in this chapter, but rather will focus on a higher-level summary of each line of research. After briefly addressing both the hedonic and eudaimonic perspectives, I describe the main points of dispute across these research orientations. I conclude this section by highlighting which aspects of these models of well-being are directive to this study and its contributions.

3.2.1 Hedonic Perspective

The hedonic perspective of well-being focuses not "hedonism" (in the over-indulgent sense of the word) but rather an individual's experience of *happiness* and positive emotional states. One of the leading and most representative researchers in the hedonic perspective is Ed Diener; his research agenda has extensively developed the concept of Subjective Well-Being (SWB).

In Diener's (2009) framing, SWB is subjective experience of happiness, life satisfaction and positive affect. Though each specific component needs to be understood in its own right, they do correlate strongly with one another, suggesting a higher order factor – SWB. Affective well-being has a dual nature; positive and negative affect are often found in SWB studies to be nearly independent. Thus each must be addressed specifically notes Diener (2009), stating "attempts to enhance life must both reduce negative affect and increase positive affect". SWB is a well-developed research area, having generated a large body of publications. Diener estimates that over 700 studies have been published in the area by 2009.

The subjective character of SWB is more than simply a choice of data or method; rather it is a key normative aspect of this perspective. Diener, Suh, Lucas and Smith (1999) emphasize this point, writing that "people react differently to the same circumstance, and they evaluate conditions based on their unique expectations, values and previous experiences… [therefore] the subjective element is essential" (p. 277). External environmental influences and objective conditions on SWB have been studied at length, but these variables tend to be demographic characteristics such as income age, race, gender, and employment status. Social factors are generally dealt with in terms of individual behavior, such as amount of social participation and social contact, or in terms of personality traits, such as extroversion and introversion, Additional aspects of personality on SWB have also been studied, including the relation of hereditary personality and dispositional factors. For more detailed reviews of the broad application of the SWB concept, see Diener (2000 & 2009).

3.2.2 Eudaimonic Perspective

The eudaimonic perspective of well-being is focused foremost on the realization of one's true potential. One of the dominant voices in the eudaimonic tradition is that of Carol Ryff, and it is her research that I will highlight here. A co-authored article (Ryff and Singer, 1998) describes her conception of positive mental health as "not a medical question, but fundamentally a philosophical issue" that requires consideration of "the meaning of a good life." The goal of the research in this perspective is to describe core features of positive human health, defining "'criterial goods' that embody lives well-lived" (p. 6).

Over time, this goal was addressed by the development of a six-dimension model of psychological well-being, advanced in a series of papers by Ryff and her co-authors (Ryff, 1989, 1995; Ryff and Keyes, 1995; Ryff & Singer, 1996). The six dimensions of well-being defined by this line of work are: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life, and personal growth. I will briefly summarize each, focusing on the positive/successful instantiation of each dimension. First is an individual's sense of *self-acceptance*. This dimension is characteristic of self-actualization and maturity. It includes holding positive attitudes both towards one's current state of self as well as past life. Next, *positive relations with others* includes both having warm, trusting and meaningful interpersonal relationships, as well as a possessing the traits that facilitate such relationships (such as empathy, affection, identification with others, and so on). *Autonomy* refers to qualities of self-determination, independence, internal regulation of behavior, and internal locus of evaluation. *Environmental mastery* is an individual's ability to exert control (via choice or creation) on environments that support his or her mental health; it requires participation in a sphere of activity that exists outside oneself. Next, *purpose in life* emphasizes both a perception and clarity of directedness, as well as the intentionality and emotional integration of that purpose. Finally, *personal growth* is both the capacity and

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perception of development and growth over time; openness to experience is one key characteristic here. While the six dimensions are mutually supportive, not all healthy individuals will necessarily score highly on all six dimensions. The model does not follow a simple "more is better" conception.

Ryff and her colleagues have asserted that assessments of well-being based on affective measures (such as happiness and self-satisfaction assessments in the SWB research) risk being narrow, short-term measurements and have limited theoretical grounding. In response to this perceived flaw of the hedonic perspective, Ryff generated her eudaimonic model out of a broad and theoretically synthetic meta-analysis of literature from developmental and clinical psychology (referencing Rogers, Maslow, Erikson, and so on) as well as from a diverse set of philosophy and ethics texts, ranging from Aristotle to John Stuart Mill. In the eudaimonic perspective, happiness is treated as an outcome (and a somewhat secondary one at that) – "happiness is not, despite its prominence in philosophical and everyday discourse, the main message – it is the by-product of a life that is well-lived" (Ryff & Singer, 1998, p. 5).

Ryff's eudaimonic perspective is intentionally and explicitly pluralist, in that it does not claim one unitary path to positive outcomes. Nor does it view well-being as a state, but rather as something that must be built and maintained. Ryff validates her pluralistic stance by pointing out how cross-cultural work supports it. For instance, Ryff & Singer (1998) describe a traditional African ethical system and then demonstrating how the major moral virtues with this society can be described within their framework. The differences in priorities and form between this African collectivist culture and more individualist American culture are indeed present. But, the authors claim, these differences are differences in "phenotypic manifestations," rather than fundamentally different conceptions of the good life. Meaningful goals and pursuits, quality social relationship and so on are present in different cultural personal contexts, even if expressed in many distinct ways.

3.2.3 Points of Dispute and Agreement

Many of the core disputes between the hedonic and eudaimonic perspectives are crystallized in a pair of articles published concurrently in the journal Psychological Inquiry. Ryff and Singer (1998) presented an argument for their perspective on "positive human health," while in their commentary, Diener et al. (1998) attempted a spirited rebuttal of Ryff and Singer's perspective, as well as a defense and summarization of Diener's work on SWB. We can read the two works in conjunction with one another, constructing a dialogue and debate between these two perspectives.

From the hedonic stance, Diener et al. (1998)asserted that researchers cannot superimpose external "expert" definitions of the "good life" on the individuals that they study.   Instead, Diener et al. believe there is a need to examine people's own reactions in evaluating their lives. Only an individual can accurately assess their satisfaction and internal cognitive state, and so researchers need to let them decide if their lives are satisfying. In this way, researchers can address the inherent diversity in values, goals and strengths that exists across individuals. Diener et al. point out that even Ryff and Singer acknowledge the characteristics of well-being may vary between cultures and in different life circumstances.

Ryff and Singer's (1998) statements about SWB suggest a response to this critique—that they want to understand those characteristics, not just their outcome. They assert that without some sort of philosophical underpinning, research on well-being -- particularly on happiness -- will result in thin, decontextualized and atheoretical results. A focus on happiness, their paper suggests, is using a largely unitary assessment to describe a multi-dimensional concept (or rather, set of processes). SWB may be important, say Ryff and her co-author, but the focus is misdirected. By framing happiness as a by-product, they critique the hedonic perspective, effectively saying that SWB work is paying attention to the wrong thing, the wrong part of the well-being equation.

Diener et al's (1998) commentary offers a rebuttal to Ryff's multi-dimensional model – that by starting research on well-being with list of philosophically derived "goods", you wind up not being pluralists, but rather universalists, superimposing your values as universal truth, despite rhetorical claims otherwise. In addition, assert Diener and his co-authors, even without a grand unifying theory, SWB is still important. After all, without happiness, what do you have? They state that happiness is necessary, "indispensable" for a good life, though they concede that it is not sufficient, writing that "the characteristics listed by Ryff and Singer such as purpose, connections, mastery and positive self-regard are *some* [emphasis mine] of the paths to subjective well-being" (Deiner et al., 1998, p. 34).

In many ways, the back and forth between Ryff and Diener summarized above can be read as a disagreement over priorities and definitions, rather than between fundamentally incompatible perspectives. Despite the dispute, it does not appear that either author is actually trying to falsify the other's research findings – they are not saying to one another "you're wrong" as much as they are saying "you're approaching the problem in the wrong way." In the pair of 1998 articles, Ryff and Singer are asserting that we need to establish a broader context in which to understand well-being beyond just pin-point measures of happiness, while Diener et al. are saying that the individual knows themselves best. Thus perhaps these two perspectives agree more than it may appear, as Ryff and Singer's explicit claim to a pluralist stance and Diener et al.'s emphasis on subjectivity are both trying to address the challenge of contextual sensitivity.

3.2.4 Influence on This Study

Many other perspectives on well-being exist. For example, Ryan and Deci (2001) attempt to use their Self-Determination theory and concepts of intrinsic motivation to reconcile the hedonic and eudaimonic perspectives. Keyes (1998) drew on sociological traditions to create a social theory of well-being, which

emphasized an individual's perceptions and attitudes about society and community, placing the societal at an equal footing with more internal and personal factors. Following on Keyes's work, Gallagher, Lopez and Preacher (2009) use confirmatory factor analysis to show how the hedonic, eudaimonic and social perspectives of well-being can be unified into a larger parsimonious model, while still preserving core aspects of all three perspectives.

As interesting as these studies are, their framing and findings are beyond the immediate scope of this project. Theories of motivation, such as presented by Ryan and Deci's work, have not entered into this literature review as of yet because they do not directly address the research questions of the study. While I agree with Keyes' (1998) assertion that we must consider human activity in the context of the social world and social structures, Ryff and Singer's (1998) dimension of "positive relations" is scaled at a more individual level, and thus more appropriate for the purposes of understanding the social component of well-being in the VHM. I am sympathetic as well with Gallagher, Lopez and Preacher's (2009) goal of unifying these three perspectives, but there are more immediate concerns for this study. First, what aspects of well-being presented above are informative to this study of the VHM? Second, how does the context and data addressed in this study contribute back to those perspectives of well-being?

Addressing the first question, it seems likely that the virtual home mode will reveal aspects of both perspectives of well-being. Given what we know about personal photography, I would expect some study participants to report pleasure and positive affective states when engaging in their photo practices. In addition, the qualitative approach of this study is sympathetic to the emphasis on the individual's localized perspective and perceptions, the *subjective* quality of well-being which is so important in the Diener's work. At the same time, the importance of memory and life stories in literature related to the VHM seems to support the eudaimonic perception that focusing on happiness alone is not sufficient for a robust notion of well-being. The practice orientation of this study also matches well with the *multiple process* focus of the eudaimonic perspective,

as well as the related *effortful* notion of well-being. The social aspects of both perspectives can be clearly tied to conception of the home mode as being fundamentally social and communicative.

In what ways do the context and data addressed in this study contribute back to the perspectives of well-being introduced in this chapter? One contribution will be provided by contextualizing well-being practices in a specific socio-technical setting, the early 21st century ICT of the virtual home mode. Neither the eudaimonic nor hedonic perspectives are focused on role of the technical/material world on mental processes. Yet in a context of personal media creation and use such as the VHM, the particular characteristics of medium, production, editing, storage and dissemination technologies as well as patterns of technology adoption are intrinsically linked with individual practices, and thus with well-being of VHM participants.

How best to connect the technological and communicative focus of the literature presented in chapter two with the psychological focus in the well-being literature address above?   What bridges these two bodies of literature, particularly in reference to the study domain of personal photography? I believe the responses are to be found in the related concepts of biography and mediation, which I address in the next section of this chapter.

3.3 Perspectives on Biography and Life Stories

In chapter 2, I summarized several bodies of literature that addressed different aspects of personal photography and the home mode. Across these literatures, a recurrent but underdeveloped concept appears – that home mode activity supports the construction, negotiation and presentation of participant biographies in various ways. I say underdeveloped because while this assertion is raised repeatedly, the parameters and implications are not thoroughly explored. What does it mean to say that personal/home mode media helps build family stories and biographies? How might that relate to this study's investigation of well-

being practices in the networked home mode? The literature on biography suggests three main themes to inform and direct this research: 1) life stories are a central organizing device for individuals to shape and interpret their personal histories; 2) there are both individual and social drives for consistency and coherence over time in these stories; 3) biographies are have a fundamentally mediated character. I summarize these points below, highlighting issues of relevance to this particular study.

As I use the term here, biography carries different connotations than identity. While clearly related concepts, biography differs most importantly in that it involves articulation of identity *over time* and in a manner that requires a stronger baseline of plausibility and consistency. Turkle (1995) for instance, explored issues related to the negotiation of multiple identities in technologically mediated contexts; she and many other technology theorists informed by the postmodern tradition discuss exploration of new identities. To a degree, this concept has become unproblematic. As 21st century readers, we understand what the phrase "multiple identities" is intended to convey.   Yet the related phrase of "multiple biographies" is not a concept that makes sense in the same way, and thus is not typically invoked in the literature[3]. Biography and identity are not interchangeable terms.

3.3.1 Life Stories as Organizing Device

Many intellectual traditions have emphasized the importance of stories and narrative on the human psyche. One of the strongest associations is made by psychologist Jerome Bruner, whose central claim (1990, 1991, 2004) is the primacy of the *narrative form* in autobiography. Narratives, asserts Bruner, are how we organize our memories and biographies. Through that organization, the

[3] It is illustrative to note that in March 2011, a search of papers indexed on Google Scholar for the phrase "multiple identity" returns more than five thousand results, while a search for "multiple biography" returns one hundred and fifteen.

characteristics of narrative ultimately control how we experience and filter our perceptions.

Bruner's use of the term narratives refers both to the structure and content of our biographies; they are shaped in narrative form, and also make use of other existing narrative material and conventions provided by our culture. In Bruner's assertion, we *become* the narratives we tell about our lives and in doing so, we also become variants of the culture's canonical forms. In his final restatement of this thesis, Bruner asserts that this happens via the reinforcement of *habits*. These cultural influences occur at multiple levels, including not just culture in the broader sense, but also more immediate and local influences. For example, Bruner (2004) focuses on familial narratives in his more recent case studies because they are an example of "miniature culture[s]". Importantly, the process of biographical narrative construction is never 'solo' – it is always placed in a particular material and social context, drawing on the abilities and constraints of the people, technology and culture to which one has access. Personal narratives, states Bruner (1990), "depend on being placed within a continuity provided by a constructed and shared social history in which we location our Selves and our individual continuities" (p. 20). These narratives also must be judged by others as sufficient and coherent and in turn, serve to construct the social context in which others will create their own narratives, a collective process which Bruner calls "joint narrative accrual" (p. 20).

While directive, narrative psychology's conception of biography is not entirely appropriate for this study. For example, Bruner is explicitly focused on the formal structure of narratives, which involves Burke's dramatic pentad of Agent, Act, Scene, Purpose and Agency, and includes very specific story features such narrative diachronicity, intentional state entailment, and canonicity. Bruner's work neither identifies nor addresses alternate forms and structures for biographical stories. Perhaps most importantly to this project, not all of these narrative characteristics map clearly to stories supported and mediated via non-textual documentary evidence, such as photography.   Bruner's theories may be

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informative in understanding the stories told around photos, but requires expansion for clarifying the production and additional communicative uses of the photos themselves.

Instead, we can take a broader view of biographies by considering other structures and forms. Here I highlight the work of Charlotte Linde, in particular her book *Life Stories* (1993). As a linguist interested in spoken communication, her attention is directed primarily to oral accounts, "focusing on the social practice of creation, exchange and negotiation of coherent life stories" (p. 219). Life stories are used to express a sense of self, explaining who we are now and the path that led us to become that person. We also use such stories to explain our relationships to others, to "claim or negotiate group membership and to demonstrate that we are worthy members" (p. 219). Because of these relational aspects, life stories involve large scale, shared systems of social understandings; these stories "rely on presuppositions about what can be taken as expected, what the norms are, and what common or special belief systems are necessary to establish coherence" (p. 219).

Linde (1993) also emphasizes that life stories are discontinuous, a set of stories retold in various forms, appropriate to the current local social context. Conventionally, they include "landmark events, including choice of profession, marriage, divorce, and religious or ideological conversion, as well as more idiosyncratic events that are particular to the speaker's life" (p. 220). Beyond those conventions however, both content and form --- what is included/excluded, and how that content is structured--are also situated in reference to the speaker's broader cultural setting.

Linde (1993) notes that there are multiple forms and structures of life stories. One dominant form of the life story is still the narrative, "among the important social resources for creating and maintaining personal identity" (p. 98). But this is not the only possible structure. A second alternate form is the *chronicle*, which is organized differently: "the chronicle consists of a recounting of a sequence of events that does not have a single unifying evaluative point" (p. 84). Such a story

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might detail the events of a person's life year by year, for instance, rather than being unified by some narrative theme or arc. Story sections commonly found in narratives are also missing in the chronicle structure; Linde notes that this form generally has no abstract, no orientation section and no conclusion. A third example story form or discourse unit is the *explanation*. The term is not used to denote the social meaning of the story--a narrative form can "explain" an aspect of the life story just as well. Rather, explanation refers to a specific structure in which a claim or proposition is set up, and then a sequence of reasons of why that claim should be believed is given.

3.3.2 Consistency and Coherence over Time

Regardless of the particular cultural setting and local social context in which a life story is told, Linde (1993) maintains "coherence is both a *social demand and an internal, psychological demand*" [emphasis mine] (p. 220). Coherence explains, justifies and organizes the speaker's past, present and future in culturally appropriate ways. Note that the concept of coherence here is *not* the same as factuality, but closer to notions of appropriate and understandable (a point which echoes Bruner). In Linde's model, coherence is created at multiple levels concurrently, ranging from the morphological level, to the level of the discourse unit, up to a social and historical level.

The first level is the *structure of narrative*. These are lower level characteristics: the story should be past tense, presented in order, it should include "evaluation devices" which suggest how it should be interpreted, and so on. The second level is that of *coherence principles*. These operate at the local social level for establishing appropriate and adequate causality and continuity. The first of these principles is "*temporal continuity* – identity of the self through time [which] is the most basic form of coherence we can create" (Linde, 1993, p. 107). The self has a form of continuity over time, and this will be represented by the detailed revealed in the life story: "The past should be not just related to but relevant to the

present" (p. 100). Other key coherence principles at this level include those related to *causality*. There are multiple forms of causality possible, some more acceptable than others. Fate, destiny, and self-determination are all plausible explanations for causality. However, these explanations will be treated as more or less acceptable depending on culture and the socio-economic class of the storyteller, as well as influenced heavily by religious tradition and the amount of agency granted to the individual in that tradition. The richness of account also can serve to establish adequate causality. Some discontinuity (a switch in career path, for instance) is acceptable, but when it occurs, it must always be managed in some way. Broadly, all accidents must be managed.

At the third level are culturally-shared *coherence systems*: "social systems of assumptions about the world that speakers use to make events and evaluations coherent" (Linde, 1993, p. 221). In our current society, asserts Linde, many of these are folk or semi-expert systems derived from expert theories (e.g., Freudian psychology, Behaviorist psychology, Astrology, Feminism, Catholic confessional practice). "Common sense" is the most pervasive and invisible coherence system, and the invisible character of this system demonstrates how deeply enculturated such systems really are. Examples from U.S. culture of such assumptions include: profession is a matter of personal choice; personal desire, rather than obligation or tradition, is the most proper determinant of profession; character is an adequate explanation for professional choice; discontinuities in careers must be explained and managed. In other more collectivist cultures, active self-determination and individual character may not fit well into the dominant coherence systems. Rather, the story of a career direction might appeal to notions of family obligation and tradition to obtain coherence, for instance.

Linde's (1993) emphasis on the primacy of coherence is supported not only by the more qualitative and culturally oriented work presented elsewhere in this document, but also from research in experimental psychology. One example is found in a literature review and meta-analysis from Ross and Conway (1986), on the construction of personal histories. In this article, they note that personal history

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is reconstructed from current vantage point in person's life, and that we each do this through *implicit theories* of stability and change. The authors rule out dissonance theory, impression management theory and Bem's self-perception theory as being sympathetic to their findings, but insufficient to explain them. One important takeaway from research examined in Ross and Conway's meta-analysis is that we reconstruct our memories of our personal histories in order to fit our implicit theories (about self, about consistency and about processes and validity of change). Thus we construct coherence not only in social contexts, but within our own memories, for our own internal audiences.

3.3.3 Biographical Trajectories and Work

Another perspective on the need for coherence over time can be found in Sociologist Anselm Strauss' notion of *biographical trajectories* (1993). The concept of trajectories conveys both aspects of the coherence and continuity of biography, as well as some of the constrictions that a coherent and persistent biography implies, especially shared biography, enacted and supported via enduring mediating objects. The direction of a trajectory can be changed, but that takes effort, given the inertia of habit and context. Similarly, when disruption occurs, we can get back on path or construct a new plausible direction, but that too takes work. Strauss illustrates this in particular in his analysis of how individuals reconcile their biographical trajectories after serious illness. Such individuals need to go through four separate but overlapping biographical processes: *contextualizing* the course of the illness into their trajectory, *coming to terms* and acceptance of consequences, *reconstituting identity* into a new coherent conceptualization, and *recasting biography* along new directions. Though the setting may different for home mode production, these biographical processes seem generalizable beyond illness events to any large deviations in expected trajectory.

As noted in Chapter 2, the home mode is primarily a form of *representational* activity, and thus requires a shared and mediated symbol system.

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Strauss (1987, 1993) asserts that representational symbol systems require maintenance through interaction. This is important, as it would be inaccurate to cast home mode activities solely in terms of trajectory repair. As noted earlier, much of the home mode is driven by the selective production of idealized representations of our lives. These representations need not solely be deployed for fixing disrupted trajectories, but can also be thought of in terms of ongoing maintenance of existing trajectories, as well as "writing forward," constructing idealized versions of the present for future audiences. This act of projecting toward the future will be discussed at greater length in the section 5.3.

These maintenance activities require concerted and sustained effort – that is to say, they are kind of *work*. "No biography without biographical work," bluntly states Strauss (1993, p. 99). Yet this work is never purely biographical, intersecting and affected by all sorts of nonbiographical work. Even in play and leisure-oriented activities, there is always a good deal of subordinate work, notes Strauss. One domestic example he provides is getting ready for a picnic, a leisure activity which may require hours of shopping, food preparation, travel, and so on. Work and non-work are not dichotomous categories.

Strauss' (1993) emphasis on work and action are key concepts in this study, and resonate with the effortful notion of well-being put forth particularly by research in the eudaimonic perspective. For Strauss, both concepts of work and of representational manipulation involve internal and external interactions; in the setting of this study, I consider photography as external object *mediating* internal interactions as well as inter-personal ones. In the next section of this chapter, I summarize literature useful in describing these processes of mediation, particularly in the context of the virtual home mode.

3.3.4 Mediation and Memory

In the next segment of this chapter, I attend specifically to literature that examines the processes of *mediation* in constructing and negotiating our

biographies and memories – between self and family, self and broader culture, past and present, present and hypothetical futures. In doing so, we gain an understanding as well as a vocabulary for addressing how local representations (i.e. individual photographs) and larger scale cultural influences factor into the home mode. Through this perspective, we arrive at another way of responding the challenges raised by Moran's critique of the home mode as mentioned in chapter 2.

Mediation is a large area conceptually, with theoretical perspectives ranging from activity theory, to distributed cognition and beyond. The primary text around which this section is scaffolded is Cultural Studies scholar Jose van Dijck's book *Mediated Memories in the Digital Age* (2007), as well as related papers (Van Dijck, 2010). The cultural studies perspective of van Dijck's analysis is a key distinction from more task-based analyses of external memory and distributed cognition. She also directly engages Chalfen, Moran, and Zimmerman; thus her argument directly engages the line of discourse dealt with earlier in this paper.

As the title of van Dijck's book suggests, her focus is on memory processes, particular "personal cultural memory" and how objects (both physical and digital, despite the title) mediate between individuals and collectives. She defines personal cultural memory as "the acts and products of remembering in which individuals engage to make sense of their lives in relation to the lives of others and to their surroundings, situating themselves in time and place" (Van Dijck, 2007, p. 7). Mediated memories are defined as "the activities and objects we produce and appropriate by means of media technologies for creating and *re-creating* a sense of our *past, present and future* selves *in relation to others*" (p. 171).   This point echoes clearly with the earlier themes of the home mode.

The central questions she seeks to address are how media and media tools affect the process of memory, and the reciprocal relationship between memory and the use of media devices. In doing so, she highlights three false dichotomies: memory as purely internal vs. media as purely external; the separation of real/physical and artificial/digital; media as either private or public, strictly personal

or entirely collective. Instead, Van Dijck's model conceptualizes media and memory as moving along two main axes. The first, the axis of relational identity, places cultural memory in the interaction between the self and others. The second axis, the dimension of time, addresses the "integration of past and future in the present, the mixture of recollection and projection, and the fusion of preservation and creation" (p. 171). Memory mediation can thus be thought of as a reciprocal or dialectical process occurring across both axises.

This reciprocal character points to the function of media technology as not simply to build up "personal reservoirs" of memory, but to serve functions that are "concurrently formative, directive and communicative" (Van Dijck, 2007, p. 171). Memories are both mediated and mediating, particularly between the private and the public, and the boundaries renegotiate in response to shifting society and technological factors. This has occurred with every new medium, dating back to the origination of print, asserts Van Dijck. Now, the distribution of memory materials to publicly accessible forms online has led the "private shoebox [to be] gradually integrated in a global, digital bazaar of documents, music and pictures, where files [mine or others] appear almost indistinguishable" (p. 171).

A strict delineation then between personal media and mass media is both conceptually and factually incorrect. First, autobiographical memories are derived from both personal and collective media sources. Second, both personal and mass media influence one another. We see examples of this in the reappropriation of professional and mass media techniques and material to the realm of personal media. Here I draw a connection to de Certreau's (1984) notion of *textual poaching* – the reappropriation and repurposing of dominant cultural texts to local needs. Another frequently cited example is Jenkin's (1992) work on fan cultures in which mass-media fictional works are utilized as the framing and raw material for derivate productions. But the relationship of influence and appropriation need not always move in the direction of mass media being repurposed by the individual. We also see the reciprocal appropriation of personal media back to the collective in examples as diverse as Anne Frank's diaries and America's Funniest Home Videos.

Given the ease of dissemination and duplication in digital photographs, we may expect to see more occasions and forms of reappropriation in the networked home mode, occurring laterally between individuals as well.

The relational identity dimension of van Djick's model, with its blurry mediation between personal and public memories, echoes and expands Bruner's points about individual narratives being shaped by the canonical narratives of our cultures. The time dimension of mediated memories echoes aspects of the essentially diachronic nature of narratives in Bruner's model (2004), and the need for chronological coherence in Linde's (1993). Van Djick's contribution in this area is to push deeper into the movement of memory objects and memory activities up and down the timeline.

Self-continuity is a crucial function for autobiographical memory, notes van Djick (2007), but it is always reconstructed and accessed from our position in the present. We edit movies and photos shot in the past to bring them into alignment with current views of family. In addition to accessing (and filtering) our past selves from the present, we also can be looking down the other direction of timeline. Through home mode production, we can also be writing our story *forward*, selectively recording events that we suspect our future selves will be interested in, or that will shape our future recollections. "Mental images of who we are result from a combination of recall and desire, which are in turn incentives to remodel our past and fashion our future" (p. 173). Considerations of personal timelines provide another perspective on the patterned inclusions and exclusions of the home mode.

The metaphor of a timeline in van Djick's model (2007) emphasizes the intertwined relationship between the processes of recollection and projection. The dynamic aspect of mediated memories also illustrates an interesting tension as we move into a future of digital collections. The lower costs of production and retention for digital objects allow for increase scope and size in evidentiary materials (foreshadowed by Moran's (2002) examination of similar processes at

work with videotape). At the same time, the manipulation opportunities afforded by the digital medium encourages more active reconstruction and editing.

Considerations of external mediation and of movement up and down the timeline also help underscore another key concept from Linde (1993) with implications on our understanding of the home mode: the important function of *reflexivity* in life stories. She proposes that by putting a distance between the narrator self and the protagonist of the narrative self, the property of reflexivity allows us to evaluate ourselves: "The most pervasive way in which the self is treated as an other is in the determination of the moral value of the self" (p. 104). Linde addresses how reflexivity is constructed through told stories, but we can also draw a clear relation to photography and mediation functions. By providing us with an external representation of our selves, photography could clearly assist in supporting the distance required for reflexivity. As Barthes (1981) noted, "photography creates us as double, it is the 'advent of myself as other'" (p. 77).

3.4 Chapter Summary

In this chapter, I addressed literature on well-being and biography. Motivating the direction of this study by highlighting both the interest and conflicts in research on technology and well-being conducted since the mid-1990s, I then argued for the usefulness of a broader conception of well-being beyond social ties and social isolation. In response, I summarized two research perspectives on well-being from the field of positive psychology, the hedonic and the eudaimonic. The first of these perspectives focuses primarily on subjective experience of well-being; the latter on a more multi-faceted model drawn from both research and philosophical perspectives.

Biography and mediation were presented as the final conceptual pieces to move between the literature on photography and the home mode with psychological concepts of well-being. Biography and biographical coherence provided bridging concepts between the internal and the social. Biographical

stories and trajectories point out links between different moments in time—our past, the present and our projected futures. Mediation addresses the boundaries between the individual and the collective, as well as between cognitive and situated material accounts.

