A PLANNING APPROACH TO INTERPERSONAL MEDIA USE AND SELECTION

DISSERTATION

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By

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ABSTRACT

The study of interpersonal media within the larger field of communication has grown steadily over the past couple decades. Although much has been learned from this research, there are a number of problems associated with it. The purpose of this dissertation was aimed at addressing two of these problems. The first problem is that thinking regarding channel usage and selection has become overly isolated from concepts, theories, and approaches regarding broader interpersonal communication studies. The second problem with the study of interpersonal media is that the interdependence of theories and constructs often go unrecognized.

To address the problems of focus, the author utilizes previous research on interpersonal interaction with particular emphasis on planning research to develop a synthesized planning approach to interpersonal communication. This approach is used as a lens to examine concepts and theories familiar to interpersonal media research. A planning approach to interpersonal media use and selection (PAIM) is proposed. An empirical investigation of the PAIM is conducted through the use of survey and diary methodologies. The results of this investigation indicate that the concepts organized within PAIM may be useful for predictions of uses and outcomes, but finer attention to
cognitive schemata and to system level patterns of use are required. Suggestions for future expansion of the PAIM and interpersonal media research are discussed.
For Gram and Grandfather

Who better than any, embody the balance of faith, humility, and scholarship
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with you about a topic that “isn’t your area” have been more engaging and thought provoking than several I’ve had with scholars who claim it as their area. I look forward to seeing you at conferences and being your friend for years to come. Dr Dimmick (I don’t know if it could ever be John to me), interactions with you I feel have shaped my style of thinking and research as a scholar more so than any. I feel fortunate to have encountered your work and even more so to have been in a situation where you were always just a couple doors down whenever I had a thought or concern. Undoubtedly, had those conditions not been in place, this dissertation and my thinking in general would be very different and likely for the worse. I can only wish that I will have more relationships in my life that are such pressurized crucibles of thought and creativity. It is a standard, however, that I will try to encourage in my students and others around me. I look forward to working with you for years to come.

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Mom and Dad, I will be forever grateful that you always loved me regardless of my mistakes and faults, and supported me even when I pursued ends that weren’t in line
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Last and most, I would like to thank my Lord and Savior. I have been given so many gifts in my life; not the least has been my fortune in meeting the people I have thanked above. My thanks can perhaps be best expressed by saying that upon looking
back at my life thus far at the points where there were only one set of foot prints in the sand, I recognize that those foot prints were not my own.

J.C.F. 2008
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INTRODUCTION

Since the birth of the field of communication, attention has been given to the channel over which messages are exchanged. Some of the earliest formal models of communication within the field that are still discussed in introductory courses placed the channel or medium as a focal point. One such model was based off of Harold Laswell’s (1948) prolific statement about the foci of communication study, “Who says what to whom through which channel with which effect?” Contemporarily, Shannon and Weaver (1948), in their mathematical theory of communication posited communication as information exchange and the medium being the carrier that could distort understanding in a message on the part of a receiver. The attention to channels in these approaches was an indisputable strength.

Since the early models of communication were developed, approaches to the study of communication have grown considerably in sophistication. This rise in complexity gave birth to various sub-areas within communication studies. The attention to the channels or media in the early models evolved into a sub-area focused on the study of interpersonal media (or communication channels used for interaction between people). Although this sub-area, whether focused on telephony or computer mediated communication, has produced some valuable insight regarding interpersonal interaction, it has at least two problems.
The first problem with the study of interpersonal media is that thinking regarding channel usage and selection has become overly isolated from concepts, theories, and approaches regarding interpersonal communication. Interpersonal media scholars have produced a number of ideas that, although useful, have not been translated into functions within general interaction. In other words, the concepts produced have been focused on the media as opposed to the communication that is allowed through their use. The study of interpersonal media should be conducted through a lens constructed of understanding based on theory and concepts pertaining to general interaction. This problem leads to a number of questions. How is an interpersonal media selection comparable with other behavioral decisions in interaction? What factors about interpersonal media that are helpful (or hindering) to individuals in interaction are comparable to other factors that are helpful (or hindering)?

The second problem with the study of interpersonal media is that the interdependence of theories and constructs often go unrecognized. In other words, theories and constructs are developed regarding specific components of mediated interaction without framing how they fit into the total process. The same critique could be said for interpersonal communication research regarding interaction. It is the belief of this author that the place of any theory or construct aimed at understanding the interpersonal dynamic should be able to be discussed in context of any other. Thinking regarding interpersonal media and general interpersonal interaction has favored toward more compartmentalized thinking. Certainly, this is not to say that every theoretical or
conceptual discussion should attempt to address every component of interpersonal interaction. The point is that meta-models or general approaches to interpersonal interaction and its subsets are required to organize and streamline such discussion and thinking when it arises.

This dissertation is aimed at addressing these problems. The discussion within these pages shall be framed around two purposes. The first purpose will be the development of a planning approach to interpersonal communication that (a) will allow for the study of any one component of interaction with possible consideration of any other component and (b) serve as a base-line approach for the study of more micro-processes within the broader process of interpersonal interaction. The second and primary purpose of this dissertation will be to apply the planning approach to impersonal communication to one specific sub-area of interpersonal communication research: interpersonal media studies. In pursuing this purpose, a planning approach to interpersonal media use and selection (PAIM) will be posited that will allow for (a) an understanding of interpersonal media constructs as interdependently related and (b) a conduit of dialogue between interpersonal media scholars and other areas of interpersonal communication research due to its roots in classic interpersonal thinking.

Overview

A key assumption throughout this dissertation will be that communication is goal based. Given this assumption, planning approaches to communication that posit how individuals work from goals to achieve outcomes shall be the backbone of the approaches that shall be developed. Planning approaches posit that individuals, upon recognizing a
need or goal, strategically sequence behaviors that will ultimately satisfy the goal. It is
the position of this dissertation that individuals go through a similar process with all
facets of communication including those pertaining to media use.

When discussing media use as goal based, one is typically making assumptions
consistent with the uses and gratifications approach to media use. Its core assumption is
that individuals have needs and will engage in media use in the hope of satisfying the
need (gratifications sought) with some degree of success (gratifications obtained). Berger
(1997) observed the potential for the uses and gratifications approach to media use to be
discussed as a planning approach.

When making the claim regarding the connection between planning and uses and
gratifications, Berger (1997) posited an avenue of connection between planning
approaches to interaction and mediated communication. It is the intention of this
dissertation to build on that observation and to address the purposes of this dissertation
discussed above through the development of a planning approach to interpersonal media
use and selection that utilizes uses and gratifications assumptions and constructs as a
core. This approach shall utilize a planning approach to interpersonal communication
synthesized from the existing planning literature. After synthesis, this approach will then
be applied to existing theory regarding interpersonal media use to develop the planning
approach to interpersonal media use.

This dissertation shall be ordered around the development of the planning
approach to interpersonal media use and selection (PAIM) leading into an empirical test
of the approach to assess its utility. The first three chapters will be aimed at reviewing
the relevant literature and the conceptual formulation of the planning approaches
forwarded by this dissertation. First, Chapter 1 will be devoted toward reviewing the literature pertaining to core constructs of the planning approach: goals, plans, scripts, resources and barriers. At the conclusion of that chapter, the synthesized planning approach will be explicated based on that review. Next, Chapter 2 will offer a review of the literature pertaining to interpersonal media use and selection. Emphasis will be given toward theories and concepts that are consistent with the dimensions argued to be relevant by the synthesized planning approach posited in chapter 1. Chapter 2 will conclude with a discussion as to how the discussed theories and concepts pertaining to interpersonal media use may complement each other and potentially be applied together in a single model. Finally, in chapter 3, the planning approach to interpersonal media use will be constructed and discussed. It will be at this point that the previously unconnected areas of research will be connected and a common language will be formed for scholars to build on. The dimensions that lead to medium usage and goal accomplishment in interpersonal interaction through different media uses will be discussed.

The last three chapters will discuss an empirical investigation of the PAIM. Chapter 4 will describe a method consisting of survey and diary methodology to test the connections within the PAIM. Next, Chapter 5 will report the results of that method as well as some preliminary observations. Finally, chapter 6 will offer a discussion of the results with a focus on implications for theory and method in investigations utilizing the PAIM. Additionally in chapter 6, some concluding remarks regarding the future of the PAIM will be discussed and areas of expansion and further necessary attention will be addressed.
BACKGROUND APPROACHES IN INTERPERSONAL COMMUNICATION: A SYNTHESIZED PLANNING APPROACH TO COMMUNICATION

The purpose of this chapter shall be to discuss concepts from interpersonal communication research that shall be used in later chapters for the development of the planning approach to interpersonal media. These concepts shall be organized into a general planning approach to interpersonal communication that shall serve as a lens for the investigation of interpersonal media.

Overview

This chapter is about goals and planning in interpersonal communication. Research from these areas shall be the backbone of assumption throughout this dissertation. As research in this area is reviewed, it shall be explained how information relevant to communication situations may be categorized into specific dimensions or categories. A major argument of this text is that virtually any goal directed communicative action (which is here assumed to include all communicative action) can be described with five dimensions of information. These are (1) what is an individual trying to accomplish (goal), (2) what action(s) shall be undertaken to accomplish it (planning), (3) what communication action relevant features are present that help the
accomplishment (resources), (4) what communication relevant features are present that hinder the accomplishment (barriers), and (5) what outcome or level of accomplishment is achieved.

Although the categories noted in the previous paragraph are being argued as categorizing dimensions, it is not being claimed that the study of communication is a simple matter of listing information. Indeed, there are seemingly infinite factors that could fit into these broad categories of information. It is merely suggested that these dimensions and the relationships among them may serve as a basis of thought to the research of interpersonal principles.

It will be the purpose of a later chapter of this text to apply this approach to a specific component of interpersonal communication, mediated interpersonal communication. Below each of the dimensions shall be explicated with discussion of association among common theories and concepts currently in place in communication research. As each dimension is discussed, its position within the planning approach to interpersonal media use that is being developed in this chapter shall be explicated. Following that will be a description of a model that incorporates these five dimensions.

Goals

Although, the concept of “goal” is generally understood by the common person and has been formally conceptualized enumerable times in the literature, some effort must be made to specify its meaning. The most commonly understood terms are frequently the most commonly confused in use. Within the body of this text, the term goal shall be understood roughly as desired states an individual pursues through communicative action. In using the term “state,” it is not necessarily intended to mean an
"end" as is commonly used in the goal literature vernacular. The term "end" is overly suggestive of a cease of action. The goals this text is concerned with are goals in interaction or communication goals. As Duck (1990) and numerous others have noted, communication is an ongoing process of transactions. Furthermore, following the phenomenological tenants of field theory (to be described below), the assumption is here taken that individuals are in continuous motion in time and space and do not necessarily reach "ends." The term "state" is more suggestive of a point (perhaps one of reflection that could be understood by the individual as end) in a continuous progression.

The conceptualization of goal used here likely shares the greatest degree of similarity with Berger’s (1997) conceptualization of social goal. Berger, however, described social goals as “[involving] the induction of some desired state in other people” (p. 19). Indeed, when the term “communicative action” was used above, it was meant to specify action involving other people. However, the conceptualization used here refers to states of the self as well as those of other people depending on the situation that gave rise to the goal.

The terms action, behavior, and communication shall be used nearly interchangeably as necessary throughout this text. The necessity of using the separate terms arises from the boundary conditions set by the scholars who originally proposed the theories and concepts to be discussed. Some of the theories, especially those arising from psychology, were focused on behavior in general and not communication per se’. Academic license is being taken here to interpret all action and behavior with regard to communication due to Watzlawick, Beavin-Bavelas, and Jackson’s (1967) simple yet
prolific claim that one cannot not communicate. In making this claim, they were discussing how any behavior, intentionally or unintentionally communicative, may be assigned some meaning. Due to this claim, any discussion of behavior or action shall be discussed as communicative action or behavior. The scope of this text, however, is concerned with the meaningful element of this action and behavior.

The idea of goals, both when explicitly identified as such and not, has been central in the minds of scholars studying human behavior. Even during the behaviorist (stimulus-response) period of psychological study when matters of the mind were thought to be unscientific, some forward thinking scholars found ways of incorporating the ideas of goals into their claims. After amassing considerable empirical evidence with his colleagues, Kurt Lewin (1936; 1951) posited the concept of goal within his topological approach to psychology and within his field theory.

Scholars who subscribe to field theory assumed (and in some cases still do) that individuals exist within a life-space that denotes the range of an individual’s perception and experience. Within this life space, there are regions that the individual desires to reach through locomotion (thoughts and action). These regions are what Lewin (1936, 1951) conceptualized as goals that individuals pursue. In essence individuals navigate their lives through their life space to reach these regions as they become salient.

Throughout this text, field theory shall be used as a base of rationale and ideas pertaining to the planes of reality and unreality shall be discussed. Although more modern conceptions of goals used in communication study are far less abstract than that offered by Lewin and his colleagues, some of his claims may serve as a useful metaphor
for understanding goal properties and how they surface. Four issues must be addressed about goals before discussing how they are pursued (locomotions). These are (1) goal awareness (2) the origin of goals, (3) different goal forms, and (4) goal hierarchy or meta-goals. Each of these represents a distinct area of goal research that offers understanding behind the goal construct.

*Goal awareness*

Before going into any in depth discussion of goal origins and processes, assumptions regarding goal awareness in everyday communication must be made explicit. As noted above, it is here assumed that all communication behavior is at some level strategic and goal directed. It is not assumed that individuals always consciously elaborate on their goals as they navigate their daily lives. To some degree, after goals have been pursued repeatedly and continuously, the goals become forgotten and behavior in the relevant situations become relatively automatic to the individual (Ryan, 1958).

Many contemporary scholars take assumptions that view communication as mostly an automatic process. Kellerman's (1992) arguments regarding the automatic yet strategic nature of communication are perhaps the most explicit about this point. Additionally, Duck (Duck, 1990; Duck, Rutt, Hurst, & Strejc, 1991) has continually argued that although much of our communication is mundane (seemingly without goals) is done with the all important purpose of maintaining and sustaining the relationships that make our social lives meaningful. In essence, all that is being assumed is that people are not merely reacting to their environment (as was argued by the S-R researchers); they are engaging it with needs motivating them to pursue exchange of social resources with others.
Origins of goals

Perhaps as important as the presence of goals are the factors that give rise to them. Research on goals within the field of psychology has often discussed the construct with regard to behaviors outside the scope of communication activity. Within the claims of field theory, Lewin (1936, 1951) argued that within an individual’s life space are forces acting on him/her that propel him/her toward or deter him/her away from goal regions. In discussing these forces, Lewin was perhaps doing so in an abstract fashion to apply to any type of goal, communication relevant or otherwise. These forces may operate to drive individuals toward goals within their mind or in the physical context when among others.

Schank and Abelson (1977) discussed forces leading to goals collectively in the form of themes. Themes could be at varying degrees of scope ranging from a life theme (forces acting on a person throughout his/her life) to interpersonal and role themes (forces acting on an individual based on his/her relationship to others). At least two brands of forces should be considered in the make-up of interpersonal and role themes. These are forces that operate with the mind of the individual (needs) and forces that operate between individuals (social/instrumental resources).

Interpersonal Needs. The concept most closely relating to forces that operate within the individual to bring on interpersonal goals is interpersonal needs. Various scholars throughout the last half century have posited different sets of needs that are satisfied by interpersonal communication. A classic approaches to needs that still has good deal of utility is Schutz’s (1960) fundamental interpersonal relations orientation approach (FIRO). In discussion the FIRO, Schutz explicated three needs that he argued
were common to all forms of interaction: inclusion, affection, and control. Schutz’s approach to interpersonal needs has at least three strengths that aid in explaining how needs lead to goals.

The first strength pertains to the nature of the needs with regard to other people. All three were expressed in dialogical terms in that they had one dimension dealing with a need to act out on others and one dealing with a need for others to act on the self. For example, affection pertained to needs regarding relational closeness or caring. Individuals were described as having a need to be cared for and to care for others.

The second strength pertained to the framing of needs over time. In contrast to other approaches that described needs as ever present until satiated, Schutz described his three (both as oriented toward others and toward the self) as never ending but having varying intensities at different points depending on disposition and/or personality. For example, inclusion was described a need pertaining to an individual’s drive to interact with others. An individual at some points may wish to be the one who is the instigator of interaction (need to include others); at other times, s/he may wish for others to reach out to him/her for interaction (need to be included); at other times, s/he may just have a general need for interaction regardless of who initiates.

The third strength of Schutz’s approach was that it treated needs dynamically. More specifically, Schultz’s approach was unique from other approaches developed at the time it was developed in that it took a dialectic to approach to needs similar to those taken many years later (e.g. Baxter & Montgomery, 1994). By dialectic, it is meant that each need has an antithesis and individuals are in constant tension between the two poles of a need dimension. The control need serves as a good example of this. Schutz posited
that individuals are in a constant state of tension between a need to control others or one's self and a need to be controlled. In a similar fashion to modern dialectic approaches, individuals strive to be at a point of equilibrium or balance with regard to their needs. This view of needs shows an appreciation for the idea that communication settings are often filled with contradiction and/or paradox (Watzlawick, et al., 1967) and individuals often shift in their relational needs from one time to another (Baxter & Montgomery, 1994).

This strive for balance in satisfaction of interpersonal needs among potential internal turmoil is taken to be the most basic factor leading to interpersonal communication goals that drive communicative behavior. Although it is not necessarily assumed here that all interpersonal need can be placed into one of Schultz's (1960) three categories, his framework serves as a good basis of rationale of the operation of needs and how they lead to the construction of communication goals in the pursuit of social and instrumental resources.