In the next chapter, I deploy the concepts derived from the literature reviews in chapter 2 and 3 in order to motivate, describe and structure the methodological approach taken by this study.

Chapter 4
Study Design

In this chapter, I present the study design for this dissertation project. I begin by situating the research questions and the qualitative methodology that I believe is most appropriate for addressing them. I continue by presenting motivations and procedural details about participant recruitment and their demographic characteristics. Third, I discuss the data collection of this study, drawn primarily from a series of 23 semi-structured interviews and observation sessions with everyday photographers. I also discuss the thematic coding process utilized in the analysis of these data.

4.1 Research Questions

The literature review in chapters two and three outlined previous work that establishes the grounding and boundaries of this current study. First, the literature on personal photography documented and explained an interesting set of pictorial communicative behaviors that both relied on and sustained individual and family biographies.   Next, the nascent body of research on the virtual home mode addressed changes in technology and related social behavior. Third, the literature on biography and biographical memory developed and expanded understanding of the particular processes that may be at work in the virtual home mode. Finally, the well-being literature addressed the individual and social psychological factors that may be underpinning the positive outcomes of the virtual home mode.

Building on these concepts, the specific research questions of this project are:

RQ1: What practices do virtual home mode participants employ in their biographical work?

RQ2: Can we outline specific relationships between aspects of psychological well-being and the biographical practices of the VHM? If so, what is the character of those relationships?

Both questions draw directly on Strauss' concept of biographical work and the other considerations of biographical practices established by the literature reviewed in chapters 2 and 3. RQ1 is the primary research question of this study, while I considered RQ2 to be a secondary and more exploratory question. There is a line of connection drawn by the literature from photography practices to biography and biography to well-being, and thus while I anticipated seeing relationships between these topics, this could not be assumed in advance.

I approached these issues through a qualitative methodology; such an approach is well suited to addressing my goal of highlighting the participant's view (Creswell, 2007) of the virtual home mode. The context of this research is the production, dissemination and social use of virtual home mode media, as well as the meanings ascribed to these activities by home mode participants. Thus I paid attention both to activities in physical and virtual/mediated spaces. For purposes of clarity and scope, this study focused on photographic production, but was still attentive to other forms of home mode media (such as textual production in online journals or video production) if they appear relevant to understanding participant's photographic activities.

The qualitative data in this study provided rich description of individuals' experiences, attributions and accounts. The data do not allow me to make causal claims, or to make claims related to the overall efficacy or strength of effect of

various home mode practices in regard to individual well-being. While such questions are reasonable and interesting, they were not the questions pursued in this study and would require a different set of data, analysis and sampling approaches to be done correctly. What these qualitative data do provide is a set of *existence proofs*. That is to say, while the description of a particular practice or the characterization of particular type of biography work in the data does not allow me to make claims of quantified representativeness or prevalence, those descriptions do allow me to assert that such practices exist "in the wild." We cannot assume that the work practices described in this document are a total list, but we can safely assume that others engage in similar practices. Thus the overall goal of this project is model development, rather than hypothesis testing; the description of a particular socio-technical context (VHM) at a particular point in time, the description of a particular set of practices, actions, and types of biographical work - as mediated by that socio-technical context - with a goal of tying plausible connections to more generalized descriptions of well-being.

4.2 Participants and Recruitment

I selected study participants via purposeful sampling, recruiting individuals that had engaged in virtual home mode activities regularly for at least a year (sharing their photos by systems such as Flickr, Photobucket, etc.) and whose homes were geographically accessible to me. Based on motivation from the literature on home photography, I sought to give representation to both men and women, I and wanted participation from individuals from 5 life stages: single young adults, married without children, married with children, "empty nest" adults, and elders. This targeted sampling approach was appropriate for this type of descriptive qualitative work (Miles & Huberman, 1994). The goal in recruiting participants was not to build up a randomized subject pool in order to minimize statistical bias. Rather, I wanted to balance a need to focus on individuals engaged in specific domain of activity with a desire to maximize participant diversity across a set of

demographic characteristics previously established to be relevant in this domain (e.g., gender, age and family dynamics). Additionally, targeted sampling helped me address the pragmatic and logistical constraints of the study, such as the decision in the interview protocol to conduct all interviews face-to-face.

4.2.1 Recruitment Process

I utilized several methods of participant recruitment in this study. These included newspaper advertising, posting of paper fliers in public locations with diverse populations (such as pet stores, coffee shops, and grocery stories), email recruitment via snowball sampling through work and academic contacts, as well as referrals via prior study participants. In the case of snowball sampling, I gave explicit instructions not to publicly post the study recruitment information on photo-sharing or social media sites (such as Flickr and Facebook), in order to avoid system-centric biases. The study advertisements asked individuals to volunteer by visiting a web URL (http://homemediastudy.si.umich.edu), at which point they are asked to complete a demographic pre-screening survey. In order not to over-sample University of Michigan students, I avoided on-campus recruitment. I also avoided participation from any individuals directly affiliated with the School of Information, though two of the pilot subjects did have prior institutional affiliation with the school as master's students

Given the fact that I was specifically interested in subjects engaged in digital photography sharing in this study, why not recruit them online in systems that support such behaviors (such as Flickr, Photo.net, and so on)? One main reason for this decision was to ensure that the study remained focused first and foremost on particular phenomena, rather than focus solely on practices of the users associated with a specific system or tool. That is to say, I wanted the study to be *activity-centric*, rather than *system-centric*. The study is of biography work, well-being and the virtual home mode, not specifically of the practices of Flickr users. Each technology for photography sharing (whether specifically designed for that purpose

or adopted in an ad hoc fashion) has a particular set of technological and social affordances. By increasing the amount of variation in this aspect of the study, I sought to reveal particularities of system-specific influences, while also avoiding some invisible biases influencing behavior.

4.2.2 Consent and Demographics Survey

On the study's recruitment webpage, I provided a description of the structure and goals of the study, as well as all appropriate contact information. Subjects will then be asked to click through an electronic consent form. Those that choose to do so were asked to complete a short, anonymous demographic survey online. A copy of the recruitment survey is included in Appendix A. At the completion of this online survey, participants were asked if they would like to be considered for an at-home follow-up interview. If assent was given, the participant was prompted to include a contact email. They were also notified that supplying this contact information and agreeing to an interview will connect their demographic information to an identifier for the researchers, and that not everyone who volunteers for an interview will be selected.

4.2.3 Participant Demographics

A total of 52 individuals completed the demographic survey between Jan 13, 2009 and Jan 9, 2010 (incomplete responses were removed from this total). Of this total, five individuals completed the survey, but did not consent for the follow-up interview. Three individuals provided interview consent, but did not provide adequate contact information. I utilized a standardized email script for attempting to schedule interviews with screened participants, contacting each a maximum of three times if no response was received to my initial scheduling invitation.

The pool of those who were not interviewed for the study included three main categories: a) individuals who were screened out as falling outside the scope

of the purposive sampling frame (e.g. individuals who were photographers, but did not share photos digitally), b) individuals who were non-responsive to attempts to contact them for interview scheduling, and c) individuals who were responsive to scheduling attempts, but unable to be scheduled due to logistical constraints.

In total, I interviewed twenty-three participants. A complete table of participant demographic information is included in Appendix B. Three individuals were recruited directly as pilot subjects in August 2008, and did not provide the same demographic information as the remainder of the participants; these individuals are denoted separately in the table. In these tables, as well as throughout the remainder of the dissertation, participants are identified by pseudonyms, assigned to protect their privacy.

Of the 23 participants, 9 were male and 14 female. In reporting their relationship status, most had a spouse or partner; 16 were married and 5 reported their status as single but in a serious relationship. Two of these participants were in same-sex relationships. Of the two participants who were not currently in relationships, one reported herself as divorced/separated, and the other as single and not in serious relationship. The majority of participants were parents; 13 had children, 10 did not. Participants reported their age and household income in ordered categories. As can be seen in the summary tables below, the majority of participants were between 31 and 50, and had household incomes between $35,001 and $100,000.

Age group	# of participants
25-30	4
31-40	8
41-50	5
51-60	1
61-70	4
70+	1

Household Income	# of participants
$15,001 - $35,000	2
$35,001 - $50,000	4
$50,001 - $100,000	10
$100,001 - $250,000	4

Table 1: Summary of Participant Ages & Household Incomes

Participants were allowed to self-identify their ethnicity and nationality, rather than being provided a set of pre-determined categories. The reported ethnicity of the participants was predominantly White/Caucasian. Exceptions included one participant who was from India, one who was a naturalized US citizen, originally from Bolivia, one who noted his racial background as "Asian/White", another who labeled herself as "Maltese/Sicilian" and one who was "German/Native American."

4.3 Data & Analysis

The primary data for the study were derived from semi-structured in-home interviews and observation sessions. I interviewed participants in the locations in which they engage in their "photowork" (Kirk et al, 2006). For 21 of the study participants, this was in their home. Two individuals (Donny and Brian) identified their office as their primary photowork location, and thus were interviewed there. Each interview followed a semi-structured protocol, largely framed via a reflective photo elicitation method (Harper, 2002), which grounded the interview in examples from the participant's own photographs. Interview and observation

sessions were between 1 hour and 2.5 hours in length. All were conducted in one-on-one settings.

Adopting a semi-structured interview approach allowed me to tailor each interview session in response to the individual participants' technical and social contexts, their personal history, skill and experience level with photography, as well as address particular topics or themes that emerged in the context of that particular interview.   Despite this detail-level flexibility, the overall structure of each interview was similar, progressing through the following general steps.

4.3.1 Interview Protocol Stages

1) Overall framing discussion (~15 minutes duration). Deal with generalized accounts of personal history in photography and photography practices. Ask participants to address their cameras and software use (for organizing, editing and sharing) in broad terms. This sets up an overall context for the interview, as well as begins priming the participant for more detailed discussion.

    a. Example question topics: What kind of camera(s) do you use? What kinds of systems or tools do you use for editing, managing, organizing, sharing your photos? How long have you used these tools/methods? What made you choose them? What did you do before these current tools/methods? What made you switch? How do you feel that it is working?

    b. Ask about relationship to earlier (pre-digital and/or pre-internet) practices, if applicable.

    c. Remote Audience(s)? New audiences, old audiences? Who is in and who is excluded? Set up generalized audience model now to test and elaborate on during photo elicitation.

2) Photo elicitation discussion (~ 45 min – 1.5 hours duration). Contextualize and probe on general account of practices via specific cases in participant's photo archive.

    a. Example question topics: "Why did you take this picture? Did you have someone or some specific use in mind when you took it? What led you to post it? Can you tell me more about your process for deciding that? Why did you choose to not share that one?"

    b. Start with most recent set (where "set" is defined by the participant.) Example questions: "Why did you choose these pictures? What is this photo about? What did you take these but keep private? Why did you take but delete or leave unsorted?"

    c. Expand scope through the past year. "What were the other important sets? What else stands out to you about the last year in your pictures/movies?"

3) Major events representation discussion. Use this section to probe on representation (or non-representation) of important biographical moments.

    a. Example framing: "Stepping aside from your photos for a moment, what were three major events that took place in the last year? Can you list them?"

    b. Example question topics to move between events and photos: "Were these events represented in your photos? Do you have pictures related to this event? Why/why not? Did you share them? If so, with who?"

4) Return to any primary themes of interest not previously addressed. Try to engage them again in terms of specific images, or sets of images.

5) Conclude with more targeted probing about possible benefits of engaging in VHM photography: "What do you feel you get out of your photography?"

6) End with debrief. Answer any questions they may have about the interview and the study. Use this as an opportunity for them to raise any topics that seemed important but that I had not addressed.

Overall, this structure was designed to iterate between life events/memories and personal media representations. This photo elicitation-driven approach served to ground the interview in specific events and photos, rather than staying at the level of generalities, as well as to provide a context in which topics of interest arose in a naturalistic and conversational manner. In addition to the particular life events mentioned by the participants, I was attentive throughout the interview of any events that the home mode literature would flag as likely to be photographed (e.g. birthday, holidays, trips, weddings, etc). If those were mentioned, I asked the subject to discuss the representation (or lack thereof) of those events as well.

The naturalistic tone set by the photo elicitation protocol helped establish more concrete descriptions of practices, corroborate verbal accounts with specific photographs, and appeared to facilitate rapport between interviewer and participant. Similarly, situating the interview at a physical locale in which the participant was familiar also appeared to help most interviewees feel more comfortable, as well as providing me with the opportunity to see the personal physical context where they engaged in their photo practices. This physical context was frequently revealing, in that I was able to see and ask about related physical artifacts such as framed photos, photo albums, journals, calendars and the like. The presence of various physical artifacts was particularly helpful in emphasizing the role of VHM photography in service of various other forms of interest and hobby activity, a topic that will be addressed at length in chapter section 5.5.

In addition to the interview and observational data, private and/or public images were at times available for use as a form of supportive data. Eleven participants maintained publicly accessible photo albums on the web, such as on personal home pages. Two participants granted me full or partial access to their private shared photos, such as by making me a contact or friend in a system like Flickr or Facebook, which support multiple levels of privacy/access controls. When online photos were available to me, I tracked these over the duration of the

study, primarily as a way of testing the generalized accounts of personal practices and image conventions discussed in the interview sessions. I also made note of textual information associated with the images, such as conversation threads, titles, descriptions, keywords and tags.

Even when study participants did not grant me ongoing access to some portion of their pictures, all allowed me to take some form of reference photos during the interview sessions, often to serve as a concrete visual record of a key point discussed in the photo elicitation protocol. For example, participant Elliot was forthcoming in making screenshots of his computer's desktop during the interview session, in order to illustrate the manner in which he organized and grouped his photo files. Interview participant Kelli was not willing to provide direct ongoing access to her photos, but permitted me to take photos of her computer in order to serve as a visual aid and mnemonic device during the interview coding and analysis process.

4.3.2 Coding and Analysis

All interviews were recorded on a portable digital audio recorder. Those audio files were then transcribed by a professional transcription service. If errors or omissions appeared in the transcriptions, I would consult the original audio file in order to correct or amend the transcription. The interview transcriptions and observational notes data were analyzed via a process of iterative thematic coding and qualitative memoing. Broad themes of interest that were flagged during the coding process included (but were not limited to):
- Organizing and structuring activities (of photos, of experience, of memory)
- Biographical coherence
- Biographical practices
- Conceptions of photography as an activity
- Types of communication

- 'Ecosystem' and adoption issues. Why these tools? When these tools? What tools have been intentionally decided against?
- Patterns of selective inclusion/exclusion
- Strategies for Well-being
- Types of representational work. Types of interpretive work
- Technical skill and relationships to home mode practices
- Rhythm/time patterns (of production, publication, etc.)
- Technology affordance issues – system specific issues. Activities noted as well supported or as frustrating. Breakdowns?
- Points of internal consistency and inconsistency in accounts.

As is to be expected for an iterative coding process, the coding themes evolved over time. I did not restrict myself to a closed set of codes or themes, nor did I restrict myself to exclusive coding for any interview segment; themes could and did overlap, if multiple themes were illustrated. At the same time, the coding dealt primarily with practices and themes related to biographical work, rather than topical areas of photos themselves. So when prototypically home mode photos such as trip photos/tourist photos appeared, I made note of this content, but also considered its relevance through the specific analytical goals of the research questions.

4.3.3 Corroboration and Validity of Data

As my higher-level model of VHM biography work (see chapter 5.0) began to emerge through the coding and analysis process, I made note of both thematic commonalities and discrepancies. By comparing individual interviews for contrasting accounts and descriptions, I was able to test the applicability of my general categories, and their relationships to one another.

To establish in-case validity and consistency, I paid particular attention to any

inconsistencies that appeared during a given interview. Participants would at times provide over-generalized accounts of their practices, or summaries of particular events. Later in the interview, I would make note when a counter or qualifying statement was made, or specific photographic evidence was presented which seemed to complicate the participant's initial account. By politely probing on these discrepancies, I would get participants to clarify, revised or become more specific in their accounts.

I also probed at the veracity of certain points by asking for further details. This was particularly helpful in responding to generalized conversational scripts about the uses and meanings of photos, which at times were a default statement, rather than a fully accurate depiction of an individual's personal practices. For instance, participant Wanda talked about staying in touch with specific relatives via their photos. "Staying in touch" is a standard answer in our culture for the use of photos, so I probed further. When I asked Wanda for further information about the feedback she received from these relatives in response to her photos, she noted that she was unsure whether they viewed them or not. The appearance of this non-reciprocated type of sharing not only added clarification and detail to her specific account, but lead in part to specific analytical outcomes – reframing certain types of photo production not as communication, but as connection work, as I will address in chapter 5.3.

Chapter 5
Findings

5.0 Overview

As discussed in chapter 4, I designed this study to address two main research questions:

RQ1: What practices do virtual home mode producers employ in their biographical work?

RQ2: Can we outline specific relationships between aspects of well-being and the biographical practices of the VHM? If so, what is the character of those relationships?

In response to the first research question, my analysis revealed five main aspects of biographical work and connected these into a larger model of biographical work in the virtual home mode. These results are summarized below in section 5.0.2, and then addressed at length in chapter sections 5.1 – 5.5. In response to the second research question, I argue that the data does show a set of relationships between VHM practices, biography practices and participant well-being. However, though such relationships are present, they are neither simple nor linear in character. Instead, the data present a more individualized and nuanced set of accounts. In particular, my analysis emphasizes the multiple and overlapping functional contexts of VHM photography and practices. This multiplicity illustrates

how digital photography often serves as *support technology*, providing resources that VHM participants can deploy as needed for the more primary aspects of their biography work, thus relating to their sense of well-being in a manner that is personalized through local circumstance, both facilitated and bounded by the particularities of socio-technical context.

5.0.1 Background: Technical Context of Participants

Context can be a difficult issue to address; it can be invisible to those that inhabit it and often obscure to those that are external to it. In order to make part of the technical context of this study explicit and visible, I will briefly describe the state of the systems and tools that were current at the time of this study. Although much of the recent academic literature on technologically-mediated social interaction has focused on either so-called Web 2.0 sites or increasingly on social networking sites such as Facebook and Twitter, a much wider set of online systems appeared across the base of participants in the study. For example, in the initial participant surveys alone, I cataloged a minimum of 16 distinct systems used by the participants for the dissemination of photos online, including (in alphabetic order): Blogger.com, email, Epson, Facebook, Flickr, Kodakgallery.com, MobileMe/.me/.mac, Myspace, Pbase.com, Personal websites, Picasa, Shutterfly, Snapfish, Twitpic, Twitter, Wordpress. All but two respondents reported useing multiple systems.

Each of these systems has distinct privacy, notification and audience models, which influences who photos are shared with, what level of access those individuals have to the photos, and the ability of secondary and tertiary audiences to view the photos. In addition, there is a wide range of system level support for social interaction in context with the photos, ranging from detailed commenting and tagging systems (such as in Flickr and Facebook), to no direct in-system support for comments (such as on MobileMe and many personal websites). The

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choice of these systems, their use, and their selective deployment were relevant to understanding the goals and work of the study participants. This point will be returned to in the discussion of connection work in section 5.3.

In accordance with the recruitment criteria reported in chapter 4, all participants included in the study regularly took photos, and shared them online. The recruitment survey asked participants to describe how often they took photos and how often they shared them online, as well as how many photos they had taken and shared in the past month. A majority of the participants (17) reported taking photos at least once per week, though sharing took place less often; a smaller number (7) reported posting photos online at least once per week. As previously noted, full survey information for all study participants is included in Appendix A.

It is also noteworthy to highlight the state of flux visible in many of the participants' practices during the study. Multiple participants noted that they had either just completed changing their system use, were of in the process of making changes, or had near-term plans for changing part of their workflow. In various cases, these changes included their production tools (e.g. cameras), their editing and organizing tools (e.g software on their personal computer), and/or their systems for online dissemination. In particular, the rising popularity and influence of Facebook for friends and family communication online (which was occurring concurrent with this study) was apparent in the accounts of many participants. Facebook was clearly impacting some participants' online photo sharing practices; even if they were choosing not to use Facebook (such as for reasons of privacy and audience management, such as discussed in section 5.3), it often remained a touchstone and cultural point of reference in their discussions with me.

Rather than representing some sort of shift from a pre-Facebook/social networking age to a new stable gestalt, I instead took these descriptions of flux as representative of individuals' relationships to technology. The particular systems and tools had changed, were changing and would continue to change. If conducted a decade ago, this study might have discussed the pervasive influence of

America Online on the VHM; if it were conducted next year, Twitter or some other yet-to-be-widely-adopted system may be highlighted as dominant. But being *in* a state of flux in regards to technology, paradoxically enough, seems to be itself a type of constancy.

The wide range and number of systems used by participants, combined with this constant state of flux in the technical environment, underscores the value of approaching this study with a focus on practices and work rather than engaging in a system specific analysis. Just as some version of the home mode can be seen described in Bourdieu et al's work from the 1960s, through Chalfen and Musello's work in the 80s, and into our current decade via work by Van House and others, it seems reasonable to anticipate some version of the VHM to continue for decades into the future. The particular tools, systems and technical infrastructures through which this will occur are as yet undetermined. Thus we gain more from focusing on the activity of the VHM first and foremost, and then trying to understand the mediating role of different types of technology on the activity, rather than concerning ourselves solely with a given technological setting.

5.0.2 Research Question 1: Model of Biography Work in the VHM

In response to RQ1, I identified five primary types of biographical work present in the VHM: Procedural Work, Representational Management Work, Connection Work, Introspective Work and Hobby/Interest Work. Though identifiable as distinct types, these are not independent categories of practices. Rather, these five types are grouped as analytic divisions; in practice, they are nested, overlapping and mutually influential. Presented in a diagrammatic form, the five types of biographical work appear as such:
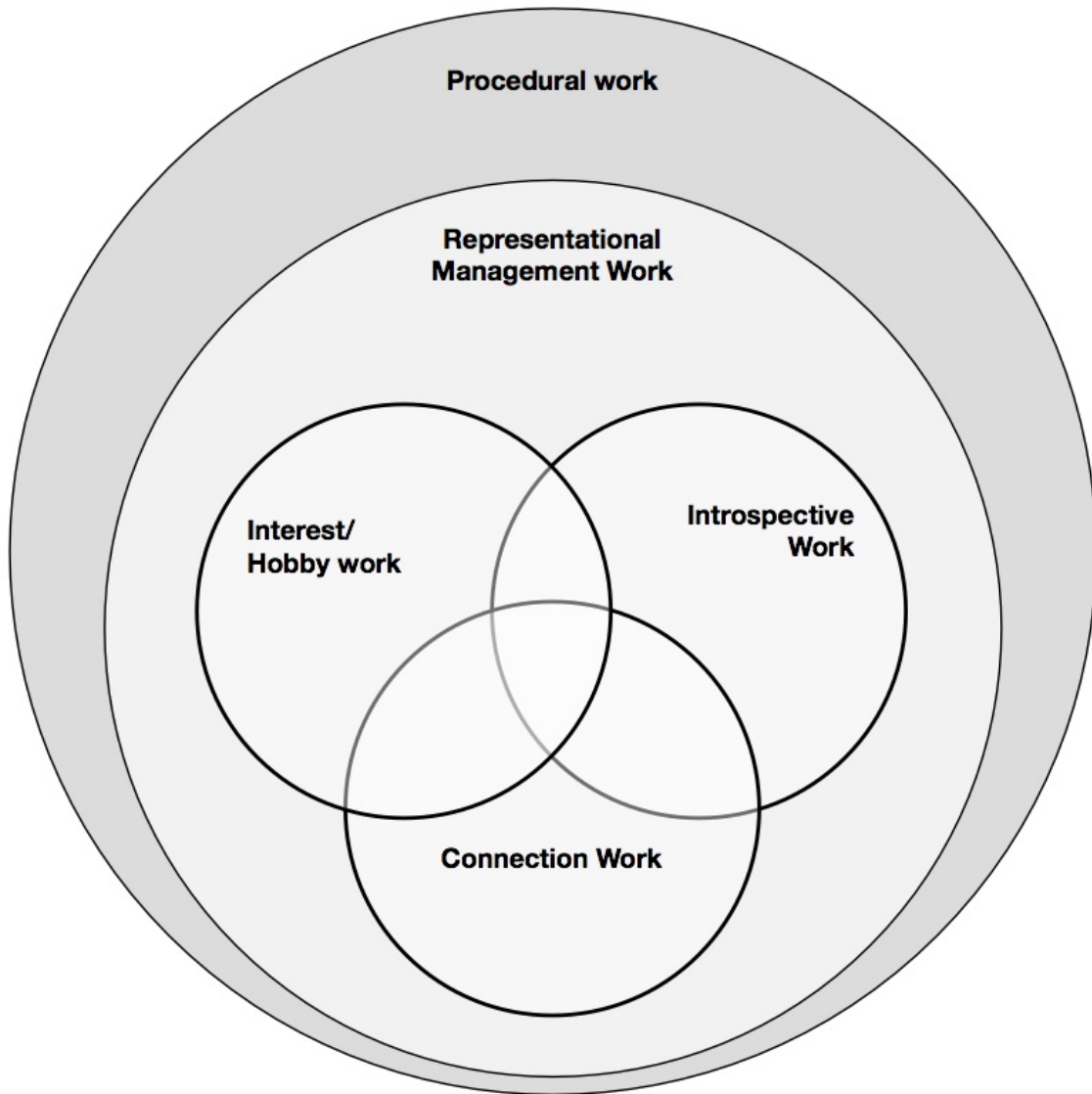
Figure 1: Types of Biographical Work in the VHM

The positioning in this diagram emphasizes the nested and overlapping character of these types of work. Procedural work and representational management work provide the necessary underpinning for the other three types of work. Thus connection, introspective and interest/hobby work are positioned internally in order to indicate how they build upon more general practices of procedural and representational management work. Though connection work, introspective work and interest/hobby work are represented as visually symmetric in the diagram, it is

worth noting that not all study participants engaged equally in all three, and of those that did, different types of work were prioritized at different times. Thus this diagram represents a generalized model; for different study participants, the size and relative primacy of individual elements may change.

The connections and mutual influences between these five types of biographical work will be discussed at length throughout this chapter, but to orient and frame the discussion, I will summarize each briefly in advance:

1) *Procedural work*. The first type of biography work addresses the mundane but pervasive set of process steps that pervades taking, downloading, sorting, editing, searching, browsing, labeling and offloading. This includes what other research labeled as photowork (Kirk et al, 2006), but is not limited to that. This set of practices must be considered biography work as they generate the necessary substrate for all the other more abstracted biographical work in the VHM. Strauss (1993) illustrated this point in discussing the amount of invisible work (Star & Strauss, 1999) that goes into many "leisure" activities; to enjoy a picnic, someone has to engage in the work of making the sandwiches.

2) *Representational management work*. This second layer of practices deals instead with the work needed to manage the symbolic and informational aspects of VHM photos. Representation management includes both the selective creation of photographic representations, as well as the framing and interpretive cueing of those representations. As noted in chapter 2, Chalfen emphasized the "patterned inclusion" and exclusion of particular images found in the home mode. In presenting my findings, I outline five themes in the data related to this type of work: a layer cake model of decision making, the shifts and expansions of representation in the VHM, variations of representation based on individual usage and circumstance, the nuanced meanings behind exclusion and indirect representation practices, and potential of breakdowns to occur in the representational practices of VHM producers. As with procedural work, this category is also necessary for all following work.

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3) *Connection work*. This type of work encompasses biography work that is outwardly directed, addressing other-as-audience. This includes explicit communication practices, in which photos were treated as information-laden messages. But in addition, connection work also includes other types of connection building and relationship maintenance, including non-reciprocal messages, lightweight co-presence, and sharing based on social obligation. In many cases, understanding the meaning and uses of a given photo requires an understanding of the social relationships in which it was utilized. For example, some participants accounts emphasized how deeply personal meanings could be read into banal photos (such as food pictures), given the appropriate localized contextual framing. As another example, several participants presented examples of intentionally leveraging their distinct common ground with different sets of viewers so as to transmit multiple concurrent messages via the same image.

4) *Introspective work*. This refers to biography work that is inwardly directed, addressing self-as-audience. In addition to the memory processes that we traditionally associate with personal photography (assisting both in recall as well as the reconstitution and retelling of memories), I present examples of mindfulness and attentional practices, particularly during the taking and organizing of photos. For example, one participant discussed how photographing his son's soccer games caused him to "see" in a new and more detailed manner, changing his perception of the events. Other participants were clearly using their organizing work as a form of personal symbolic curation for their life experiences.