**Social Resources.** The concept perhaps most representative of factors pertaining to forces that drive interpersonal communication goals that originate among or between individuals are social and instrumental resources exchanged during interaction. With the assumption that all individuals have interpersonal needs (as discussed above or by some other account) social exchange approaches (e.g. Foa & Foa, 1976; Roloff, 1981) posit that the exchange of these resources is ultimately what satisfies these needs and make up the fabric of social interaction and relationships. Foa and Foa (1976) discussed interaction as made up of the exchange of six different types of resources: love, services, status, information, goods, and money. The distinction among resource forms made this
approach unique from similar “social exchange approaches” (e.g. Homans, 1961; Thibaut & Kelley, 1958). Those approaches generically referred to communication leading to rewards and costs. Although those approaches offered some interesting insight into the nature of relationships and power, their lack of attention to specific resource forms limited them greatly.

Foa & Foa (1976) discussed social resources in a developmental framework whereby individuals would learn to understand, recognize, and value them resources with different degrees of sophistication with adequate social experience. They argued that satisfaction of needs for the self and needs for others can be handled through the exchange of similar resources. For example, an individual may have a need pertaining to affection as described above. By common experience, providing services (doing things for other people) to receive love (caring/respect) will be more satisfying of the need than will than will exchanging money for love. However, this matching by similarity and satisfaction was argued to depend on the developmental experiences of the individual.

Various theories of interpersonal communication have taken a focus on the provision and exchange of social resources to satisfy needs. An example could be Berger and Calabrese’s (1976) uncertainty reduction theory. Presumably out of a combination of needs for inclusion, affection, and control, when individuals meet for the first time, they form goals around the exchange of information. These goals surrounding information, perhaps may turn to goals pertaining the exchange of the love resource in romantic relationships or perhaps the service and/or monetary resource in platonic or professional relationships.
Social resources drive the genesis of goals most through interactional expectations. These social resource expectations within communication are common to all forms of interaction whether it be in the context of relational development (e.g., Sunnafrank, 1986) or routine everyday interactions with strangers (Goffman, 1963). These expectations in social resource exchange allows for the effects of larger systems of communicators on an individual’s communication habits (Watzlawick, 1967) perhaps in part through function of norms (e.g. Ajen & Fishbein, 1980).

In summary, based on field theory, interpersonal goals are here argued to originate from forces within an individual's mind and forces due to transactions with others. Individuals have multiple perhaps competing needs that are satisfied by the proper exchange of social and/or instrumental resources. The formation of goals in interpersonal communication will depend on the needs and expectations with regard to resources necessary to be provided to others and resources provided to the self from others.

Within the planning approach to interpersonal media use, goals shall be treated as the seminal phenomenon is all communicative action. Whether recognized or unrecognized, individuals desire states or trends for themselves and those around them based on interpersonal needs and recognized social resource exchanges. As the approach is discussed further below, each dimension shall be defined with its relation to the primary concept of goals.

Returning to the concept of themes, Schank and Abelson (1977) although not using the concept of force specifically, argued that individuals do not assess each resource or need individually. Themes make up the collection of these forces that
individuals learn to recognize and form expectations. From these expectations, individuals with or without awareness (to be discussed below) develop their communication goals that manifest themselves in a variety of forms.

*Forms of goals*

As discussed above, goals surface as a result of a combination of needs and resources available for exchange with others (themes). The form of the goal will obviously take shape to reflect the needs or resources in question. Various researchers have produced lists of goals (e.g. Dillard, Segrin, & Harden, 1989; McDougal, 1928; Schank and Abelson, 1977; Wilson, 1990) with varying degrees of interest in communication and with varying degrees of specificity. Out of the interest of parsimony, Canary, Cody, and Manusov (2003) observed that any of the communication goals in any of these lists can fit into one of three non-mutually exclusive categories: instrumental, relational, and self presentational.

Instrumental goals refer to states that are achieved perhaps most by means of influence. These goals are perhaps most brought on by needs pertaining to control (self or other; Schultz, 1960) and most associated with resources pertaining to services, money, information, or goods (Foa & Foa, 1976). Relational goals pertain to states dealing with development, maintenance, or deterioration of relationships with others (Canary et al., 2003). These goals are perhaps most brought on by needs pertaining to inclusion and affection (Shutz, 1960) and most associated with the resources of information (development) and love (Foa & Foa, 1976). Self presentational goals pertain to the presentation of a desired image of one’s self to others (Canary et al., 2003). The ideas behind this goal type are perhaps most motivated by Goffman’s (1959, 1967, 1971)
perspectives regarding the strategic presentation of self. These goals are relevant to any of Schutz's (1960) three described needs (or perhaps any other interpersonal need that could be considered) and any of Foa & Foa (1976).

Depending on the combination of needs present or social resources available, individuals may have multiple goals that fit into multiple goal categories. As implied in the previous paragraph, both social and instrumental goals are often accompanied by self presentational goals. This is so because if one is not perceived as s/he would like to be by others, it is unlikely that s/he will accomplish the goals that will satisfy his/her interpersonal needs through social resource exchange with those others.

More specific brands of goals beyond the three general forms discussed above arise due to context (persuasion, social support, relational maintenance, etc.) and relational partners (parents, friends, significant others, etc.). Indeed it is in large part these factors that distinguish one communication episode from another (Duck et al., 1991). It is however maintained here that interpersonal communication goals in any considered context or with individuals of any particular relationship could be described by one of the three basic forms of goals described above and could be rooted to a combination of interpersonal needs that may be satisfied by some combination of social and/or instrumental resources. These specific goals are perhaps best discussed through the actions to obtain them. These actions and action sequencing will be more relevant to the below discussion of plans, resources, and barriers.

In summary regarding goals, individuals have interpersonal needs within themselves that are satisfied by the exchange of social and instrumental resources with others. Interpersonal goals take a variety of forms to satisfy these needs for resources at
different levels of awareness. Individuals may have multiple goals in any interaction and shifts in needs at different states for an individual due to dialectic tensions or communication paradoxes lead to more specific goals that have varying degrees of efficacy in the satisfaction of all goals present.

Planning

As the behaviorist (S-R) paradigm began to lose its precedence on the study of human behavior and communication in the mid 20th century and scholars began to accept previously inappropriate "cognitive" variables such as goals, curiosity arose with regard to what interceded desired states (goals) and actual outcomes. Miller, Galanter, and Pribram (1960) were among the first to explicitly recognize this gap. To address it, they posited one of the first formal conceptualization of planning. They argued:

The gap from knowledge to action looks smaller than the gap from stimulus to action – yet the gap is still there (p. 9). Far from respecting Ocram’s Razor, the cognitive theorist must ask for even more (sic) theoretical luggage to carry around. Something is needed to bridge the gap from knowledge to action (p. 10). What we must provide, therefore, is some way to map the cognitive representation into the appropriate pattern (sic) of activity (p. 13). Any complete description of behavior should be adequate to serve as a set of instructions, that is, it should have the characteristics of a plan that could guide the action described... A plan is any hierarchical process in the [person] that can control the order in which a sequence of operations is to be performed (p. 16).

Perhaps taken by the license to describe human beings in more cognitively complex ways than had been done in the decades that preceded them, the account of planning that Miller et al. (1960) went on to explicate was a very involved process of cognitive processes of the production of action. Since then scholars have recognized that individuals are not in the constant process of elaborating on every piece of information that reaches their minds. In short, as has become a common saying in social science,
humans are cognitive misers. People learn to economize their elaboration to only spend necessary cognitive resources to produce actions that will best satisfy the goals of the moment. Due to this realization, the process of planning has been dived into the two concepts of *plans* and *scripts*. These two concepts shall be discussed below including the different approaches and labels that have been assigned to them by different scholars.

*Plans*

The process of generating plans represents the more active side of the process of behavior production originally proposed by Miller et al. (1960) described above. Since then, however, the general conceptualization of a plan has remained essentially the same: a plan is a sequence of actions produced in cognition to reach one or more goals (Waldron, 1997). The scope of Miller et al.’s (1960) claims included any behavior that an organism could produce (including communication) and all levels of life forms.

Miller et al. (1960) approach to plans framed humans as constantly engaged in highly complex feedback loop patterns of logic that would retrieve appropriate plans as individuals pursued of goals in *all* situations. Perhaps recognizing that this loop could lead to an endless comatose state of elaboration, they included discussion of how individuals hierarchical situate lower order sub-plans within plans that could serve to alter the course of the higher order plans. Scholars (e.g. Berger, 1997) examining hierarchy among plans used concepts within plan elaboration such as goal attainability to explain this process; however, aside from the mere suggestion of plans as a means to suggest how goals are obtained, the idea of a hierarchical plan structure is one of the most important principles in theory regarding planning. It shall serve particular importance in the development of the application of the planning approach to later be described.
Approaches to planning that followed Miller et al.'s (1960) refined the plan concept to refer to sequences of behavior produced in novel or unfamiliar situations. Schank and Abelson (1977) held the assumption that people could not store preset paths of action to deal with every situation they may encounter and must have the ability to sequence actions to cope. They described a plan as "the repository for generally information that will connect events that cannot be connected by use of an available script (to be described below)." (p. 70). They argued that plans were brought into creation to solve presently experienced problems or those in the foreseen future. Plans were made up of many actions that fit into a "planbox" that would be in place to satisfy a goal in place. Schank and Abelson discussed plans may operate when individuals experience frustration or "goal blockage." Aside from that however, little explanation, however, was offered with regard to how plans work in context.

Robert Wilensky (1983) extended Schank and Abelson's (1977) conceptualization of plans to specifically address specifically how individuals dealt with problematic situations. The factors that made situations problematic was due to goal conflict, goal competition (both to be discussed below in barriers section), or lack of proper resources to reach a goal (to be discussed below in resources section). When faced with these goal/need contradictions (Baxter & Montgomery, 1994; Watzlawick et al. 1967) or lack of resources, individuals may have previously used plans (see discussion of personal scripts below) that have worked in the past to address the situation demands.

When previously used plans are not available, Wilensky (1983) argued that individuals go through at least two stages of replanning. The first is to use available knowledge about the situation to come up with an alternative sequence of behaviors that
will obtain the goal. If that does not work, an individual may move to a second stage where s/he will try to alter the circumstance. S/he may try to alter the available resources or prolong the need to act until there is a more favorable opportunity. In taking one or both of these routes, the individual may ultimately decide to abandon the original goals or settle for a partial fulfillment of the goals. Wilensky (1983) argued that in the process of replanning, individuals undergo “plausibility evaluation” for their goals and plans to pursue them. This evaluation is what enables an individual to select among the actions available in knowledge.

As noted above, Schank and Abelson (1977) and Wilensky (1983) argued that individuals develop plans when faced with unfamiliar or difficult situations. However as discussed above, most communication activity is mundane and highly familiar. In other words, the development of new plans is not necessary in most interaction situations. In such familiar situations, individuals may rely on previously successful plans or scripts.

Scripts

The idea of scripts were present in communication research long before planning approaches were applied within the field. Within his dramaturgical perspective, Goffman (1959) describes social actors as continually following common patterns of interaction that can become so structured that they could be compared to scripts used in a staged play. Within linguistic and communication research, these scripts are at times analyzed at the elemental level. Scholars focusing on adjacency pairs (e.g. Levinson, 1983) address statement-response pairings that occur in everyday interaction. For example, a greeting of “Hello, how are you?” is typically and sometimes automatically responded with “Fine thanks” just as a gratitude statement, “Thank you” is typically receives a
response of “You’re welcome.” Scripts on a broader level, help individuals economize their process of interpreting and responding to social situations and as such play an integral role in the planning process.

Although, Wilensky (1983) and Berger’s (1997) use of the term “canned plan” captures much of the meaning behind scripts, the sole use of the term leaves a high degree of ambiguity. In short, canned plans are plans that have worked in the past and are now logged in memory to be used in the future in way very much like Greene’s (1984) description of a procedural record. However, this description of script like knowledge is somewhat suggestive that all actions were at once point invented by the individual when planning during a previously novel situation.

Some scripts indeed arise from previously held derived plans but others are learned through sheer mimicry. Schank and Abelson’s (1977) conceptualization of scripts includes the distinction between situational scripts and personal scripts. Situational scripts share a high degree of similarity with Goffman’s (1959) account of scripts. They are the common sequences of behaviors that are expected and typically enacted in common social situations and largely drive individuals’ expectations when recognized in the process of interacting with others. Schank and Abelson (1977) use the example of visiting a restaurant as an example of situational scripts. In a typical visit, individuals expect and typically carry out a systematic behavioral sequence. Upon entering, an individual is greeted and is asked how many is in his/her party. After this exchange, the individual is guided to a table that has an appropriate number of seats and is asked to wait for a server. After a few moments the server arrives and takes the individual’s order and informs the workers in the kitchen. After the food is prepared, the
server brings the food for the individual to eat. The server then brings the bill at which time the individual provides payment including some gratuity and the script concludes.

Scripts such as those in a restaurant, allow individuals to act in seemingly automatic fashion and allows them to be comfortable with met social expectations. These situational scripts are perhaps equitable to social norms in that they make up what is typically done (descriptive norms, Perkins & Berkowittz, 1986), expected (subjective norms, Ajzen & Fisbein, 1980) and/or approved of by others (injunctive norms, Perkins & Berkowittz, 1986) in the specific situations to which they are regularly applied and are the bases of social sanction when violated to an unacceptable extent. For example, if an individual walked into the restaurant straight to the kitchen, took the food s/he wanted, and sat down, the other people in the situation would be uncomfortable and would have difficulty responding or would respond by enforcing social sanctions (e.g., throw the person out of the restaurant).

Certainly, individuals must deviate from situational scripts and engage in planning procedures as discussed above for some situations. However, these deviations are not typically to the extent that situational scripts are all together forgotten. When plans are made that create deviations in situational scripts perhaps to achieve goals outside of fitting in with the status quo, these plans are stored in memory as successful or unsuccessful (to be discussed below) and become personal scripts.

Personal scripts as conceptualized by Schank and Abelson (1977) are perhaps most similar with Wilensky (1983) and Berger’s (1997) discussion of canned plans. Essentially, personal scripts are the once planned behaviors by the individual that
demonstrated to have success in the past and became part of his/her routine behavior but not necessarily part of the routine of others.

Scripts are not mutually exclusive from plans. As Schank and Abelson (1977) indicated, “there is a fine line between the point where scripts leave off and plans begin” (p. 77). Humans out of the interest of economizing the planning process as much as possible use known scripts as a basis to form plans. These scripts may function as a set of constraints for the planning process in that they may represent the expectations of others (situational scripts) or they may represent what has worked for the individual in the past (personal scripts).

When stored in memory, scholars have argued that such scripted behavior sequences and expectations become logged into schemata (Abelson, 1981) situated in hierarchically by relationships (Fletcher, 1993). This relationship situated knowledge can affect not only the scripts reproduced but also by newly produced interaction patterns (perhaps in planning) via orientations to the communication context (e.g. family communication schemata, Koerner & Fitzpatrick, 2002).

According to Greene (1984, 1997), the knowledge contained in scripts and other social context relevant information stored in cognitive schemata are activated and assembled within the planning process when individual recognize (perhaps automatically) factors in the context associated with that information and those scripts. Given that humans have been argued to be cognitive misers and that they tend to frequently take mental shortcuts in cognition to decide on course of action (e.g. Chaiken, 1980) and that a good deal of communication is of the routine or automatic variety (e.g.
Kellerman, 1992), it is assumed that situational and personal scripts (or a combination of the two) are activated to guide a behavior in the majority of communication situations an individual experiences.

As discussed previously, goals are the seminal concept in the planning approach to interpersonal communication forwarded in this text. But as argued within the present section, as important as the presence of goals are the actions undertaken to accomplish them. Plans are constructed with social information stored in the memories of individuals. As goals surface scripts from previous experience, scripts are activated that allow individuals to pursue them in a seemingly automatic way. Figure 1.1 graphically shows the proposed relationships among goals, plans and scripts. When situation are novel or difficult, however, actions will become less automatic and greater elaboration will occur in planning behavioral sequences. This elaboration will depend on factors helpful or hindering to goal accomplishment. These factors, representing the third and forth dimensions shall be discussed next.

Figure 1.1 The position of plans and scripts relative to goals
Resources

The next category of information discussed above pertained to what helps a person accomplish his/her goals in a situation. An implicit assumption in most planning perspectives is that certain things must be present for plans or scripts to successfully allow an individual to reach his/her communication goals. Wilensky (1983) perhaps was the first to explicitly discuss the concept of resources as supporting plans but did so more with an orientation towards their absence leading to plan failure. Read and Miller (1989; Miller & Miller, 1991) proposed the most complete conceptualization of how resources operate to further plans in achieving goals. They situated resources into three categories: personal, situational, and relational.

Personal resources pertain to factors that are specific to the planning individual. These include knowledge, talents, status, skills, physical attributes, etc. Relational resources pertain to resources made available due to associations with other people. This brand of resources is perhaps most associated with Foa and Foa’s (1976) above described set of social resources. The exchange (or chance of exchange) of these resources do indeed motivate individuals toward goals as discussed above; however, depending on the nature of the situation. Information, love, money, status, goods, or services provided from others may all function to enable individuals to accomplish their goals (which may be set on obtaining any of the six when the goals involve interaction with others).

Situational resources pertain to access to people, objects or abilities (personal or relational resources) that otherwise would not be available to further a plan had the focal individual not been in that situation.
The mobilization and expression of personal resources in communication research is that directed to communication competence. Spitzberg and Cupach (1984) noted that for a person to produce competent interaction, s/he must have the proper combination of knowledge, motivation, and skill. Each of these characteristics could be considered resources by Read & Miller's (1989) conceptualization. Various scholars have discussed the parameters of knowledge and skill in the production of competent communication (e.g. social skill, Argyle, 1969; interpersonal control, Parks, 1984, 1994; adaptability, Duran, 1983, 1991). Spitzberg and Cupach (1984) went on to note that with those three resources (knowledge, motivation, & skill), for a person to produce a competent communication performance, s/he must be effective (satisfying his/her own communication goals) and must be appropriate to the social situation (satisfying goals without offending or imposing on those around one's self). These criteria for competent interaction share a high degree of conceptual overlap with the idea of meta-goals and secondary goals (Berger, 1997; Dillard et al., 1989) as discussed above.

The effective criterion as discussed by Spitzberg and Cupach (1984) is perhaps solely the province of having the sufficient personal resources to achieve goals. The appropriate criterion, however, addresses the importance of relational resources. In nearly every approach to the concept of competence in communication research, an appreciation is shown for the need to be aligned with others to achieve one's goals. The concept from sociology, social capital, perhaps best captures this need and the importance of relational resources. Social capital essentially is the capacity of a network of interrelated individuals (via strong or weak ties) to provide social resources to one and other (see discussion above of Foa & Foa's 1976 social resource approach) and to be and
produce more than any one would alone (Lin, 1999). In short, social capital (relational resources) allows individuals to achieve goals through successful interrelations with others.

The place of resources in the planning approach to interpersonal communication forwarded in this chapter. Figure 1.2 displays the relative position of resources in the approach. Resources are a vital component in the execution of plans regardless as to whether the communication behavior is automatic or cognizant. As situations are increasingly novel or difficult, resources (factors that are helpful) are considered to a steadily greater extent (hence the dotted line). The factors that make a situation difficult (barriers) and give rise to the necessity of resources in executing plans and the necessity of consideration of such resources shall be discussed next.

![Diagram of resource position](image-url)

Figure 1.2 The position of resources relative to the execution of goal driven plans
Barriers

The last question to address regarding goal based communication before discussing outcomes is what communication relevant features are present that hinder goal accomplishment. Within field theory (Lewin, 1936, 1951), the concepts of obstacles and barriers both represent impediments to individuals reaching their goals as they navigate through time and space. According to Hample (1997) the two are distinguished by the level of awareness a focal individual has about an impediment in question. An obstacle is an impediment that an individual recognizes before and/or during locomotions (actions engaged as a result of planning). Upon recognizing obstacles, individuals pursuing communication goals will work their strategy to go around them. In contrast, a barrier is an impediment surrounding a communication which an individual is not aware. Since the plan cannot incorporate maneuvering around the impediment, "[the] barrier must be breached" (Hample, 1997, p. 185) through the actions taken as a result of the plan.

The distinction between obstacles and barriers may indeed be an important one. However, the term “barrier” has been selected to represent factors pertaining to hindrances to goal achievement due to its underlying conceptualization and for two separate but related reasons. First, based on the assertions above regarding the frequently automatic nature of communication and the need to economize cognition, it is here assumed that individuals are frequently not actively considering the impediments they face when pursuing goals in communicative action. Second, as argued by attribution theory scholars (e.g. Heider, 1958, Weiner, 1986), even when individuals do evaluate the
impediments or the causes of their success, their evaluations become skewed and perhaps erroneous due to outcomes. By both of these accounts, barriers as a typically unrecognized impediment, is taken to be the better label.

Different barriers may be at play in different interactions. As noted above, Wilensky (1983) argued for at least three reasons (barriers) that achieving desirable states may be impeded. First, there may be insufficient resources to make the planned action successful. This has been discussed in detail in the previous section. Second, due to dialectic tensions or paradoxes within an individual's communication environment, an individual may have conflicting goals whereby s/he may have at least two goals within an interaction that simply cannot possibly both be fully met (e.g. I want to spend the evening with my wife, but I have to be out of state for an interview). Third, due to individuals not being of the same mind, others with whom an individual interacts may have competing goals that undermine the accomplishment of his/her own goals.

Various factors in the study of communication have been examined that either generate or exacerbate one of the three barriers discussed by Wilensky (1983). First, with regard to resources, a lack of knowledge, motivation, and/or skills as argued to be vital to competent communication by Spitzberg and Cupach (1984) would serve as a barrier. For example, before obtaining proper advice or satisfactory experience, teenage boys attempting to court girls to whom they are attracted are perhaps most hindered by this barrier and their plans involving the use of “pickup lines” are typically far from satisfactory and their goals are not met.

Second with regard to conflicting goals, individuals may suffer some traits that create them or make them more salient. Various communication scholars focus on traits
and states pertaining to fear of interaction (e.g. communication apprehension, McCroskey, 1977, social anxiety, Leary, 1983). These fears have the potential create conflict within the individual. For example, one such teenage boy from the previous example may really like to take one particular girl out on a date, but at the same time may not want to talk to her due to his fears. Certain relational resources may allow him to overcome this (e.g. a friend may be willing to ask her for him or give him support to build up his confidence) but the conflict is undoubtedly a barrier.

Third, with regard to competing goals, various scholars have focused on factors pertaining to relations among individuals that may impede an individual's goal accomplishment. One such factor is power differences (e.g. Brown & Levinson, 1987). At times when an individual is lower in a power structure from another, s/he will be less inclined to impose upon that other. For example with our teenage boy, if an older boy, perhaps a senior, expresses interest in the same girl (a competing goal) the difference in power exacerbates the barrier that the boy has a competitor and he will be further hindered by it. A wide variety of other communication impediments may affect an individual. In large part, most of those studied could perhaps fit into one of the three categories as argued by Wilensky (1983).

With the ideas of barriers now discussed, the place of resources can now be further explicated. Barriers and resources are in constant tension as individuals engage in communication. Barriers stand in the way of goals and resources provide the means to overcome them. Only with the proper combination of communication relevant resources will a person be able to satisfy the purpose of the transaction.
Not every situation is so heavily saturated with barriers that a great deal of resources is required to accomplish communication goals at every turn. Routine situations that require little more than exchanging greetings or sharing simple information perhaps only contain the barrier of two individuals not being of connected minds. Situations become more complex, however, as more barriers surface. The more barriers that arise for an individual, the more resources that may be necessary to overcome them to accomplish his goals.

An example where one has to inform another that a loved one has unsuspectingly and/or tragically died may aid in understanding. An individual in this situation may have personal scripts that have worked in the past to address the many barriers that are in place to impede the various goals present in the situation. However, the situation may be novel or it may not have similar enough circumstances for a simple retrieval and execution of the personal script. In such cases the individual will evaluate need to more carefully evaluate his/her goals (e.g. tell her that her husband has died, don't become overly emotion, be supportive and express availability, etc.), his/her resources (e.g. I have informed people in the past about the death of a loved one, I know her very well, I knew her husband very well, I have the ability to speak in a direct yet sensitive tone, I know the words that will make this easiest on her), and his/her barriers (e.g. I can't be there in person to tell her, I have to tell her soon, she is very sensitive, I don't know how she deals with death) in the formation of his/her plan (e.g. I will call her on the telephone and set the tone of the call by saying that I have some bad news. I will then calmly and gently explain what happened and finish by saying, “I know what you must be going through
and what he meant to you. I will get into town as fast as I can and I’ll be there if you need anything.”)

The case of informing someone of a death clearly shows the dependent relationship between resources and barriers. Different sequences of actions (plans/scripts) will have different results due to the barriers and resources present in a situation. The resources utilized may satisfactorily nullify all the barriers in place and all goals may be met, or some of the resources may have been insufficient and goal failure or partial goal fulfillment may have been the result. This concern for outcomes shall be discussed next.

As discussed above, barriers stand in opposition to resources in the execution of plans. Figure 1.3 graphically depicts this relationship within the planning approach to interpersonal communication. Barriers serve to hinder the accomplishment of goals and it is the place of resources to allow an individual to overcome them. Although barriers go unnoticed a great deal of the time due to the automatic nature of communication described above, they become more recognized as they increase in impact (make the situation more difficult. Additionally, they are appraised to a greater extent in novel situations that have yet to be dealt with. In a sense the novelty is a barrier of its own. This varying relationship is the reason for the broken line between barriers and plans within the approach.
Although the ideas behind the neither resources nor barriers presented here are novel, this oppositional relationship is new. Lewin (1951) noted that barriers are a necessary concern for the accomplishment of goals, but offered little in the way of explanation as to how or what enables people address them other than that they engage in locomotions to get through them or around them. Miller and Read (1989) and Wilensky (1983) addressed resources as relevant to the accomplishment of goals, but they offered little as to why these resources or necessary or what stands in the way of goals other than a lack of resources. The positioning of these concepts in opposition to each other greatly enhances the arguments for the importance of each in the consideration of goal directed behavior. They are the deciding factors for the generation of outcomes pertaining to goal accomplishment. These outcomes shall be discussed next.
Outcomes

The final dimension of information pertaining to goal based communicative action pertains to the outcomes derived from an interaction. Returning to the example of the individual developing a plan to inform a friend of a deceased loved one:

I will call her on the telephone and set the tone of the call by saying that I have some bad news. I will then calmly and gently explain what happened and finish by saying, “I know what you must be going through and what he meant to you. I will get into town as fast as I can and I’ll be there if you need anything.”

A number of outcomes could result from the plan described above due to the resources and barriers in place as described. One outcome could be:

The friend becomes noticeably upset but maintains her composure. She thanks the individual for telling her and suggests that if s/he came as soon as possible, it would be very helpful.

Another outcome could be:

The friend becomes irritable and very upset. Apparently upset at the individual expressing understanding, she says, “You don’t know what I’m going through and you apparently don’t know me or what he meant to me. Don’t bother coming!” After this declaration, she hangs up the phone.

In the complex communication described above, either of these outcomes or many others may be very possible. Upon experiencing such an outcome the planning individual evaluates them and stores appropriate information in memory within schemata as described above. When stored, new personal scripts may be formed to be reused if this plan was successful, old scripts may be altered or abandoned if the plan was unsuccessful, or new lessons regarding expectations regarding other people may change, therefore altering the individual’s stored situational scripts.
The storage of social information to be used as scripts for later similar interactions or as social information to be used in planning for situations that deviate will depend largely on how the outcome is appraised. Perhaps without awareness, outcomes will be evaluated based on satisfaction of primary and secondary meta-goals (Berger, 1997; Dillard et al., 1989). If the primary goals were met in the most efficient, effective, and appropriate manner the individual deemed to be possible, the outcome will be appraised as successful. Even the more negative of the two responses above could potentially be evaluated as successful if the individual appraises it as the best that could be done and perhaps excuses the outcome by saying out loud, “She’s upset and she didn’t mean it.” Under such cases, even that more negative outcome could result in the individual reusing the same plan/script when a similar circumstance arises.

Direct experience with an outcome is not necessary. According to Bandura’s (1989; Bandura & Walters, 1963) social cognitive theory, individuals may alter their behavior as a function of direct experience through learning or vicarious experience through modeling. Situational scripts in particular are perhaps largely based around vicariously observing others punished or rewarded for engaging in certain behaviors. In the example of the individual informing his/her friend about the death of a loved one, not only the individual and the friend stored information to record as scripts, but also anyone who was later told about the strategy and the result. The friend may later comment to another, “He said that he understood and that he was there for me. I really appreciated that and it helped.” That person told about the experience will likely store that information into his/her own schemata to be used for later interaction.
Synthesized Planning Approach to Interpersonal Communication

To review, this text has discussed five dimensions of information relevant to describing goal based interaction. These are (1) what is an individual trying to accomplish (goal), (2) what action(s) shall be undertaken to accomplish it (planning), (3) what communication action relevant features are present that help the accomplishment (resources), (4) what communication relevant features are present that hinder the accomplishment (barriers), and (5) what outcome or level of accomplishment is achieved. Although these five dimensions are not here claimed to alone describe every facet of any interaction, it is claimed that most (if not all) information regarding an interaction could categorized into one of these five dimensions. The hope is that different communication concepts and theories (some of which discussed above) can be more tractable to other concepts in the discussion of goal directed communicative action.

The full planning approach to interpersonal communication is shown in figure 1.4. The approach was developed such that it may incorporate the strengths (and hopefully overcomes many of the weaknesses) of the various planning approaches discussed above.
FIGURE 1.4 Synthesized Planning Approach to Interpersonal Communication

The basic flow of the model could be described as follows. Individuals having interpersonal needs and recognizing that these needs may be satisfied by the exchange of social resources through interacting with others form communication goals. Upon realizing these goals (with or without awareness), the process of developing plans begins but is largely done through the activation of situational scripts and personal scripts. The activation is due to the goal in place and some recognition for the situation at hand. What cannot be planned by scripts is done through a potentially limited assessment of resources and barriers. The actual resources and barriers in place bring upon outcomes that are stored in memory and contribute to the construction or modification of scripts based on the individuals assessment of the outcomes. These scripts are then activated later when similar goals and situations arise in the future.
As discussed in the purposes described in the introduction of this dissertation, the planning approach to interpersonal communication was developed with the intent to (1) provide a basis of understanding of the components of interpersonal interaction as interdependent components and (2) serve as lens for the examination of specific interpersonal communication phenomena. This approach shall be utilized to address this focus of this dissertation: mediated interpersonal communication. With the assumption that these five dimensions may serve to arrange concepts and theory relevant to interpersonal communication, this approach shall be used to arrange theories and concepts relevant to mediated interpersonal communication into a unified approach.

In the next chapter, theory and research regarding interpersonal media shall be discussed with attention toward some of the promises and limitations currently within them. Following that, the planning approach described above shall be used in an attempt to arrange existing interpersonal media theory within the framework into a planning approach to interpersonal media use and selection.
CHAPTER 2

INTERPERSONAL MEDIA AND APPROACHES TO SELECTION AND USE

Concern for mediated interpersonal interaction is an important component of communication research. Within their theory of mass society, Defluer and Ball Rokeach (1989) note how societal growth over time as a more complex society has affected human interaction. McNeill and McNeill (2003) recount much of the history of the human race (in considerable detail) as relevant to the growth of interpersonal media. In short, interpersonal media have developed as the needs of the individuals in a society.

At present the introduction of new communication technologies has reached unprecedented levels of growth. Where new technological options once took decades to introduce, new options for interaction seem to be introduced almost yearly. These options seem to be released faster than the communication public can learn how to fully utilize them and before norms are fully established for existing technologies. Scholars studying these interpersonal media are left in a position of trying to keep up with the

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1 McNeil & McNeil’s (2003) text was largely used as a historical reference for the discussion of human growth in the introduction to the second section/question.
state of the art. The rapid growth has led to a good deal of attention toward and theorizing about interpersonal media. The rapid pace however has left a good many gaps left in theory and among concepts.

The purpose of this chapter will be to discuss this interpersonal media research and areas of growth and potential for the future. First, interpersonal media will be defined with attention to the domain communication (interpersonal communication) with which this text is concerned with respect to the media. Following that will be a discussion of three of the most common approaches to studying interpersonal media: uses and gratifications, media characteristic, and individual/group centric approaches. Within that discussion will be areas of overlap and potential conceptual compliment among the approaches.

What are interpersonal media?

In short, interpersonal media are communication channels (technological or non-technological) that enable interaction between individuals (interpersonal communication). The term, *interpersonal media*, is a relatively new label to represent the domain under current discussion. Although it has been used within at least two studies (Dimmick, Ramirez, & Feaster, 2007; Feaster, 2007b), it has not been explicated with much rigor.

The term interpersonal media is used with a concern for the continued blurring of mass communication and interpersonal communication channels. Beniger (1987) argued that due to advances in technology, any communication medium could produce messages that could be interpreted as interpersonal including media that are traditionally thought of as mass media. For example, messages included in letters sent in bulk (mass communication) could be interpreted by receivers as intended specifically for them. Due
to situations like this, Beniger argued that media channels should not be labeled based on features but should be viewed based on how individuals within the situation are subjectively experiencing the communication episode.

Based on Beniger’s (1987) arguments regarding the classification of media and a definition of interpersonal communication borrowed from Schutz (1960), interpersonal media are formally conceptualized as channels that are for communication episodes involving two or more persons, in which these individuals take account of each other for some purpose, or decision [by the impression] of either that of one [or both] of the participants or an outside observer (Schutz, 1960, p. 14).

Within the study of interpersonal media, various approaches are taken to understand their functioning. Three categories of approaches that are relevant to the development of the approach to interpersonal media use to later be described are here identified as (1) uses and gratifications approaches, (2) media characteristic approaches, and (3) individual/group centric approaches. Although the works within these three approaches were likely designed with distinct purposes in mind, there is an interdependence among them that shall be discussed as they are reviewed. Reviews of theory and concepts pertaining to interpersonal media (e.g. Walther & Parks, 2002) have used different labels to categorize the various approaches within the field. Although there will be some overlap with those reviews in material discussed, the domain taken here as a focus (as described above) may be somewhat more inclusive and require more broad categorization.
Uses and Gratifications Approaches

Scholars taking the uses and gratifications (U&G) approach assumes that individuals have communication needs (see previous chapter on goals) that can be gratified through the use of communication channels. Further, it assumes that the channels that *best* gratify those needs will be the channels used. Herzog’s (1942) study of the needs gratified by the radio game show, professor quiz is often cited as the seminal study in U&G research. According to Katz, Blumler, and Gurevitch (1973), the uses and gratifications was spawned by two driving factors.

The first driving factor was that scholars wanted to know what needs were being satisfied by media for individuals. As scholars were beginning to study different media channels (almost entirely mass media) in the 1940s, it was a question as to why the media existed. The satisfaction of needs appeared to be a logical conclusion. The second driving factor was that scholars questioned whether gratifications were a mediating factor between media exposure and media effects. After witnessing the potentially powerful effect of propaganda during World War II, the factors that made such phenomena possible was a major concern for media scholars. A majority of the studies employing the assumptions of U&G since the beginnings of the approach have attempted to identify lists or categories of needs that are gratified through the use of various communication channels.

As noted above, most of the studies of media using the U&G approach (and in communication research in general) were aimed at traditionally mass media channels such as radio (e.g. Lazarsfeld & Stanton, 1942, 1944) or television (e.g. Robinson, 1972).
As the study of interpersonal communication became more prevalent in the 1970s, the study of interpersonal media channels became an area of interest for communication scholars (e.g. Korzenny, 1978; Short, Williams, & Christie, 1976).