5) *Interest/Hobby work*. Less pervasive than the other types of work in this model, my findings in this section illustrate the common uses of VHM photo practices in service of other interests (hobby, craft and serious leisure activity), which in turn serve biographical practices. For example, participants engaged in activities such as ham radio building, baking, knitting and scrap-booking all discussed how their photography allowed them to document their projects,

contribute to dispersed communities of interest, convey personal pride of accomplishment and serve as a point of inspiration and reference for future projects. The work in this category often generated mutually supportive cycles with both connection and introspection work.

5.0.3 Research Question 2: Biography work and well-being

In response to RQ2, I demonstrate in section 5.6 that VHM biographical practices are connected to aspects of the study participant's well-being, as well as how these relationships varied both within and across individual accounts. In particular, I present five cases to illustrate the characteristic *multiplicity* of VHM photos and practices, and the *socially situated nature* of practices and representation in the VHM. While the connections are present, the relationships are neither singular nor linear in character.

5.1 Procedural Work

The first of the five types of biographical work is *procedural work*. Procedural work designates the more mechanistic, yet necessary activities required to underpin the other types of biographical work in the VHM. Earlier research described has many of similar activities as *photowork* (Kirk et al., 2006), seeking to highlight future possibilities for technology support for engaging in photos beyond searching and browsing. Reframing this class of practices here as procedural work places them in the specific context of biographical work, as well as ensuring that the account presented herein is derived from the specific data obtained in this study. As noted in chapter 3, Strauss (1993) highlighted the need to articulate and reveal the invisible work that goes into many so-called "leisure" activities. To paraphrase one of his examples: to enjoy a picnic, someone has to engage in the work of making the sandwiches. Procedural work is the business of "making the

sandwiches" in the virtual home mode; it may not be the *point* of the picnic, or what is specifically remembered, but it must be done.

There are multiple stages in the procedural workflow, and each invites decisions: decisions about what to shoot, what to delete, how to organize, how and when to provide titles, how and when to label and provide metadata, what to save, what to share and with whom. Each stage of decision-making in procedural work supports the following stages. Above and beyond the procedural steps required to accomplish a particular stage, nearly every stage also requires decisions and prioritization about the informational and symbolic content of the photos—the *representational management work* that will be discussed at length in the next section of this chapter. The close coupling of these two types of work illustrates several important points about biographical work in this context. First, it demonstrates the necessary underpinning that procedural work and then representational management work build for all further types of biographical work in the virtual home mode. Second, it emphasizes that these two types of biographical work overlap, both temporally (occurring at the same moment in time) as well as in reference to the specific photo or set of photos being addressed.

5.1.1 Generalized Stages of Procedural Work

In general terms, procedural work follows an overall pattern of stages: *shoot, save, sort, select, edit,* and *share*. Slightly different emphasis or ordering of stages may occur in individual cases. For instance, an individual might share their photos online, and then edit them by cropping and color-correcting via a web-based tool incorporated into the photo sharing site, rather than using PC-based photo-editing software prior to sharing. Some participants combined conceptual steps, such as performing sorting and selecting tasks in the same pass through the photos, choosing to prioritize shots at the same time they were organized into sets, collections or folders. I also observed that procedural work was often tailored to the specifics of each participant, in that the work could include a variety of tasks

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responsive to the local circumstances and technical context of the individual, such as type of camera, management software, operating system, method of storage, back up strategy, mechanisms of sharing and so forth. But the general outline holds true across the study participants, and more importantly, conceptually delineates the steps involved in procedural work.

Briefly, I will walk the reader through these typical stages of procedural work. Though this account may seem self-evident in places, I present these data to explicate the various components of this type of biography work, and ensure that any reader (present or future) unfamiliar with the steps of digital photography circa 2010 are provided with adequate context to understand the remainder of this chapter. Following this generalized account, I will then present specific examples from the study data to illustrate some of variety of practices visible across study participants within individual stages.

Shoot:

First, a photo is taken. As simple as this statement appears, the choice of when, where and of whom to take a picture of is far from straightforward. Indeed, these decisions are the cornerstone of most practices in representational management, addressed at length in the next chapter section. Some individuals reported assessing and deleting images on the camera at this stage – "as they went," so to speak -- though many deferred those decisions until a later time. If necessary or desired, multiple shots are taken. This was particularly the case for participants who had not built up deeply entrenched habits with film photography. Particularly as the relative cost of memory cards and file storage has plummeted in recent years, many digital photographers have reported increasing the number of photos they take. Several study participants expressed sentiments similar to participant Joan, who said, "sometimes I take a picture and I just know I can delete it. With this [camera], I'll just take 10 shots in a row because I know then one of them will be good. […] It's changed the number of photos I take for sure. I'm not limited to how many rolls of film I have."

Save:

At a later time some or all the photos are transferred from the camera to a computer. Current technology allows for such options at this stage as direct printout from camera or from memory card, or direct upload to a photo hosting or sharing site from wifi-enabled camera or mobile phone. Regardless of the technical path chosen, these are all variations of "getting the pictures off the camera." As early as the saving stage appears in the broader process of procedural work, several participants reported successful completion of this stage as a potential bottleneck for their later practices. This was particularly the case if too much time had passed between the shooting phase and the saving phase.

Sort:

At this stage, a process of organization takes place, be it manual, automated, or even haphazard in character. For participants that engaged in manual organization, this step typically involve putting pictures in folders or sets labeled with a specific date or delineated time frame such as a specific event or season. Less often, manual organization occurred thematically, with participants placing images in folders for categories of content (flowers, cats, etc.), or because they included specific individuals ("photos of dad," etc.). In addition, it was common for manual organizers to group photos in order to facilitated specific tasks; typical examples included folders labeled as "to be printed", "calendar project," and so forth.

Many participants did not do an initial organization by hand, but rather utilized automated functions built into a photo management software package. For some, this was the software bundled by default with their computer; many Macintosh users for instance, used the iPhoto program bundled with Apple computers. Others reported using the free photo management software that was provided by the camera manufacturer when they purchased their digital camera. Several participants, however, moved beyond these default options and reported

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choosing photo management software with feature sets that matched, enhanced, or intentionally altered their workflow. For instance, Kelli and Jaqueline had chosen to utilize the Picasa photo management system instead of the software available by default on their personal computers. Those with more advanced needs, such as serious hobbyists professionals and would-be professionals like participants Mona and Doug, chose higher-end software packages such as Adobe Lightroom or Adobe Bridge. Individual reasons for choosing software and the implications those choices have on different aspects of VHM biography work will be addressed at various points throughout this chapter.

Select:

The next stage in this generalized account of the procedural workflow was sorting and prioritization -- that is, "picking the good shots". Participants in the study typically accomplished this in one of three ways. The first approach was to use the built-in rating and ranking system of their photo management software. Software such as iPhoto and Adobe Lightroom allow users to mark specific photos with star rankings from 1 to 5. Once ranked, starred photos can be sorted and filtered in a variety of ways depending on the particular characteristics of the photo management software. A second variation, typically used by participants who organized their photos in their operating system's file structure, was to create an additional set of folders or subfolders for selected or prioritized photos, then to move or copy their desired photos into these folders. The third major variation in the stage was simply to delete the "bad" photos and keep the "good" ones.

The process of selection and prioritization was somewhat subtler than might first appear from that simple summary, and thus requires additional clarification. Most participants reported deleting--either on the camera or immediately after the photos were pulled off of the camera--all of the "obviously bad photos." When probed on this topic, *obviously bad photos* included shots that were unsuccessful in some fashion. Severe technical mistakes certainly made bad photos less appealing and less aesthetically "perfect." More importantly, bad photos had

crossed a threshold, which meant they no longer had potential to be functional in serving VHM work practices. This included photos that were simply too blurry, too dark, too over exposed, or lacking the desired subject matter, such as a picture of someone who had turned away from the camera. However, not every photo retained was technically or aesthetically pleasing; at times, blurry, poorly lit or poorly framed pictures *were* retained, if they were "good enough" to serve a biographical function, and no other pictures could do so.

Some participants reported an additional layer of sorting and prioritizing practices occurring at this point, removing shots of individuals that were considered unflattering, or picking the best or most representative shot from a sequence of nearly identical pictures. Here we see the dividing line between procedural work and representational work begin to blur, as these steps involve not only procedural practices (moving, copying, and deleting photos), but also decisions what should be represented and in what manner. Contrast this set of decisions (what is flattering? what is best?) with the immediately prior set of decisions (what is bad to the point of being unusable?). Framing the process of weeding out bad shots as being "obvious", as many of the participants did, illustrates how little decision-making needed to occur; the process of deleting these pictures is literally *proceduralized*, whereas decisions that overlap into representational work require more deliberate assessment. I will return to the particulars of the representational decision-making practices in the next section of this chapter.

Edit:

The digital medium and modern software allow for a wide variety of image editing possibilities, many of which could have strong implications for the representational and evidentiary roles of VHM photos. Yet with a few key exceptions (addressed in 5.1.2 below), the majority of participants in this study engaged in little or no editing activities on the vast majority of their photos. When they did occur typical editing practices were small alterations, such as minor

cropping, straightening or rotating tilted photos, adjusting brightness/contrast or using automatic red-eye correction features. Why did it appear that the study participants engaged in more advanced editing so infrequently? In line with Chalfen's earlier findings, for many participants, it appeared that advanced editing was simply unnecessary within the scope of their intended uses of the photos. Participant Bob summed up this stance when he explained, "I haven't done much [editing]…I know you can reduce red eye and you can do all of different things... Contrast and all that. And, I really haven't, because I haven't seen a tremendous need for it."

Share:

The next stage of procedural work involved practices and decisions related to *sharing* photos: which will be shared, with whom, how widely, and via which system or systems. This stage involves mechanistic steps such as those required for uploading photos, adding names, labels, descriptions or other metadata to pictures in their sharing mechanism of choice, as well as enacting more deliberative decisions such as specifying recipients, setting or altering privacy settings, etc. These decisions illustrate again how procedural work both underpins and overlaps with connection work, the practices which tailor, target and transmit photos specifically to build and maintain social connections with others. Individual variation in specific practices again increased in this stage of work, as will be seen in later accounts of more specific user practices; a more detailed discussion of connection work appears in section 5.3 of this chapter.

Additional procedural stages:

Beyond the sharing stage, additional aspects of individuals' biographical work could fall under the frame of procedural work. For instance, some participants regularly created photo albums, made crafts or gifts out of their photos; each of these tasks requires a specialized path through the general stages outlined above. What is most important in understanding this generalized description is not

whether the granular steps through the various stages are identical in process or order for all participants, but the fact that the procedural work is present for all VHM producers and is necessary for all further types of biographical work.

5.1.2 Variations in Procedural Work

This summary of procedural work is generalized, drawn from the accounts and observations of practices evident across the participants in this study. At the level of the individual, these practices could and did vary along several important dimensions. These included such factors as: level of photography skill, level of overall computer skill (such as comfort or technical savvy in dealing with file formats or OS-level file manipulation), level of technical skill with regards to a particular software package such as Photoshop, type and amount of motivation to investigate new tools and systems, and degree of lock-in to their current workflow or photo management such this system (either real or perceived). Participants also varied in regards to social concerns such as degree of comfort or discomfort with privacy issues, needs generated by specific audiences (such as the use of a specific sharing mechanism or system to stay in contact with a particular family member). Social concerns in particular impacted and interacted with connection work, and thus will be addressed in section 5.3 of this chapter.

Thus although the generalized account given above has value in framing an understanding of procedural work, it is also important to acknowledge individual variations in practices, apparent even within the relatively limited number of individuals who participated in this study. To illustrate these variations, consider several examples drawn from different procedural stages. As mentioned above, several different organizational practices appeared within the broader stage of "sorting." Participant Sanford discussed using both event-focused and thematic grouping of his photos, often using the thematic grouping to facilitate dissemination of his pictures to other people who shared his hobbies of geology, mineralogy and

rock collecting:

> Interviewer: Were these [images] of the same location or a variety of trips?
>
> Sanford: Oh, these are all over the place. Here's Death Valley, here's Australia, here's Rainbow Bridge National Monument and here's arches, so all around.
>
> Interviewer: Did you gather these because you knew that you were going to give a presentation [to the local mineralogy society]?
>
> Sanford: Right. I took them from all my different files and put them together for that.
>
> Interviewer: With other themed [folders] I see here – "fossils," "furred," "columns" -- are those all with the presentation in mind?
>
> Sanford: Yeah.

In contrast, Sally used a much more impressionistic and spontaneous approach to labeling for many of her photo sets:

> Interviewer: One thing I also noted, [on your Facebook account] these have all very descriptive names. […] "Terms of the Loon," is one set. The one above it is called "Round Plaid Test Paper."
>
> Sally: [Facebook] comes up with that thing and it asks you to name it. And I'm like, "I don't know what I want to name it!" So I just say whatever comes to mind.

Even in stages where the majority of participants demonstrated similar practices, there were still important variations. For instance, the different approaches to the editing stage can be illustrated by comparing participants Bob's and Joan's stances with a nearly opposite approach taken by Mona. As mentioned above, Bob didn't see "a tremendous need" for any editing beyond the most basic photo rotations, expressing a position that was common among many of the study participants. Joan represented a more middle position, in that she engaged in

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editing her photos on a regular basis. However, she characterized these as "very small edits," such as "fixing red eye or cropping." In contrast, Mona discussed how she typically edited nearly every photo before sharing, and also expressed exasperation with more typical "good enough" VHM practices:

> Mona: This is one thing that always gets me... When I do see other people like when they post photos, Facebook for instance, people, friends that I have and they post their photos and they're like... I hate when people post photos without editing red eye because I'm like, "Oh my God! It's so easy to fix that. Any editing program has a really easy way to fix that red eye but you don't do it." Like that, it really gets me […] I just, I could not imagine posting a photo that I hadn't touched in some way. […] I mean like, "Oh, here's Jonah! Nice little picture of the little boy." But come on -- see how yellow it is? I would change the white balance or I would fix it before I'd let anybody see it.

5.1.3 Challenges and Workarounds

Generally the practices described had been developed and worked out over time by the study participant; few reported any serious issues or breakdowns occurring during their procedural work. Yet despite a lack of complaints, these practices were not always seamless, and did require deliberate effort.

Finding particular photographs was a comparatively minor but pervasive issue, particularly for individuals with large photo archives. For instance, Mona stated that she had "been working on trying to do a better job of organizing them, because in our personal catalog, we have like 17,000 photos. How do you find anything in 17,000 photos?" A related concern for several participants was the possibility of losing their photos. For many, this was discussed in the context of their backup strategy for their photo archives. Doug combined a discussion of backups with additional concerns he had over potential over-dependence on hardware or software that may become outdated over time:

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> Doug: The other problem we have is what are we really going to maintain. I recognized that iBook is going to die. And that version of iPhoto is an old one, it has an iPhoto of library well, I'm going to lose some of those photos. I've got photos in the basement that I've lost before in boxes. So I just tried to bring up some of my best ones that I'm keeping, and I'm going to lose them, you know, when that computer dies. […] I have a backup. And I have a hard drive with a backup. But you know, I'm probably not going to... Go back and [try to retrieve them] […] To me, I recognize I'll lose something, but I did make the effort.

Several participants also described working around less than optimal circumstances in their procedural workflows. For instance, participant Evelyn used a small point and shoot digital camera with a broken LCD display screen, a result of the camera having been dropped. Though inconvenient, and clearly disruptive to aspects of her photo shooting, a new camera was not currently in her budget. Therefore, she accommodated to the situation, stating "So, it's kind of like an old fashioned camera now. You have to 'develop the film' [to see the pictures]." In another example, Sally reported dealing with a lack of storage space on her computer, choosing to make room for her photos over unused software:

> Sally: Well, like the other day, my computer started sending out messages "You have no more room on your computer. You need to start deleting things." [Laughing] So I went back and deleted. Actually I think at that time, I deleted mostly programs because they take up a lot more space than pictures.

Such variations and workarounds are important examples of the influence of local circumstances and context, as well as evidence of the *agency* of the individual in responding to circumstance. Agency in this setting is often bounded; the word should not be read as necessarily meaning optimal, rational or highly strategic behaviors. Rather, I use the term to note deliberate effort made by producers in the VHM, who appear to continue pursuing their core biographical work despite the particular characteristics (be it assistance or obstacles) of the technical resources at hand.

5.1.4 Procedural Work: Summary

As outlined in this chapter section, procedural work followed a generalized pattern of stages: *shoot, save, sort, select, edit, share*. Though all participants followed these generalized stages, there were variations between individual users, related to their skill, training and backgrounds, goals, and available software. In these variations, we see both how participants exerted a form of bounded agency over their VHM practices, as well as responded to the particularity of their local technical context. For many participants, aspects of this work had been literally proceduralized, in that the practices had become habituated and "obvious," thus not requiring the same kind of deliberate decision-making that appears in much of the biographical work described in the rest of this chapter.

The more mechanistic steps of procedural work often blur into other types of biographical work. As we will see later in this chapter, the process of shooting photos can itself be a social moment, helping to create a moment in which connection work is accomplished, or a state of mindfulness which can drive introspective work. Sorting can aid findability and reuse by one's self or by others. Selection can emphasize particular depictions of individuals and events, choosing to frame them in a particular light in representational work, and is often done with a particular audience in mind. Throughout these multiple types of biographical work, procedural work is present as a necessary foundational layer.

5.2 Representational Management Work

The next form of biographical work in this model is that of representational management, the set of practices that address the informational and symbolic aspects of VHM media. In Chalfen's original work on home mode (1987), he emphasized the patterned inclusion and exclusion in the types of portrayals and events that were represented in the photos of the home mode. Broadly, images that

were included tended to portray positive interpretations (of people and events), and leave out images that were negative in nature. To paraphrase Chalfen, his subjects always took a picture of the wedding, but never a picture of the divorce. Examined through the perspective of biographical work, the purpose of this patterned inclusion seems clear. It is a way of both superimposing a positive interpretation on a given biographical moment via selective representation, as well as framing the evidentiary character of images for future use. Representational management occurs both in our near-term moment of "seeing" an event as well as in the way that we choose images for future reflection, story telling and memory activities.

Though many of the images of the home mode are commonplace and everyday by definition – important only to the producers and participants – Chalfen's description of film photo practices also noted that truly banal moments were still excluded, still invisible. Daily household activities such as cleaning were rarely pictured, for instance. Similarly, there were never pictures of the individuals that many of us interact with regularly in our everyday lives but rarely capture our attention as being important; there were no pictures of the mailman, the plumber, or the grocery clerk. This account, while still accurate overall in the VHM, does have some important changes to note, which I will describe in this section.

First, my analysis of the study data displayed a more detailed set of decisions present in the representational management work of the VHM beyond simple inclusion and exclusion. This included a longer line of decisions (incorporating more of Chalfen's "sociovidistic framework" into the decision-making of representation), in part influenced by the different costs and affordances of digital photography over film. I describe this nested series of decisions as a *layer-cake model* of representational management.

Second, in addition to drawing our attention to the multiple stages of decision-making in representational management, changes in technology have also expanded the range of what is photographed and thus represented. In the words of participant Joan, "with film I would be sure to save the film for something that's really, really important as opposed to… just sort of important." So while the

contours of representational management persist into the VHM, the boundaries of what is considered important enough to capture photographically have shifted. These shifts were an interesting point of variation across the participants of the study, emphasizing a broader point about the diversity of practices in the VHM, and how those are tied to the particular characteristics and contingencies of individuals' life circumstances, available technology and social contexts. I illustrate this below by highlighting a variety of approaches in study participants' representation of major life events.

The shifts and expansions of representation lead to the third point of this section, that a dichotomous reading of "positive, in; negative, out" neglects more subtle nuances of representation in the data, which are nonetheless coherent within a perspective of biographical work. In particular, I discuss examples of the intentional exclusion of important and seemingly positive events (personal and collective) and the process of indirect representation, in which the exclusion of one aspect of biography can lead to the production of images in a tangential set.

As noted in the conclusion of the previous chapter section, biographical work processes are neither guaranteed in their outcomes, nor seamless. I end this section by highlighting a case of breakdown of practices for representational management, caused by a major life event (death of a parent), which could not be easily integrated into the existing practices of the participant. This case illustrates that despite lowered costs and the relative ease of digital photography, there are still limits to the expansion of the scope of representation in the VHM.

5.2.1 Layer-cake Model of Representational Decisions

As noted in the introduction, it is more accurate to consider the decisions of representational management in the VHM not simply in terms of inclusion/exclusion, but as a layered set of decisions: What to shoot? What to delete? Which to save? Which to label? Which to share privately and with whom? Which to share publicly, and to what ends? Each layer focuses and

influences the content, number and availability of photos that feed into the next layer of decision making. In many ways, these layers of decision run parallel to the stages of procedural work. Just as there are a set of mechanistic work activities required to accomplish each stage, there are also a related set of representational decisions, choices about what is being pictured, and what functions it will serve.

The interview session with participant Brian provided several illustrations of the multiple layers of decision-making related to representational management in the VHM. In describing the photos taken on a recent bike trip, Brian described his decision making process in regards to which photos he saved on his personal computer and which ones he would post online (via a custom programmed photo management system):

> Brian: Well, it's like I don't want to be unflattering to my friends. When I started [using my personal photo management system], I really kind of embraced crappy photos because [my camera] took really bad photos. It was just not a good camera at all, so I wasn't looking for the best photos but I still like try to take good photos like some composition. So when they're really poorly put together, I don't post them. When they're not flattering to my friends or other people even, I'll save them. They'll be mine, but I don't need to put them on the Internet.

In this comment, we see how saving and sharing are two distinct decision levels, related to Brian's perception of whether the individuals in the photos are portrayed in a flattering, positive manner. Even if they are not suitable for public sharing, they still may serve personal introspective functions for Brian, and thus he saves them. We also see in the quote above how Brian's biographical work could be accomplished even with "crappy photos," demonstrating again that image quality and image functionality are at times distinct from one another.

Later in the same interview session, Brian described a decision step that was important to his individual process of representational management, captioning each photo to provide the appropriate framing and narrative for context.

Interviewer: So pretty much [every photo you post] has a caption of some sort.

Brian: Yeah, I very rarely post anything without… I guess that was just how it was conceptualized in my head – "what is this thing? Say a thing about it."

Interviewer: But the one thing that makes it a little distinct from the default fields on Flickr, for instance, is that there's a caption on all of these but there's no separate title.

Brian: Yeah, when Flickr arrived and I started to poke at it, the title was the thing that pissed me off the most – a title implies art, implies you've made something and it needs a title. Whereas I really think about these as snapshots and remind myself what's in the snapshot. […] Like my parents old photo albums, they have a photo and on the back maybe they wrote something so you could remember what is this. If you paint a picture or build a sculpture, write a book, it has a title but not just a random photo.

In this quote, note participant Brian's clear distinction between the role of captions versus titles within his photo practices. This illustrates both the personal idiosyncrasies that can appear within the more generalized framework of the layer-cake model, as well as how the characteristics of particular technologies can be mismatched to individual biography work practices.

5.2.2 Expansion of Representation in the VHM

Many of the practices of representational management in the VHM are expansions, not transformations, of the selective representation practices described by Chalfen. The continuity of positive representational practices were demonstrated by participant Kelli, who stated, "I do a lot of what my dad called 'happy snaps' when he was a [professional] photographer – he kind of made fun of them because it's not really of anything happening. It's just people smiling." As in the original conception of the home mode, Kelli's "happy snaps" illustrate that many of the same dynamics are at play in the VHM. For many VHM photographers, the point

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is not whether the image is aesthetically pleasing or technically perfect, but that the important individuals are included and represented as happy. The photos of Kelli's family on vacation need not be professional quality to serve her needs; they just needed to occur in the first place, and be appropriate for the types of biographical work for which she will utilize them.

Many expansions of representation in the VHM seem to have been driven by changes in the costs, portability and ease of use in current digital photography rather than dramatic shifts in social relationships or cultural values. For example, mobile/wireless transmission and the near ubiquity of digital cameras in cellular phones opens up new opportunities for "spontaneity" in both representation and the use of those representations, as illustrated by this case described by participant Helen:

> Interviewer: What typically would you take with [your phone camera] as opposed to the other digital camera?
>
> Helen: This is more […] spontaneous, I think maybe is the word. That things I wouldn't typically [photograph] […] I really realized what the one thing I want most is a better camera on my phone. For instance, this one I keep it on my night stand. And this morning, I woke up and to get my husband to bring me coffee, I took a picture of the cat on my chest and sent a message that I was trapped and couldn't get up, so he needed to bring me coffee. [laughter] So, you know, from... I wouldn't typically take a picture of my cat sleeping, I mean. So moments like that, today I'm gone at the grocery store, the ice melt piled with snow, I haven't, I wouldn't ever take that picture if I didn't have a ready camera on me. […] It's really changed all […] that kind of spontaneous picture taking has changed.

In this account, we see that Helen's ability to have a camera ready at hand at all times has changed her representational practices, as has the ability to transmit and share photos wirelessly on a moment's notice. Here we also see again an example of the overlapping character of different types of biography work. The "spontaneity" afforded by her camera phone facilitated Helen making

representations that she would not have previously. In turn, these new representations and accompanying sharing practices facilitated a new form of message transmission and co-presence, themes that I will develop further in the chapter section on connection work.

The removal of the costs (in both money and time) incurred by developing film has also driven the expansion of representation in the VHM. This includes taking photos of objects, activities and people that may have always been personally relevant to the photographer, but in the past had not quite crossed a threshold of being "worth" depicting. In the introduction of this chapter section, I quoted participant Joan discussing how the move from film to digital photography allowed her to expand her range of imagery to depict not only the "important," but also the "sort of important." Later in her interview session, she expanded on this theme, particularly in the context of the food photos she frequently took of her baking and cooking projects:

Interviewer: When you were doing more film photography, […] did you take photos of baking?

Joan: Nope.

Interviewer: Was that because you weren't doing those kinds of activities?

Joan: I wasn't doing it as much, but it was also kind of a waste of film because that wasn't really important. And between the cost of the film and developing, I didn't take pictures of cake unless it was something really spectacular. "Wow. I made Christmas cookies" -- it's not worth it. I still would have taken pictures of my dogs and family members and things like that. But at a certain point, I think I thought more about it before taking the picture. Whereas now—"oh look, take a picture." I may or may not use it, but hey, I can. Once I have the hardware, I'm sort of free to take pictures.

Though her baking and other food hobbies were always personally relevant to Joan, they were not important enough to cross the cost threshold for film

photography. In the VHM, the marginal cost of each new digital image has dropped so greatly that her threshold for importance has shifted.

Food photography is surprisingly emblematic of the VHM. It is a particular category of representation that has expanded greatly in recent years, appearing both regularly throughout many of my interviews as well as being noted as a cultural phenomenon in the popular press (e.g., Huffstutter, 2010). Food photos are also frequently denigrated as an example of the banality of contributions to social networking and user-generated content sites online – "why would I care what you had for dinner?" is the general refrain in such critiques. Yet this question misses the point of these photos in particular, as well as of the biography work of VHM. These types of photographic productions are not generally valuable outside of their specific use context, but they are highly relevant when considered within the frameworks of particular family relationships, cultural membership and communities of practice. The theme of food photography, with examples provided both from Joan and other study participants will be addressed repeatedly in this chapter, demonstrating relevance to connection, introspection and interest work.

5.2.3. Variation of Representation in the VHM

As discussed in the prior two chapter sections, within the generalized account of representational management work, there were important examples of individual variation, responding to individuals' particular contexts and circumstances. The 2008 election of President Barack Obama provided an interesting common point of reference through which to illustrate these variations. During the interview sessions, three participants – Sally, Rhonda and Maria – all chose either Obama's election victory or inauguration as one of their "major life events" of the past year, indicating the shared importance of this historic event for

these participants. Yet as can be seen in the examples that follow, each addressed the issue of representing this event in their VHM photos in different ways.

The first case is that of Maria, who documented the event of the inauguration by taking pictures of television coverage, providing her with a way of engaging with the event directly yet remotely, as well as documenting the personal context through which she experienced it. In addition, Maria presents a second illustration of connecting personal and collective experience of an event, by including her grandchildren in her photographic representation of the media coverage:

> Maria: Inauguration day, I sat in front of the TV and took pictures of my camera. [...] Because I did not get to go to Washington. And to me, that was such an incredible moment in our history. You know, they came out pretty good.
>
> Interviewer: And so, you wanted record that moment?
>
> Maria: That moment in history was big for me. So, I have gone back to this, to look at... And to have captured my own [photos of the event]. I mean this is CNN. [Gestures to photo of television displaying news coverage of the inauguration.] But then, you know, this masses of people...
>
> Interviewer: Had you thought about going to DC?
>
> Maria: No, no. I got... I am a little bit phobic of humongous crowds. So, that would not have attracted me […] And here... These are my grandchildren with their Obama shirts... Right in front of Obama on the TV, when he was elected. I don't know whether he pans out to be a good president or bad president... It's still an incredible moment in history to know that he was elected.