Although U&G approaches were largely considered to exclusively pertain to mass mediated communication throughout the first several decades of their use (Rubin & Rubin, 1985), interpersonal communication had had some presence in U&G discussions. For example, in their two-step flow model of media effects, Lazarsfeld, Berelson, & Gaudet (1944) argued that some interpersonal communication was involved in individuals' use of the media in the construction of their opinions. Later, Katz et al. (1973) noted that in satisfying needs, mass media were in effect serving as functional alternatives to more "conventional and older ways of fulfilling one's needs" (p. 511). In referring to these means, Katz et al. was referring to the satisfaction of needs through interpersonal interaction. Although interpersonal communication was present to some extent within U&G approaches, studies aimed specifically at gratifications for channels devoted to interpersonal interaction did not come until the study of interpersonal communication came to be recognized as legitimate area of interest within communication studies.

In keeping with the tradition started in mass media research, scholars that began to examine interpersonal media specifically attempted to identify the motives and functions of interpersonal communication and interpersonal media. As it was one of the oldest interpersonal media (save handwritten correspondence), the telephone became the
focus of a majority of the early studies following the approach. Keller's (1977) study of
the social impact of the telephone is often cited as a seminal U&G study in interpersonal
media.

Although Keller (1977) was not taking a U&G approach per se, consistent with
the tradition, she identified to classes of uses (or needs satisfied by use) of the telephone.
She proposed the intrinsic (e.g. social, emotional, etc.) and instrumental (e.g. task,
functional, etc.) classes of telephone use. Since these two classes of use or needs were
introduced, they have been utilized in many U&G studies since then using either the
same labels or variations with the same meaning (e.g. functional and relational, Classie &
Rowe, 1987). Although both dimensions have often gone by a variety of names, have
been divided into multiple dimensions, or have been added upon, the conceptualizations
of the two have remained relatively consistent. The intrinsic gratification dimension has
typically included social needs such as connection, affection, and support. The
instrumental dimension has typically included nonsocial needs such as performing
everyday tasks, scheduling appointments, and dealing with emergencies. For the sake of
being consistent with more recent research, the intrinsic dimension shall here on be
referred to as the sociability dimension.

Shortly after uses and gratifications approaches were used as a base of
understanding interpersonal media, scholars began to investigate the motivations for their
use empirically. Dimmick, Sikand, and Patterson (1994) used telephone interviews to
identify motives for use of the telephone. The open ended responses were used to
construct close ended gratification measurement items. After two rounds of collection
and factor analysis, they identified three gratification obtained dimensions. These
dimensions included the familiar sociability and instrumentality dimensions as well as a new reassurance dimension that at face would appear to be a part of sociability but did not load with the other items. All three dimensions were found to be significantly correlated with the number of telephone calls reported by respondents.

Okeefe and Sulanowski (1994) studied the telephone using a U&G approach with an appreciation for the overlap of interpersonal communication and mass communication needs. In doing so, they used a "healthy mix" of commonly used questionnaire items measuring mass media gratification dimension and the interpersonal gratification dimensions offered by Rubin et al. (1988). Their factor analysis revealed two instrumental dimensions (acquisition and time management), a sociability dimensions, and an entertainment dimension. All dimensions significantly predicted the number of calls made and received and all but acquisition significantly predicted amount of time spent during calls.

Wei and colleagues (Leung & Wei, 1998; 2000; Wei & Lo, 2006) were among the first to study mobile interpersonal media. Among more traditional needs, their study of mobile pagers identified a "fashion and status" dimension (Lueng & Wei, 1998). In their study of the mobile phone, which at the time was becoming increasingly more affordable for the average person, (Leung & Wei, 2000) again built on the traditional needs by adding the needs of information seeking, mobility, and accessibility. The conceptualization of the last two of those three newly added needs, mobility and accessibility, were very similar to Dimmick and Albarran's (1994) conceptualization of gratification opportunities in their study of VCR and cable TV use which involves a medium's capacity to satisfy needs while overcoming barriers in time and space (to be
discussed below as a media affordance). Wei and Lo (2006) replicated Lueng and Wei's
(2000) list of dimensions and found associations with dimensions of social connectedness
and with calls made and received from people of different types of relationships.

Critiques of Uses and Gratifications

Various scholars have been highly critical of the use of the U&G approach to
study both mass media and interpersonal media. The critiques of the approach generally
fall into one of three general categories: (1) over emphasis on the individual, (2) attention
to media channels independent of other options, and (3) a lack of theoretical explanation
as to what leads to needs satisfied during use and how the satisfaction of needs drives
use. In his discussion of media interpretation, White (1994) perhaps best captures the
over emphasis on the individual in U&G research when he says:

Every culture has a dominant world view and ethos and this tends to express
itself, consciously or unconsciously, in the "preferred reading" encoded in the media. In
the classical formula, audiences are "free to select", but in determinate situations
which are not of their choosing. Media consumption is determined more by the
availability of content than by audience selection. Audiences tend to define their
preferences according to what is available (White, 1994, p. 7).

In making this argument, White (1994) is denoting the importance of mass media (and
implicitly interpersonal media) users need to participate in a larger communication
systems. Individuals may have wishes to use different types of media, but they may only
select from what is available. What is available is largely determined by the preferences
of the larger population as opposed to preferences of the individual.

Although not identified as U&G studies and not explicitly aimed to address this
limitation, Dimmick and colleagues' (Dimmick, 2003; Dimmick, Kline, & Stafford,
2000; Dimmick, Ramirez, Wang, & Lin, 2007; Ramirez, Dimmick, Feaster, & Lin, In
press) applications of U&G constructs to the bioecological theory of the niche have been informative in how gratifications operate in the communication systems surrounding users. When applying the theory of the niche to interpersonal media use, an assumption is made that the media available to a population are competing and coexisting based on their ability to satisfy user needs.

As opposed to measuring gratification dimensions (e.g. sociability) for each medium under analysis independently, within studies taking a niche perspective, gratifications are compared among media to determine levels of competition and patterns of superiority within gratification dimensions. Doing so provides insight with regard to how a medium is serving a population in relation to other channels as opposed to consideration of individuals.

Although not explicitly argued in any niche study, the patterns of service described above can be understood at varying levels of scope with regard to the population served. Although Dimmick (2003) offered some discussion for the hierarchical levels of niche analysis, his discussion pertained exclusively to hierarchical categories of resource dimensions (e.g. sociability gratifications within the larger resource dimension of gratifications obtained).

Considering the levels of niche analysis with regard to the system under analysis, the niches of media can be understood in a manner consistent with the cybernetic tradition of communication studies as identified by Craig (1999). Within that tradition, all individuals have an effect on the larger group and the trends of the larger group have an effect on the individual in a cyclical relationship (Littlejohn & Foss, 2005). This balance
between the impact of the will of individuals and that of agency of the larger population is based on the assumption that all individuals who interact with each other (or have the potential to interact) are interdependent parts of hierarchically situated systems.

In applying the ideas of systems and cybernetic perspectives to the theory of the niche, the population (system) a medium serves can be thought of as a defining feature of the environment within which a medium forms a niche. Patterns of service can be formed at various systemic levels: societies, communities, organizations, groups, or even dyadic relationships. More specifically, the niche of a medium can take different forms depending on the range of individuals (the systemic level) whose gratifications obtained are considered. The implication of these patterns of service in providing gratifications at different levels of abstraction is that they may be a pattern of expectations for a measured population within a system in how gratifications will be satisfied through media use. The niche of a medium within a system may become the “preferred reading” for the members within that system. Two studies perhaps demonstrate this point.

Dimmick et al. (2000) found that when telephone and e-mail were compared for an Ohio based sample, the telephone was found to be superior to e-mail for sociability gratifications and e-mail was found to be superior to the telephone in gratification opportunities (as noted above, gratifications that require overcoming limitations due time and space). Ramirez et al. (In press) found that when comparing the landline telephone, cell phone, instant messaging, and email, a pattern of superiority emerges in the provision of gratification utilities for an undergraduate sample. Listed from most superior to least
is cell phone, instant messaging, e-mail, and landline telephone. This two studies suggest that patterns of superiority may be different for different populations and perhaps at different points in time.

Implicitly, one could speculate that the superiority trends within the analyzed systems would affect the use patterns of the individuals due to a wish to communicate competently and meet the expectations of others with whom they communicate. People are interdependently related to others within any system of which they are a member (Watzlavick et al., 1967) and their actions must fit with that system. Although not a niche study, consistent with this claim, Dimmick, Ramirez, Wang & Lin (2007) obtained results that indicated that the make-up of one's social network of individuals with whom s/he interacted using relevant media had an impact on the use patterns of the individual in interacting with those network members.

The second critique of U&G research noted above, “attention to media channels independent of other options” is addressed by Reagen (1996). In a discussion of information seeking uses of media, Reagen argued that individuals do not just consider and/or use just one medium to accomplish their goal. He continued to say that individuals have a “subset” of media options available known as a repertoire from which they consistently use to satisfy the need. Feaster (2008b) built on the Reagen’s (1996) repertoire concept by making the claim that media within an individual’s repertoire must compete and coexist in a fashion similar to that claimed by theory of the niche at level of larger groups. As at the level of larger systems (groups/societies), media establish a role or repertoire niche relative to other media options that have implications for use by the individual. In Feaster’s (2008b) analysis, patterns of superiority in providing
gratifications as perceived by users were predictive of differences in use among channels. Additionally, in partial address of the first critique of U&G research, Feaster found that the pattern of superiority for the sample taken as a whole (system level competitive superiority taken from Ramirez et al.'s, In Press, analysis) appeared to have an impact on how repertoire niche dimensions affected use by an individual. In short, the results indicated that the effects of the individual level repertoire niche dimensions were weaker for media associations where there were stronger the patterns at the system level.

The third critique of U&G research, the "lack of theoretical explanation as to what leads to needs satisfied during use and how the satisfaction of needs drives use," is perhaps the most common critique of the approach and the central argument against the U&G approach to be regarded as a theory in its own right. DeFleur and Ball-Rokeach (1989) summarize this critique by arguing:

"The uses and gratification perspective has generated little more than lists of 'reasons' for which people claim they attend to different [media] or lists of 'satisfactions' that people say they obtain from attending to the media. The perspective does not provide much in the way of systematic explanation beyond that. Whether such self-identified factors are the actual reasons and satisfactions underlying [media use] remains an open question. Thus the [uses] and gratifications perspective currently remains limited and unsystematic (p. 187-188).

Little has been done since DeFleur and Ball-Rokeach's (1989) comments to improve the atheoretical nature of the U&G approach. Even though it continues to have intuitive appeal (as indicated above by how interpersonal media are being defined within this text), many have abandoned the use of the perspective altogether. Palmgreen, Wenner, and Rayburn (1980) improved the theoretical quality of the approach by segregating the motivation and pursuit of needs (gratifications sought) from the needs
ultimately derived from using a medium (gratifications obtained), but the question still remains: What is it that intercedes gratifications sought and gratifications obtained that explains uses and gratifications as process as opposed to a quaint media use explanation? It is the position forwarded in this text that this limitation may be overcome, if U&G approaches to interpersonal media could be understood in relation to other existing media theory. Katz et al. (1973) offered a speculation on this that has never been followed upon:

Each medium seems to offer a unique combination of: (a) characteristic contents [as perceived by users], (b) typical attributes, and (c) typical exposure situations. The issue, then, is what combinations of [these things] may render different media more or less adequate for the satisfaction of different needs (p. 514).

Katz et al.’s (1973) arguments show particular relevance to the two other approaches to interpersonal media that have yet to be connected to U&G research in a formal treatment. The connection between the U&G approach and the concepts and theories within the media characteristic and individual/group centric approaches shall be made explicit after those two approaches are discussed.

Media Characteristic Approaches

Scholars taking media characteristic approaches have make the assumption that features built into a medium that provide different opportunities or impediments to communication will (or should) drive selection and ultimately affect outcomes of using the medium. Although the uses and gratification approach is generally considered the oldest approach within modern communication research, upon inspection of literature and classic writings, media characteristic approaches are perhaps the oldest in human thought on the use of media. For example, in the 17th century Francis Bacon (1899) in his essay,
Of Negotiating, discussed the importance of speaking in person over other forms of correspondence. He noted, “It is generally better to deal by speech than by letter” (pg. 152). He elaborated on this further in the sentences that followed. “To deal in person is good in tender cases, where a man’s eye, upon the countenance of him with whom he speaketh, may give him a direction how far to go; and generally, where a man will reserve to himself liberty, either to disavow or to expound” (pg. 153). With his statements comparing the two channels, Bacon was commenting on the features of face-to-face conversation that were not present in written letters. The feature of being able to see the nonverbal responses, he argued, aided a person in achieving the best possible outcome when engaged in negotiations.

In the 20th century, Shannon and Weaver (1949) took an engineering or radio perspective in the production of the quaint model of communication now familiar in a wide variety of introductory textbooks on communication studies. They argued that senders must use communication channels or media to send messages to receivers. By their account, any medium used will carry a certain amount of “static” (or interference) that will diminish a receivers ability to properly decode a message to mean what was originally intended by the sender.

Bacon and Shannon and Weaver’s perspectives are largely the base of the studies of interpersonal media that utilize a media characteristics approach. Virtually every study that takes this approach makes a claim about some physical feature of a medium that is claimed to have some beneficial or impoverishing effect on communication. As organizations have typically been the early adopters of interpersonal media to gain a competitive advantage, most early studies in modern communication scholarship were
conducted in the organizational setting. As a result, much of the concern pertained to what channels would produce the most effective and efficient communication possible. Consistent with Bacon’s (1899) claims, much of the thinking pertaining to what features distinguished interpersonal media as more or less effective or efficient pertained to nonverbal communication.

Borman, Howell, Nichols, and Shapiro (1969) in a discussion of interpersonal communication in an organizational context, described nonverbal features to be *transformers* in the communication process that separates face-to-face interaction from other channels. They noted that simple nonverbal features that are present in the way things are spoken greatly alter the meaning of a message such that a string of text could be interpreted in two polar opposite ways simply as a result of stress, pitch, and inflection. The presence of this effect was described to be the primary differentiating feature between written correspondence and interaction involving voice. Gestures and use of space were elaborated as the distinguishing nonverbal feature between all mediated channels of communication\(^2\) and face-to-face conversation. The nonverbal features in this context were noted to be at times more important than the linguistic content of messages. The authors elaborated on this point through an example of a manager responding to a proposal:

> The receiver tends to believe the gesture rather than the word. If a person leans his face in his hand with a sigh and says with a tired expression, “I am very excited about the new line,” his listeners are not likely to believe him (pg. 141).

\(^2\) Mediated video interaction was of course at the time not a commonplace option for interpersonal exchanges.
In summary, their primary point was that when nonverbal features are reduced when moving across media, the dynamic of the communication within an interaction and with it the meaning interpreted from the communication changes.

Furthering on the functionality of media as it pertains to organizational communication, in a series of studies, Graham and Zavala (1967) examined the outcomes of using different media in different situations. Apparently due to a lack of nonverbal capabilities, participants reported difficulties in transmitting impressions and emotions over formal (written) media. Based on this, telephone calls were found to be superior for settling matters than written media. Taken further, when situations rose to a higher level and extra precision was needed, the telephone was found to be inadequate and meeting in person was argued to become almost entirely necessary (Graham, 1967, Graham & Zavala, 1967, Zavala & Graham, 1967 as cited in Bodensteiner, 1970).

One of the most recognizable concepts within media characteristic approaches is the concept of media richness. Although the richness concept is most commonly associated with information richness theory (to be discussed below, Daft & Lengel, 1984; 1986), it was first formally applied to interpersonal media by Bodensteiner (1970). Within the context of organization communication, Bodensteiner (1970) framed richness around two features of a medium. The first feature was rather technical and similar to Shannon and Weaver’s (1949) view of media involving the capacities of media to transmit varying bulks of information and the speed at which this could be done. The second feature was somewhat ambiguous in that it described a medium’s capability to convey “true meaning.” This feature was based strongly on nonverbal artifacts that could
be included in an interaction and had a great deal of pertinence to feedback. In broad terms, this was also the first place the media richness continuum (rank order of media by richness capacity) was discussed.

Nonverbal communication was also the basis of Short, Williams, and Christie’s (1976) very abstract and now very popular concept of social presence. Using Argyle’s (1969) claims regarding how nonverbal communication may aid social performance, they argued that the different nonverbal features built into a medium would alter media users’ perceptions of shared (or unshared) communication spaces. The core of their argument was that media that are higher in social presence (such as the videoconferencing technologies that were being introduced at the time) would better simulate unmediated communication situations and generate more positive outcomes. Ironically, even though, Short et al.’s conceptualization was based on nonverbal signals their measures pertained to abstract perceptions of a medium being “warm,” “sensitive,” or “friendly.” Even though their meanings were/are ambiguous, such scales have tended produce correlations with communication outcomes. Findings have been consistent to the point that social presence has developed into a tradition of media research (e.g. Lombard & Ditton, 1997). Although the topic of presence raises a good deal of intrigue with regard to what is to experience a shared space with another human being, up to this point however, there is disappointingly little conceptual or theoretical clarity with regard to what it is about “perceptions of shared spaces” that produces any communication outcomes.

Although later media characteristic approaches to interpersonal media study incorporated concerns for features that enabled nonverbal communication, they incorporated a wider variety of factors. For example, Sproul and Kiesler (1984) argued
that different media had different characteristics that conveyed social context cues. For instance, when meeting a superior in an organization in his/her office, the physical setting carries meaning such as status that ultimately affects how an individual will process messages in the situation. They argued the e-mail (a relatively new organizational medium at that time) lacked these context conveying characteristics. This led them to conclude that channels such as e-mail would lead to an equalization of power among superiors and subordinates and lead to more self absorbed communication behavior. Social context interpretations later became an important component in what shall later be discussed as media affordance perspectives (specifically, Spears & Lea’s, 1994, SIDE model) that denote how individuals use what is present in a medium in generating outcomes.

Another media characteristic approach that went beyond nonverbal communication, Daft and colleagues’ (Daft & Lengel, 1984, 1986; Daft, Lengel, & Trevino; 1987) information richness theory with its cornerstone concept media richness is perhaps one of the most recognized approaches to media use in this category. Daft and colleagues, like most interpersonal media scholars who preceded them, were interested in organization communication and in creating prescriptive theory that would make the most functional organization. Based on previous organization theory (e.g. Galbraith, 1973; Weick, 1979), they argued that within an organization there is a constant presence of uncertainty or a lack of information. For workers to do their jobs, they must reduce uncertainty for information that is relevant to their everyday functioning. Standing in the way of overcoming this uncertainty is equivocality.
Equivocality pertains to dimensions of a communication situation that may make uncertainty reduction difficult such as information complexity, ambiguity or lack of predictability in a situation, and/or emotional temperament in the situation. As workers communicate with each other, information exchanged has the ability to reduce or enhance uncertainty due to this equivocality. *Information richness*, they argued, is a characteristic of information that denotes its ability to overcome equivocality and reduce uncertainty through clarity of meaning. Information richness was the result of a combination of the source of the information and the media channel that is used to convey it. *Media richness* pertains to a medium’s capacity to carry information that was high in information richness. Put more directly, media richness is a medium’s capacity to overcome equivocality and convey information in a clear manner to reduce uncertainty.

As conceptualized by Daft and Lengel (1984, 1986), media richness was based off of four characteristics that could be applied to any communication medium: cues, feedback, personalization, and varied language. *Cues* were a collective term that encompassed characteristics that were familiar to interpersonal media research up to that point including nonverbal communication, emotions, and formality (social context). In short cues allowed for conveyance of subtleties about an interaction. *Feedback* referred to what scholars later called synchronicity and referred to how quickly a medium allowed messages to be exchanged back and forth between users. The assumption was that equivocal situations would require more messages to be exchanged and feedback would allow matters to be addressed more quickly. *Personalization* was conceptualized as a characteristic that allowed individuals to tailor their messages to their own personal needs. With an assumption that people understood their situations, this characteristics
could ensure higher quality messages in overcoming subtle sources of equivocality.

*Varied language* pertained to a medium's flexibility in allowing a wider array of linguistic tools to convey meaning. Some media, they argued, would only allow numeric data while at the other end of the spectrum other channels would allow for virtually any linguistic form allowing a communicator to be as flexible as necessary in construction of meaning.

As noted above, Daft and Lengel's (1984, 1986) information richness theory was a prescriptive theory of organizational functioning based around the notions of efficiency and effectiveness. Their core argument was that media there were greater in the qualities described above (greater media richness) should be used to address situations as they became increasingly equivocal. Conversely, they argued that media that were less rich should be used as situations became decreasingly equivocal. These arguments were made without concern individual skills or preferences and with more concern for worker time management (Lengel & Daft, 1988). For example in an organization, according to their claims, simple information that can be clearly conveyed with a few brief sentences should be conveyed over a less rich medium such as a memo. The rationale was that going to speak about it in person could waste time and lead to a lack of productivity.

In an empirical investigation of their claims, Daft et al.'s (1987) findings indicated that managers in an organization who reported patterns of use consistent with the claims of information richness theory tended to be the more efficient and effective managers within the organization by the organization's own internal review standards.

Unfortunately, some have interpreted Daft and colleague's prescriptive organizational arguments to be explanatory or predictive arguments regarding how
individuals actually will behave in their interpersonal media use. Findings that indicated that individuals used media in organizations that were not consistent with what they should do to be productive as argued by Daft and colleagues was taken to be evidence of disproof against information richness theory. For example, Rice and Love (1987) found that members of an organization used e-mail (a traditionally less rich medium) for socio-emotional communication (traditionally more equivocal situation) as opposed to task-oriented communication, which by the claims of information richness theory, should be inappropriate. Additionally, Markus (1994) found that even for task oriented communication, some effective managers reported media use behaviors that were inconsistent with the theory.

Media richness as a medium characteristic when taken out of the context of information richness theory (again a organizational functionality theory) is a poor predictor of individual behavior or perceptions (Rice, 1993). The concept of media richness, however, has an appeal due to it being one of the few media dimensions that has been proposed in interpersonal media literature that is in place to overcome some problem in communication. It is for this reason that it has received more attention in this discussion. As elaborated in the earlier discussion of goals, plans, and scripts, and as shall be built upon later, communication outcomes are the result of helpful factors overcoming hindering factors. Interpersonal media are no different. With some other media characteristics (and some affordances to be discussed) aside from media richness, assumptions have been made that a feature is important because it seems to like it should be something that should make communication better. Short et al.'s (1976) social presence concept is a standout example of this. As discussed above, the social presence
of a medium is its capacity to bring communicators to perceive that they are sharing a communication space (copresence). This capacity is discussed by scholars as important in the creation of high quality communication, but with very little discussion as to what it is about a lack of copresence that brings upon negative outcomes. What specific problem does copresence overcome to produce outcomes?

As stated above, media richness, when conceptualized entirely around built in media feature, is very limited in explaining everyday media use and outcomes. However, when expanded to address the place of the individual and his/her own unique experiences, it and other media dimensions have demonstrated to be more effective in this regard. The discussion to follow regarding individual/group centric approaches to interpersonal media study shall explicate how media characteristics operate in intersection with specific communication situations and specific users to bring upon outcomes.

Individual/Group Centric Approaches

In contrast to media characteristic approaches that are based in the claim that built in features will be paramount in producing outcomes for communication situations, individual/group centric approaches recognize that experiences involving interpersonal media use will differ depending on a wide variety of a wide variety of factors that although pertain to the media are external to them. The position forwarded in this section is that media use outcomes are the ultimate result of an intersection of factors pertaining to the medium, the individual participants, the larger group, and the communication situation. The discussion of this intersection shall incorporate how media characteristics may be used in a more useful manner than being entirely technologically deterministic.
The ideas behind the intersection with then will be discussed with regard to how they may help to fill the gap between gratifications sought and obtained as noted to be an everpresent limitation within uses and gratification approaches.

First, theory and concepts that have improved upon media characteristic conceptualization will be discussed. The key to this shall be that media characteristics are better thought of as a component of media affordances or what individuals are ultimately able to do with media. Following that will be goal/situation centric approaches that fit these affordances into the context of use situations as they intersect with the goals of users involved.

*Media characteristics as media affordances*

As stated above, theory and conceptualization focusing on media characteristics had a high degree of prevalence during the early study of interpersonal media. Korzeney (1978) proposed an approach that incorporated media characteristics but did not discuss them as the ultimate determinant of outcomes. Thinking far ahead of his time, Korzeney noted in his electronic propinquity theory that when interpersonal media options are limited, communicators have the ability to produce desirable outcomes with what is available. Although the only empirical test of the theory did not produce results that supported its claims (Korzeney & Baur, 1981), question has arisen with regard to the quality of the methods used (Walther & Parks, 2002).

Contemporary research has shown that different people, as Korzeney claimed, can produce different outcomes with the same media depending on the situation in which they find themselves. Due to findings obtained that were in contrast to what was claimed in media characteristic approaches (e.g. Markus, 1994; Rice & Love, 1987) scholars
began to rethink the impact of media features in producing outcomes and began to consider reasons why claims such as Korzeney's might ultimately be true. In essence, different people could perhaps be afforded different enablements that could produce outcomes beyond what would be expected from media characteristics alone.

A lot of the work extending media characteristic approaches has been done with the media richness concept. Again, within the context of Daft and Lengel's (1984, 1986) information richness theory, media richness was a built in feature in a medium due to its characteristics. The media richness concept, as discussed above, became increasingly more discussed out of the prescriptive context of information richness theory and scholars began to question how these characteristics could be experienced differently among individuals and how these differences could explain differences in outcomes. It was perhaps a focus because it was the sole media characteristic to be discussed in terms of what communication problems it solves: equivocality.

Fulk and colleagues (Fulk, 1993; Fulk, Steinfeld, Schmitz, & Power, 1987; Schmitz & Fulk, 1991) posited that media richness could become a social construction based on the meaning systems within a network of communicators. Using Salancick and Pfiefer's (1978) social information processing perspective, they argued that through the course of interacting with others everyday in an organization, individuals begin to appraise communication situations in an increasingly similar fashion. They argued that this can be the case for the media richness of communication channels used as well. A medium can become more or less rich for individuals depending on the pattern of use and sentiments of other within the group. Restated, individuals are afforded with a greater (or
lesser) ability to convey meaning with networked others using certain communication channels depending on the patterns of use and sentiments toward the channels. Scmitz and Fulk (1991) found some support for these conclusions in a network analysis.

With their channel expansion theory, Carlson and Zmud (1994) furthered Fulk and colleagues’ arguments with regard to how media richness is affected by communication with others. Consistent with Daft and Lengel’s (1984,1986) regarding medium characteristics, Carlson and Zmud (1994) acknowledged that the built in features of a medium have an unarguable affect on communication outcomes. They referred to these factors as determining the *nominal media richness* of a medium. The nominal media richness denoted the built in capacity of a medium for communicative actions that is either fully- or underutilized. The use of this capacity in a situation was argued to be based on the user, the situation, and his/her communication partners. Previous experience with the use of the medium, the topic, communication partners, and the communication situations allowed users to maximize the potential capacity of the medium in the generation of what they called *communication richness*. They argue:

[The] capability of the information [to reduce equivocality] is not determined by the channel through which it was communicated, but rather by the interaction of the information and the communication participants within a given context. It cannot be said that information carried on a rich medium will necessarily reduce equivocality in a situation. Information richness is not the amount of social presence or context carried in messages, rather it is the amount of equivocality reduction afforded to an individual or communication group by the processing of [certain messages] (Carlson & Zmud, 1994, p. 281).

With these statements, Carlson and Zmud (1994) capture the conceptual migration of media richness as a media characteristic to a media affordance. Media affordances pertain to what an individual is able to accomplish with a medium. Perhaps more
importantly, what communication problems an individual is able to overcome (e.g. equivocality) to produce desirable outcomes. Carlson and Zmud (1999) found evidence to support their claims; however, their approach has been underutilized.

Other affordances that overcome communication problems have been discovered that are the result of “interactions” between users, media features, and situations. In assessing the gratifications involved in cable TV and VCR, Dimmick and Albarran (1994) serendipitously discovered a factor that would not load with other gratification dimensions that they named gratification opportunities.

Gratification opportunities pertain to a medium’s ability to gratify needs while overcoming constraints (barriers) in time and space. Dimmick and Albarran (1994) deduced from their findings that individuals were able to get access to content that their busy schedules otherwise would not allow if they did not have the gratification opportunities that were afforded to them by VCRs.

When gratification opportunities were investigated for interpersonal media, as discussed above, Dimmick et al. (2000) found that gratification opportunities greatly contributed to the usefulness of e-mail apparently due to individuals frequently needing to exchange quick messages with people who may not be available to speak at the same time. Although gratification opportunities have been framed within Dimmick’s (2003) application of the theory of the niche to media studies, Dimmick and Albarran’s (1994) conceptualization shares a high degree of consistency with media affordances as discussed by Carlson and Zmud (1994) and as forwarded here. Dimmick and Albarran (1994) explain:
Gratification opportunities is defined as the perceived attributes of a medium relating to time use and expanded choice of content... They are perceived time and space attributes of a medium... [With regard to attributes], they [more] reflect attributes of individuals rather than attributes of a medium (p. 224).

Similar to Carlson and Zmud’s (1994) arguments for an interaction between the user and the medium that serve to produce communication richness, Dimmick and Albarran (1994) argued that the interaction (or perhaps better described as the intersection) between the medium and the user allow him her to achieve desired outcomes. As emphasized in the relationship between resources and barriers in the preceding chapter, the resulting affordance of the interaction being used to solve a communication problem is what enables the user to reach outcomes.

Carlstein (1983) argued that the high paced and complex society of today within which individuals are navigating in time and space creates “coupling constraints” that prevent them from sharing time with important others. Considering these coupling constraints makes the importance of a media affordance such as gratification opportunities clear. The ability of a medium to allow an individual to overcome barriers in time and space (noted in the introduction as the potential reason media were invented in the first place) is essential to achieving desirable outcomes through media use.

The important thing to recognize in terms of media affordances is that although an interpersonal medium or any other tool has built features that are more or less beneficial to outcomes, the intersection between those features and the skills and goals of individual are what will ultimately determine outcomes. Although some of the scholars mentioned

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3 Although this conceptualization of media affordances as intersections between media users, use situations, and the features of the medium is in large part a new approach to concept, the ideas behind it are not entirely the invention of the author. Gratification opportunities, as discussed by Dimmick (2003) are resources that support the existence of media and the industries that have stake in them. Recently, this idea
above discuss media affordances as perceptions of the media or that media become social constructions in the mind of a user; perception and social construction may be misleading to what is leading to effects.

Perceptions and social constructions indeed may play a part in the media use experiences of individuals, but it should not be presumed (as it sometimes appears to be) that interpersonal media become something entirely different in the hands of one user as compared to another. The media are still the same media with the same features. There is nothing any communicator could do to make a traditional e-mail convey the sound of his/her voice. It is not the perception of the features that matters. As stated above, it is the intersection of these features with the individual and the situation that matters.

A non-media example followed by a media example may make the point of this intersection clear. The scalpel is an important tool in the practice of modern medicine. It has features that make it a desirable choice for the health maintaining tasks it is used to accomplish. It is extremely sharp and made of durable yet very light materials. These features enable surgery to be done with precision, efficiency, and control, all desirable outcomes. These outcomes, however, are only in part due to the features of the instrument used. Only a surgeon who has a level of talent and has developed his/her skills through years of training will be able to use those features to their fullest extent. If

has been reconsidered. During conversations with Dr. John Dimmick about this reconsideration, the author insisted that they were resources as originally discussed while Dr. Dimmick insisted that they (cont...) were something different. Ultimately, the ideas regarding media affordances discussed in this text are the result of these conversations and Dr. John Dimmick’s arguments regarding the new conceptualization of gratification opportunities. Although the term used here is intersections, he initially suggested that characteristics of the medium and the individual could be best understood in the context of a Venn diagram where the overlap between the two would ultimately be what is relevant in determining outcomes. This metaphor has been merely extended to other media use dimensions.
the author of this text attempted to produce the same outcomes with the same instrument, failure would be imminent. The outcomes of the use of the instrument then is an intersection between its built in features and the goals and skills of the individual.

With an interpersonal medium the same holds true as with the case of a scalpel. A telephone has built in features that have an undeniable impact on outcomes. The telephone has the characteristic of allowing communicators to hear each others voice but not see each other. Again, like the surgeon with scalpel, a skilled person in controlling his/her voice and reading meaning in the voice of others will be able to produce better outcomes than one who does not have this ability. Successful sales associates serve as a good example of this. Through experience, some associates develop the ability to hear in the tone of a buyer’s voice that either s/he is ready to buy or still needs some convincing. The lack of visibility allows the associate to keep highly detailed notes regarding the buyer (which many of the best do) that would potentially make copresent communication awkward. Using the extensive knowledge from these notes and his/her ability to convey assurance in his/her voice, the associate is able to make the most of the features of the channel and make a sale. Again, it is not the features of the medium, nor the perceptions of those features that matter; it is how the features of that medium operate in the context of the skill and goals of the individual that produce outcomes. What communicators are allowed to do in context is the core of media affordances.

Goal/Situation Specific Individual/Group Centric Approaches

Although understanding developed regarding the place of media affordances in producing outcomes were a tremendous contribution of individual/group centric approaches to interpersonal media, studies that have considered how different media
operate in actual use settings with different user goals have provided a great deal of insight as well. A majority of this work has dealt with computer mediated communication (CMC). What has potentially been appealing about CMC as a focus of study is perhaps that channels of this variety are unique to non-computer channels in that strangers interact and to some extent remain strangers. In short, CMC channels allow anonymous interactants to maintain their anonymity to a level of their choosing as relationships develop. With virtually every other interpersonal media channel, communicators must know each other or identify themselves before discomfort arises.

At least two theoretical traditions have arisen out attention to anonymity. These are Lea and Spears' (1992, Lea & Spears, 1992) social identification/deindividuation model (SIDE) and Walther's (1992, 1993; 1996) social information processing theory of computer mediated communication (SIPT). Lea and Spears (1992) SIDE model was introduced to explain the reasons for the apparent disinhibitory effect that CMC seemed to have on people. Some people engaged in what was called “flaming” where they would become more socially aggressive toward other communicators than they would in normal social interactions. Similar to Sproul and Kiesler's (1984) regarding social context cues, Spears and Lea (1992; Lea & Spears, 1992) noted that in CMC settings there is very little to base perceptions of the social situation or how to frame expectations of behavior.

According to Spears and Lea (1992), when uncertainty arises and anonymity is in place among a group of communicators in CMC, they form impressions of group norms and categorize themselves and others based on these supposed norms. When these impressions arise, information provided due to behavior or labels in the situation can place people into in-groups and out-groups by the impression of those involved. The
members of the perceived in-group come to be treated more favorably and deviations from the perceived norms are more easily forgiven. For those in the out-group, any deviation from the perceived norm leads to an enhanced negative impression and potentially negative treatment from other group members (flaming).

Walther’s (1992; 1993) SIPT argued that anonymity in CMC could operate in the opposite direction and was among the first theories to explain how relationships could develop over a seemingly socially impoverished medium such as text based CMC. The core argument of SIPT was that much of the information shared during CMC interactions was very similar to face-to-face or other classically richer channels. Walther was critical of previous studies that had compared CMC to other channels by providing study participants with a set amount of time to interact and then comparing the outcomes. When this had been done, the result was always the CMC was inferior for complex communication tasks such as relational development.

Walther (1992; 1993) argued that if given enough time, CMC interactions would eventually converge with traditionally richer channels. With subsequent investigations of SIPT, Walther (1996) found that CMC channels had the potential to surpass traditionally richer channels in relational development under the right circumstances; personal communication could become hyperpersonal. The key to the hyperpersonal effect was anonymity and an intersection of communicator goals between interactants.