The second case is from participant Sally, who also took photos of the television coverage of the inauguration. In contrast to Maria's more documentary representation, however, Sally's photos were intended to be transient in nature, taken to facilitate remotely sharing the experience in real-time with her teen-age son:

Sally: Obama being inaugurated, that was pretty huge in my heart.

Interviewer: So for the inauguration, are there any photos related to that?

Sally: I'm not sure that there are actually. I had taken pictures, a picture of... I'm not sure, I don't know that there are. I think I took phone pictures of the TV. I don't think there is a record of the inauguration, because I had taken a phone picture of the TV we were watching and sent it to [my son], but I deleted it.

Interviewer: Because he was in school at the time?

Sally: Yeah. […] I was so excited and he was really excited about it. So it was just a way of sharing that moment with him even though we could not be together.

Sally's actions in this case foreshadow the themes of remote co-presence and co-experience of events, which I will address at greater length in the connection work section of this chapter.

Participant Rhonda provides the third case illustrating variations in the representations of this shared event, taking a distinctly different approach to that of Sally and Maria. Despite flagging the election as an event of major personal importance, Rhonda represented it only indirectly, noting that there were pictures of a chronologically related event which reminded her of the more important but perhaps more distant political events of the election.

Rhonda: Well, you know what else was a huge [life event this year]? T'was the election of the president. There's no photos for that one. […] I think, with the election, I was on a road trip at the time. […] I was driving through Canada when the announcement came in and I've got photos associated with the road trip. That would trigger a memory of that event. You know, I have those two things pretty tied together. We stopped at a bar and watched his acceptance speech, but I didn't photograph any of that.

Across these three cases, we see different approaches to what van Djick (2007) described as the mediation between the self and others in the creation of "personal cultural memories." In the way that Maria and Sally photographed television coverage of the event, we can also see an example of what de Certeau (1984) described as "textual poaching," the tactical re-appropriation of larger cultural texts to the needs of the individual. (For extended summaries of these and related theoretical writings about the mediated character of memory, see chapter section 3.3.4). Additional illustrations of variations in representations across individuals will be highlighted throughout the next chapter sections on connection, introspective and interest work.

5.2.4. Nuanced Meaning of Exclusion Practices

In addition to the expansion of representation in the VHM and particulars of individual variation, I saw also several examples in the data that illustrated the nuanced meaning behind representational exclusion of important biographical events. Though the study participants' overall patterns of inclusion and exclusion for representation were similar to those originally described by Chalfen, it would be inaccurate to portray these solely in terms of an oversimplified pattern of "positive included, negative excluded."   Rather than simply being exceptions however, these nuanced cases still make sense in the broader context of biography work.

Below, I will utilize three examples from the study data to illustrate three points. First, I will show that important life events (even positive ones) are sometimes too emotionally draining to represent photographically. Second, that the emotional tenor of important life events is at times a complicated mix of positive and negative that is challenging to represent. Third, that excluded events can at times generate new forms of related but indirect representation.

The interview with participant Brian contained an example of an important life event that was *not* represented in his VHM photography. This event was a non-traditional commitment ceremony to his long-term girlfriend that they termed an "unmarriage":

> Brian: I think the other [major life event] was my partner and I, we talked for this a long time but we started working on our unmarriage, we're calling it. She had already been married. I've never been that interested in marriage but we're looking at all the legal implications of being married and what we can do to give ourselves kind of the same rights and protections and things like that without actually getting married. So exploring what it means across a lot. It's something we started and it's going to take a long time. So drawing up documents basically.
>
> Interviewer: Is the unmarriage term something you guys came up with?
>
> Brian: Yeah that's just like…we spent the day at Café Latte and we were going through a couple books and writing up documents and I just happened to create a folder called Unmarriage and that's how it stuck. Kind of like UnBirthday. […] I don't remember taking a photo during any of that, during the unmarriage work because really we were sitting in a coffee shop and thinking hard.

When I probed further as to why no pictures were generated to record this important event, Brian emphasized that the occasion was positive for them both but also emotionally loaded and draining:

> Brian: Mostly it was an emotionally and intellectually challenge event on its own. I didn't have spare cycles to document what was going on. It was setting agreements […] It was actually like "what do you feel about doing something this way?" Imagine this situation and you know…and so it was very engaging, no time to kind of step aside. And I think that's something that I'm doing a lot when I'm taking these photos. I'm living life but I'm also just kind of observing life too. There were no spare cycles and when we were done we just wanted to go get a drink.

Participant Helen presented another example of an important life event not represented within VHM photography. For Helen, the event in question was a life transition of quitting a long-time job to return to school in order to facilitate a change of careers, a positive step in her life of which she spoke enthusiastically about at various points in the interview. Yet as we see in her account, this transition was not simply positive; it also contained sorrow about leaving her friends at her old job. In addition, the symbolism of taking photos at her going-away party would have given the event an undesired note of conclusion. By avoiding the ritual act of taking a final picture, Helen and her co-workers were trying to avoid generating a sense of finality in their relationship:

> Interviewer: The other major life event [you mentioned] is more sort of a life transition, going into grad school and quitting your job... […] Does that show up in your photos in any way?
>
> Helen: There were no going away parties or […] I mean there were, but there wasn't any photography. […] I think with the job that I had for eight years, when I left, I think there was this piece that we were going to stay in touch, so possibly no need to take a photograph. But I think also it was harder for everyone that I was going, so […] I wonder of the possibility that if we didn't take pictures, it didn't seem as final. […] And we have stayed in touch. And we do see each other quite often. […] So, maybe not making that the finale that it would be.

Stewart presented another example of nuanced representation, in this case addressing two important but unpleasant life events (specifically, the deaths of grandparents and loss of his job). Within the trajectory of his biography, these events needed managing but were too emotionally loaded to be directly represented. Instead, these events precipitated a larger life re-evaluation process for Stewart. This revaluation process *was* represented in his photos, though in a somewhat veiled fashion, apparent only to himself. For instance, in his account, Stewart first stated that the deaths are "completely unrepresented." As the

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interview proceeded however, Stewart reflected on how both the negative events and ongoing process of re-evaluation were present, albeit via a form of indirect representation:

> Stewart: [My major life events] were extreme. […] We had both grandparents, two grandparents die in the past year, which was, when it comes to it, one of the whole reasons we moved back to Michigan a few years ago. So it's an exceptional year from that standpoint. So, those are going to eclipse anything else that would have normally happened in a given year. […] [also] I have a whole career shift going on right now, which is overlaid with that. […] Just beyond that scope, I was laid off from my job. […] So everything together is sort of changing […] If we are looking at the past year, really it's more so about defining where we are going with what life is. Because of the relatives, because of the work, and then also with our kids. It's very much been about defining where balancing those values. I would say anything that's significant this past year falls under that broader category.
>
> Interviewer: I'm curious if any of those life events are represented in your photos in anyway, or if they're not represented.
>
> Stewart: Both. With respect to my grandparents, completely unrepresented. I would say the reason is only because I'm the one that's usually behind the camera. And I'm not going to... So there aren't pictures related to most of that. The other sort of flip side to that is for my own dealing with emotions, in that scenario, I don't deal with them through photography directly. Indirectly, I completely ramped up the amount, number, and type of photographs I'm taking of the children. Because that is the shift in value, not shift in value, but focus in value in there. It is in essence the focusing of the energy. So, kind of the healing energy from loss is been more focused in the idea of life in the children. So that has gone way through the roof with the amount of work that I do with the kids.

The above examples demonstrate why important but emotionally complicated biographical events are sometimes excluded from VHM representation. In addition, Helen's and Stewart's cases show how the process of exclusion can itself have important biographical ramifications. For Helen, this was avoiding putting a symbolic conclusion on a set of relationships. For Stewart, this

was the channeling and refocusing of VHM energies into related but indirect representations, which Stewart characterized as a "healing force."

5.2.5. Breakdowns in Representational Management Practices

The prior section demonstrated exclusionary practices that served specific biographical functions for the study participants in question. However, at times exclusion may not indicate an intentional or functional choice; it can also signify a breakdown in representational management practices. This type of breakdown was not common in the study data. There was however, one clear example – the disruption of Donny's photo practices by the death of his father. In the quote below, Donny reflects on how this event altered the amount of VHM photos that he shot and shared, and what sharing photos of his father at that point might have meant:

> Donny: You would see this huge drop off [in my photo activity] after my dad died. And it was way after he died, it was when my, the photos that I was dealing with got to that time. […] Because then all the next few photos I think are you know, my dad looking skeletal. And I realized to put them up, even if I just shared it with just family, was to *do something*.
>
> Interviewer: Do something?
>
> Donny: It was an *act*. Generally like a lot of these acts are sharing acts. […] But its like, to put up photos of my... I didn't want to be tacky for one. But it was some of the more important photos of my life, photos of my dad looking like he's going to die.
>
> Interviewer: So you took photos?
>
> Donny: Yeah. […] Not very many, but yeah, yeah I did.

In the interview segment above, it is important to note that Donny did in fact take photos of his father near the end, generating photo documentation for himself, and potentially for other family members. Thus the issue was less of creating

representation than of utilizing those representations. Sharing, in this context, was not a trivial step, but "an act," filled with familial significance.

As the interview continued, Donny acknowledged that he had not yet figured out how to address the issue of sharing, not simply because the experience was "negative" but because of the need to navigate issues of tact and appropriateness. Thus the breakdown was not simply the result of a negative event that the participant wanted to avoid representing. Rather, it was the result of a major life event that participant found extremely challenging to represent *correctly* and *respectfully,* fitting for the magnitude of the event, as well as his social milieu:

> Donny: I think I truly stopped putting things on Flickr [for a while] because the next photos I had to put up were of my dad. […] And I think that was just... You know what, it's something that normally stops me, but maybe it's some sort of like a perfectionist element which says, "Oh, I don't want to do that right now because if I do that then I need to write something. I need to include with my photos some writing that kind of captures the moment." And that's a lot of work and a lot of emotional attention that I didn't want to attend to at that time.

Based on the interview and on-going observational data, it may be that this episode caused not simply a breakdown in Donny's VHM practices, but a long-term reconfiguration of them. Though months had passed, Donny's ongoing challenges with addressing the public representation of his father's passing was still impacting his online photography, changing the amount, frequency, and organization of his photos:

> Donny: I intended in the past to put things in chronological order. I stopped doing that. I stopped putting things in when I was faced with that dilemma because the next thing chronologically were pictures with my dad. Now, I am in a point where I don't care anymore about being chronological.

5.2.6 Representational Management: Summary

In this chapter section, I discussed findings related to the type of VHM biographical work that I have labeled as *representational management* – the selective generation and use of the informational and symbolic aspects of virtual home mode photography. In particular, I outlined five themes in the data related to this type of work: a layer cake model of decision making, the shifts and expansions of representation in the VHM, variations of representation based on individual usage and circumstance, the nuanced meanings behind exclusion and indirect representation practices, and potential of breakdowns to occur in the representational practices of VHM producers.

Along with procedural work, representational management is a necessary layer of VHM biography work, underpinning connection, introspective and interest work. As with procedural work, representational work overlaps with these other types of work. Many of the decisions about representational management involves more detailed considerations about the intended audience or audiences of an image, how they may interpret it, and what connotations with be associated both the content of a picture and the act of sharing it. With connection work, this intended audience is external to the producer; with introspective work, the audience is internal. In the next two sections, I examine these types of work, building on the findings presented thus far.

5.3 Connection Work

Much of the research on home photography since the 1960s (both during the film and digital eras) has emphasized the communicative character of home media. Based on this literature, I anticipated seeing social and communicative interactions in the virtual home mode. This expectation was reflected by the sampling protocols, in which I advertised for and recruited participants that had been engaging in the *sharing* of their digital photos for at least one year. Yet once

coding of the data began, it became apparent to me that considering all of the myriad social interactions in the VHM as communication was only a partial description. In addition, the term "communication" took on connotations in this context that were only partially accurate. In particular, it seemed to suggest a transmission model in the VHM, in which a distinct message is intentionally transferred from sender to recipient via photos. While this type of direct interaction did appear at times in the study data, numerous additional cases also arose which challenged the validity of using "communication work" as a primary analytical category.

Rather than just communication of specific information, this broader class of practices also included activities such as non-reciprocal interaction, photo sharing conducted in response to a sense of social obligation, and photo work which served hypothetical audiences (present and future), rather than actual recipients. Yet there was something that grouped both this broader set of practices as well as explicitly communicative pursuits. The common thread was that all these practices were intended to build, maintain and support various forms of social ties between VHM producers and their external audiences – these were practices supporting not just communication, but *connection work*. This change in characterization is a subtle shift perhaps, but an important one, in that it allowed me to unify a variety of related social, communicative and technical work into one analytical grouping.

In this chapter, I address and illustrate several themes related to connection work in the virtual home mode[4]. I begin by discussing the opportunities current technology presents for new forms of communication, such as biographical co-presence. Next, I show how both acts of sharing and acts of production are supportive of connection work. I then present several aspects of audience

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[4] Earlier versions of several points presented in this chapter section (particularly those in sections 5.3.4, 5.3.5 and 5.3.6) originally appeared in: Cook, E. C., Teasley, S. D. (2011). Beyond Promotion and Protection: Creators, Audiences and Common Ground in User-Generated Media. In *Proceedings of the 2011 iConference.* (Seattle, WA, USA, Feb. 8 – 11, 2011). I gratefully acknowledge the contributions of my co-author Stephanie D. Teasley on the development of the points derived from that paper.

management practices, addressing how managing access to VHM photos and managing interpretations of those photos relate to connection work.

I conclude by highlighting a fundamental tension of connection work, which occurs between the work of documentation and the work of participation. Through highlighting these themes, I provide an account of connection work that is generally supportive of earlier literature on these topics, while contributing additional contextualized descriptions of new practices, and situating these practices in the more general framework of VHM biographical work.

5.3.1 Communication and Biographical Co-presence

Despite the aforementioned need to frame this class of work via the broader label of "connection work," various communication practices were indeed apparent in the interview and observation data, often conforming to themes present in prior literature on uses of personal photos in both the home mode and VHM. For instance, it was fairly common for study participants to provide accounts of communicative practices that cast photos as resources to aid in retelling the story of some personal event. These accounts reinforced the concepts that photos provide both a common point of reference as well as location for sociality, previously addressed several times in the literature reviews in chapters 2 and 3. Participant Madeline, for example, discussed taking photos during a celebratory Disney vacation cruise taken with her spouse, saying:

> Madeline: Plus it was our fifteenth anniversary, which was big thing too. So I knew that I was going to care about recording it later. […] I was doing a little journal each night and I was keeping all these things and writing on them so that I'd be able to tell the full story you know...

As is indicated by the phrase "be able to tell the *full* story," in this example Madeline did not view the photos to be a complete message, but as a resource,

along with a journal and other souvenirs, which would facilitate the telling of a personal account.

A newer approach to photo-based communication that has arisen in recent years (emphasized often in the literature on digital photo usage, such as Kindberg, et al., 2005a & 2005b) is that of synchronous experience sharing or *co-presence*, the use of photo sharing to share an experience more or less as it was occurring. In the context of this study, we can conceptualize co-presence less in terms of functional descriptions, as some prior work has done (such as real-time coordination of location, for example), but rather as a form of shared biographical participation. For example, Helen presented an example of co-presence communication occurring during a vacation.

> Helen: [My husband and I] took a four-day, almost five-day trip to drive from Michigan to Louisiana. […] And we've never... done that before and that was just the two of us to do... Just that long of a road trip. […] We together decided to document it through our camera phones […] And through [posting camera phone shots on] Facebook, we kind of kept... Took everybody along with us through Facebook on our trip with us. And then I had a really nice digital camera with us, too. So that was a huge... I photographed my way through that whole trip. […] And in celebrating our 20th anniversary and being able to have our friends with us and then along with that, that being a trip to a part of Michigan we've never been to.

In particular, I draw the reader's attention to the mid-point of the passage from Helen, in which she describes that through frequent photo posting, she "took everybody along with us through Facebook on our trip with us." In this framing, co-presence is not just a way of providing synchronous reports of activity, but method of inviting active participation from remote friends and family. It is worth noting however, that the co-presence aspect of this trip was problematic for some key participants. In the same interview, Helen also described what occurred when her teen-age son joined in the trip part way through:

Helen: Our son would let us know once he joined us that he wasn't okay with it and we stopped […] When [our son] joined us, we picked him up and drove him home in about 48 hours into it. We told him that's what we're doing in about 48 hours into it, he said, "I have had enough and I don't feel like I'm on this vacation with you." […] So we shut it down. […] He let me still take the pictures. He knows how important photography is to me. But we shut down the Facebook. [laughter]

This tension between the overlapping needs of photographing, sharing and actually experiencing biographical events emerged in several places during my analysis, as does the tension between obligations between local participants and remote audiences.

5.3.2 Sharing as Connection Work

Chapter section 5.2 focused on representation, the ways in which the content of photographic images have informational and symbolic meaning. Yet in the VHM, the *act* of sharing photos will at times have meaning and significance above and beyond the actual imagery of the photography. This is again a familiar theme from prior work on home photography, discussed at greater length in chapter 2. In the context of the study data, participants often portrayed photo sharing as social in nature, particularly motivated by a desire to "stay in touch," to maintain existing social connections.

Acts of sharing were not simply another set of examples illustrating "photos as a location for sociality"; I made note of multiple and recurrent complications to this interpretation. First, many participants conducted their photosharing via systems (e.g., personal web pages, .Mac accounts, etc.) that did not support additional social interaction, such as in-line comments, marking photos as favorites, and so forth. In some cases, this social interaction took place outside of the specific system through which the photos were posted. For instance,

participants Elliot and Doug both noted that they emailed or called family members to let them know that new pictures have been posted.

In other examples, study participants were uncertain whether the intended audience with which they were intended to share their photos looked at them, or even were able to access the system used for sharing. Participant Wanda noted that "I have a lot of my family in [my contact list on Flickr], but a lot of them, I can't tell if they look at it very often. My hope is that they would. My parents, they have accounts that they don't necessarily look at it as much as I would hope, and they could see all the photos; but…" Wanda's situation exemplifies a case in which the *act* of sharing should be considered connection work rather than communication. For many of her photos, she produces and shares with a particular audience in mind – her family. Yet she is unsure whether that audience is actually receiving; she has "hope" rather than verification. All the same, she persists with posting her VHM photos on a regular basis for this audience, demonstrating that message transmission is less important or less meaningful in this social context than the *gesture* of sharing.

For some participants, the act of sharing takes on additional social meanings, related to but superseding the specific the image content conveyed in the photos. For instance, Donny stated that he felt like sharing some of his photos publicly was a form of "boasting," but in a way that was "socially appropriate." This was an intriguing phrasing, and one that Donny returned to several times across the course of the interview. In some instances of this, he discussed how socially-appropriate boasting helped motivate or justify the public posting of his more private home mode images; the examples he first gave were framed in terms of parental pride, e.g. "Look at my great kids!" He later broadened his characterization, noting that he felt there was a "simplicity" underlying his public sharing, a request for attention and acknowledgement. Picture sharing, said Donny, conveys a blunt message: "Check out my f-----g photos!" Donny's choice of words reveals an interesting tension in this aspect of connection work. The term "boast" conveys a distinct sense of intentionality and sense of outward projection, while

simultaneously the act is restricted in character, limited to forms or channels that were "socially appropriate."

Beyond communication of facts, connection work can also be used to make subtle claims of worth and of importance. Though Donny may have been most direct in his phrasing, participants often related recording experiences photographically to sense of pride and accomplishment. However, the act of recording can also serve as a public signifier of value or importance; to take a picture of a portion of one's life carries with it the implication that one's life is worthy of recording. For instance, Eliza noted that she was not intrinsically interested in the *process* of documenting or production. Rather, she stated that she was most interested in being engaged in activities things *worth* documenting and sharing and having a concrete product at the end of the process. In the quote below, she interprets this as a common thread running through her photography practices, her professional writing and her artistic/musical endeavors:

> Eliza: The documentation thing. […] it's kind of that cliché thing where it's like, "live the experience and don't just record it." But part of the pleasure I get out of life is 'no way, I'm recording this.' I really like when something cool happens, something I could take a picture of it. […] it's not that I like taking pictures though. I mean, I'm not like a photographer person who knows my camera […] [Similarly,] I do not enjoy writing or recording music. But I really like once it is done and like, here's the record, you know. […] And now there's something to document. Like, something's happening which I can document.

Both Donny and Eliza's accounts echo a point from Sontag (1977) first discussed in chapter 2, that to photograph something is to legitimize it and claim it as important. For both participants, these underlying claims of importance or value are done in a social context with an audience in mind. Thus acts of documenting and acts of sharing are often intertwined in serving the goals of connection work.

5.3.3 Timeline Production as Connection work

In addition to the act of VHM sharing having significance and meaning in the setting of connection, so too does the act of VHM production, the taking of photos. This was particularly visible in examples of what Van Djick (2003) termed as "timeline" personal media production, in which individuals engage with time periods other than the present, setting up future connections and connecting to one's history. As noted in chapter 2, Chalfen (1987) and others have discussed the "evidentiary" nature of home mode photography. In the context of connection work, future-oriented timeline work often involves the production of evidence, "writing forward" desired memories (to use van Djick's phrase) for hypothetical future use.

In the study data, evidentiary production was most commonly done for children by parents or older relatives. This was done to record the children's lives for them, representing what their relatives thought the children's future selves would want to remember about their childhoods. In addition, the act of production was also a more symbolic gesture of love and attention, as illustrated by this exchange with participant Mona, who was discussing the personal meanings of her VHM photography:

> Mona: It's a record of my life and my kid's life, especially since so much in my photography is of them. It's my record, because I'm terrible at keeping a baby book. Like I said, I don't scrapbook. So, this is kind of my visual scrapbook of their life that I hope 20 years down the road, it'll be like, "Look at these 50,000 photos I have of you!" [chuckle]. So, there will be that.
> […]
> Interviewer: Do you think you are in some way taking a record for them or is it more...
>
> Mona: Yeah. It is a little bit for them. […] Like, when my lamentations though about printing versus not printing... Because all this is digital. I wish that I had some kind of tangible record on this that I can give them, as a sign of love... Looking there... Especially

when I was a kid. I love looking through our old photo books of me when I was growing up and so, yeah. […] I do think that it's partially for them, partially for me. I think that... I want to have all this. I want to be able to see a hundred pictures of my daughter eating yogurt, I guess. [chuckle].

Several interesting points are apparent in this excerpt. One is that Mona notes that her photos are both for her children and her, for other and for self. This portion of Mona's account provides reminders of two themes recurrent throughout chapter 5.   First, that VHM images can address multiple audiences, and second, that the same images can also be repurposed for different types of biography work. Both themes will be addressed at greater length later in this chapter. I will return to discussions of self-as-audience in the section 5.4, Introspective work, and discussions of managing multiple external audiences in sections 5.3.5 and 5.3.6.

In addition, Mona expresses ambivalence about whether her digital photos will ultimately serve the same symbolic functions as the "tangible" photo albums of her youth. This issue, left unresolved by Mona, speaks to the themes of continuity and change in the VHM that this study was designed to address. The core impulse to engage in timeline production (as in Mona's desire to record her children's lives) certainly predates digital technology and connects Mona's practices and motivations to film home mode photography. But yet not everything about timeline production in the digital era is the same. As noted in 5.2.2 and 5.2.3, more is being photographed in the VHM than prior eras; in addition, digital images lack the physicality and accompanying patina of film photography.

Will these changes add or diminish to the symbolic uses of VHM photos in the future? It is hard to know, though the uncertainty is also emblematic of the nature of timeline production. All timeline work is a combination of bet and prediction, built around an underlying assertion of "I'm guessing that someone will want this someday." At the same time, timeline work is also a type of forward-directed sensemaking, helping create

the future interpretations via selective representation of the present. The VHM production being conducted now generates the evidence that allows future biographical claims to be made; in this way, the evidence both expands and constrains those future claims.

As with all kinds of biography work, timeline production takes effort, and is not guaranteed to succeed or even take place. In her comments below, Evelyn emphasized how evidentiary production can be a thankless task, as well as again illustrating its role as connection work, situated in a particular set of social relationships and done to help support those relationships:

> Evelyn: I tend to be, in a group of friends or something or family, I'm the only one really with a camera usually. So... And sometimes I feel like, "I'm doing you guys a favor... You know... So, you can all look back at this." But again, I feel like, with the kids in particular... My niece and nephew... It's important to be able to share that with my cousin too, because I feel like she feels disconnected a lot of times, because she's not at a lot of events and she's so far away. So, I do feel like that's important... To be able to like share those moments and stuff with her, share those pictures with her. And my brother will thank me for it one day. [chuckle].

Madeline provided an example of frustrated timeline work, displayed in her regret of a missed opportunity for VHM production:

> Madeline: My brother and his wife had just moved in to their new house. My father and I spent the entire day painting their study, as well as ourselves. […] All of the nieces and nephews, the grandparents, everybody was there and their highland cattle that lived on the property. So we all went and throw apples to the highland cattle which above land of path piling cattle. And I didn't take any photos of any small children with the large furry animals or any painting or any, and yet it was a very big deal for me to be there and a big deal for my sister to drive all they way across the State to have dinner and bring her kids. And so, yeah, that would be something right -- just totally flick on the camera.

Interviewer: You wish you had the photos now and you just didn't get around to it?

Madeline: [nodding] Because a lot of the pictures that I have of the kids that I was showing you, they're all other people's photos. So my being there and taking photos is important to me, you know, even though 18 years later, they aren't going to care whose photos they were. […] I like the idea that I'm able to say, "This is when I was there with you", you know? And that I can't do that if I don't take the damn pictures.

Madeline's concluding statements reveal the implications of when timeline work breaks down or fails to occur. Without VHM evidence, the same kinds of biographical claims cannot be made or supported. Madeline would like to be able to demonstrate to her nieces and nephews that "she was there," part of a key shared biographical event, but will be unable to do so without the supporting evidence, "the damn pictures."

5.3.4 Audience Management Practices: Managing Access

Also present within the broader category of connection work were practices that participants used to target, address and manage various audiences for their VHM photo sharing. In my analysis, I grouped these practices along two lines: *managing access,* and *managing interpretation*.   In both, I found illustrations of the intentionality of individual participants in engaging various audiences, as well as evidence of the mutual influence of audiences and creators on these practices.

Practices for managing access often involved procedural work decisions, such as selecting privacy settings in the photo sharing application or applications used by the participant in question. Beyond in-system decisions, however, access management also took place at the level of system selection and adoption. That is, participants chose which photo sharing system or systems they would use with regard to either the exclusion or inclusion of specific audiences.

For example, participants such as Kelli who had highly targeted audience models (not just restricted to "family" or "friends" but individual subsets of those groups) noted that they used Picasa as their photo sharing tool because it supported user-level access controls, allowing specific images to be targeted at specific sets of individuals without broadcasting them any further. Other participants with a sufficient degree of technical proficiency, such as Sameer and Stewart, spoke of accomplishing the same level of access control by creating password-protected HTML pages on personal web sites.

Exclusion and inclusion practices were dictated both by individual users' goals and comfort levels, as well as by feedback and reciprocal obligation to certain audience members. Participant Kelli's choice of Picasa as a platform for sharing was explicitly driven by the software's support for user-level access control. But this was not Kelli's initial approach to photo sharing. Instead, her restricted access audience model came about in response to her sister-in-law complaining about her niece's photos being public. Once Kelli received that feedback, the practice persisted, and now "…I've kind of carried that through in all my albums." In another example, participant Calvin described accommodating a friend's mother's preferences in regards to the sharing of wedding photos:

> Interviewer: It looks like by default you've got it set so that all of your [photos] are publicly viewable. Is that correct?
>
> Calvin: Right. [Although] sometimes I'll make them private or in the cases where they're … like my friend, J., when he had his wedding he asked that the pictures stay private. His mother was superstitious. But mostly I keep them public.
>
> Interviewer: Superstitious in terms of having photos taken in the first place?
>
> Calvin: Superstitious about strangers seeing the photos, bad luck coming to them. I have no idea […] it was very strange.

Several participants also spoke of adopting systems specifically because they facilitated a particular kind of *inclusion*, providing access to audiences that they found it hard or impossible to interact with otherwise. Participant Helen spoke with strong emotion of being able to share photos with an audience of remote family members with whom she had otherwise lost touch:

> Helen: Without Facebook, there's no way my nephew and I would ever have been back in touch, and there's no way I would of ever seen pictures of his daughter. She's 10 weeks now, and every week he sends us, on Facebook, posts with kiddie pictures. So, that's probably one of the hugest things on photography that Facebook has done [for me]. Because even electronically, he didn't have our email addresses. I mean, we had totally lost him, and we're back in touch, and we're able to, literally, week-to-week, see this baby. […], it's wonderful! I mean, it's huge. It's huge, because we lost... Half his life, we haven't seen him.