According to Walther (1996), when two strangers meet in an online setting, all they generally have to base an impression of the other person is what is presented by one another and their own speculation. If both have the goal of developing a relationship in the anonymous interaction setting provided by the channel, each person may form an
ideal vision of the other person and provide only ideal information about his/her self. This can produce a cyclical exponential effect from each person interpreting the idealized information provided by the other in an idealized fashion. Relationships can appear to develop much faster than in face-to-face settings because there is nothing in place to counter any of the idealized information or perceptions. Different factors have been investigated to determine the effects on anonymity including the effects of pictures (Walther, Slovaceck, & Tidwell, 2001) and emoticons (Walther & D'Addario, 2001). In generally, changes in anonymity are what affect the rate of development in CMC; as initial anonymity decreases (due to pictures or otherwise) the hyperpersonal effect diminishes.

Walther's (1992, 1994, 1996) SIPT and the related hyperpersonal effect suggest a potential media affordance that had not been considered in previous treatments; the allowance of an individual to regulate the information shared and exchanged during an interaction. The strategic provision of information is an important concern for general interaction and can mean success or failure in particular encounters aside from anonymous stranger relational development.

Bavelas, Black, Chovil, and Mullett (1990) noted that there are many social situations (meeting desirable others included) where an individual will attempt to ambiguously control information exchange to present a more desirable image of self. This argument for equivocal communication is consistent with Walther's (1996) discussion of presenting only idealized information in relational development.
Such actions, however, are perhaps most useful in face-threatening situations (e.g. Brown & Levinson, 1987; Goffman, 1967) where individuals must diffuse potential embarrassment or imposition and maintain order in the interaction.

Out of interest in problematic communication O'Sullivan (2000) investigated media use during face-threatening communication acts. He found that when individuals are experiencing such situations, they want to control the interaction as much as possible and will consequently prefer mediated channels to face-to-face conversation.

Although O'Sullivan's (2000) claims were groundbreaking in that he was among the first to claim that less (nominally) rich media would be preferred for a complex and potentially emotional task, Feaster (2008a) argued that the conceptual mechanisms for why the media would be preferred were for factors outside of richness. If a lack of richness in a medium is what allows individuals to control information exchange during an interaction, a conceptual vacuum reveals itself. Individuals should not be able to deceive each other (a potentially highly face-threatening act) when interacting in person. A gambler's poker face serves as a good example of this. Poker has traditionally been a game played in person while players sit at close distances almost literally face-to-face. To be successful in the long run, players must be able to bluff and maintain their "poker face" to deceive the other player that they are actually more comfortable than they really are. In short, they must tell a lie while sitting nearly nose to nose with another person. By O'Sullivan's (2000) argument, the face-to-face channel would be too rich in the situation to allow for proper control. Feaster (2008a) argued for a media affordance that would operate with self presentation goals in such potentially face-threatening situations.
Using Park’s (1985, 1994) conceptualization of communication competence as interpersonal control and Burgoon’s (1992) dimension of privacy as a basis of conceptualization, Feaster (2008a) proposed a bi-dimensional media affordance construct called information control. An individual’s media richness affordance for a channel, in essence, pertained to how much information could be conveyed with a medium. Conversely, information control pertained to the degree to which an individual would be afforded with the ability to restrict or hasten the flow of that information. The two dimensions underlying information control were expressive information control and avoidance information control. Expressive information control referred to a person’s ability to regulate one’s self presentation and the flow of an interaction when using a channel. Avoidance information control referred to a person’s ability to restrict the discussion over a medium from revealing unwanted information for the individual or his/her ability to retreat when such information arose. In the preliminary investigation of the construct, dimensions of information control were found to predict media preference in face-threatening situations.

Conclusion

The above discussed individual/group centric approaches, both the media affordances and the situation/goal specific approaches have served to demonstrate how built in media characteristics may operate when used by particular individuals in particular communication context. At this point, these three approaches to interpersonal media use may be merged together to be understood as one process.

Media are available in a society to individuals for use in interaction as a result of preferences and patterns of success for the members of the social systems within that
society. Individuals have needs that lead to desired states that they feel can be accomplished through media use and engage in mediated interaction to pursue them (gratifications sought). Due in part in part of media characteristics, but in large part due to the intersection of the individuals with the channels, individuals in particular contexts use the media and are afforded different abilities to overcome communication problems (equivocality, coupling constraints, face-threats, etc.) and reach their goals (gratifications obtained).

The above description is a very terse and brief account of the approach to interpersonal media use that is being forwarded in this dissertation. Much of the problem in interpersonal media research has been a lack of conceptual connection among approaches. As stated in the introduction, a major goal of this dissertation is to produce a way to bridge gaps in conceptualization, to show how they fit together. The planning approach discussed in the previous chapter will be used to do this. It will be used to organize the theories and concepts regarding interpersonal media use that have as has been discussed in this chapter into a planning approach to interpersonal media use.
CHAPTER 3

THE PAIM: A PLANNING APPROACH TO INTERPERSONAL MEDIA USE AND SELECTION

As stated in the introduction of this dissertation, the primary purpose of this text is to develop an approach to interpersonal media use that is rooted in interpersonal communication theory and that serves to show how various concepts relevant to interpersonal media are interdependently related. The purpose of this chapter will be to explicate this approach. In chapter 1, a planning approach to interpersonal media was forwarded that would serve as a lens of interpersonal theory for the investigation of interpersonal communication related phenomena. In chapter 2, concepts and theories regarding interpersonal media and observed trends and critiques of those perspectives were discussed. The planning approach to interpersonal media use and selection (PAIM) shall be explicated within this chapter by applying the planning approach to interpersonal communication in chapter 1 to the ideas regarding interpersonal media discussed in chapter 2.

Overview

As discussed, in the previous chapter, there has been considerable thought and attention to subject of general media use and specifically on interpersonal media use.
The means by which interpersonal media use operates as a process within the workings of general interpersonal interaction, however, remains ambiguous. As discussed, specific components of interpersonal media use and the factors that may produce outcomes have been studied, but how all these fragments of thought fit together is open to interpretation.

The uses and gratifications (U&G) approach, as discussed, has been critiqued as atheoretical. Specifically, U&G scholars have proposed a variety of needs and motivations that may lead to media use and they have discovered some needs satisfied by actual use. Palmgreen, Wenner, and Rayburn's (1980) conceptual development of distinguishing motivations and pursuits of needs (gratifications sought) from the actual needs satisfied (gratifications obtained) was a step forward in U&G research. However, aside from gratifications obtained in previous instances as a basis of expectations leading to gratifications sought in later episodes, the potentially complex dynamic between gratifications sought and obtained remains unexplored. This complex dynamic raises a good many questions: How are expectations for media use formed specifically? When gratifications are sought, what factors come into play (other than that a particular medium was selected) that brings upon gratifications obtained? How do gratifications obtained in a use episode function to guide future actions? How do gratifications sought and obtained fit into the more abstract communication processes of which they are a part in interpersonal interaction?

The work that has been conducted in the so-labeled media characteristic approaches and individual/group centric approaches (arguably the state of the art) has limitations as well. The work performed in both approaches has generally taken media use as a given to the situations of focus. For example, Walther's (1992) social
information processing theory has greatly helped understanding with regard to how strangers come to know each other online and develop relationships. Although this line of thinking has been fruitful, questions arise with regard to how these conclusions fit into general thinking about interpersonal communication: What leads people to pursue meeting strangers? What leads them to opt for using computer mediated means? Aside from anonymity and idealized communication, what factors are ultimately leading to successful relational development? How will outcomes from a successful (or non-successful) development of a relationship with an online stranger lead to future actions in similar contexts?

The planning approach discussed in the first chapter of this text offers a potentially informative means of arranging thoughts regarding interpersonal media use within the larger scheme of interpersonal communication. With the proper organization, many questions that linger within individual approaches to interpersonal media use may potentially be answered if connections can be found among those approaches and to more abstract interpersonal processes. That is arranging information by the dimensions: (1) what is an individual trying to accomplish?, (2) what action(s) shall be undertaken to accomplish it?, (3) what communication action relevant features are present that help the accomplishment?, (4) what communication relevant features are present that hinder the accomplishment?, and (5) what outcome or level of accomplishment is achieved?

As noted above, the purpose of this present chapter shall be to organize thinking within the individual interpersonal media approaches into a synthesized planning approach to interpersonal media use in the hope of addressing some of the questions discussed above. First, this approach shall be assembled with reference to the planning
A Planning Approach to Interpersonal Media Use and Selection

As discussed in the introduction of the last chapter, interpersonal media use has become a major component of everyday interaction and communication scholars must understand their place in the study of interpersonal communication. It has generally been the case that interpersonal media use has been treated as a subset of interpersonal communication study. In short, face-to-face conversation has been assumed by many scholars to be the model of conceptual thinking in interpersonal communication (Stafford, 2005). It is the position taken in this text that, face-to-face conversation is in fact the subset. A holistic view of interpersonal communication should accommodate for all forms of interaction and take consideration for the different channels than individual may utilize and the potential effects.

As stated above, the approach forwarded in this text strives to organize information relevant to communication situations around five dimensions described above. As has been argued in previous chapters, these dimensions can potentially serve to arrange information relevant to describing and understanding interpersonal exchanges at virtually any level due to their level of abstractness. They shall be here applied in the construction of the PAIM. Each dimension of information shall be reviewed within the
context of general interpersonal communication. Following the review of each shall be
discussion of how interpersonal media theory and concepts may be situated within the
dimensions.

Goals

This first dimension, “what is an individual trying to accomplish,” pertains to the
goals an individual brings into social interaction. These goals are based in interpersonal
needs (Schultz, 1960) that may be satisfied through the exchange of social or
instrumental resources (Foia & Foia, 1976). It is assumed here that individuals are always
pursuing a goal of some sort even though they may not be consciously aware of them
(Kellerman, 1992). Goals are situated into hierarchical ranks where secondary (Dillard et
al. 1989) or meta-goals (Berger, 1997) are ever-present across interactions and set the
constraints for how primary goals are pursued in individual interactions.

The assumption of all communication being goal based at some level is highly
consistent with the U&G research tradition. As argued by Katz et al. (1973), one of the
driving factors of early U&G was attempting to discern what needs are satisfied by the
media with implicit assumption that the media must exist to satisfy needs. Furthermore,
Katz et al. (1973) argued that U&G scholars assume an active audience (media user). In
saying this, they were not claiming that people are always consciously considering their
needs in mind. They were more arguing that people have needs and they find ways to
satisfy them and media channels are one strategy. They do not simply use media because
the media are there; the use is purposeful. Planning approaches are generally regarded as
goal based approaches to understanding communication (Berger, 1997). As goals in
interpersonal media research generally become associated with U&G research, the PAIM
in essence, could be considered a U&G approach. As such, many of the assumptions made within U&G described in the last chapter with regard to how media are used are the assumptions made within this planning approach.

Planning

The second dimension, "what action(s) shall be undertaken to accomplish the goal," pertains to the process of planning. At different levels of awareness, upon realizing goals, individuals sequence communicative actions that they expect will obtain them. Many communication situations share a good deal of similarity with other situations from previous experience. In such situations, planning may involve the activation (Greene, 1984) of scripts stored in memory. These scripts may take the form of situational scripts which are common patterns of behavior taken in society (e.g. greeting old friends) or they may be personal scripts which are common patterns of action that have emerged as successful in an individual’s own experience (Schank & Abelson, 1977). Planning becomes less automatic when complications arise due to a lack of familiarity in a situation or matters arise that impede a person from easily obtaining goals through simple script execution (Wilensky, 1983).

As noted above and in the last chapter, an important advancement in U&G thinking came with Palmgreen et al.'s (1980) distinction between gratifications sought and gratifications obtained. Of the two concepts, gratifications sought is perhaps the more difficult to properly understand. Gratifications obtained roughly refers to what needs are (or were) satisfied from a media use episode. For example Palmgreen et al. (1980) measured gratifications obtained for television news using items such as, "TV news helps me to keep up with current issues and events" (p. 171).
this statement and the concept of gratifications obtained remains the same whether one is referring to one molecular use instance or whether one is considering the molar collective of use. Individuals are having needs satisfied whether they be with regard the total history of this act or a single instance of this act.

With the concept of gratifications sought, interpretations change depending on the scope of interpretation. In Palmgreen et al.'s (1980) study they were primarily concerned with the molar collective of use and conceptualized gratifications sought around motivation. For example, their parallel measure of gratifications sought to the gratifications obtained measure noted above was, "I watch TV news to keep up with current issues and events" (p. 172). Such an item considering their conceptualization at face should be a good measure of general motivation to use the medium. Considered collectively, it is asking what leads a person to the act or what general goal is taken. If the same idea is applied to a single molecular use event then this interpretation changes. It is an action being undertaken to achieve some goal as part of a larger sequence of action. It goes beyond the goal or motivation; it is part of the plan to achieve that goal.

The planning approach discussed here is concerned with molecular use instances. As such, gratifications sought are here argued to be plans involving media use.

To clarify the position of a gratification sought as a plan, an interpersonal example may be appropriate. A person may have a goal of obtaining support from his/her mother. There is a need to be satisfied. If s/he were to comment on his her behavior to satisfy this need, s/he may say "I will call my mother on my cell phone to get some advise from her." In this one instance, this a planned action to satisfy the goal and is the same as any other tactic that may be implemented in any other plan in any other
situation. For example, if a young woman interested in courting a young man would comment on her behavior to achieve that goal, she may say, “I will tell him how I feel in the hope that he will want to go out with me.” The person using the telephone and the young woman using the strategy of “tell him how I feel” or going through similar planning processes to determine the course of action that will satisfy their goals.

It should be made clear at this point that the planning approach proposed in this text is not simply a means of comparison to build understanding among theory. Although it is partially intended to serve that function, it is a model of interpersonal media use that is designed to fit within the larger context of interpersonal communication. The comparisons made are not metaphorical. For instance, in discussing gratifications sought in relation to other plans in interpersonal interaction, it must be made clear that this is not done for the purpose of comparison to build understanding. It is being argued that plans and gratifications sought are functional equivalents in interpersonal media use during interpersonal interaction. In the first chapter where plans where discussed, the hierarchical nature of plans and sub-plans as argued by Miller et al. (1960) was described as crucial to understanding the approach to interpersonal media forwarded within this dissertation. It is here that this hierarchical nature of plans and sub-plans becomes important.

Interpersonal interactions can be very complex requiring complex planning procedures. The young woman discussed above had the plan of “tell him how I feel” to achieve her goal to court the young man. Although this is a simple statement, this plan may be rather complex with sub-plans within the plan. Interpersonal media use plans are here argued to fit as sub-plans within these higher order plans. In telling him how she
feels, the young woman may opt for speaking in person, calling him on the phone, or simply dropping a note in his locker. Attention to interpersonal media gives a more complete account of how plans are constructed and ultimately be what leads to success or failure. For instance, “tell him how I feel” may be a good plan but may fail or succeed due to the mode of interaction. If she approaches him in person, she may get nervous, say something embarrassing, run away, and fail to achieve her goal. If she calls him on the phone; she may be more comfortable, more able to implement the higher order plan components, and persuade him to go with her to the movies the following Friday. The means by which channels may help or hinder shall be discussed later with resources and barriers. At present, it must be first discussed how these gratification sought plans arise.

Aside from Palmgreen et al. (1980) and others arguments pertaining to gratifications obtained at one point leading to gratifications sought in the future, there is very little attention to how media use episodes are related over the course of time. As noted above, use instances are typically taken as independent events. To eliminate some concern for the past, strangers are used in experiments as a means of control. The question remains: how do previous use experiences affect use. As reviewed above, Schank and Abelson (1977) argued that scripts will frequently enter the planning process when individuals are dealing with familiar or routine situations. Wilensky (1983) and Berger (1997) referred to these as “canned plans.” Through interaction individuals learn these scripts or canned plans to economize and streamline the planning process (Greene, 1984). The same argument is forwarded here for interpersonal media use.

Scripts in interpersonal interaction generally refer to a record of success: What has worked for interactions in the past? What should work in the future? When an
individual meets someone within the U.S. culture; if s/he looks the other person in the eyes, smiles, “says please to meet you,” and then proceeds to inquire about peripheral information such as where the person lives, what they do for a living, etc.; that person tends to have success. When engaged in interaction people generally expect these types of behavior because this pattern has worked in the past for the population as a whole (situation scripts) and such interactions go smoothly due to met expectations. Different strategies may be tried by individuals that will lead to variations (personal scripts), but they are generally working within the expectations the situational scripts of the culture.

In consideration to interpersonal media, the same claim holds true. Individuals recall what has worked in the past and implement media use behavior to recreate that success. There will be variation among individuals due to their own history (perhaps a failed date request made in person), but all must be within the expectations and patterns of the larger system (the average person could not resort to asking people out on a CB radio).

These patterns of success for interpersonal media use are largely captured by Dimmick’s (2003) application of the theory of the niche to media use. To review, Dimmick (2003) argues that different media come to have a role in an environmental system just as biological organisms come to have a role in their natural environment. Although never discussed this way, the niche of a medium or the niche of an animal represents a pattern of success within the system. A cheetah living on a plane occupies the niche it does because of what it does well to survive in that system. Due to its success, that animal will reproduce and continue to be observed until something else comes that threatens that success.
The same idea for a pattern of success is true for media; the niche of a medium (mass and interpersonal) is determined by what it does well to serve a population within a system. Like the cheetah, it will continue to serve and build on that pattern of success until something replaces it. With interpersonal media, the letter could be taken as an example. For centuries, it was the primary means by which people interacted of long distances. Due to its pattern of success for populations, it came to be what was expected and was reproduced in long distance interaction. When faced with a need to interact with distant others, individuals did not actively consider how to proceed; they automatically reverted to the strategy of letter writing because it was what had always worked and the pattern of success was maintained. In modern times, we have more options available than letter writing, there is a choice. However, the same principle holds true; the population and the individuals within it have patterns of success that leads us to our behaviors and expectations. The patterns, though, are more complex. Dimmick’s (2003) application of the theory of the niche to gratification constructs provides a meaningful way to understand those patterns.