In this quote from Helen, we see how system adoption can itself be connection work.

Distinct from managing the known audiences of friends, family and peers were practices used to manage a generalized public audience of "the Internet." The study participants displayed a variety of attitudes toward public sharing, ranging from antipathy, to enthusiasm, to indifference. When this general audience was explicitly mentioned in interviews, it was most often raised as an explicit target for exclusion. These concerns were sometimes framed in terms of exposure and privacy; as participant Kelli stated "I [went to a more restricted privacy setting in Picasa] initially because my sister complained about having pictures of her daughter on the Internet *for all to see*." Madeline expressed a strong desire to exclude a generalized public audience, stating:

> Madeline: That's anti-motivational to me actually. If all of the tools out there forced you to share your shit with everybody, I wouldn't do it because it's not for everybody. Right. It's for me. Right. And it's for my immediate family and the friends that I just shared. […] I don't understand this sort of egotistical expectation [to public sharing] like that's what the world is moving towards. If that's the

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world then... I don't want to live in that world. I think people have better things to do at that time.

At other times, a generalized audience was invoked to raise questions about the general interest of a given photo. Kelli noted this in describing a picture shared only with family, saying "that's my dog's butt, not something people really want to see." In another example, Sameer discussed keeping photos from his sister's wedding functionally private because he believed family photos are "not of general interest." The concern for Sameer was not privacy per se however. His family remained in his native India, and he asserted that conceptions of privacy differed enough between US and Indian cultures as to remove this as a concern:

Sameer: I never generally post these kind of family pictures publicly so I just send them a specific URL so they can access them privately.

Interviewer: Would you keep this private because […] you don't know if the people in the photos would feel comfortable with it being public?

Sameer: It's not of general interest. That's one of the reasons. […] The privacy in US and India is totally differently. Probably they don't mind.

Interviewer: Can you explain how different?

Sameer: For example, I never ask the people [before posting their photos] […] They won't mind at all.

In the first case above, standard privacy controls were appropriate for addressing Kelli's sister's concerns. In the latter two cases, the issue regarding access control was not one of privacy but of perceived relevance.

Not all participants were opposed to public sharing practices, however. There were some individuals for whom sharing some of their photos publicly and widely was a viewed as a motivating factor for engaging in their photowork. Participant Donny expressed this viewpoint by stating "On iPhoto on my machine,

[…] [my pictures] are just clutter. Up on Flickr -- organized, sharable. Then it becomes useful, then it may become interesting. [When shared] they kind of serve a purpose." We saw in section 5.2.5 how Donny's representational practices were disrupted by the challenge of negotiating how to post pictures related to his father's death. His emphasis in this quotation on his need to share photos in order for them to "serve a purpose" underscores the impact that disruption caused for him.

For others, public sharing was in largely incidental to addressing their core intended audience (even if they left their privacy settings to allow public viewing). Margaret provided an example of this when I asked what led her to becoming a regular user of Flickr, her primary system for photosharing :

> Margaret: I think it was taking a trip actually. I think I started using it more regularly about the time I went to visit my brother in Leiden, in the Netherlands, and I borrowed my Dad's fancy Olympus. I wanted to be able to share those mostly, you know, most with my folks. A lot of what I do online as far as like social networking is secretly keeping my parents in the loop.

Here, Margaret identifies a primary VHM audience as her parents. Though elsewhere in her interview, she noted examples where her public photo posting served to support friendships and professional connections, a consistent and underlying goal for these photos is keeping her parents "in the loop."

5.3.5 Audience Management Practices: Managing Interpretation

In addition to managing audience access, study participants also engaged in various practices in order to manage their audiences' interpretation of their VHM photos. In particular, producers leveraged two aspects of their relationship with an audience to accomplish these goals: shared history and shared frame of reference. Each of these could be drawn upon to direct an audience toward the desired meaning and value of a photo. In addition, several cases illustrated the necessity of

a viewer to share one or both with the producer in order to accurately and completely understand the meaning of a photo.

The presence of a shared history allows for that mutual context to be leveraged in order to load a photo with implicit meaning. Shared interpretive frames allow the creator to assume that the audience will be engaging in the desired interpretation. Though similar, these two considerations are different in important ways. The following examples illustrate the distinctions across several combinations of shared history and shared interpretation.

Several examples of fairly mundane imagery took on new depth of meaning when considering the shared history of producers and their intended audiences. For instance, participant Sally stated that moving into a new apartment was a major event in her life over the past year. She documented and shared this event by posting photos on Facebook as well as emailing them to select individuals. Given that many of the photos were of seemingly mundane details of the apartment, I probed further into the context of this life event. She responded by highlighting one particular image: "Oh! Yeah here is [my son's] closet. […] I e-mailed those to the [his grandparents] cause they helped us get this apartment."

Figure 2: Photo of son's closet, shared online by participant Sally [5]

Though not publicly stated, Sally had received assistance from her son's grandparents, which it made it financially feasible for them to move into the new apartment; an apartment, which among other features, allowed her teenage son to have his own closet for the first time in many years. Thus knowing the back story of the apartment changes a documentary photo of an empty closet into a gesture of reciprocity, obligation and thanks, and reveals it to be a more creative approach to communication than its mundane appearance may have first suggested.

[5] Image credit: Photo provided by study participant Sally, used with permission.
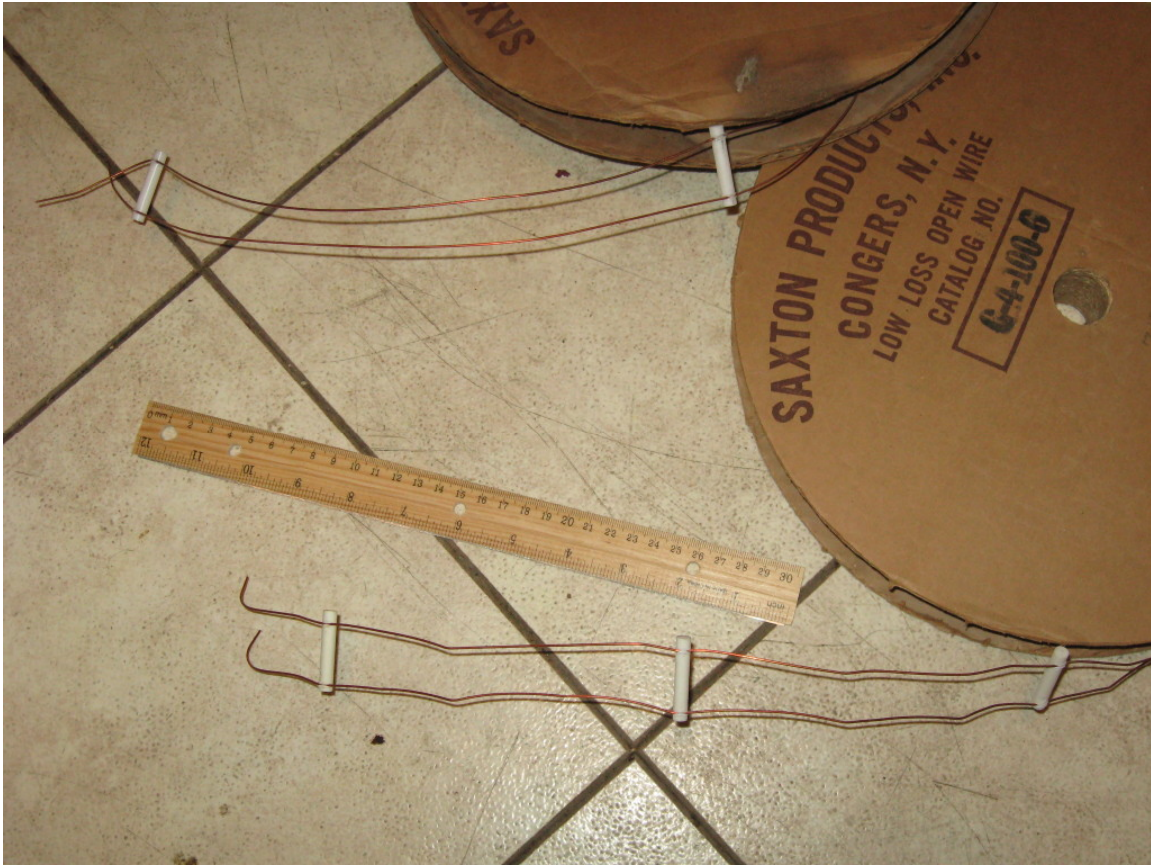
Figure 3: Photo of transmission line, posted by participant Sameer. [6]

Participant Sameer often used his photos to participate in an online Community of Practice of amateur/ham radio operators. Sameer's audience in the ham radio community does not share the same level of deeply personal history as Sally did with her in-laws in the previous example. This online community is a larger and more generalized audience, to which Sameer has less intimacy and less one-on-one interaction. Yet his interactions with this community highlight the importance of a shared interpretive frame for valuing particular VHM photos. In the context of the shared traditions of their hobby, Sameer can assume that he and his fellow hams will value many of the same objects and activities. Thus when sharing photos related to his ham radio projects, Sameer was confident this community would interpret and appreciate them appropriately.   For example,

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[6] Image Credit: Salim VU2LID / N8LI. Used under GNU Free Documentation License guidelines.
 Image source: http://shipwreck.yi.org:8080/images/albums/ham/usa/n8li/t_img_2373.jpg

Sameer discussed posting pictures of a rare piece of gear (see figure 3 above), and how the other members of his hobby community would find it useful and interesting:

> Sameer: This is something very interesting, a specific kind of transmission line. […] this was probably being used in 1950s. So it's very difficult to get now and nobody uses it these days, but I was able to find it during a radio festival. […] I thought I would take pictures of this and send it to the discussion group -- we have a group who are interested in all these things -- so they can see how it is constructed, so if they want to make it, they can. […] This will be of interest to anyone who is trying to make this particular thing. It will also be of interest to people who have not seen it. It's a very rare find. Nobody sells it or manufactures it.

Yet the same enthusiasm and valuation for the pictures related to his hobby—the same interpretive frame—was not shared by Sameer's family, despite his strong relationship and deep personal history with them. In reference to his hobby, Sameer succinctly noted: "[my family]…generally they are not interested in the same thing." Further discussion of how participants' photos' were used (and often, repurposed) for their hobby activities will be presented in section 5.5.

In addition, sharing both history and frame can be mutually supportive to create common ground between creator and audience. Participant Joan described one such case while discussing photos taken at a friend's wedding and the context of those photos: "[…] they have a whole lot of family issues. [The bride's] parents announced that they were getting divorced two weeks after [the bride and groom] announced they were getting engaged. So just like seeing everyone happy and her dancing with her dad, I knew that was important. I've known her parents since college as well.[…]." Joan's shared history with both her friend and her friend's parents (including their marital issues) combines with the positive framing and shared symbolism of the traditional father/daughter wedding dance to create an image rich with meaning for photographer and subjects alike.

5.3.6 Audience Management Practices: Leveraging Multiple Interpretations

The terms "context collision" or "context collapse", appearing in recent papers such as Boyd (2006) and Marwick and Boyd (2010), are used to refer to the mixing of an individual's previously distinct social worlds in online social software contexts. Such situations have in fact been held up by some as a key characteristic of current social networking services such as Facebook, and as can be inferred from the terms chosen, are not necessarily considered to be positive occurrences. In contrast however, this study's participants did not necessarily characterize the need to manage multiple audiences as a burden or negative issue. For some participants, the ability to interact with and share photos across multiple audiences simultaneously represented an opportunity.

For instance, when Helen was asked if managing the audiences of co-workers, personal friends and remote family felt like "worlds colliding," she responded by saying:

> Helen:　　　No. I don't see it as a collision. I see it as just as this melding that's wonderful. […] all my different worlds coming together, having moved away almost 18 years ago from Louisiana, lived in three different parts of the US, it's magical to me that all these people coming together [laughter] […] I find it fascinating that my friends from Connecticut are having conversations with my siblings and my friends from Detroit.

Other participants were less focused on the opportunity to combine multiple social spheres as they were on the possibility to convey multiple messages to multiple audiences simultaneously via their photos. This can be illustrated via two similar images that were discussed in interviews with participants Donny and Margaret, each posted publicly on Flickr.com, and each depicting a new office space.

Figure 4: Photo of office space, posted online by participant Donny[7]

In the first case, Donny discussed a picture of his new office space, posted on his Flickr account. This participant had recently left his job, and had begun to pursue freelance consulting. The messages that he intended to convey via this image deliberately depended on the viewing audience. For a set of geographically dispersed family members, the image was to indicate that he was coping emotionally with the loss of his job, and moving forward. For an audience of local professional and casual friend contacts, Donny said he intended the office image to be interpreted in conjunction with other images he posted around the same time, showing activities such as trade luncheons and industry workshops that he would not previously have had time to attend. In Donny's account, these images were public signals that he was available but also still professionally active, without having to explicitly state that he was unemployed. Donny labeled this as "sideways" maintenance; through an awareness of how each audience would interpret the image, he felt he was sending distinct but related signals to both of

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[7] Image credit: Photo provided by study participant Donny, used with permission.

these audiences at the same time, but without the social embarrassment of having to address the topic head-on. In Donny's words, the office image was "doing multiple things at once…like a good book."

In the case of Margaret, the image was of her in a new cubicle at work, accompanied by the brief descriptive caption "my new office." The text and photo were chosen, she said, to cast it as an "announcement," a small bit of "news" that would be of mild interest to the mix of family, friends and casual acquaintances that made up her Flickr audience. Yet despite the innocuous nature of this announcement, she also intended the picture's message to be especially relevant for "people who know me well." For that group of viewers, Margaret stated she was relying on their background knowledge of an ongoing but private conflict she was having with her old office-mate. Posting a picture of a new office was intended as a signal to this more intimate audience that the issue had been resolved. Aware that some of her other co-workers might look at her Flickr photos, Margaret said she relied on those with the appropriate shared background to infer this more subtle bit of news.

Both these cases illustrate that by consciously and deliberately leveraging the multiple interpretations being brought to bear on these images, Donny and Margaret were not only able to avoid a "collapse" of contexts, but benefit from the presence of multiple concurrent audiences for their VHM photos, constructing layers of meaning. These two examples, as well as those in sections 5.3.4 and 5.3.5 also reinforce a broader point, first flagged in 5.2.2 – both the meaning and the value of VHM photos is highly localized, requiring these images to be understood within a particular set of social relationships, shared histories and shared frames of interpretation. Connection work, it seems, is *contextualized* work. This appears to be not only a key characteristic in describing VHM biographical work, but also a key challenge for researchers and designers engaging with VHM practices. Online digital sharing and storage give us access to a wider set of individuals' photos than ever before, but they do not necessarily grant us access to the context required to understand and assess those photos.

5.3.7 Tensions of Connection Work

A core tension of connection work is highlighted in the context of production practices, related to the limited attention resources of any individual -- if you're busy taking photos, are you really *connecting* with the social context of that moment? As noted previously, the act of taking photos can itself serve as a form of participation, as a gesture of interaction and inclusion, above and beyond the specific representations in the photographs. But this type of involvement does not always serve connection work. In fact, several study participants highlighted a counter aspect, expressed succinctly in Madeline's description of her family's mixed attitudes about photos as "if you're taking pictures, you're not participating":

> Madeline: The other thing about photos is my family has a very sort of love-hate relationship with photos.[…] Because of grandma and her compulsions and relentless photo taking. My parents' response to that was to never ever take any photos. […] And it was sort of bad to take photos even. And then I started doing scrap booking and having lot of fun with it and decided that I didn't care about that attitude anymore. […] So, but there's still some of that, that if you're taking pictures of it, you're not participating. There's definitely some of that and especially my mother is very, like she is, because all of her kids takes pictures compulsively now, she's sort of being forced to accept […] but she's resistant.

Madeline's family's attitudes toward photography and participation were by no means theirs alone. An earlier example appeared in section 5.3.1, during participant Helen's description of sharing the experience of a family trip via photos posted on Facebook. Helen's teenage son eventually asked the experience sharing be terminated, complaining that "I have had enough and I don't feel like I'm on this vacation with you." Real-time wireless photography sharing may have allowed Helen to engage in remote co-presence with her Facebook network, but it clearly conflicted with her son's perception of physical co-presence.

Participant Evelyn expressed a similar sentiment, describing her internal conflicts between wanting to be focused on the experience of a holiday and the desire to retain a photographic representation of that holiday:

> Evelyn: You know, like Christmas. I don't want to sit here and take pictures of all of the kids opening their presents but, at the same time I want the pictures, so...
>
> Interviewer: And if you don't do it?
>
> Evelyn: Right. Then no one else does. [laughter].

Attention is a limited resource, regardless of the specifics of social setting and audience. The production of VHM photography often requires a form of split attention, between attending to a desired moment and the work (procedural and representational) required to create an image of that moment. Nor is this tension limited to connection work, reappearing in a similar fashion in section 5.4.

5.3.8 Connection work: Summary

In this chapter section, I discussed findings related to the type of VHM biographical work that I have labeled as *connection work* – work addressing the social and communicative aspects of VHM photography in order to build shared experience and interpretation with audiences external to the photographer. In particular, I outlined seven themes in the data related to this type of work: communicative co-presence, sharing as connection work, timeline/evidentiary production as connection work, managing audience access, managing audience interpretation, leveraging multiple interpretations, and tensions of connection work.

Connection work includes communication practices, but supersedes them, indicating any biography work that addresses audiences external to the producer. As such, the findings presented in this section are generally supportive of earlier literature on home photography uses, extending rather than disputing the work discussed in chapter 2. Correspondingly, I have not dwelled on examples from the

data that duplicate earlier work. Instead, I focused on themes that reveal new or expanded understanding of connection work, contributing additional contextualized descriptions of practices, and situating these practices in the more general framework of VHM biographical work.

As in the accounts of procedural and representational work, there is not a sharp delineation between connection work and the other types of VHM biography work. A given photo, a social interaction or particular practice can serve multiple biographical functions simultaneously. The accounts of Donny's and Margaret's office photos presented above illustrated how connection work can address multiple audiences concurrently; Mona's timeline production similarly illustrates how connection work can also be introspective work, addressing both self and others.

Connection work also forms another building block for the larger model of VHM work. Just as the procedural and representational layers were necessary for underpinning for connection work and introspection work, so too will connection work in particular be necessary for underpinning the more optional layer of interest/hobby work.

5.4 Introspective Work

In contrast to the outwardly focused connection work, introspective work delineates internally directed activities, biography work practices that addresses *self as audience*. There were two main themes in this area of VHM biography work: memory practices and mindfulness/perceptual work practices. Memory practices included both the triggering and retelling of memories, in various ways. The presence of memory practices was not itself unexpected, given the importance of the broader theme of memory in the photography literature. Yet, new and expanded practices related to the affordances of digital media were apparent.

Examples of mindfulness and perceptual practices were particularly apparent during the acts of taking and organizing photos. For example, one

participant discussed how photographing his son's soccer games caused him to "see" in a new and more detailed manner, changing his perception of the events. Other participants also described the process of photography as a way a "seeing" and "knowing" the world around them. These accounts recast the *act* of taking photos as a form of perceptual work, and in at least one account, point out how photography practices may also serve as a process for self-management. Across all these practices, introspective work supports individuals' personal understanding of their lives in the moment and their biographies over time.

Though there was less explicit discussion of introspective themes in the interviews than those related to procedural, representation and connection work, it did appear on numerous occasions. Perhaps we should not be surprised by the presence of introspective work in the data, because as indicated in chapters two and three, photography theory and criticism has long associated the topics of photos and memory. However, the work focusing on the home mode often presented a different emphasis. Chalfen's (1987) original account of the home mode focused on social/communicative acts to such a strong degree that he expressly excluded psychological explanations. Within the context of this specific study, I recruited participants by deliberately screening for individuals engaged in online photography sharing. A focus on communicative/social action was thus built into the selection protocol. Similarly, much of the interview protocol was framed by a primary focus on communicative and social uses of photography, drawing from Chalfen's earlier work. Yet introspective work *still* appeared in participants' accounts, emphasizing the importance and persistence of these practices in the VHM.

The appearance of introspective practices is more broadly revealing as well, since their presence provides a tonic against the oversimplified perspective of "everything is (or should be) social and public" that appears frequently in the discourse around current social media systems. The presence of introspective practices inside the context of "social media" indicates the deeply interrelated nature of private and public media, as well as their accompanying practices of

production and use. Just as the presence of connection work underscores the importance of the social, the presence of introspective work underscores the importance of the non-social -- the personal and internal.

5.4.1 Theme: Memory Practices

Photography has long been associated with practices of memory, and the interview data for this study was no exception. In numerous participant accounts, examples appeared that fit a standard conception of memory, and what photos can do to support it: assisting with clarity, recall and specificity. For instance, participant Sanford discussed how his photos of his trips can aid in his recall years after the fact, stating:

> Sanford: I like [taking pictures on trips] for memory because it serves as my memory after this [...] After I get home and a month later things get a little burry… [but] now these days, I was starting looking at pictures that were 50 years ago and wow that's right, there it was. […] If I have the pictures -- yeah I got it.

When memory support practices were discussed, participants sometimes reflected directly on the parallels between the uses of traditional film photography and more current digital media. For instance, participant Brian discussed the ways in which the photo-management software he had programmed for himself supported various aspects of his memory of events, both generally and specific, drawing a clear comparison to more traditional photo albums:

> Brian: I know when I started taking digital photos and I was doing my previous [software] which was called Photo Journal. Very descriptive. I found after a couple years of doing it that I really liked it, in the same way that people liked photo albums, because it gave me a sense of time. I could go back and I could see something and I knew what it was. I remembered the event, but I had no idea when it was. And so now I find it and – "oh my God that was three years ago." [My new software] works the same way for me. Sometimes I'll

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just sit and scroll through the pages of thumbnails remembering my
timeline.

Yet a reliance on external memory support via photos can become brittle as
well, as illustrated by another point from Sanford's account of his trip photography:

> Sanford: There was one trip we took, it was a wonderful trip. I
> took almost 60 rolls of film, a couple thousand pictures and they
> were stolen except for the last roll. So a lot of that trip feels gone to
> me.

Sanford's incident occurred while he was still engaged in film photography, but the
point still holds -- when pictures are missing or destroyed, their introspective
functionality is gone. Worse yet, the loss of photos can become a symbolic loss in
its own right.

New possibilities for memory support are opened up by the affordances of
digital technology, above and beyond what can be offered from traditional film and
paper albums. As in other contexts of digital media, VHM photography provides
additional opportunities for labeling, organizing, categorizing, search and reuse.
Participant Joan addressed several of these changes during her interview, in which
she discussed the changes in her photo practices over time:

> Joan: As I was saying before, I used to take film pictures, I
> would take them and put them in a photo album – I might look at
> them once, I might show the album to someone once and then it
> goes in a cabinet. I just pulled out my baby photos to start scanning
> them – I haven't looked at those in years and years and years because
> they're in a photo album. So I think it's just really interesting now…if
> I put my baby photos on here and I make it into a screen saver then,
> all of a sudden -- hey look, there's [Joan] as a baby. […] I started
> doing this when I was a broke college student so cheap was good
> and fast and so that to me is huge.

In this interview segment, we see how the cost of production and ease of access
change Joan's perceptions of her VHM practices. But in addition, her mention of

her photos appearing on her screensaver is an interesting point. By facilitating serendipitous access, we can see how current technology allows for new modes of interaction with photos, which can trigger memory and interpretation of images in new ways.

But we know that human memory is an active process, involving not just triggering and recall but also active reflection and reconstruction, the savoring of past experiences and perspective taking on the meaning of events. In discussion on her goals for her photography, participant Maria highlighted these types of reflective memory practices as being of primary importance for herself, both now and in the future.

> Maria: [my photos are] a time to reflect and think back and see the changes in the grandchildren and maybe count my blessings. I mean, all I have to do is go look my pictures and my terrible day becomes a wonderful day. [Laughter]. […] To just look back and remember… Time… Life goes by so fast, and sometimes, we don't have enough time to really savor the moment. And it's kind of like letting time stand still a little bit.

The process of organizing photos was another recurring example of active memory practices in the VHM. During organizing, participants are reinforcing the experiences represented in their photos, as well as reinterpreting them through their current circumstances. The process of organizing is a curatorial process, requiring decisions about retention and classification; the photographer is continually moved between reflecting on memories and creating new memories.

In a few cases, the participants themselves articulated the importance of organizing as an introspective practice. For instance, Wanda noted that when she went through her photos to organize them for labeling and posting, "it's also for me, because it is a way of… *sort of sorting my days*, which can be a blur sometimes." Note Wanda's use of the word "sorting" here, rather than "recalling." The issue she is addressing is not remembering her recent past, but making sense of the "blur" of everyday life.

More frequently, the importance of organizing as an introspective practice appeared tacitly in the interviews, though it was still present. For instance, participant Elliot spent a good deal of our session together describing his organizational steps in detail, in many ways focusing on a strongly procedural account of his photowork. While the interview was in progress, I wondered if any of the data would be relevant to the biography focus of the study. While writing up an analytical memo after the home visit, I began to realize that his procedural emphasis was a form of evidence itself – it illustrated what Elliot felt was most important to *him* about his practices. Elliot's procedural steps of organizing were also an introspective practice because it was a curatorial act, an act of sorting and prioritizing photos that also invited (and to a certain degree, forced) him to reflect on what he was saving and why. The task for me as a researcher was not to dismiss his account as irrelevant to my interests, but instead to respect what the participant was telling me and then consider how it fit into the broader framework emerging during coding and analysis.

5.4.2 Theme: Photography as "Seeing": Mindfulness & Perception

Other participant accounts revealed how additional aspects of procedural work also served as introspective practices. In particular, several participants described the act of taking photos in terms that emphasized perceptual changes. Engaging in photographic production, for these participants, caused them to "see" and "know" people and events differently or more deeply. Thus we can see how a procedural practice is also an introspective practice, leading toward a state of mindfulness and attentionality.

For example, when Sanford was asked about what benefits he received from engaging in his trip photography, he highlighted themes of focus and awareness:

> Interviewer: So this is an intentionally broad question. What do you feel like you get out of taking photos on your trips?

Sanford: Several things. One of them is it organizes me. It focuses me. I look at things better. I'm aware of when I'm using a camera than when I'm not because I really start thinking about hmmm what is here? And I like close-ups, so often it gets me to look closer at things. I take flowers and some strange tracks in the ground and that kind of stuff that you see that you might not notice as much. So I like that it focuses me. And I like the way it looks in terms of what looks good together and what's the best place to look at something from. […] It's like here these kids…we're in a small town in Tibet and these kids go by and taking their picture got me to pay better attention to them. [...] I just really like it.

On several occasions during her interview, participant Helen referred to "taking snapshots" in her head, and "seeing in pictures." When I probed on that topic directly, she related the following experiences:

Helen: I think that's why my dad gave me a camera when I was 15. When I see scenery, or I see images that are really beautiful to me, or things that are goofy, I see it as, sort of, like a photograph. I can kind of, stop and see it, and when I pick up a camera, I can capture it then. It's like I see... I finally realized that other people don't do this. I see things as snapshots often. Not everything, but there's just certain things that, I sort of, capture and keep [...] In my head.

Interviewer: In your head, do you have almost mental snapshots of events and things and...

Helen: Yeah, because I remember them later. I mean, they move to the back, and I have kind of a typical life with family and friends, but I'll remember it, and sometimes I'll go back to it, or literally, physically, go back to taking that picture. Yeah.

In her response, Helen related two distinct but related aspects of introspective work -- the perceptual aspect of "seeing" snapshots before her, and the ways in which these mental snapshots trigger for her a visceral recall, not only of the represented event, but the act of taking the photos.

Figure 5: "Seeing" framed through the act of photography, image shared on Facebook by participant Helen. [8]

Helen also noted how the ubiquitous access to a camera on her cell phone was allowing her to actualize these "mental snapshots" more readily, leading both to changes in her introspective practices, as well as facilitating related sharing and connection work:

> Helen: Back to this... Having a camera in my phone. Yeah, I'm just really visual. I'm always taking snap shots in my head. So, now that I actually have a way to take them. Not only a way to take a picture more readily, and then layered on top of that with Facebook and even the Kodak piece... Know that I can really easily share them. It's sort of, a layered... I would say, that's all kind of, come together in the last year. [...] So, I feel like I'm saying I don't take pictures everyday, but I do. I'm thinking in a different way about taking and sharing.

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[8] Image credit: Photo provided by study participant Helen, used with permission.

Participant Stewart frequently took photos at his children's soccer games. While discussing this setting, he articulated his photography served as a process for self-management, as well as prompting a kind of flow state related to the technical, intellectual and social challenges of taking pictures:

> Stewart: There are a couple of different reasons. One reason I photograph so much at the soccer games, is otherwise I'll get antsy about the outcome of the game. And so it forces me to keep an emotional distance from the game. Okay. At the same time it gives me something to do. […] And then also, it's very much, one thing I find very fascinating is, sort of mind to body connections. Taking photographs is very, there's a lot of [dexterity]... Of those kind of photographs and the way I take them, there is a lot of manual dexterity that goes into it, between the way I have my camera set up, managing the lenses, managing the equipment, while shooting. And so when I am thinking about what I want to see in an image, I have to also be responding technically in terms of how I control the camera. So, I'll sort of sometimes have an idea of what I want to capture, and I need to make the camera do it. And then I need to know what's going on in the field well enough to be able to predict to know when I can catch it. Then also at the same time responding to what I see developing on the field to respond and try to figure out a way and try to take the picture that communicates not just as a record of what happened, but also as a way to try and capture something that goes with it.

In this passage, Stewart demonstrates an interesting balance in his introspective practices. He uses his photography to cause a form of deliberate distraction and distancing from the event, in order to manage his emotions and anxiety level. At the same time, his photography causes a very particular kind of focus, deriving from the deliberate balancing the myriad of tasks related to successfully taking a picture.

Though this theme only appeared explicitly in a small number of the interviews, it was intriguing nonetheless. As with the process of organizing, the act of taking photos forces us to literally "frame" what we are seeing in a deliberate fashion. At risk of over-interpreting from limited data, I suggest that all of the

deliberate (that is, non-proceduralized) decision making processes of VHM biography work may be introspective acts, to some degree. On some level, each decision must force an engagement with a subject, an image and an intended audience. Thus through the process of creating external representations, VHM producers may come to produce, shape and understand their internal biographies as well.

5.4.3 Fundamental Tension of Introspective Production

As with connection work, the limits of human attentional capacity generate a fundamental tension of introspective production practices. The tension here parallels that of connection work: if you're busy taking photos, are you fully *experiencing* the moment that you are trying to capture? It may seem that this question is at odds with the findings presented in section 5.4.2, which highlighted how photography helped some participants feel a greater sense of focus, awareness and attention. But we must keep in mind that the accounts provide in 5.4.2 are positive cases; not all participants necessarily felt the same way, and not all types of events and interactions will equally benefit. Secondly, we must be aware of selection bias in the accounts above. It may indeed be that the act of photography helped focus the participants on the subject of the photos, but what was occurring off-camera that was missed, captured neither in human memory or VHM representation?

Some participants clearly viewed photographic participation as having higher overhead costs, and interfering with their ability to invest fully in the experience in which they are engaged. Similar to the tensions she articulated in the prior chapter section between participation and photography duties, Evelyn also described her desire to take photos for introspective purposes as being a burden at times, saying**:**

Evelyn: Sometimes, I honestly feel like I wish I didn't have to take these pictures, but I don't want to miss out the opportunity.[…] I want the moment to be captured. And, if I don't take the pictures, I'll be disappointed with myself or whatever. So, sometimes I do feel like I wish I didn't have to take these pictures.

[…]

Sometimes, I feel like... I really... Like, at the concerts or something... Like, "I don't really want to be taking pictures right now, but I want to picture to remember this by." […] And, even though it's going to be a shitty picture, because you can't take good pictures... Even at the Piston's games, I want to take pictures... But, I'm like, I don't really want to be taking pictures, because I want to watch the game kind of thing. And then, feels like sometimes, you have to make that decision between having the experience or taking the moment to create... To be able to document it.

Evelyn's conflicted feelings and ambivalence underscore why I have termed this as a "tension" of introspective work. For her, at least, photography pulls in both directions, distracting and documenting simultaneously. VHM photography may not always the best way for individuals to use technology to support introspective practices, but it is *a* way, and one in which people commonly engage.

5.4.4 Introspective Work: Summary

In this chapter section, I discussed introspection work, the biographical work practices which focus inward, addressing self-as-audience. I highlighted two main themes that appeared in the data, memory practices and mindfulness/perceptual work practices. I also highlighted a tension of introspective work between documenting and experience. This tension is driven by the limited resources of human attention, and mirrors the similar tension between photography and participation that appeared in section 5.3.

In several ways, a contribution of this section's findings is a continuation of the one told by the connection work section – that technology doesn't "do" things, but rather is deployed when and as available. As stated in chapter two, photos aren't the memories themselves; they are not *containers* of information. Instead,

we see again in this chapter section that VHM photos are better viewed as a resource, a support technology that is deployed to assist in a variety of introspective (that is, self-as-audience) practices. Just as VHM media supports connection work by providing a location, evidentiary support and shared point of common reference for social interaction, so too does VHM media support introspective work. Photos create an occasion to engage in memory work: by triggering reflection, by providing evidentiary support, by creating a designated time for these practices, and in requiring a set of decisions (both procedural and representational) which are by necessity partially introspective ("Which shot do I like? Why do I think that one is better?").

Similarly, VHM production practices serve both connection and introspective work in similar ways, creating a framing for the particular biographical practices of each type of work. In introspective work, the act of producing photographs can (as according to some participant accounts) help facilitate a type of mindfulness and a "way of seeing" in photos. In connection work, the production of photos is itself an act of connection and sociality – the gesture of taking a photo of someone itself builds a connection (regardless of the later use or even existence of the photo itself); the act of inclusion says something about the existence and maintenance of a relationship between photographer and subject.

Together, this section and the previous highlight the mutual presence and interaction between both external and internal audiences in VHM practices. Many traditional and colloquial accounts of photography focus on the internal audience, prioritizing memory functions, either literally or symbolically (e.g. "capturing the memories," "my memories are in that photo album"). Chalfen's (1987) work on the home mode and more recent work on photography in social media and social networking systems have focused on the external audiences, the ways in which VHM type media can serve communicative, social and coordination between parties. Both of these are present and true accounts of course, as the past two sections have shown. We need to consider both, the ways that they are mutually

supportive, and the common tensions they share. We cannot understand either in isolation of the other.

5.5 Interest/Hobby Work

The last category of biographical work in this model is that of *interest/hobby work*. By the phrase "interest/hobby work", I indicate a wide scope of personal activities described by the participants in which their VHM photos appeared but were placed in a secondary context. In my interviews, these activities included (but were not necessarily limited to): food-related activities, such as baking and cooking; crafting hobbies, such as knitting, sewing, and scrap booking; technical hobbies such as computer programming and ham radio; artistic endeavors such as music performance and production; animal-related activities, such as bird watching and animal rescue; and sports. Interest/hobby work can also include photography conducted as a skilled and focused hobby endeavor in its own right, as opposed to photography conducted solely in the service of VHM activity. These were activities of individual interest and relevance, relating both to individual participants' self-definitions, as well as their connections with others.

I did not anticipate this type of biography work when I began my interviewing, and I was surprised to have it appear frequently in the interviews. That statement requires clarification; it was not surprising that people engaged in a variety of hobbies and interests, nor was it surprising that these hobbies and interests would have strong personal relevance for the participants. What was striking was how prevalent these activities were in the context of a study that was explicitly centered on digital photography. As noted in chapter four, participants were recruited because they engaged in an activity of theoretic interest (VHM photography). Similarly, the interview protocol focused on individuals' photos and their photo practices. Yet despite the photo-centric perspective of the study, notable portions of several interviews dwelled less specifically on participants' photography practices than on other pastimes and hobbies. Often participants'

VHM photos appeared in service of these more primary activities, and these interests/hobbies were salient components of the participants' sense of self and identity – of their biographies. Put another way, the use of photography in *service* of other hobbies and interests frequently emerged as important to the participants, and thus it became important to the study. The emphasis placed by the participants obligated me to follow up on it in my thinking and analysis, and consider how it fit into the developing model of biographical work. This concept of personal photography as a *support* technology is one that I will return to in my discussion of RQ2, as the concept helps us develop and better understand the potential relationships between VHM photography and broader well-being practices.

In addition, I found additional relationships between interest/hobby work and other aspects of biography work, in that the use of photographs in the specific context of interest work also facilitated more general forms of connection and retrospection work. Thus interest/hobby work can serve as biography work in its own right, as well as being a common and important set of practices that are mutually supportive with other types of biography work.

Why did I not just label this class of activities simply or solely as "hobby" work? This was because in much of the literature on leisure pursuits, the concept of a hobby has taken on particular connotations and parameters. For instance, Stebbins' (1992) earlier work on "serious leisure" scoped hobbies out of his consideration of "serious amateur" activities. Serious leisure/serious amateur activities in his definition are defined in relation to their professional counterparts; hobbies, by his definition, lack this counterpart. While these delineations are useful within the scope of the particular arguments made by Stebbins (1992), Haring (2008) and others, they carry with them particular implications that were less useful within the scope of this project. My focus here is less an analysis of hobby work *per se* but the relationship of hobby work to biographical work via digital photography practices, specifically within the domain of the virtual home mode. Thus I choose to use the intentionally broader term "interest/hobby work" as both

more appropriate and more descriptive, utilizing findings from prior work on hobbies only where appropriate and useful.

We do not need to make a categorical division between hobbies and non-hobbies to understand that some activities are more important and more serious for some individuals that others. Almost any human endeavor can be labeled as an "interest/hobby" in the sense meant here if it is actively pursued and delineated as such by the individual engaging in it. For example, consider the act of travel. In contemporary society, nearly all individuals will engage in travel at some point, and many people (particularly VHM producers) will take pictures during those trips. But some individuals will delineate the general activity of travel as being a specific interest to them. They value the activity in its own right, not merely a means to get to a destination or event. For these individuals, traveling *is* the event. Similarly, these individuals identified and delineated themselves as someone who engages in the activity, and structure their photo practices to be supportive. For instance, participant Sanford described travel as a primary interest in his life, and one that was mutually supportive with his pursuits of geology and rock collecting. He noted that he and his wife often join photo tour groups for their trips, as these groups would allow them to have a slower pace of travel supportive of taking many pictures at each location. Thus his interests were both directed by his photo practices as well an influence on them. Therefore, they are relevant in understanding his VHM photo practices.

Regardless of the particular domain of interest/hobby work that participants were engaged in, there were several recurring themes within this category of biography work. Specifically, participants used VHM photography to document their projects, convey personal pride of accomplishment, contribute to communities related to their interest/hobby and use their photos as a point of inspiration and reference for future projects. Interest/hobby often generated mutually supportive cycles with both connection and introspection work, both by providing photography evidence which could be repurposed for these other forms

of work, as well as helping generate and sustain particular social contexts which were conducive to connection and introspection practices.

5.5.1 Documentation of Projects and Accomplishments

The documentation of interest/hobby projects was a common and necessary step within this set of practices. The process of documenting accomplishments serves its own functions as well as facilitating the additional practices articulated in the sections below.   In talking about how his photos related to several of his interest areas (which included music performance, building projects and food), participant Calvin summed up the value of documentation for many study participants engaged in interest work:

> Calvin: I feel like it's a record of things that I've done that were at least important to me or things to share with my friends; things that I've discovered or in some cases; things that I've created. Like if I've made something, baked something, cooked something that I was particularly proud of I might take a picture of it.

Calvin's comment also points out how documentation is related to the pride of accomplishment, underscoring the importance of interest/hobby work in individual biographies. Yet this is not the first time the themes of pride and photo sharing have appeared in this chapter. Why then is this instance different from the reporting of life events addressed in section 5.2, or the "bragging" discussed in 5.3? It is not entirely different in kind, but rather different in audience and use context. These hobby accomplishments are part of an ongoing endeavor, not just a specific event of interest. In his writings on serious leisure, Stebbins (1992, 2006) documented that serious participants in certain types of leisure time activity will engage in "leisure careers" of participation over long periods of time. VHM documentation in the context of interest/hobby therefore demonstrates not only pride in a particular accomplishment or event, but also in an accomplishment that fits into a larger "career" of activity.

Documentation of interest/hobby work also serves additional functions in context, such as supporting future projects and facilitating specific practices in the domain of activity. For example, documentation serves a point of recall and reference, evidence of prior activity that can be directive in the future. Joan, for instance, discussed how her photographs of holiday cookies helped her to remember previous baking episodes and prioritize future baking projects:

> Joan:　　　Every Christmas I make tons and tons of cookies, but I usually forget which ones I made and I'll go back and say "oh yeah, look at all these different cookies," and I know these were a big hit and those weren't. When you make six or eight types of cookies and you end up with over 500, it's hard to remember which ones you've made.

Here we see how photos can help serve memory practices in the context of craft work. In this regards, the use of the photos is similar to the personal memory support discussed in section 5.4.2, but targeted toward more specific ends related to the interest/hobby.

In the context of interest/hobby work however, documentary photos can take on additional uses, serving not only a memory aid, also as a point of inspiration and "raw material" for future projects as well. As Joan noted later in her interview, this inspiration could come from her own photos as well as being drawn from photos from other sources:

> Joan:　　　Actually, I have a food section on Picasa because I do a lot of baking so I tend to take pictures of food to add to that.

> Interviewer:　You take photos of the things you bake?

> Joan:　　　Things I bake or inspiration from other places. Like, "wow, that looked like a good cake, I like how they decorated that."

Joan's reuse of her own photos in this regards demonstrates how VHM photos help support an iterative cycle of interest/hobby practice; taking photos of current accomplishments can help spawn future work.

Some interest/hobby work directly incorporates the use and manipulation of images into its core practices. Examples from the study participants included Madeline's scrap booking, Maria's photo books, Joan's photo collages, and Sally's jewelry projects, which utilized photos in making custom lockets and pendants. In these cases, photos are not only supportive for future craft projects, but become a necessary component. Correspondingly, some of the individuals who engaged in these types of crafts described taking pictures with their future craftwork specifically in mind. Maria, for instance described this by saying, "I used pictures for a *purpose*, like to make cards or calendars or memory books, things like that."

As with VHM photos in other contexts, hobby/interest documentation can also serve multiple functions at once. Participant Madeline provided several examples of this during a discussion of her knitting. When asked whether the photos she took of these projects were for herself or for other people, her first answer was related to documentation of technical success:

> Madeline: So, I took a picture of the baby sweater, and plus, this one was interesting from a knitting perspective, because it's a three different color stripes. [...] And, these are antique buttons that just match perfectly. So that was exciting.

As the discussion continued, Madeline also discussed how photo documentation acts as a kind of preservation for physical projects intended to be given away as gifts:

> Madeline: In this case I'm giving them away. This one we gave to W., the baby of L., and so, we're not going to see that sweater again. [chuckle]. […] So, it's documenting my work...

Finally, Madeline addressed how documentation can help support communication of technique and of accomplishment:

> Madeline: I also have a very dear friend who lives in San Diego and we both knit. And so, when I'm working on a project and he's

asking me about it, I take pictures often like this […] To be able to show him the work that I'm doing, so he can view it online. [and] He can show me his socks, because he does all socks. […] So this one, I made up my own pattern so I documented that. […] I documented this for my friend who didn't understand what I was trying to describe with the diagonal stripes.

In connecting with her friend and fellow crafter cross-country, Madeline also alludes to a type of experience sharing similar to the co-presence practices described in 5.3.1. In more traditional contexts, such as described in Becker's (1983) account of folk art worlds, crafting is often a social activity. In this example, technology is used to replicate aspects of that sociality. In the next section, we see how other types of remote social engagement, specifically with communities of practice and interest, can be facilitated through VHM photos.

5.5.2 Community Contribution and Participation

In addition to connecting to known audiences of families and friends, such as I emphasized in the discussion in section 5.3, VHM photos also can be used to engage more diffuse and generalized communities. This was particularly true in the context of interest/hobby work. Many of the study participants who discussed this type of biographical work used their photos in service of community contribution and participation. The exact nature of these contributions varied depending on the particularities of community and technical support, but examples include posting image links to mailing lists, dissemination of images via a blog, and contributing pictures to a Flickr or Facebook group related to the interest domain. Typically, these pictures were used to help reinforce community membership, to build or maintain status, to advertise expertise, or support the transfer of skills between members[9].

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[9] These aspects of community engagement are certainly not novel to this domain. The various connotations of the term "community," the specific theoretic meanings of "communities of practice" and "communities of interest," and the particular issues related to online/mediated communities

Participant Sameer illustrated several of the key themes related to VHM photography and interest/hobby community engagement.   Sameer's particular interest/hobby was that of amateur or "ham" radio operation, and was previously discussed in section 5.3.5, during an illustration in the different ways he shared common ground with his family and his fellow radio enthusiasts. Sameer first raised his involvement with the large online community of amateur radio hobbyists while describing a particularly involved and challenging project – a remotely controlled radio antenna based in India, but capable of transmitting and receiving broadcasts via the internet from his apartment in Michigan:

> Sameer: So this picture is my antenna there […]. So something that I built during my stay there, so I just wanted to document it. And also this is an interesting antenna, so I wanted to send it to a group of people who are interested in this [the worldwide ham radio mailing lists]. The number of people in those discussion groups will be maybe hundreds of thousands. There would be quite a lot of people. So if somebody is interested in making it, they're interested in the construction techniques, so I just want to document it and send it to them.

Sameer invokes several familiar themes in this passage, including a desire to document and a pride of accomplishment, along with an addition desire to provide information and expertise to his worldwide community of fellow enthusiasts.

As Sameer's account of community engagement via photos proceeded, he also showed how there was value in conveying failures as well as successes:

> Sameer: And this [picture] was taken before that because somebody sent me a radio by UPS and it was damaged during shipping, so I just wanted to document it.

> Interviewer: Those are cracks on the face [of the radio].

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have been dealt with at length by other researchers, but are beyond the scope of this chapter. For an overview of several key aspects related to my use of the work communities in this context, consult Wenger (1998), and Smith & Kollock (1999).

Sameer: It was totally crushed inside. [...] This is a very expensive radio. It cost like $450 or something so I wanted to show it to people how not to send it by parcel.

In this second example, Sameer's photos allowed him to engage with a community that would sympathize with the situation of expensive electronic gear being broken in the mail, while also transmitting a lesson (both functional and normative) to members of the community about the importance of proper packaging for fragile equipment.

Both of the examples from Sameer above involved an aspect of practice transfer: how to build something of interest, or how *not* to pack something of value. In contrast to the activity-driven focus of Sameer's ham radio community, Mona provided an example of using her photos to engage a more ideological or values-oriented community:

Mona: Food photography, I only do it for this website [her personal food blog]

Interviewer: Do you take photos of things that you cook? ... Or meals out?

Mona: No, things that I cook. [...] This [blog] really started as kind of, my working... Of eating more locally. [...] Two summers ago, I started this blog. [...] It's because, that's when I really got into a local food movement and that's when I started this blog. [...] I think it was more on the ideological sense, you know, where I read *Animal, Vegetable, Miracle*, and *What to Eat*, and *The Omnivore's Dilemma*, and those books fire you up. You read them and you're like, "What am I doing? I need to eat local meat, and eat local food, and reduce my carbon footprint." So, that is why, I guess it's more ideological. I'm not really a foodie. I like food. I like to cook for the most part. [...] So, I don't know if it's a hobby, or if it's more like, we eat everyday! We want to try to do this right! And, I feel a responsibility for my kids and to our planet.

How are Mona's and Sameer's photo contributions to these interest/hobby communities different from the connection work in 5.3? As discussed in 5.5.1, they

are not entirely different in kind, but rather different in audience and use context. Similarly, in the discussion about shared history and shared frame of interpretation in 5.3.5, I noted that interaction with a diffuse community utilizes different aspects of common ground than with individuals. Yet it is important to remember that these distinctions are primarily analytical in nature, designed to help us better understand the actions of individuals in VHM contexts, rather than claim that there is a categorical barrier that exists between community participation and more direct interpersonal relationships. You can have an ongoing relationship with a community at the same time that you have ongoing relationships with specific individuals within that community, and the same VHM photos can support both. This and other ways in which interest/hobby work interacts, overlaps and supports other forms of biographical work is addressed in the next section.

5.5.3 Mutually Supportive Cycles

In previous sections, I drew points of connection between interest/hobby documentation practices and memory practices, as well as between interest/hobby community contributions and interpersonal connection work. The theme of overlapping support for different aspects of biography work is a recurrent one, and also appears in the context of interest/hobby work. In addition, not only can photographic evidence be repurposed across forms of work, but connection, introspection and interest/hobby work can also form *mutually supportive cycles* with one another. This mutual support occurs in two ways. First, the practices in all three areas can reinforce one another, as we saw in the discussions above related to memory practices and connections to community. Second, interest/hobby work can help generate and sustain particular social contexts that are themselves conducive to connection and introspection practices.

Joan and Sameer present two examples of how interest/hobby photos can be utilized for specifically for aspects of interpersonal connection work. Returning to Joan's discussion of her use of photos in cooking and baking hobbies, we can see

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how pictures -- and more importantly in this context, the activities they facilitate and represent – are related to connection, communication and coordination, as well as being symbolic and embedded in the specific cultural and social relations of a birthday or holiday:

> Joan:　　　　So these are some things I've made [gesturing to photo set on computer]. […] Chocolate Soufflé. The No Man Cupcakes. That's what my niece calls them. These are some things I've made. I made those for her birthday. This is her Curious George birthday cake. Some lemon bars. Scotties. Cheesecake.[…]　 These were all posted for people […] I'll post the birthday cakes because everyone loves to see what I make. It's kind of a tradition now that I make the birthday cake and it's always something crazy or pies and things and then I'll go back and … this is a dinner. Some of it I'll use to say "okay, I made this last year for Thanksgiving, do you guys want the same pies, do you want something different? Did you like these?" […]　 My Christmas cookies and these are all labeled so I know what they are except for the most recent pictures, the latest cake.

Again, in Joan's account above, we are presented with an example of how photos are both supportive and subsidiary to a more primary task (here, holiday baking).   We can infer from Joan's comments that the baking is more the central purpose around which this type of familial connection work centers. The photos assist in documenting previous baking projects, as well as communicating and coordinating remotely about future plans ("do you want something different?"). Yet it is important to note that the communication and coordination work could still be accomplished without the photos: verbally, written, via recipes, and so forth. The photos facilitate but are not the primary focus.

Figure 6: Photo of holiday latkes, shared by participant Joan with her remote family members. [10]

Similar to the ways that Donny and Margaret addressed different audiences concurrently with their office pictures in section 5.3.6, different portions of the same hobby event can be highlighted photographically for different segments of community and different types of connection. For instance, in the example above about Sameer's engagement with the online ham radio community, I referenced photos taken of a particular radio building project that he conducted while on a trip back to India. Those had been posted to a public Yahoo mailing list with a large subscription base ("hundreds of thousands," in Sameer's estimation). But those were not the only photos related to his hobby taken on this particular trip:

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[10] Image credit: Photo provided by study participant Joan, used with permission.

Sameer: Let me see. This is a different type of set of pictures because they have a radio club there in my home town […] I took this … these are some of my friends there in India. He is my undergraduate professor. He is a ham radio operator and these are my other friends. He's also ham. So I visited his place. His son is ill and so that's why I visited his place. Actually I talk to them almost daily from here [via both internet chat and a remotely operated ham radio station based in India.] […] I link up to my station in India. I talk to these two people who own the radio because their house is maybe 3 miles from my place so I talk to them over the radio [...] So this is him. And his ham radio station. This was taken recently from my trip. This is his house. So actually these are all […] pictures from India so I usually send it to that group of Indian ham and the others a Yahoo group.

Interviewer: Is that who you had in mind when you took the photos? Were you taking them thinking the Yahoo group would be interested to see these?

Sameer: No. These people [gesturing to the specific individuals in the photos] would be interested in seeing these. […] And they'll probably send the links of their pictures to others if somebody asked them. For example, this picture…this is [my professor]… he is no longer […] I visited him at his house and I took this picture and two days after he died because of pneumonia. But he was a very senior radio operator in India, so this was the last picture taken by anyone of him so they wanted to use it for a [ham] radio magazine/journal. So fortunately I could give it them and they used it.

Sameer's account provides a clear example of the concentric circles of sociality that can occur in an interest/hobby community. His ham radio work puts him in touch with both a broader audience (the yahoo! list), a more localized one (other Indian ham radio operators) and one with particular direct personal connections (his former professor). His photos from the same visit support all of these types of connections in turn. In addition, these photos can also become repurposed across different layers of the broader hobby community, as indicated by his comment about the photo of his professor being reprinted by a radio magazine. Thus as noted in concluding paragraphs of 5.5.2, the value of creating analytic distinctions in the model should not obscure the overlaps present in the real world.

Via his photos, Sameer is engaging both a generalized community and personal friends, but many of those friends are also part of his hobby community. Personal communities and communities of interest are not mutually exclusive.

Just as photos create "locations" and occasions for introspection and connection work, so too does engagement in many types of interest/hobby activity help build locations for connection and sociality among participants. VHM photos can be integrated into this process, particularly in contexts where the interest/hobby utilizes photos as an integral component of the activity. Madeline presented the most direct example of this in recounting her original motivations for joining her scrap booking group:

> Madeline: That's what I really enjoy about the scrap booking thing that I do with other people. Like... You could scrapbook by yourself, but I just don't. I never scrapbook by myself. I only do it in a crowd. The reason is because I made friends with these women here, and actually one of them used to own a scrapbook store that she ended having to close. But, she still does get-togethers with the people that she made friends with at the store. So there's like, this little group of ten or twelve of us that gets together once a month. Originally, because I work from home, I have nobody to talk to except these [cats]. […] So, I thought, you know, I need human interaction. I like scrapping. I like photos. I'll try it out. And so, I started going to the store and going to the events. And I thought, very consciously at the time, I am only going to do this here [at the scrap store]. […] Because, I wanted the human interaction. […] Like, it was a way to get... Not necessarily friends, although that did happen. But, a way to get out of the house and do something with other people, like socializing. [chuckle] […] Which is important, when you don't see anybody.

Based on her isolation of working from home, Madeline made a conscious decision to engage in a craft practice that would facilitate sociality. Examined through the lens of VHM biography work, a chain of mutual support becomes visible in Madeline's example. Photos serve as necessary input for the hobby activity (scrap booking); the activity serves sociality and

connection, and participation with the activity community motivates the taking of more photos.

5.5.4 Interest/Hobby Work: Summary

In this chapter section, I described the final type of VHM biography work which appeared in the study, that of *interest/hobby work*. The term interest/hobby work was chosen to refer to a wide range of self-directed activities and pastimes described by the participants, including cooking, baking, crafts, travel, and technical hobbies such as computer programming and amateur/ham radio. This type of biography work emerged as important during the participant interviews and later analysis, both because interest/hobby activities were salient to several participants self-identification as well as because the practices overlapped and supported other types of VHM biography work. In the description above, I outlined several relationships between interest/hobby work and other aspects of biography work, in that the use of photographs in the specific context of interest work also facilitated more general forms of connection and retrospection work. In addition, I described how interest/hobby work can form as mutually supportive cycles with introspective and connection work, in particular helping generate social contexts in which multiple types of biography work takes place.

In this chapter section, as well as the previous, I have revisited two key points that will be of concern for the rest of this dissertation. The first of these points is the multifaceted and repurposable nature of VHM photography and VHM biography practices. In order to finally address the second research of this study – the relationships between the biographical work of the VHM and participant's well being – these overlapping practices must be addressed. I do so in the final section of this chapter, 5.6.

The second related key point, which has emerged over the course of this chapter, is the role of VHM photography as a *support activity*, subsidiary to the more primary and perhaps more generic biography work of the virtual home mode.

As has been seen, personal photography serves as a resource, able to be deployed in multiple ways, facilitating and underpinning different practices concurrently, in mutually supportive overlapping cycles, or in distinct episodes over time. The final challenge of this research then is addressing this notion of photography as a support activity, in a characterization that does not over-constrain or over-restrict our understanding of these practices, while also still generalizing to a degree which allows us to comment meaningfully across multiple individuals, and ultimately, multiple technologies and multiple domains of personal media. I reflect at greater length on this final issue in the concluding chapter of this document.

5.6 Research Question 2: Personal Photography & Well-being

Throughout the study data in this chapter, I have provided multiple examples of how people benefit from their engagement with VHM production and use, many of which align with more general themes from the well-being literature introduced in chapter three. For example, connection work presents some of the clearest examples of these alignments, with VHM photos being used to underpin and facilitate social ties between photographers and their various audiences. I have also shown how the social *acts* of taking and sharing photos, regardless of the representational content of the photos themselves, can be a form of connection work. Connection work practices tie to the literature on well-being that emphasizes social connection and social support, as was summarized in chapter 3. Thus practices address themes of positive social relationships that appear in Ryff's 6-part model of well-being (Ryff & Keyes, 1995; Ryff & Singer, 1998) as well as concerns of the research following from Kraut et al. (1998, 2002).