When examined at the level of a system (measured sample of a population), reports of the range of needs that have been satisfied (niche breadth), the degree to which different media satisfy the same needs (niche overlap), and which media have demonstrated to better satisfy needs than others (competitive superiority) all help in understanding how different media compete and coexist to serve the population within that system. Dimmick’s (2003) apparent motivation has been to explain economic factors such as the rise and fall of media industries. It is argued here that these system level niche dimensions may allow scholars to discern patterns of success are present in a
population and interpret expectations for media use from those individuals. The macro-
analyzed niches of interpersonal media for a population serve as situational scripts for use
within that system.

As with the relationship between gratifications sought and plans, this is not a
comparison or metaphor for understanding. Situational scripts and system level niches
are here argued to operate as functional equivalents. As shall be discussed later, when an
individual’s perception goes against the pattern of success in the system with which s/he
is communicating (as with violation of situational scripts) difficulties may are likely to
arise.

The idea that individual patterns of interpersonal media use may go against the
genereal pattern of success of interpersonal media for a population (system level niches)
does not mean that the individual is a peripheral concern. As Schank and Abelson (1977)
argued, there are situational scripts that represent expected and recreated patterns of
behavior in everyday communication; however, there are also personal scripts that
represent personal variations of communication behavior patterns that have demonstrated
to be successful for the individual. Feaster’s (2007b) contribution of the repertoire niche
to the theory of the niche serves as an analogue of personal scripts for media use.

To review, the repertoire niche was a means to understand competition and
coexistence among media channels to serve an individual using the same ideas and
concepts as had been traditionally applied at the system level of the population by
Dimmick (2003). Consistent with the above discussion the repertoire niche for the
individual serves a pattern of success for the individual just as the system-level niche
serves as a pattern of success for a population. As situational scripts serve as constraints for personal scripts, so do system level niches serve as constraints for repertoire niches.

For example, in the U.S. culture, it is generally believed that people should break up romantic relationships in person. This is a societal expectation. In words familiar to the theory of the niche, face-to-face conversation is superior to other channels in satisfying the need of breaking up. Breaking up is part of the system level niche of face-to-face interaction. While interacting within this system and facing societal expectations, individuals have their own patterns of success. Perhaps in ending his/her first romantic relationship, an individual decided to try to meet the societal expectation and use a face-to-face breakup strategy. If it went well and both parties happily went their separate ways, the individual probably duplicated that strategy (reenacting the situational script and system-level niche) the next time s/he needed to end a romantic relationship. If it went poorly (perhaps hateful words were exchanged or punches were thrown) and the individual attributed the failure to the channel, the individual would learn from this and try another channel (development of personal script and repertoire niche). If that leads to success, that media use strategy will likely be duplicated and be met with different degrees of success depending on how others appraise his/her deviation from the societal expectation. The repertoire niches of different channels then operate as personal scripts or canned plans for interpersonal media use. Again this is not a metaphor.

It is here argued that, system level niches and repertoire niches (just as situational and personal scripts) guide the planning process of interpersonal media use and the pursuit of goals. However, just as with planning in all cases of interpersonal communication, there will be factors standing in the way of successful plan achievement.
If consciously planning about the situation, an individual may consider these factors in adjusting his/her plans to deviate from previously implemented plans. The media characteristics and individual/group centric approaches to the study of interpersonal media use have offered a great deal with regard to what outcomes will be produced in what situations. Figure 3.1 shows the relationships among goals, gratifications sought, and macro-level and repertoire niches. As such their position within the dimensions of barriers and resources shall be described next.

**FIGURE 3.1 Relationship among goals, gratifications sought, and macro-level and repertoire niches.**

**Resources and Barriers**

The third and fourth dimensions, "what communication action relevant features are present that (3) help and (4) hinder the accomplishment of goals," pertain to the factors that ultimately determine an individual or group’s success in reaching goals. Although, scripts will often be implemented to sequence action due to their typical higher
percentage of producing successful outcomes, the degree of success will be determined by the resources available operating to help individuals toward success in tension with barriers operating to hinder them. Resources and barriers come into play for all levels of interpersonal planning and outcomes including the plan components involving interpersonal media.

In the previous chapter, media characteristic approaches and individual/group centric approaches were discussed. The research done within these approaches to interpersonal media use were (and are) aimed toward discovering the factors that affect communication outcomes using different interpersonal media. In doing so, they were implicitly studying factors pertaining to resources and barriers in interpersonal mediated interaction. For example, the early media characteristics perspectives primarily discussed different channels as allowing different degrees of nonverbal communication (e.g. Graham & Zavala as cited by Bodensteiner, 1970). Face-to-face conversation has the most by allowing communicators the full benefit of seeing another person’s body movements and hearing the sound of his/her voice. Telephone has less nonverbal communication transmitted in that it doesn’t allow communicators to see each other. Written correspondence has even less due to a lack of visual body cues and vocal sound cues. In arguing that the capacity for nonverbal communication matters, they were claiming that it is a resource that contributes to positive communication outcomes.

The problem of much of that early research and even some modern research that takes the same form is that it was a resource that overcame an unspecified barrier. They recognized that nonverbal communication aided face-to-face conversation to operate more smoothly than some other forms of interaction, but how it aided was not made
clear. Within the planning approach taken here, resources operate to overcome barriers and the media characteristics and media affordances that address barriers are those that serve as more informative in understanding how outcomes to be mediated interactions come about. Resources and barriers operate in paired tension to derive outcomes.

Perhaps the most basic resource-barrier pair is perhaps the media affordance, gratification opportunities (Dimmick & Albarran, 1994; Dimmick et al., 2000) with the barrier of coupling constraints (Carlstein, 1983). As argued in the introduction of the last chapter, the need for interpersonal media inventions arose out of a need to interact with those whom one could not readily interact with in person. As humans go about their lives, they are in motion in time and space. Sometimes an individual’s schedules allows his/her path to cross with another at which time they may both be in the same place and have the time to engage in conversation. Frequently, especially as society becomes more complex, such a scenario becomes increasingly difficult and we cannot be in the same location available to talk at the same time. These differences in time and space (or other reasons why people may not be able or simply not desire to interact in person) are what Carlsten (1983) meant by coupling constraints. The interpersonal media, at their most basic level, must provide the resource of gratification opportunities to allow interactions to occur that may satisfy an individual’s interaction goals. As new channels have been introduced as of late (text messaging, social networking sites) much of their welcoming by the general public has with little doubt been due to this resource in overcoming coupling constraints as life becomes steadily more complex. This is of course an empirical question that should be addressed in research.
Media richness, both as a media characteristic (Daft & Lengel, 1984, 1986) and as media affordance (Carlson & Zmud, 1994), is here argued to be a key resource in generating positive outcomes through mediated interaction. The barrier of equivocality stands in the way of success in dealing communication activities that have varying degrees of complexity, emotionality, and ambiguity. The more a medium affords an individual to frame his/her messages and interpret messages from others in a clear fashion that successfully satisfies needs for understanding and overcoming uncertainty, the greater chances of successful outcomes the individual will have across communication situations with that medium. In a way media richness is a media affordance resource that allows access to other personal resources an individual may have. If a person has a high degree of social skill (Argyle, 1969; Spitzberg & Cupach, 1984), greater media richness affordances will allow him/her to better put those skills to use in mediated interaction.

Finally, information control (Feaster, 2007a) is a resource that overcomes the barrier of face-threats (Goffman, 1967) or other barriers that pertain to the presentation of one's self. As discussed in the first chapter regarding the different types of goals, Canary et al. (2003) argued that many of our primary goals in everyday interaction fall into self presentational goals. The media affordance resources of gratification opportunities and media richness may largely address the other two goal forms discussed by Canary et al. (2003): relational and instrumental. However, gratification opportunities and media richness can offer little aid in addressing the face-threatening barriers frequently involved in the pursuit of salient self presentational goals.
Although it is argued here that gratification opportunities, media richness, and information control are three classes of media affordance resources that may explain a great deal with regard to outcomes of mediated interactions, it is not claimed that these will always have the most explanatory power. This is so primarily for two reasons. First, in any interaction, the personal resources (social skill, self efficacy, etc.), relational resources (e.g. social support, social capital, etc.), and situational resources (artifacts, friendly environment, etc.) will always come into play in determining outcomes. Media affordance resources overcome barriers that are relevant to the mediated component of individuals’ plans for pursuing their social goals. In a sense, as discussed above, media affordance resources are in place to ensure that those higher order resources are able to be utilized in achieving goal attainment.

Second, the PAIM has been designed with knowledge of what is presently known to affect outcomes of mediated interactions (at least by the author). There may be factors that simply have not yet been considered (at least not in the context of mediated communication research) that may affect all individuals in achieving their goals for good or bad. Additionally, it is not assumed that every person experiences social situations in the same way nor that they are helped or hindered in achieving their goals by the same things. As new resources and barriers are discovered that contribute to outcomes, the model described here is open to those additions.

The discussion here is limited to three resource-barrier pairs because those are the three general categories which the author is aware. In any case, the pairs that have been discussed hopefully clarify how these factors are in constant tension as individuals pursue outcomes. It is these resources and barriers that fill the gap between gratifications sought
(plans) and gratifications obtained (outcomes). It is these outcomes that will next be discussed. Figure 3.2 shows how media affordances and barriers fit into the planning approach to interpersonal media use.

![Diagram](image-url)

**FIGURE 3.2** The position of media affordance resources and barriers in the planning approach to interpersonal media use and selection

**Outcomes**

As has been the premise of all goal-based and planning approaches to understanding human communication behavior, an assumption is made that humans have some ability of foresight for future states and take action to reach them. As discussed above, the outcomes of assumed goal-based media use are gratifications obtained
(Palmgreen et al., 1980). As discussed in the first chapter on goals and plans, goal attainment is a matter of degree. The same holds true for gratifications obtained, what was originally desired prior to a mediated interaction is not necessarily what is obtained at its conclusion. If these two always matched, there would be no need to distinguish between gratifications sought and obtained.

Much of what should be discussed about gratifications obtained outcomes has been said previously in this dissertation. Two things, however, should be made explicit. First, in the discussion of outcomes in the chapter on goals and plans, it was noted that individuals may learn scripts through either direct or vicarious experience (Bandura, 1986). The same holds true for gratifications obtained in the construction of macro-level and repertoire niches. Our perception of any behavior is based largely upon our own experiences but also upon the experiences of others that we witness or here about. Using the example of the young woman trying to court the young man above, if her friend the previous week received a terrible rejection after trying to drop a note in another young man’s locker, the focal young woman will recall that and it will enter into the arrangement of her own repertoire niches for the media channels available to her.

Second, the nature of successful outcomes and gratifications obtained being a matter of degree is what ultimately makes different communication tactics and different media options comparable within a person’s media repertoire. From using an interpersonal medium such as the telephone to ask a young man on a date, our focal young woman may indeed succeed in getting the date. Contrary to traditional thinking regarding the relationship of gratifications sought and obtained, this will not necessarily mean that the young woman will use the same interpersonal medium again for future
dates. Although she succeeded (gratifications were obtained), the experience perhaps may not have gone smoothly or was not as rewarding as had been the case in her previous experience when asking young men out in person. The apparent superiority of the previous experience as compared to the present experience may lead her to construct her repertoire niches of the two media in a way that reflects the comparison. The relative degree of gratifications obtained is ultimately what makes the repertoire niche (and macro-level niches due to expectations) useful. Figure 3.3 shows the now complete model with gratifications obtained and the construction and modification of repertoire niches for individuals.

Planning Approach to Interpersonal Media Use in Context

Assumptions and expectations

The PAIM by nature is very abstract. When dealing with abstract concepts and operations, there can be tendency to forget how components operate in context. It has been a long tenant of the field of communication that communication is context based. As argued in the first chapter and in the opening of this chapter, the planning approach discussed in this text that a good portion of the information relevant to a communication situation can be categorized into the five of dimensions. All five of these are very abstract, but has been shown throughout this text, they can serve to account for a great
FIGURE 3.3 Complete conceptual model of planning approach to interpersonal media use and selection.

in communication situations. Regardless of how intuitive they may seem in discussion, the usefulness of these dimensions and that of the PAIM may only determined through investigation of their claims in context.

Two major concerns for context are (1) with whom one is interacting and (2) what assumptions or expectations are at work. With regard to the person (or people) one is interacting, individuals interact with a wide variety of others whom with they hold an equally wide variety of relationships. These relationships are made distinct by the assumptions and expectations we hold for them. As noted in the discussion of scripts and memory of scripts in the chapter on goals and plans, how we perceive others and choose
to interact with them is based on information stored in hierarchical schemata situated from most abstract to least: general beliefs of others, beliefs about relationships, and beliefs about specific individuals (Fletcher, 1993).

These perceptions and beliefs are the make-up of our assumptions of interacting with others. Individual experiences largely contribute to the less abstract more concrete beliefs about specific people, but living in particular cultures is what in large part guides our beliefs and expectations about other people in general and about what certain relationships mean. For example, the means by which an individual living in a collectivist culture perceives others will be very different than the means by which an individual living in an individualist culture (e.g. Ting-Toomey, 1988). Due to these differences in expectations by culture, different plans will be implemented to meet expectations and achieve goals. Furthermore, due to different factors of communication being valued in those cultures, different resources and barriers will be present or will manifest themselves differently. For example, the ability to look someone in the eyes while speaking to them is a resource that can contribute to better outcomes (e.g. convincing an employer to hire you). In other cultures, the habit of looking someone in the eyes may be offensive and may serve as a barrier.

Cultural factors likely play a role for mediated communication as well. In Asian and European countries where the mobile phone has grown at a much faster rate, the device has become a much more ingrained part of societal expectations. While Americans are still sorting out when and where cell phone use is appropriate (system-level niches), the norms and expectations of these cultures are perhaps more set and perhaps more welcoming with regard to the device. Such a comparison is however an
empirical question to be addressed in research. Regardless of what culture a person is communicating, plans and scripts are implemented that are affected by resources and barriers in the generation of outcomes. These factors hold as true as beliefs and assumptions are examined at more specific levels beyond the cultural system effects.

At the level of assumptions and beliefs regarding specific relationship types, culture indeed has an effect, but a person's experiences with members of a particular relationship can have an effect on how s/he perceives and interacts with members of that relationship. For example, Fitzpatrick and colleagues' family communication schemata (Fitzpatrick & Ritchie, 1994; Koerner & Fitzpatrick, 2002) are aimed at how perceptions and orientations are formed within families and how these can lead to patterns of behavior and patterns of outcomes due to expectations and norms within the family. Due to these differences in orientation, every family potentially has idiosyncratic situational scripts (system level niches for media) that serve as constraints for individual family members personal scripts (repertoire niches for media).

Similar arguments regarding beliefs and assumptions at the level of a family (group) could be made for resources and barriers. Due to what is valued or disliked in a particular family different factors will serve as resources or barriers. For example, in one family, the norm may be that integrity is valued over other qualities. If a child confronts his/her parents soon after violating a rule and is open and honest, communicating in person and sticking to the truth may be a resource that leads to the best outcomes given the situation. In another family, it may be a norm for family members to lose their temper. A wish to speak in person and be honest may in such cases be a barrier for a
child to achieve the best outcome. His/her ability to equivocate the violation of a rule until his/her parents calm down may be the vital resource that leads to the best outcomes (by his/her own appraisal).

Beliefs and assumptions at the level of individual are perhaps where scripts, plans, resources, and barriers become the most complicated and difficult for people to predict outcomes. As with beliefs about relationships, culture has an effect as it does with all levels of beliefs, but the fluid nature of such specific beliefs and assumptions makes culture much less predictive. This is especially the case when individuals interact with those whom they do not interact frequently. Their beliefs and assumptions of the particular person become based on limited information. Generational differences may have the greatest impact at this level of beliefs and assumptions. For instance, grandparents interacting with infrequently seen grandchildren can lead to awkward interaction episodes. Grandparents may base their assumption of how children behave based on their experiences with children when they themselves were parents. The childhood experience is a rapidly changing experience from generation to generation. What children once enjoyed, they no longer enjoy. What they once feared, they no longer fear. When grandparents who are unfamiliar with the norms of their grandchildren attempt to apply scripts that they observed working for grandparents when they interacted with children, the result may be disappointing or even hurtful.

This generational difference at the level of expectations and assumptions taken toward individuals may have a major impact on media use patterns and outcomes. For example, the system-level niche of the telephone for maintaining relationships for the elder population may not be as prevalent as it is for younger populations. The elder
population perhaps feels that relationships are best maintained in person due to the ability to the perceived resources of embracing one and other and devoted attention. The younger population may feel that a phone call once a week may be sufficient to maintain a healthy relationship due its resource of being a symbolic gesture to take the time to converse in the midst of a hectic and busy life. The different sets of expectations due to the different system-level niches (for different systems) of the telephone and face-to-face conversation can lead to negative outcomes. As people take the time to interact, they learn what is valued and expected from those with whom they interact. As discussed above, patterns of success (and failure) emerge and personal scripts (and repertoire niches for media) take shape and change over time. As stated above with culture, this is speculation that deserves empirical treatment.

In summary, when considering context, the same classes of information apply. In any context, individuals have goals for which they will engage in communicative action to pursue. These actions will be guided by beliefs and assumptions. These beliefs and assumptions will manifest in behavior as situational scripts and personal scripts. These beliefs and assumptions will manifest in patterns of media use through the system-level niches of a culture or group (family) and repertoire niches of individuals who interact with members of those systems.

Different beliefs and assumptions will lead to different actions and factors being viewed as favorable or unfavorable, meaning those factors will serve as resources or barriers in deriving outcomes. When beliefs and assumptions are not consistent among individuals perhaps due to differences in culture, generation or background, different script expectations may be operating and actions that are expected to be benefited or
hindered by known resources and barriers from one's own experience may operate differently from those of another. Taking consideration of the five dimensions listed above may help scholars in understanding why outcomes come about in context from knowing what information to examine (goals, scripts, plans, resources, barriers, outcome appraisals, etc.) and this can guide in the instruction of the general population to help them to be more competent when interacting both those whom they are familiar and those whom they do not commonly interact.