The alignments between well-being, introspective and interest/hobby biographical work are also apparent. For some participants, introspective work seems necessary for the subjective assessment of satisfaction and aspect that is key to the hedonic perspective of well-being. Introspective work also connects to a eudaimonic perspective of well-being, as it relates to aspects of autonomy, such as

internal regulation of behavior and internal locus of evaluation. Interest/hobby work draws on aspects of all other types of biography work, and thus aligns with the well-being themes noted above, as well as expanding their scope. For instance, engagement with a hobbyist community builds an additional array of possible connections and social support. The sense of personal investment and empowerment that many individuals get from engaging in pastimes and hobbies also relates to eudaimonic themes like environmental mastery, and personal growth. Additionally, the intrinsic enjoyment and subjective experiences of pleasure and satisfaction participants reported when engaged in hobby activities resonates with the core themes of subjective well-being in the hedonic tradition.

Yet the connections between VHM activities and well-being are not necessarily straightforward or unidirectional. My analysis has shown how VHM biographical practices are mutually supportive and often intertwined. We have also seen how photography can serve as a support technology, photos serving as a resource with a key characteristic of *multiplicity*, in that they can be deployed in multiple ways at multiple times by multiple practices. I have also presented examples of tensions and breakdowns in the various types of biographical work, pointing out how the enactment and outcomes of VHM biographical practices are by no means guaranteed. Employing a practice-oriented analysis has also emphasized the *work* required to accomplish the building and maintaining of biographies in the VHM, aspects of which were at times unpleasant or boring for some participants.

In this final section of the findings chapter, I will elaborate upon and support these points with five case accounts from study participants. These particular cases were chosen because they underscore the multifaceted nature of VHM photos and biography practices in regards to well-being. The cases illustrate the variety of practices and priorities visible across individuals in the study, demonstrating that there is no one dominant biographical VHM practice in the model as related to well-being. In addition, these five cases also illustrate the multiple overlapping uses and practices visible in each individual's account.

The examples described below also underscore the *socially situated* nature of specific biographical work practices. That is, while there is analytical value in grouping and generalizing across biographical work (such as in the case of the model around which this chapter has been organized), there is also a need to balance generality with specificity in our understanding of the VHM. For instance, themes related to social connection appear in several of the cases presented below, but not generically so. Instead, each individual's connection work is filtered through the specificity of personal context -- culture, community, and relationships -- on those practices and VHM representations.

I will conclude with a discussion of what these results mean for a broader consideration of the relationships between technology and well-being. In the next and final chapter of this document, I will then reflect on the findings from this chapter, discuss their limitations and speculate on ways that we might develop them further.

5.6.1 "What do you get out of your photography?"

As can be seen in many of the interview excerpts presented earlier in this chapter, study participants were often quite forthcoming about providing accounts of what they perceived to be the benefits and positive outcomes of their VHM practices. In addition, I also probed more directly on this topic. I concluded most interviews by asking the participants to reflect on a version of a deliberately open-ended question: "What do you get out of your photography?" While I was aware that the answer to this question would be primed by the themes and topics from earlier in our interview, placing this question at the end of the interview engaged most subjects at a point where they were comfortable with me, ready to be introspective about their photography practices and thus able to articulate points that may have been obscure or tacit earlier in the interview. In several cases, their response crystallized points that had been addressed only indirectly or briefly

earlier in the interviews. In other interviews, participants opened up and stated a key insight that had been left unarticulated until this question was raised directly.

I draw specifically from these responses in the cases discussed below, as they provide a concrete set of illustrations focused on the issues related to perceived well-being. By comparing multiple participants' accounts, we can see previous themes from this chapter recast in terms of psychological well-being. We also see the variety across individuals, of practices and priorities, as well as some of ways in which the relationships between VHM work and well-being are nuanced and multifaceted.

Case 1: Eliza

Eliza provided a clear and direct account of how she utilizes her VHM photos to maintain pre-existing positive social connections:

> Eliza: I think [my photography] keeps certain kind of relationships going that might not necessarily go otherwise. You know, like [mutual acquaintances]. I feel I know so much about [them]. I feel way more connected to [them] than I think I would otherwise because we don't see each other socially fairly at ever anymore. […] You know there's a reason [they] were my contacts 'cause I had known [them]. […] Like I feel like I have these social connections that I didn't or wouldn't have had, you know.
>
> Interviewer: With those social connections, […] Are any of those people that you didn't have a prior relationship with, the internet friend phenomena?
>
> Eliza: No. There's always going to be something and everyone's well, a personal.. Try to create an internet friendship -- that I do not do.

Eliza's account raises several interesting points. First, her perspective reveals a common theme articulated by many study participants; one of the strongest perceived benefits of VHM photos was they helped participants "keep in touch."

In this regard, the connection aspect of Eliza's biography work is supportive of the focus on social ties and social connectivity that appears frequently in previous work on well-being and technology, such as summarized in section 3.1. Yet Eliza's account also provides some interesting detail and specificity – she is focused on maintaining existing relationships, not creating new ones online. Additionally, the relationship she uses as example is described as being a somewhat weak tie, someone with whom she had a prior relationship, but that she would have expected to lose touch with, if not for the facilitation of technology.

This last point prompts several follow-up considerations. First, it points out the expansion of audience between more traditional home mode photography and VHM photography. Certainly home mode photography was used to maintain weak ties in earlier historic periods; consider the ritual of the annual Christmas card photo for many Americans, at times the only direct contact in a given year between sender and recipients. But as Eliza implies, maintenance of weak ties via VHM connection work has the possibility of being conducted more easily with a larger number and a broader (or at least different) variety of people.

This raises interesting if unresolved questions. First, the importance of social weak ties has been an active research topic in multiple fields continuously since Granovetter's (1973) influential paper. How then does this dynamic play out in the specific context of the VHM -- when does the ability to maintain a broader remote audience for photographic representation of personal biographies relate to issues of well-being? Second, is there something particular about VHM photography (as compared to text or video) that is particularly supportive of remote social tie maintenance? As a static visual medium, photos could plausibly be evaluated more quickly; the symbolic functions of picture sharing or a combination thereof may also lead to differences in effectiveness across different types of personal media. An example of the differences between textual and photographic connection work appeared in the interview with Margaret, during which she relayed a story about a cousin who had taken a recent trip to Israel who was sending out lengthy email updates about her travels each day to her family in the

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U.S. Margaret confessed that she had not read any of these messages, and stated that she wished her cousin had posted pictures online instead, saying, "it's sort of easier to show than tell a lot of the time."

The questions raised above will not be resolved in the context of this particular study, but they suggest a direction for future research. In addition, these questions emphasize the need to consider the specificities of VHM "connection building," in terms of relationships as well as the particularities of technology, media and practices.

Eliza's case also illustrates how individuals' VHM practices and their understanding of those practices are contextualized through their specific personal lens of interpretation. For example, Eliza framed the social connection aspects of her VHM photography using terms related to audiences and performances. This was not performance in a Goffman-esque (1959) sense of term, but rather the literal performance that she had engaged in as a musician and artist:

> Eliza: …,it's more I grew up, like in bands.[…] Everybody was in bands, and everybody was constantly presenting themselves. To an audience on stage or recording everything. And taking pictures of the band or like, "we're in this jam session." […] Everybody was recording and presenting the crap out of themselves constantly. […] I'm just used to doing that and somehow feel that that's a necessary part of, I don't know, life. […] I don't perform or anything anymore. But like, I saw the audience. [laughter] [Photo sharing] gets rid of that, or it takes care of that. You know, the sense of the being in the scene or something I guess.

Eliza's prior activities as a musician – and coming of age in a social world that reinforced performance and recording as integral activities -- served as a means for her to understand and characterize her photographic practices. VHM photo sharing "takes care of" her need to perform, record and engage an audience. On one level, these activities are common across all the participants in the study, and perhaps all instances of biography work involving connection and introspection. Yet the connotations of these words in Eliza's case take on particular and specific

meaning. We can draw parallels across points of commonality to generalize such processes between individuals, but need to acknowledge their individual permutations as well.

Case 2: Linda

In contrast with Eliza, Linda provided an account that focused primarily on introspective practices. She identifies self-as-audience as most important to her, and within that set of inward-directed practices, perceptual work is flagged as more important than memory practices:

> Linda: There's kind of two tiers to [taking photos]. For me a lot of times it's not so much about the end result, as it is just about slowing down a little bit and looking at things. If you're out, picking raspberries or something, you kind of can slowdown, take some photos and take in the experience. You may not look at them again or when you get home, it may seem completely trite, but the... So the actual physically taking photos in that moment, I think, is important for me. […] The idea of memory is a big thing for a lot of people, but I don't really think that's a big thing for me. I think it's mainly when I look at photos I have taken in the past or whatever photos I do take; it's more about the actual image. And just sort of looking at the image and enjoying the image. Yes, enjoying what's in it but also how it's put together, if that makes sense?

In Linda's account, we see a different set of well-being themes emphasized. Linda's perceived benefits are more related to mindfulness and subjective experience. She focuses first on how this relates to the process of taking photos, mentioning "slowing down," so she can "take in the experience." Similarly, returning to older photos is presented less as a memory activity and more as an occasion for aesthetic or sensory enjoyment, "just sort of looking at the image and enjoying the image" as an image, rather than as a trigger or location for recollection.

Yet although Linda presents her orientation to her photography as primarily introspective and perceptual, it is important to note that it is not exclusively so. She continued on that same interview segment to qualify her previous characterization, saying "I mean, for the most part. Obviously when it comes to my nephews and stuff I know, it's more about that specific moment and documenting the cuteness." Here, she allows other types of biographical work practices to surface, first noting the connection work occurring in the context of her nephews and relatives. As she concludes, she noted the "documenting" taking place in that social context, support the possibility of future memory practices for both herself and other family members. This example illustrates that regardless of individual preferences, there is not a singular path through the accomplishment biography work, nor a singular relationship between VHM practices and well-being benefits. Rather, these are situated relative to photo, representation and subject.

Case 3: Sameer

The multifaceted benefits of VHM photos become more emphasized in Sameer's account, as he responded to my question:

> Sameer: For me…actually if I had a traditionally way of life according to how we live in India then I would be taking up a job in India and living with my family and sharing everything with them and participating in the [daily] activities with them and helping them. They would be helping me all this time. So this is one way of like sharing my life with them. The same thing happens with my sister. Like she sends to me pictures, so it's a way of sharing a life so that even if we are far away we can keep in touch with what we are doing and our activities. The same thing goes for the Hams. I'm trying to share with them my activities. When I was there I used to be the secretary of the club and all this. I am intimately connected with the activities there, but I still want to share and be connected to them. So that's what I try to achieve.

After this initial emphasis on connection work (both to family and to his peer community of amateur radio enthusiasts, the "Hams"), Sameer's account expands to include self-directed activities, as well other forms of peer community engagement beyond connection and awareness:

> Sameer: Then the second thing is documenting what I am doing. The places where I go and all my activities and it's some kind of visual diary. Some of these projects may be useful to people. I hope to write some articles related to some of the projects. I think I may be using some of the pictures for that. […] The visual diary part is more focused towards me. I want to maintain a record and part of my activities and projects. Because some of these projects take quite a long time. For example, the remote station I started doing it in the beginning of 2007 so it takes a long time. […] I think only two people have done it in India. I'm one of them. Another friend of mine and myself.

In Sameer's account, we can see the relation of both connection and introspection work. Connection work for Sameer is related both to remote family and to hobby community of practice. But note that neither are generically "connections," but rather contextualized and specified very particularly in regards to Sameer's personal context and cultural background. With family, VHM photography helps his engage in a remote replication of a more traditional pattern of co-located familial involvement. With his hobby work, Sameer's goal is not simply sustaining a connection, but meaningful *contribution* to a community. This is revealed in his hopes that his project documentation may be "useful" to others, as well as a hint of the acknowledgment that he may wish to receive from his community in the pride he displays in the last segment of the excerpt. Each type of connection may provide a type of social support and social engagement for Sally, but a different type for each. At the same time, we also see how his photos serve self-as-audience, creating a "visual diary" directed at himself. Thus it would be misleading to characterize Sameer's photography as being "for" a particular aspect of biography work or a particular approach toward well-being. Rather, the photos

are used by Sally in service of multiple aspects of connection and introspection, addressing both himself and others in particular ways.

Case 4: Maria

Expanding on an interview excerpt from participant Maria that I first quoted in section 5.4.1, we are presented with a stronger sense of the hedonic perspective, as the intrinsic enjoyment of engaging in VHM practices is emphasized:

> Interviewer: In broad terms, what do you feel you get out of photography?
>
> Maria: Pleasure. […] Pleasure, the most. And, a time to reflect and think back and see the changes in the grandchildren and maybe count my blessings. [chuckles]. I mean, all I have to do is go look my pictures and my terrible day becomes a wonderful day. [Laughter].
>
> Interviewer: What parts of it bring you pleasure, would you say? Is it the taking of [the photos]? The organizing? The editing?
>
> Maria: The organizing -- definitely not! […] The taking is very pleasurable. And then, going back and reflecting on pictures.

There are several key themes related to different aspects of well-being evident in this interview excerpt: subjective pleasure, positive reflection and thankfulness. But at the same time, Maria's case also illustrates how *aspects* of VHM practices are not necessarily enjoyable. Thus even in settings which seem to illustrate the importance of hedonic involvement with VHM biography work, we need to avoid an over simplified application of that interpretation. Yes, some individuals find that VHM photography brings them pleasure, satisfaction and enjoyment in the moment, but they also engage in other aspects that are unpleasant. This may be because these aspects are necessary work, because they provide deferred pleasure or because they support aspects of biographical work which are not necessarily pleasurable per se, but still beneficial – such as the

sometimes onerous obligation to take and share photos of certain social occasions as part of an ongoing relationship. This was illustrated earlier by Evelyn in section 5.3.7, when she stated "I don't want to sit here and take pictures of all of the kids opening their presents but, at the same time…" If she does not take the pictures, no one else will.

Similar examples appear in the tensions between participation and documentation and experience and documentation as discussed in 5.3 and 5.4. Those examples, as well as Maria's case above, re-emphasize the *work* aspect of biographical work. In addition, they reinforce the point that VHM biography work is not deterministic, at least in a simple linear fashion, in regards to subjective pleasure or other forms of well-being.

Case 5: Helen

In the last of these five case examples, Helen presents a perspective full of intense but ambivalent feelings. She is clearly deeply invested in both the introspective and connection aspects of her photography, but also is still navigating her way toward a point where she is comfortable with her own practices:

> Helen: I'm realizing how like day-to-day, I'm either taking pictures or thinking about taking pictures, it's a large part of my life. I guess it's just this sort of joy and almost comfort. It's almost like a visceral response for me when I see something that I want to take a picture of. So there's that piece of just almost on an artistic level that I just am sort of driven to see things through photography. [...] Through Facebook being able to share images now but there's really a kind of bridging this love of photography has... What's been a sort of private acts of enjoying photography that I haven't... I don't really share outside of my family or my close friends. Through Facebook and figuring out Kodak Gallery, it's become a little more of a public venue.

In this passage, Helen first emphasizes how important her photographic practices are to her, utilizing language that clearly connects these practices to her

subjective well-being, calling it a "joy" and "comfort." She also reiterates her perceptual orientation to photography, stating how she "see[s] things through photography." At the same time, she also acknowledges her desire to expand the scope of her audience, moving into a more public form of photo-sharing. I probed on this last issue, asking her if she wished her photography were more public. She responded in the affirmative, but also elaborated on her mixed feelings:

> Helen: Yes, it... I go back and forth because it's something that's really personal for me, that I feel really passionate about. So to share it is sort of... It's a leak for me. […] More quality camera pictures that I share -- like typically if I go to an event and I have a camera, it's usually my pictures that people want copies of and that I'm a little shy about... About that so **I** have this kind of push/pull about it, that I love it and I know that there's a little bit of a gift there but I get a little more shy about sharing it.

This "push/pull" between being passionate and shy was intriguing, conveying something important about the multiple functions that Helen's photos served for her, and the multiple ways in which she engaged with her photography. We continued on this topic, and I asked Helen, "why that shyness, do you think?" She explained, in part by addressing how her practices were changing:

> Helen: I don't know. I am nervy. [laughter] […] It's something I'm still figuring out that because I really love it and I love when people are pleased with it. And I love individually sharing pictures when I take pictures of people's children or something that I think they will enjoy. One on one I enjoy sharing it. But it's harder for me to do it in a group and Facebook has sort of given me an outlet to do that in a way that feels less about the pressure, I guess. It's more social I think. […] It just... It matters so much to me to just share. It really, really has been hard for me and I think Facebook has allowed me to kind of... Kind of loosen up on that a little bit. […] There's just been an added level of play for me with Facebook that it's kind of opened up, allowed me to share things a little more.

In Helen's detailed response, we see several concurrent aspects of VHM practices.   Clearly, much of her photography serves self-as-audience. For Helen,

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her photos serve as way of viewing and interacted with the world at a personal level, bringing her a "sort of joy and almost comfort." But her photos are also social in orientation, albeit with complicated ambivalence about the degree of publicness with which she feels comfortable. On the one hand, she states that "it matters so much to me to just share" her photos, and she "love[s] when people are pleased with" them. On the other hand, she is "shy" and "nervy" about sharing them. Helen's example is emblematic of the dialectic of exposure embedded in personal media. Her photos are a "gift" but also a "leak" – a social offering that have value because of their personal significance and symbolism, while at the same time bringing risk and exposure because of that very same significance.

Helen also reflected on how her photo practices have been influenced by possibilities of current technology support. In this portion of her larger account, she emphasizes sharing practices, and the influence of Facebook on those practices. This illustrates how technology characteristics influence, though not necessarily direct, practices of connection work and related social components of well-being. Particularly for Helen, the privacy model and relationship support of Facebook seem to be helping her resolve some of her ambivalence by allowing her to feel more safe and comfortable in regards to photo sharing. In this case, the multifaceted and at times complicated nature of VHM biography work is demonstrated: related to particularities of individual personality as well as technology, internally and externally directed, communicative of self but also exposing of self.

5.6.2 Summary: Relationships between Biography Work and Well-being

In this final section of chapter 5, having established and developed a description of VHM biography work over the previous five sections, I addressed the second research question of this study: does there appear to be a relationship between the practices of the VHM and participant's well being? In the above, I argue that the answer is "yes." However, though the relationship is present, it is not

necessarily a simple or linear one. Instead, the data presents a more nuanced account.

Throughout the data, I have highlighted examples of practices that appear to help foster various aspects of participants' well-being.   In this particular section, I presented five cases that illustrated the varied ways in which the study participants themselves perceived the benefits they receive from their personal photography practices. These cases also emphasized two themes that have recurred at various times throughout this chapter: the characteristic *multiplicity* of VHM photos and practices, and the *socially situated nature* of practices and representation in the VHM.

These two themes mean that a simple answer to RQ2 is thus not supported by the data. This messiness in fact is a key overall finding indicating that the practices in the VHM are multifaceted, multipurpose and contingent based on individual, technology and circumstance. I have shown this repeatedly in chapter 5, and believe that it illustrates an important aspect that future work into technology and well-being (both research and design) must address. Above and beyond issues of individual variability, the framing of photography as a support technology also raises themes of *adaptability* and *agency*. When the participants in this study varied in their practices, they were responding and adapting to the contingencies of their social circumstances, exerting their available individual agency within the framing parameters of photographic technologies of production and dissemination. These themes of adaptability and agency have implications both for the assessment of the relationship of technology and well-being and for future design.

Thus at the conclusion of this results chapter, we can see both an indication of the value of the biographical work model I have presented herein, as well as some of its limitations. By generalizing across multiple participant accounts, the common contours of VHM biographical work have become visible. By placing personal photography practices into this analytical framework has allowed me to consider consistency between different eras of home mode production, as well as

organize an account of visible changes. Both the stories of *continuity* and *transformation* have been addressed. The focus on biographical work has bridged between anthropological accounts of personal photography and psychological theories of well-being. Yet at the same time, the multiplicity and socially situated character of the VHM which were emphasized again in this section caution against too general of an application of this model. Within the broad common contours of biography work, the particularity of local context matters, and must not be obscured.

Chapter 6

Conclusion

6.1 Summary of Study

In this concluding chapter, I will accomplish three main goals: to summarize the findings and contributions of this study, to acknowledge limitations of method, data and approach, and to look forward towards implications and future work.

First, I summarize the preceding five chapters. My dissertation study was motivated by a broader interest into technology's role on processes of everyday creativity and cultural production. I chose the context of personal media production and use practices as location for responding to ongoing and persistent debates in our broader culture about the role of technology on our well-being. I situated this study in a particular domain of personal media, that of everyday, personal and snapshot digital photography, attending specifically to the participants engaged in what I called the *virtual home mode* (VHM) in Chapter 2.

Based on themes drawn from several disciplines and research traditions, described in Chapter 3, I tied the specific context of photography in the virtual home mode with hedonic and eudaimonic perspectives on well-being. Specifically, I employed the concepts of *biography* and *biographical work* to bridge several areas of literature; these concepts served to frame my interview protocol and my analysis, the details of which I outlined in Chapter 4, I utilized iterative open coding of qualitative interview and observational data from 23 study participants to address two main research questions:

RQ1: What practices do virtual home mode producers employ in their biographical work?

RQ2: Can we outline specific relationships between aspects of well-being and the biographical practices of the VHM? If so, what is the character of those relationships?

I presented the findings generated in response to these questions in Chapter 5. Central to these findings was the model of biographical work in the VHM that I developed via my analysis and articulated throughout the chapter. In this model, I highlighted five types of inter-related and overlapping biography work that emerged in my analysis: procedural work, representational management work, connection work, introspective work and interest/hobby work. Within each type of work, I detailed several key sub-themes, and illustrated these with excerpts and examples from the interview sessions.

While I will not reiterate every finding and sub-theme presented across Chapter 5 here, I do wish to briefly summarize each type of work, and highlight key aspects. In Chapter 5.1, I described procedural work, the necessary mechanistic steps which underpin all other types of biographical work. Procedural work followed a generalized pattern of stages: *shoot, save, sort, select, edit, share*. Though all participants followed these generalized stages, there were variations between individual users, related to their skill, training and backgrounds, goals, and available software. Chapter 5.2 detailed representational management work, a second type of necessary practices on which the other, more contingent types of VHM biography work build upon. Representational management refers to the selective generation and use of the informational and symbolic aspects of virtual home mode photography. Five main themes emerged in the data related to this type of work: a layered model of decision making, shifts and expansions of representation as compared to earlier home mode practices, individual variations

of representation, exclusion and indirect representation practices, and the potential of breakdowns in representational practices.

In Chapter 5.3, I addressed connection work, which consisted of the social and communicative practices that utilized VHM photography to build shared interpretation and experiences with audiences external to the photographer. I presented seven main themes in my analysis of connection work: communicative co-presence, sharing as a form of connection work, timeline/evidentiary production, management of audience access, management of audience interpretation, leveraging multiple interpretation across audiences, and inherent tensions of connection work. Chapter 5.4 focused on introspective work, biography work in which VHM producers addressed self-as-audience. These findings were divided into two main sections, memory practices and mindfulness/perceptual work practices. I also highlighted a key tension in introspective work between the act of documenting and of experiencing biographical moments.

In Chapter 5.5, I discussed interest/hobby work, a set of practices that drew on the previous four types of biography work in the service of secondary activities other than VHM photography. These activities, typically but not limited to crafting and tinkering hobbies, were themselves biographically relevant to the participants. Key themes in this area included: use of VHM photos for project documentation, communication of personal pride and accomplishment, contribution to interest/hobby communities and the use of photos as a point of inspiration and reference for future projects. Interest/hobby often generated mutually supportive cycles with both connection and introspection work, providing photography evidence which could be repurposed for these other forms of work, as well as helping generate and sustain social contexts conducive to connection and introspection practices.

In Chapter section 5.6, I addressed research question 2 and the relationship of well-being with the biographical work practices of the virtual home mode. Specifically, I argued that while connections could be drawn between the

biographical practices of the virtual home mode and various aspects of the psychology literature on well-being, the data did not present a single dominant or linear relationship. Rather, a key finding was that photography served as a repurposable resource for multiple forms of biographical and well-being work, that it served as a *support* technology, drawing on a multiplicity of uses and meanings for a given photo or practice. This point was illustrated through a series of five cases in the data, chosen to illustrate both the variety of ways in which individuals engaged their VHM photos, as well as the personal and situated character of those engagements.

6.2 Contributions and Implications

This study was designed to addresses tensions in our culture and in the academic literature about the role of technology--specifically, information and communication technology--on individual well-being. I asserted that we should consider a broader conception of well-being, bringing in considerations beyond those addressed in the literature on social ties and social capital. I also asserted that we should situate research on technology and well-being in particular socio-technical contexts, rather than painting technology use with a broad brush.

In response to these goals, I generated contributions relevant to several different communities of researchers. For researchers in CSCW, HCI and social computing interested in issues related to technology and well-being, there are two main contributions. First, I described the relationships between the personal media practices of the VHM and characteristics of well-being in both the hedonic and eudaimonic perspectives. Second, the study demonstrated the value of using biography work as a conceptual frame for a practice-based analysis of technology use. For researchers in psychology focused on issues related to well-being, this study underscores the importance of considering the interaction of specific socio-technical contexts and affordances. I contribute to research about personal photography and photographic practices by documenting contemporary digital

practices and placing them in reference to earlier work, mapping out continuity and change in this domain. I also believe that this study helps reinforce the value of using and extending Chalfen's concept of the home mode to understand everyday media production and use.

6.2.1 Implications for CSCW, HCI and Social Computing

The findings of this study have led me to consider numerous implications in response. I highlight some of these implications here, primarily addressing my home communities of CSCW, HCI and social computing, and speaking to researchers and designers alike. These implications are intended to be both cautionary and generative in character, pointing out potential missteps as well as new opportunities, and raising as many questions as they resolve.

First, as a research community, we must avoid oversimplifying our characterizations of the practices and uses of personal media, such as in the virtual home mode. If we approach technology design with an overly constrained picture of the activities in this domain, and lose sight of the multiplicity and messiness of practices described in 5.6, we run the risk in building interventions that are designed for the "optimization" of well-being activities, ultimately deforming the very acts they aim to serve.

Consider as an example the particular line of technology design centered around *lifelogging* systems (first mentioned in chapter 2.3.1, see summary in Sellen & Whittaker, 2010), which seek "total capture" of experience, in order to fix the "problem" of human memory. My discussion of selective representation in the VHM (highlighted in 5.2, but appearing throughout chapter 5) challenges not only the intellectual assumptions underpinning life-logging, but suggests that such systems may in fact be designed to support activities *directly in opposition* to key practices that individuals use to build their long-term biographical stories – their memories, personal and shared. At the very least, my findings on representational management present an important design challenge for life-logging proponents.

Assuming that everything in a life is somehow captured, how better then to allow targeted retrieval that supports selective and intentional representational practices?

Second, we need to avoid presuming we have a clear and complete understanding of the localized meaning and value of personal photographs, as well as other types of personal media, without first engaging the participants in those home mode events (see section 2.2.1). The situated significance of photos has been demonstrated throughout this study, challenging our ability to assign metrics of quality or standards of interpretation from without. We should avoid replicating the same type of mistakes flagged by Chalfen's analysis of HTDI discourse about the home mode (see section 2.2.3) by assuming that professional or market standards of aesthetics, genre and function apply equally to VHM media; we should be doubly attentive to this concern when we are embodying those assumptions in technology design. Design that characterizes the fundamental aspects of VHM as "problems" to be fixed, such as home videos' lack of a stand-alone narrative (e.g., Adams and Venkatesh, 2003), is likely to be misdirected.

This caution applies equally for interpretation as well as for design. For example, as social computing research has leveraged the accessibility of extremely large data sets in recent years for data mining, research has begun to infer and characterize the affective state of large populations over time – sentiment analysis. Thus far, this type of research has been primarily been conducted with text corpuses, such as data sets consisting of large numbers of twitter posts, Facebook statuses, and the like. However, it seems likely that automated photo analysis will be increasingly more feasible in the near future. Yet, even if sentiment analysis can be conducted accurately on textual data (of which I have skepticism that is beyond the scope of this particular discussion), the problems of assigning meaning and emotional valence to photographs are likely to be even more problematic. Consider several key examples from chapter 5: the office photos from Donny and Margaret, the photo of Sally's son's closet, Sameer's transmission wires. How could we assign an accurate assessment to each of these without the individual producer's personal context to inform our understanding? Perhaps even more

challengingly, how would we know that we were missing this necessary context in these cases without engaging with the producers?

Third, we must be aware of possible dilemmas when engaging in designing ICT to foster well-being. The field of positive psychology, which I drew upon in this study for perspectives on well-being, has wrestled with a similar set of concerns. Schwartz (2000) outlines several tensions that map very well to technology for well-being design. Broadly, Schwartz asks us to consider that if we are successful (either in research or design on WB or positive psychology in general), are we actually accomplishing a goal that is intrinsically "good?" As an example, he writes: "Suppose that […] religious faith and commitment reduces dramatically the risk of depression. Does a practitioner of the positive psychology of hope encourage people to embrace a faith for instrumental, rather than metaphysical and spiritual reasons? What does such an 'instrumental' view of faith do to the concept of faith in the long run?" (p. 407).

Similarly, what happens when we design with an instrumental view of well-being? Specifically, what happens when we design tools that intend to foster well-being, but do so in a mechanistic sense that relies on the same tacit impact model of technology use I have been arguing against during this study? This is particularly salient, Schwartz points out, when we move into the positive realm, away from dealing with patients who clearly need help with their conditions or need alleviation from suffering, to addressing people that by all definitions are normal and have nothing wrong with them.

How too should we resolve the debates between the hedonic and eudaimonic traditions about the centrality of happiness? Once we consider how we should appropriately act in response to our interpretations of those theories, this is no longer simply question a regarding dueling academic perspectives. Rather, our decisions in this regard have the potential to lead us down very different paths in response. To illustrate, Schwartz (2000) asks when should we help people to be happier in their circumstances, and when should we be helping them to *change*

those circumstances? His question is targeted at psychologists, but is highly relevant question for all technology designers in this area as well.

Fourth, we should not assume a singular definition or aspect of well-being to the exclusion of others. While no single study can address all aspects of this complex and multifaceted concept, an awareness and acknowledgement of the multiple paths to well-being -- and their possible interactions -– seems necessary, if only to clarify scoping decisions. A broader concept of wellbeing is also a design opportunity. For instance, if we are designing ICT with well-being in mind, we could consider how we might better support both social and reflective aspects, connection work and introspection work. What would a system designed explicitly to support the six factors of Ryff's (1996, 1998) eudaimonic model of well-being look like, for instance? If we are researching the relationships between technology and well-being, we could consider using multiple scales in order to evaluate concurrently across multiple definitional aspects. Such an approach may help resolve some of the conflict in the research literature in this area, as well as enrich our understanding of the multiple concurrent paths of influence between specific technology characteristics and well-being.

Next, we should consider other topics and locations of research where the analytical lenses of biography and biography work might be revealing. I believe the concept of biography work may be particularly appropriate in understanding and investigating a wide set of expressive activities, as well as providing a framing that is a complimentary alternative to other frequently used theoretic lenses for computer-mediated social behavior. For instance, consider Goffman's (1959) presentation of self, often cited in recent studies of social network systems. The model of biography work that I have presented in this study does not require us to eschew this concept. Rather, we can recontextualize presentation of self in the VHM through the lens of biography work, considering it as a particular facet of representational management and connection work.

Biography work may also be a helpful concept in expanding our understanding in other areas beyond the immediate scope of personal media

practices. For instance, motivation is an often invoked construct in studies of open contribution-based systems (e.g., Wikipedia, open source software, etc.). Would a consideration of how these contributions related to individual participants' ongoing biographical work also be meaningful and revealing, revealing patterns of action and engagement that may be obscured by other perspectives? Considering another domain, what would be revealed by examining the tasks of personal information management and personal archiving with a concept of biographical work as a primary analytic concern?

Finally, I believe that the richness of the findings I have presented in this study supports my position that we need to conduct more research that is activity-focused, rather than system-focused. The participants in this study deployed a suite of systems and tools, in a broader ecosystem of technologies both digital and analog. Focusing on just one system restricts our view to a particular set of users that have opted into use and the particular influences of affordances and historicized cultural and practices local to that site. In addition, it also obscures the interactions between the use of different tools, and the ways those adoption decisions play into the efficacy and meaning of use. By conducting more activity-focused research, we address these issues, and generate findings that transcend specific moments in the history of our socio-technical development.

6.2.2 Implications for Positive Psychology

While I have drawn on research from positive psychology in particular throughout this study, I am not a psychologist. I would be presumptive of me to take the same kind of directive tone here as in addressing my home disciplines. Yet in this study, I sought not only to draw from positive psychology, but also make a contribution back, and engage in bridge building between fields with overlapping issues of concern.

Primarily, I hope this study has conveyed the value of researching and addressing issues of well-being in specific socio-technical contexts. By studying

what people actually do in the particular setting of the virtual home mode, I believe that I have grounded and applied the hedonic and eudaimonic perspectives of well-being in a novel context. This has demonstrated the utility of both perspectives in understanding human behavior in the particular context of the virtual home mode, as well pointing out the messy complexities of lived experience. Thus, as well-being continues to be studied in multiple fields, researchers may benefit from taking a practice or action based analysis in addition to focusing on traits, characteristics and attitudes. Here I use the phrase "in addition to" very deliberately; a robust model of well-being "in the wild" should consider both internal characteristics as well as how those translate into action.

By conducting research and evaluating generalized theories in more specific contexts, psychology researchers will increasingly need to consider the role of different social and technical affordances in shaping, facilitating, hindering, simplifying and complicating behaviors and attitudes. We live in a designed and built world; we need to consider in a nuanced manner which aspects of that material, technical and cultural ecology interact with our internal lived experiences.

We can also consider ways in which the dialogue can be improved between researchers and practitioners in positive psychology and in the information and technology fields (particularly HCI, CSCW and social computing). Such a dialogue has the possibility of being mutually beneficial for researchers in both of these areas. Technologists are at times accused (sometimes fairly, sometimes not) of cherry-picking theories and findings from other fields when convenient, but without a complete understanding of the ramifications of those imported concepts. Stronger interactions and partnerships across disciplinary boundaries can inform the technology fields of the multifaceted and deep research in positive psychology. In turn, the design orientation of the information and technology fields can provide positive psychologists with a test bed for seeing their work deliberately implemented and actualized in ICT as well as tested in rich and complicated settings.   In the future work section of this chapter, I propose several studies that

may help further the dialogue between these two intellectual communities. Before doing so, I will first address the limitations of the study.

6.3 Limitations

As with any research study, this project has certain limitations. In this section, I briefly identify and discuss three areas: limitations of method, limitations of data, and limitations of design. By acknowledging these limitations, I explore the scope the claims of this study as well as identify possible areas for follow up research.

First, there are limitations of method. Qualitative research such as this has inherent strengths and weaknesses. As mentioned in section 5.5, one of the strengths is that important aspects may emerge which were unanticipated by the investigator. As the study was originally conceived, I did not anticipate several of the specific themes and work practices highlighted in chapter 5, allowing them instead to emerge via the process of iterative analysis. Without taking this approach, my findings would be constrained to attending to the particular issues that I had been able to identify prior to conducting the study, and several key findings would not have emerged. For instance, as mentioned in 5.5, the role of VHM photography in interest/hobby work and the importance of that type of work to the broader set of biography work practices were both unexpected.

However, the downside of a qualitative approach, particularly one that relies on the style of coding and analysis I utilized here, is that it cannot make specific quantifiable claims. For example, based on the available data, I cannot say whether connection work or introspective work was more important to a VHM producer's sense of well-being. I can also only address topics and themes that appeared in the data set, which were in turn dictated by the particular demographics and cultural context of the participants. I am therefore not able to speculate on the meaning of a theme or topic that is missing; the absence of a particular topic in my data does not prove that is it unimportant, only that it did not

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come up for this particular set of participants at this particular point in time.

Next, I address limitations of sample and data. The participants were selected across a variety of age/life stages and provided representation of both genders (a potentially important characteristic, given the observation of gendered roles in on photography in the earlier literature). Yet the participants were all drawn from a fairly restricted geographic area, well educated and generally affluent. Individuals at this level of SES may very well have a different orientation to photography (both in the realm of the VHM as well as fine art/aesthetic photography) than those at other points in the SES spectrum. For instance, Bourdieu's (1965) early influential work on photography explicitly labeled it as a "middle-brow art." At the same time, the reduction of the costs of production for digital versus analog photography, and the pervasive access to low cost digital cameras in our current culture may provide a countervailing influence. Neither bias nor the lack of bias in regards to SES can be proven with my available data, thus necessitating further research to address this concern.

The racial/cultural background of my participants was also generally limited to U.S.-born Caucasian participants, thus possibly restricting the generalizability of the findings. This limitation is made particularly salient by the interesting cases contributed by the few participants who came from other cultural backgrounds. For example, participant Sameer, an Indian engineer now living in southeast Michigan, provided one of the more compelling examples of virtual home mode photography used in communicating with remote family members. As I asserted in Chapter 5.6, his family communication was not generic in character; a full understanding of his connection work required consideration of his cultural context. In future research, it would be informative to engage explicitly in cross-cultural analysis of photographic and VHM practices, as well as to target populations that may place a more immediate need on VHM for facilitating remote connection work, such as recent immigrants or migrant populations. Finally, the time involved in conducting interviews and analyzing qualitative interview data generally reduces the total number of participants in a given study, compared to

methods such as structured surveys.

Beyond the standard limitations of qualitative methods mentioned earlier, the data have two additional limitations, in that the study relied on cross-sectional data from each participant (that is, taken from a single point in time), and that the data was largely self-report. As a result, the data is potentially influenced by known biases related to these limitations, such as recency effects and social desirability bias. These issues may have been mitigated to a degree however by the use of the photo elicitation protocol, which allowed me to probe in the interview sessions on the veracity and specificity of self-report accounts. Additionally, the interview protocol also asked participants to discuss major biographical events over course of the past year and then relate those events to their VHM photography. This contextualization may have reduced some recency effects in the participants' accounts.

I also made decisions in the design of this study related to approach and scope that, while not being intrinsically flaws, do potentially limit the generalizability of the findings. The first of these is the domain specific nature of the study. Tying the research questions and data very specifically to personal digital photography allowed me to address and emphasize the particular traditions, rituals and technical affordances of photography on participant practices. Yet the inherent trade off is that this work can speak only tangentially to related personal media production in other domains, such as home video, written journals, and so forth. It may be that the model of biography work I have developed in chapter 5 does apply more broadly than VHM photography, but I cannot legitimately make that claim without further research.

In addition, within the specific domain of virtual home mode photography, I scoped this study even more specifically, focusing only on the photographers themselves. As a result, I give a producer-centric account in the findings, which does not necessarily address the ways in which the *audience* of the VHM engages with this form of personal media. I respond to several of these limitations by discussing possible future work in the next section.

6.4 Future Work

This study suggests several potentially fruitful paths for future research, both in response to the limitations outlined in 6.3 and as an expansion of the contributions listed in 6.2. I will highlight four possible studies here, though additional opportunities clearly exist.

First, as previously mentioned, I took a producer-centric focus in this study, examining the practices and accounts of VHM photographers, but not addressing the role of the audience. Thus it would be logical to broaden this scope in future work and look more at the interactions between producers and audiences in this context. To a degree, this project is already underway in the context of the CreativeIT grant that I am conducting with my advisor, Stephanie Teasley (NSF Grant #IIS0855865: "Learning from creativity in the wild: Leveraging the success of Creative Content Systems.") In this project, we are designing and evaluating prototypes for new feedback and awareness mechanisms between photographers and their multiple audiences in the context of user-generated content systems. Specifically, we ask whether making the audience that interacts with photography more visible, more "translucent" (Erickson & Kellogg, 2000) in the system, may help the producer build and leverage a greater awareness of the common ground that they share with those audiences.

The goals of the CreativeIT study are more oriented toward facilitation of creative activity, rather than the focus on biography and well-being in this dissertation. Yet these two sets of research goals are overlapping. Indeed, I drew on some of the same interview data utilized in the dissertation study (coupled with additional interviews of professional photographers) to motivate the design decisions in CreativeIT project (see Cook & Teasley, 2011, for a discussion of the design motivations drawn from the interview data). The CreativeIT project has also influenced this dissertation in turn. As previously noted, some of the themes addressed in chapter 5.3 related to audience management practices were first

developed in the initial analysis of the interview data in the context of the CreativeIT project. As a result, the prototype awareness mechanisms may have direct application in the context of connection work audience management practices (see chapter sections 5.3.4, 5.3.5 and 5.3.6), and thus could also be evaluated in the context of biography work and well-being.

A second limitation to be addressed via future research would be the cross-sectional nature of the data collected in this study. In response, a longitudinal study would help augment and extend the findings of the current research. Given the "constant state of transformation" of the VHM technical environment flagged in section 5.0, data collection over a period of time may not only be a good practice, mitigating potential biases of cross-sectional data, but also provide an additional set of findings about how ongoing evolution in technological infrastructures impacts the biographical work of the virtual home mode.

This research topic could be approached via different design and methodological approaches, each responding to this limitation in different ways. A follow up study that utilized a similar protocol to the one employed in this dissertation, conducted with the same participants, would allow for direct comparisons to be made at different points in time. In addition, it would allow for participants to be more directly reflective about any changes and developments that have occurred since the initial interview session. A comparison of the paired interview sessions would also allow for additional intra-case verification of accounts. An alternate approach would be to track more specific steps of technical transformation, practice development and more immediate responses to biographical events, including items that were invisible due to reporting bias in the initial interviews. To address this set of goals, a diary study, such as used by Okabe and Ito (2006) and Ito (2005) for similar work on cell-phone photos, might be an effective approach. In both cases, we would benefit by seeing which aspects of VHM biography work persist and which are altered. This would aid in clarifying the influence and efficacy of various system characteristics on biography work.

Third, the need for comparison research in other domains of personal media

is clear. Such comparison studies would allow not only for the verification of the findings in this dissertation and testing of their generalizability across different forms of personal media, but also for the comparison of relative applicability and efficacy of different types of personal media for biography work. Consider the example provided in chapter 5.6.1 by participant Margaret, who made a comparison in the perceived efficacy between text and photos in attending to her remote cousin's travelogue through Israel, saying "Yeah, it's sort of easier to show than tell a lot of the time." In fact, Margaret's comments even articulate a specific research question to be addressed in a possible comparison study: for maintaining remote social ties, is it in fact better to show than to tell?

Other study participants discussed segmenting aspects of their biography work across different types of media. Wanda engaged in a parallel set of activities between photos and written journals, ascribing a different type of function and engagement with each. Mona described a more episodic pattern, in which she moved from writing regular diary entries to photography, but not engaging in both concurrently. Given the different media characteristics, as well as production and consumption costs for text versus photos, these examples serve as interesting placeholders for comparative investigation.

Finally, there are possibilities for using the findings from this research to frame a more intervention-centered project. Much of the School of Information's intellectual identity is framed around the notion of operating in "Pasteur's quadrant," contributing by developing both theory and applications of research. The goal of balancing both types of contribution appears often in the context of design, specifically technology design. That is, taking findings from social science theories and research and then applying those findings in the creation and customization of technology (and, with luck, having the new technology provide an opportunity for the testing and refinement of social science in the process).

But there are other domains that can be designed, including work practices, communication processes, collaboration protocols and the like. Given the findings of this study, I believe that addressing this second set of domains – domains not of

technology, but of action – presents valuable opportunities in the facilitation of individual well-being. For example, consider a clinical setting such as outpatient group therapy.   Would it be effective to introduce a lightly supervised and lightly structured version of VHM photographic practices in order to help seed positive biographical practices and related potential well-being outcomes for the participants of this therapy group? Such an approach may be beneficial in several ways. First, this could extend interaction between group members and their therapist or counselor beyond the confines of regular face-to-face meetings. Second, the evidentiary and co-presence aspects of the VHM might facilitate deeper interactions in face-to-face meetings for the group. Third, if biographical work practices are established, they may continue after the therapy is concluding, establishing a set of positive and agentic habits for the participants. These are open questions, to be sure, but are indicative of possible future research directions in this area.

Appendices

Appendix A. Recruitment/Screening Survey

Welcome to the Online Home Media Survey

(IRB # HUM00025292)

Consent information:

Dr. Stephanie Teasley and doctoral candidate Eric Cook of the University of
Michigan, School of Information invite you to be a part of a research study that
looks at the production, sharing and communication functions of online
home/snapshot photography. The purpose of the study is to better understand
these photographic activities, and ultimately to design better support technology for
online home media.

If you agree to be part of the research study, you will be asked to complete a short
online survey about your photography and the online systems you use to organize
and share those photos. We expect this survey to take no more than 15 minutes to
complete.   At the end of this survey, you will be given the option to volunteer for
an additional follow-up interview about these topics. More information about
these interviews will be presented at the end of the survey.

While you may not receive any direct benefit for participating in this survey, we
hope that this study will contribute to the improvement of future systems for online
photography and communications between friends and families.

Your responses to this survey are anonymous, meaning that the researchers will not be able to link your survey responses to you. The survey software does not collect identifying information about you or your computer. We plan to publish the results of this study, but will not include any information that would identify you individually.

Participating in this study is completely voluntary. Even if you decide to participate now, you may change your mind and stop at any time.

If you have questions about this research study, you can contact
Eric Cook, University of Michigan, School of Information North, 1075 Beal Ave., Ann Arbor, MI
48109-2112, (734) 646 -1144, ericcook@umich.edu.

If you have any questions about your rights as a research participant, please contact the University of Michigan Behavioral Sciences Institutional Review Board, (734) 936-0933, 540 E. Liberty St., Suite 202 Ann Arbor, MI 48104-2210, irbhsbs@umich.edu.

By clicking on the "yes" button below, you are consenting to participate in this research survey.

 1. I understand the above statements about the goals and scope of this research study, and consent to participate in the following survey.

Thank you for agreeing to participate. For each of the questions below, please choose/complete the answer that best represents you.

2. Age:
18-24   25-30 30-40 41-50 51-60 61-70 70+

3. Gender

Male Female

4. Town/City of Residence

5. Marital Status

Single, not in serious relationship

Single, in serious relationship

Married

Divorced/Separated

Widow/Widower

6. Number of Children (if any)

0   1   2   3   4+

7. Ethnicity/Nationality

8. Highest Level of Education Achieved

Junior High School

High School Graduate

Some Undergrad, no Degree

Associates Degree

Bachelors Degree

Masters Degree (or equivalent professional degree)

Doctorate

9. Household Income per Year

 $0 - $15,000

$15,001 - $35,000

$35,001 - $50,000

$50,001 - $100,000

$100,001 - $250,000

$250,000 +

10. How long have you been taking photos?

11. How long have you been posting photos online?

12. Which service(s) do you use to put your photos online? [examples: Flickr, Snapfish, Photo.net, Facebook, Blogger.com, personal website, etc]

13. In general, how often do you take pictures?

Every day

Several times per week

Once a week

Once a month

Rarely

Other, please specify

14. In the past month, what is the approximate # of photos you took? [including photos that you deleted, left on your camera, kept private, etc.]

0   1 - 10 11 - 50   51 -100   100 +

15. In general, how often do you post pictures online?

Every day

Several times per week

Once a week

Once a month

Rarely

Other, please specify

16. In the past month, what is the approximate # of photos you posted online?

0   1 - 10 11 - 50   51 -100   100 +

17. Besides photographs, which service(s)/website(s) did you post original material (text, video, audio, animation, and so on) on in the past month? [Examples: Youtube, Facebook, Myspace, Blogger, Livejournal, Vimeo, etc.]

Main Survey Complete

Thank you for your time and participation. The main survey is now complete.

18. Follow-up interviews.

In the next phase of this study, we will be conducting interview sessions with selected individuals in order to learn more about their online photography production and sharing. Ideally, these interviews will be held in the participants' home, or the location where they do most of their photography work (organizing, editing, posting online, etc). The interviews will take approximately 2 hours, and interview participants will receive a small token gift in appreciation for their time.

Would you like to volunteer for a possible follow-up interview? Doing so will require you to submit an email for us to contact you, which may de-anonymize your responses in the first portion of this survey.

Thank you for volunteering for a follow-up interview!

We appreciate your interest in participating in the next phase of this study. Not all volunteers will be chosen for interviews, as the study design requires us to choose a balance of individuals across different demographic characteristics (age, gender, etc).

We will contact you via email in the next 72 hours to let you know whether you have been selected. If you are selected, full consent information for the interview will be provided to you in this email, and we will be scheduling a convenient time for meeting with you.   Should you change your mind, you are welcome to opt-out of participating in the follow-up interview at any time.

19. Contact Email:

20. Photo/Web addresses:
(optional)
If some of your photos are publicly viewable on the web, and you'd
like to share them with us in advance, please paste the URLs in the box
below.

Appendix B. Participant Demographic Information

For purposes of brevity, I have condensed some wording of questions and responses in these demographic tables. Please consult Appendix A for the exact phrasing of survey questions and pre-determined response categories. All participants are identified by pseudonyms to help protect their privacy and confidentiality.

Particip.	Interview Date	Q2: Age:	Q3: Gender	Q4: Town/ City of Residence	Q5: Marital Status
Wanda [Pilot]	7/29/08	41-50	Female	Ann Arbor, MI	Married
Donny [Pilot]	7/30/08	30-40	Male	Ann Arbor, MI	Married
Margaret [Pilot]	8/6/08	25-30	Female	Ann Arbor, MI	Single, in serious relationship
Kelli	3/14/09	25-30	Female	Ann Arbor, MI	Married
Elliot	3/18/09	51-60	Male	Ann Arbor, MI	Married
Joan	6/12/09	25-30	Female	Ann Arbor, MI	Single, in serious relationship
Brian	6/25/09	30-40	Male	Ann Arbor, MI	Single, in serious relationship
Sally	6/28/09	30-40	Female	Maumee, OH	Divorced/Separated
Eliza	6/28/09	30-40	Female	Oberlin, OH	Married
Jaqueline	8/3/09	61-70	Female	Holland, OH	Married
Rhonda	8/11/09	30-40	Female	Ann Arbor, MI	Married
Calvin	8/12/09	30-40	Male	Ann Arbor, MI	Single, in serious relationship
Sameer	8/17/09	41-50	Male	Ann Arbor, MI	Married
Sanford	9/15/09	70+	Male	Ann Arbor, MI	Married
Linda	9/17/09	30-40	Female	Canton, MI	Single, in serious relationship
Bob	9/24/09	61-70	Male	Midland, MI	Married
Doug	9/24/09	61-70	Male	Hope, MI	Married
Evelyn	9/30/09	25-30	Female	Ann Arbor, MI	Single, not in serious relationship
Maria	9/30/09	61-70	Female	Ann Arbor, MI	Married
Stewart	10/2/09	41-50	Male	Ann Arbor, MI	Married
Madeline	11/2/09	41-50	Female	Ypsilanti, MI	Married
Mona	12/4/09	30-40	Female	Ann Arbor, MI	Married
Helen	1/9/10	41-50	Female	Ypsilanti, MI	Married

Particip.	Q7: Ethnicity/ Nationality	Q8: Highest Level of Education	Q9: Household Income per Year	Q10: How long have you been taking photos?	Q 11: How long have you been posting photos online?
Wanda [Pilot]	Caucasian	Bachelors			
Donny [Pilot]	Caucasian	Masters			
Margaret [Pilot]	Caucasian	Masters			
Kelli	Caucasian	Bachelors	$15,001 - $35,000	15 years	4 years
Elliot	Caucasian	Masters	$100,001 - $250,000	Over 50 years	7 years
Joan	Caucasian	Masters	$35,001 - $50,000	15+ years	6 years
Brian	American, Irish descent	Bachelors	$100,001 - $250,000	25 years	9 years
Sally	White	Some Undergrad	$15,001 - $35,000	About 25 years	About four years
Eliza	White	Doctorate	$50,001 - $100,000	Since I was around 7 or 8	since around 2004
Jaqueline	Caucasian	Masters	$50,001 - $100,000	4 years	3-4 years
Rhonda	Caucasian/ USA	Masters	$50,001 - $100,000	20 years	5 years
Calvin	German-Native American	Bachelors	$35,001 - $50,000	20 years	10 years
Sameer	Asian/Indian	Doctorate	$100,001 - $250,000	30 years	15 years
Sanford		Doctorate	$35,001 - $50,000	55 years	6-8 years
Linda	Maltese/Sicilian	Some Undergrad	$50,001 - $100,000	27 years	5 years
Bob	Caucasian	Bachelors	$50,001 - $100,000	50 yrs	10 yrs
Doug	White?USA	Doctorate	$50,001 - $100,000	4 years	3years
Evelyn		Bachelors Degree	$35,001 - $50,000	15 years	4 years
Maria	born in La Paz, Bolivia	Masters	$100,001 - $250,000	as long as I can remember!	Since I Photo, email
Stewart	White/Asian	Masters	$50,001 - $100,000	20 years	2 years
Madeline	white	Masters	$50,001 - $100,000	whole life	5-7 yrs
Mona		Masters	$50,001 - $100,000	20 years	3+ years
Helen	white	Masters	$50,001 - $100,000	25 years	8 years

Particip.	Q12: Which service(s) or tools do you use to put your photos online?	Q 13: In general, how often do you take pictures?	Q 13b: If Other, please specify
Wanda [Pilot]	Flickr, email		
Donny [Pilot]	Flickr		
Margaret [Pilot]	Flickr, facebook, blog		
Kelli	Facebook, Picasa Web Albums, Shutterfly	Once a week	
Elliot	.me (formerly .mac), Flickr, Epson (no longer in service)	Once a week	
Joan	Snapfish, Facebook, Picasa, Wordpress blog	Once a week	
Brian	Personal website and Flickr, twitter picture services.	Every day	
Sally	Flickr, Facebook, blogger.com(through work)	Several times per week	
Eliza	flickr, facebook	Once a week	
Jaqueline	picasa	Several times per week	
Rhonda	Flickr, Shutterfly, Facebook	Once a week	
Calvin	Facebook, Flickr, Wordpress, and Twitpic.	Once a month	
Sameer	personal website	Several times per week	
Sanford	website, email	Other, please specify	sporadically, sometimes frequently, sometimes 1/mo.
Linda	pbase.com,myspace.com, blogspot.com	Once a week	
Bob	Snapfish, Facebook, Shutterfly,enclosed in e-mail	Once a month	
Doug	Apple MobileMe Gallery, Snapfish, Flickr. Picassa. eMail, calendar and book production (Apple)	Several times per week	
Evelyn	Flickr, facebook, email	Once a week	
Maria	email, website	Once a week	
Stewart	Person website	Several times per week	
Madeline	kodakgallery.com, facebook	Several times per week	
Mona	flickr, personal website, email and facebook occasionally	Every day	
Helen	facebook, kodakgallery	Several times per week	

Particip.	Q 14: In the past month, what is the approximate # of photos you took? [including photos that you deleted, left on your camera, kept private, etc.]	Q15: In general, how often do you post pictures online?	Q15b: Other, please specify
Wanda [Pilot]			
Donny [Pilot]			
Margaret [Pilot]			
Kelli	11 - 50	Once a month	
Elliot	11 - 50	Other, please specify	After vacations or special events
Joan	100+	Once a month	
Brian	11 - 50	Several times per week	
Sally	11 - 50	Other, please specify	A couple times a month
Eliza	51 - 100	Once a week	
Jaqueline	100+	Several times per week	
Rhonda	100+	Once a month	
Calvin	1 - 10	Once a month	
Sameer	11 - 50	Once a month	
Sanford	11 - 50	Rarely	
Linda	11 - 50	Rarely	
Bob	11 - 50	Once a month	
Doug	100+	Rarely	
Evelyn	11 - 50	Once a week	
Maria	100+	Once a month	
Stewart	100+	Several times per week	
Madeline	51 - 100	Once a month	
Mona	100+	Once a week	
Helen	11 - 50	Once a week	

Particip.	Q 16: In the past month, what is the approximate # of photos you posted online?	Q17: Besides photographs, which service(s)/website(s) did you post original material (text, video, audio, animation, and so on) on in the past month?	Ongoing access to photos post interview? (Public posting, access granted, etc)
Wanda [Pilot]			yes
Donny [Pilot]			yes
Margaret [Pilot]			yes
Kelli	11 - 50	Facebook	no
Elliot	1 - 10	none in the last month	yes
Joan	51 - 100	Facebbook, Twitter, Wordpress blog	no
Brian	1 - 10	Facebook, Twitter, Plurk	yes
Sally	11 - 50	facebook, blogger	partial
Eliza	51 - 100	facebook, flickr	yes
Jaqueline	100+	none	no
Rhonda	51 - 100	LinkedIn, SharePoint, Facebook, ConserveOnline, Etsy	no
Calvin	11 - 50	Yelp, Facebook, and Wordpress.	yes
Sameer	1 - 10	personal website	yes
Sanford	1 - 10		partial
Linda	1 - 10	blogspot	partial
Bob	11 - 50	Facebook	no
Doug	11 - 50		partial
Evelyn	11 - 50	facebook	yes
Maria	100+	none	no
Stewart	100+	None	no
Madeline	51 - 100	facebook	no
Mona	11 - 50	facebook, wordpress blog	yes
Helen	11 - 50	facebook	no

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