Scope and Boundary Conditions

As the PAIM has been discussed in the previous pages, it has been addressed as being relatively fluid to a wide variety of situations. There are, however, boundary conditions with regard to what the approach, as conceptualized, may efficaciously explain. As noted above, boundary conditions will surface as the approach is tested in different contexts; however some should be made explicit before progressing to empirical tests. These conditions pertain to (1) successive or sequential media use, (2) goal failure within a communication episode, and (3) interactive planning/goal success.

Successive or sequential media use refers to the use of more than one media channel within a single communication episode to accomplish a single goal or shared set of goals (Stephens, 2006, 2007). A majority of theories and approaches to the study of media (interpersonal and mass) treat the use of a medium as independent of other uses. More specifically, when a goal is pursued through media use, one medium is posited to be used. This, however, is not necessarily the case in actual use scenarios. Consistent with the claims made with regard to media repertoires, individuals have a wide variety of options available to satisfy any one goal. Stephens has extended this claim by addressing
how the multiple options may be used simultaneously or sequentially within a single communication episode to accomplish the same goals. This picture of media use is likely much more reflective of actual media use events in everyday occurrences. As discussed above, the PAIM does not address this phenomenon. An implicit assumption is made (as has been made with most other approaches and theories) that the use of a medium is essentially independent of other uses and success or failure in a situation is derived by factors pertaining to the use as relevant to that one medium. It is the intention of the author to address this phenomenon in the long run with the approach. To address it in the present treatment, however, would add a layer of complexity that would be detrimental to this initial introduction.

Perhaps related to sequential media use, the approach discussed above does not address goal failure in a communication episode. Goal failure was a major focus of Berger's (1997) approach to planning. Specifically, this regards attention toward happens in a communication episode when one plan is not successfully producing a desired result (goal failure) and the individual must revert to a separate strategy. Berger noted that when this happens, new plans tend to decrease in complexity. This is an important phenomenon that has ramifications for ultimate success in a communication episode, however, goal failure and replanning shall not be addressed in the present discussion. Indeed, it should be addressed in subsequent treatments of this approach, however, as with sequential media use, to address it here would add a layer of complexity that the approach is not yet ready to take on.

Lastly, interactive planning refers to the dynamic between two or more individuals in the development of goal based behavioral sequences. Waldron (1997)
noted that during a communication episode, no one participant has complete discretion as to how s/he will proceed toward accomplishing a goal. In discussing interactive planning, he discussed how plans often result due to the dynamic between those involved. This is not to say that one is exercising dominance over the other. This is to reflect the synergistic effect between communicators during interactions that bring about emergent plans that may not have arisen had different communicators been involved. Although system level niches addressed at the level of the dyad may ultimately have implications for this, the framing of the PAIM does not address this with precision at this point.

This interactive effect could also be observed for plan success. Although outcomes could be observed differently by all involved parties in a situation with regard to being desirable or undesirable, the approach only addresses the observations of the focal individual and not those of others. Certainly there will be a shared effect, particularly for those who exercise a greater deal of empathy than others. However, the approach is primarily concerned with the world of the individual and how s/he is affected by that world.

To summarize the boundary conditions of the approach as presently conceptualized: The approach to interpersonal media use is presently focused on individual media uses that may be a part of a larger communication episode. At present, media use and goal success are affected by the repertoire and macro niches, resources, and barriers as experienced by a focal individual prior to and during the medium usage. The effects of use of other media within the same episode on the focal use are recognized within the approach only as far as those dimensions are affected. Certainly there could be an immediate effect on those dimensions that will affect use, but there are likely
sequential or synergistic effects that are beyond the scope of the approach. Furthermore, the approach is focused only on the media use as experienced by a focal individual. This focus pertains to both the process of planning and the final outcomes experienced. These factors as experienced by others within a communication episode are not addressed by the approach. The approach at present is concerned with how repertoire and system-level niches affect media selection and how resources and barriers affect communication outcomes that contribute to the construction of the niches of the focal media.

Conclusion

The PAIM offers the opportunity to understand how media use operates within the higher order functions of interpersonal communication and aids in explaining what leads to use and what outcomes will be achieved through use. Only through empirical tests with actual interactions in general use and then later in specific contexts will the full benefit of the approach be realized. Such a test shall be proposed, executed, and discussed in the chapters that follow.
CHAPTER 4

METHOD

In the three preceding chapters, the planning approach to interpersonal media use and selection (PAIM) has been conceptualized. The preceding chapter applied the planning approach to interpersonal media use developed in chapter 1 to the specific theories and concepts pertaining to interpersonal media use and selection to organize them in a meaningful interdependent way. As noted near the end of the last chapter, the utility of the PAIM may only discerned may applying to use situations that occur in context.

The purpose of the present chapter is to describe an empirical procedure that was used to test the PAIM. The discussion of the PAIM will shift toward being more concrete relative to the preceding chapters. A rationale of the procedure for the method to be used including some hypotheses and a research question that will be used to assess the PAIM will be discussed first. Following that the dual-method procedure that utilizes a preliminary questionnaire and a diary method will be discussed. The chapter will conclude with a discussion of the analyses that will be used to assess the hypotheses and research question.
Rationale for Empirical Investigation

The aim of this project was to test the effectiveness of the planning approach to interpersonal media use and selection (PAIM) described in the previous chapter of this text. Although communication in context is invariably important, as described in the previous section, the strategy of this text will be to take a top-down approach. That is, the approach taken here was to test the approaches claimed relationships in cross context circumstances to determine its general effectiveness in explaining effects in everyday interaction.

The decision to not specify a context has pragmatic benefits as well as theoretical. When specifying a context before hand in the study of interpersonal media, it typically involves laboratory experiments or cross sectional survey questionnaires requesting recall of specific communication instances. Although these are valuable tools in the study of communication, there are potential threats to the authenticity of what is being measured. In other words, there are threats to external (ecological) validity that come into play with such measures. Also, given Duck, Rutt, Herst, and Strecht (1991) arguments that most interactions throughout the day are mundane and the position that many communication behavioral decisions are rather automatic due to the use of scripts, these threats are ever more present in testing an approach to interpersonal media use. People simply may not accurately recall interactions for surveys and/or the interactions may have some artificial component in experiments.

Even though cross-context interactions were the focus of this study, some general expectations were able to be constructed. As based on the arguments of Kellerman (1992) and Duck et al. (1991), the PAIM argues that all communication is aimed toward
some collection of goals but most interactions are relatively mundane or automatic.

Given Schank & Abelson's (1977) arguments that when familiar situations arise, individuals typically rely on scripts and Berger's (1997) and Wilensky's (1983) claims that individuals rely on the functional equivalent, "canned plans," the approach further assumes that individuals will rely on such mechanisms in the majority of this "automatic" communication in their everyday life.

Hypotheses and Research Question

As argued in the last section (question 3), scripts (more specifically personal scripts) are a pattern of success for individuals. They are previously used sequences of action in communication that have produced desirable outcomes and satisfied goals in the past. Furthermore, the previous chapter argued that individuals’ perceived repertoire niche dimensions for the interpersonal media in their repertoires operate in a functionally equivalent manner as scripts, as pattern of success for previous media use.

Repertoire niche breadth for a medium denotes the range and diversity of needs and goals that have been satisfied in the past for an individual from using that medium within a gratification dimension. Repertoire competitive superiority denotes the extent to which one medium has been perceived as superior to another in satisfying goals through use within a gratification dimension. If these repertoire niche dimensions serve as patterns of success for individuals (scripts) they should predict the likelihood of interpersonal media that are available for use.

As discussed above, Feaster (2008b) found that the dimensions did predict patterns of use when measured cross sectionally. The present study attempted to find the same effects for use measured within actual use scenarios. Since assessing the
appropriate schemata (beliefs and assumptions) for use examined in context is a concern, the repertoire niche dimensions should only predict uses for situations that have goals that are reflective of the gratifications on which the repertoire niche dimensions are calculated. The dimensions are calculated based on sociability gratifications, thus, they should predict interpersonal media use patterns when sociability (or relational) goals are present. Due to the logic provided above and Feaster's (2008b) findings regarding these variables as predictors of use levels for relevant media, the following two hypotheses are posited:

H1: The greater the repertoire niche breadth an individual has for a medium within a gratification dimension (e.g. sociability), the greater the likelihood that medium will be used in situations where that medium is available, the individual instigated the contact, and the individual has a communication goal consistent with the appropriate gratification dimension (e.g. sociability.)

H2: When two mediums are both available (medium a and medium b) for use, the greater competitive superiority medium a has over medium b in a gratification dimension, the greater the likelihood that medium a will be used when the individual has a goal consistent with the focal gratification dimension (e.g. sociability) and instigated the contact.

Another major argument of the previous chapter and throughout this dissertation was that resources are necessary to overcome barriers in communication situations to derive desirable outcomes and to accomplish goals. For interpersonal media, media affordances such as gratification opportunities, media richness, and information control work to overcome the respective barriers of coupling constraints, equivocality, and face-
threats (embarrassment, imposition etc.). These media affordances allow individuals access to the personal, relational, and situational resources that help them across interactions.

Due to their position in the PAIM as assisting individuals in the achievement of outcomes, it should be generally expected that these media affordances should predict the accomplishment of realized goals. This conclusion is supported by a recently conducted pilot test of the relationships proposed in this text. Measured cross-sectionally using a questionnaire instrument, the media affordances above discussed predicted between 50-70% of the variance in repertoire niche breadth (perception based on gratifications obtained which are past successful media use outcomes). Although this was cross-sectional, one could generally expect the associations to maintain when more valid measures of use are employed. When measured at this level (diary interactions to be discussed below), the barrier of coupling constraints can be assumed as overcome and the affordance of gratification opportunities may be assumed for the interaction. Given the above discussion, the following two part hypotheses are proposed:

H3A: After controlling for barriers (complexity, emotionality, ambiguity, potential embarrassment, and potential imposition), the greater media richness reported for a medium, the greater will be satisfaction of goal accomplishment for an interaction where that medium was used, and (b) general communication satisfaction for an interaction where that medium was used.

H4A: After controlling for barriers (complexity, emotionality, ambiguity, potential embarrassment, and potential imposition), the greater information
control reported for a medium the greater will be (a) satisfaction of goal accomplishment and (b) general communication satisfaction for an interaction where that medium was used.

As discussed in chapter 1, a great deal of the communication activity is mundane for individuals and seemingly automatic (Duck, 1990; Kellerman, 1992). Due to this, there may be many social interactions that there seem to be no present goals or purposes by the impression of focal individuals. Through the use of a diary method, Feaster, Dimmick, & Ramirez (2008) found that when respondents were asked to report on the goals or purposes of recorded mediated interpersonal contacts, a majority of the reports took the form of statements such as “no reason” or “just to talk or catch up.” As Duck (1990) argued, these contacts with seemingly “no reason” serve a relational maintenance purpose for individuals.

This mundane relational maintenance is an important outcome that could be missed if measured only by reports of accomplished goals. Since individuals may not realize that they are accomplishing this goal, it shall be measured indirectly. Hecht (1978) argued that all communication carries with it a level of communication satisfaction that has implications for relationships. It shall be assumed here that positive relationships are based around a general satisfaction with interactions and reported communication satisfaction reflects the accomplishment of the goal of mundane relational maintenance. For this and other types of mundane goals accomplished, hypotheses three and four shall be extended to reflect this:
H3B: After controlling for barriers (complexity, emotionality, ambiguity, potential embarrassment, and potential imposition), the greater media richness reported for a medium, the greater will be general communication satisfaction for an interaction where that medium was used.

H4B: After controlling for barriers (complexity, emotionality, ambiguity, potential embarrassment, and potential imposition), the greater information control reported for a medium the greater will be general communication satisfaction for an interaction where that medium was used.

Finally, given the arguments forwarded throughout this dissertation that individuals rely on patterns of success for making quick and economical decisions about their media use, it should generally be expected that the functional equivalent to scripts (repertoire niches) should predict use as described in hypothesis one and two above and beyond media affordances (which should drive use if individuals actually think about what a medium does for them as they select a medium). In the pilot study noted above, this conclusion did not find support. No significant amount of variance in levels of use were explained by repertoire niche dimensions when media affordances were included in the model. There was concern, however, that measuring use cross sectionally and as a variable representative of the collective use of a medium during a set time period may have been a threat to validity. Perhaps in questionnaires in the context of asking individuals to consciously consider the media and their use, the affordances become more salient in mind and affect other global reports such as levels of use. Due to the claims of the model and this concern for cross sectional methods the following research question is forwarded:
RQ: Do the relationships predicted in hypotheses 1 and 2 remain even after controlling for the media affordances of the relevant medium?

Procedure Rationale and Descriptions

For the reasons described above, to test these hypotheses, this study utilized a time space diary to measure interactions as they occur as opposed to survey questionnaires or experimentation. Time space diaries are a recent methodological invention created by Dimmick, Ramirez, and Feaster (2007) based on ideas taken from different diary methods used in communication (e.g. Duck et al., 1991) as well as time diaries from the field of time geography. Duck et al. (1991) argued that diaries allow scholars to have a more accurate depiction of how communication processes actually occur in everyday life. They critiqued the field for taking these everyday occurrences for granted. Their method requested that participants take a three-page diary instrument with them to report on a single interaction chosen based on a set parameters and the participants choosing. The participants were asked to not have an interaction solely for the purpose of participating; an interaction that naturally occurred was requested. Duck et al.'s findings from these recorded interactions in their diary instrument lent support for the conclusion that most communication is rather mundane and perhaps difficult to recall if measured at a time much later than the interaction occurrence. Additionally, they found that the day of the week has an impact on individuals' communication patterns due to the different pressing demands of their schedules throughout the week.

Time diaries from time geography take a much less invasive approach to studying human behavior. Scholars in this field are interested in how individuals use their time and go about their routine everyday lives. They, like communication scholars, ask that
individuals report on events as they occur but in a more random and less rigorous manner. One strategy is to provide respondents with a pager connected to a system that is designed to set the pager off at random times during a day. When the pager goes off, participants are requested to record simple information either on a small note pad or over some other means. The information requested usually involves broad descriptions of what the participants were doing when the pager went off. Another strategy has been to provide respondents with mobile phones. Similar to the pagers, researchers would call respondents on these phones at random times. When these calls are made, instead of asking the respondents to record or write down what is happening, the researcher engages in a brief interview to find out what is happening. Such methods allow time geography scholars to plot how the average person in a region spends time during his/her day.

Dimmick et al. (2007) synthesized the ideas of Duck et al.'s (1991) interaction diaries and time geography's time diaries to develop the time space diary method for the study of media use. Like Duck et al.'s (1991) method, respondents are asked to carry an interaction recording instrument that they use to record interactions throughout an assigned 24-hour period. It was their decision whether or not to record an interaction. To help participants justify whether an interaction is worth recording, they are requested to consider if the interaction is salient or would stick out in their memory. To make this more clear, they are asked to avoid recording interactions that are a mere exchange of greetings (e.g. Hello, how are you?-Fine) or simple interactions based on planning for future interactions (e.g. Hello, so are you going to the movie tonight-Yes-Great see you then).
Unlike Duck et al.'s (1991) method and similar to the time geography method, multiple interactions are recorded throughout the day and the instrument was streamlined to be no longer than a page. Multiple interactions were requested because it was felt that a single interaction would not be a valid measure of the universe of an individual's media use habits during the day. Although participants do not necessarily report every use, multiple interactions allow for a more clear picture to be obtained. The instrument was streamlined to be less than a page for two reasons. First, compliance could be low for recording multiple interactions if the instrument took too much time to fill out an entry. Second, if the instrument was too long, it was believed that it could be an invasion on the authenticity of the interactions. This would be especially problematic since it was this authenticity that the method was aiming to maintain.

The time space diary has demonstrated to be a highly informative tool for understanding patterns of communication and media use as they occur in the course of a person's daily life. In its original form, the instrument requested very simple information: the relationship one holds with a contact, the gender of a contact, the location of the focal individual when the contact occurs (chosen from a list of general categories), the time of day the contact occurred, and the technology/channel used for the contact. In its uses since its invention (e.g. Dimmick, Feaster, & Hopplamazian, 2008; Feaster, Dimmick, & Ramirez, 2008), the instrument has become slightly more complex. In Feaster et al.'s (2008) study of interpersonal media, measures were added requesting information with regard to: who contacted whom and the goal and/or topic of the contact (requested as open ended). In Dimmick et al.'s (2008) study of mobile media use for
access to news content on a nationwide sample, measures were added requesting
information with regard to: the type of content and the source of the content (requested as
open ended). Neither of these extensions had a noticeable impact on response rates or
compliance. By compliance, it is meant with regard to the completeness of the entry
reports and the number of diary entries.

Procedure, Instrumentation, and Variables

The procedure of this study involved two parts for each participant. The first part
involved an online survey questionnaire and the second involved the use of a time-space
diary. As the approach described within this text is aimed toward abstract theoretical
connections, it must be first determined if these connections exist for any population. As
such, generalizability was not a great concern in such initial tests and convenience
samples become more appropriate. For the approach to be considered generalizable to a
wider population in specific communication contexts, random sampling procedures will
later be necessary designed to focus on the contexts of interest. For this preliminary test
of the model, a convenience sample of undergraduates in introductory communication
courses was used for this preliminary study.

The number of participants that were recruited was based on Green's (1991)
power analyses. According to Green (1991) a statistical procedure with a power of .80 to
reject a null hypothesis at an alpha level of .05 is sufficient. The maximum number of
predictors for any of the tests required to answer the hypotheses posited above (including
control variables) is 7. According to Green (1991) to maintain a power of .80, a sample
size of 726 is required for a small effect size, 102 for a medium effect size, and 48 for a
large effect size. When the hypothesis with the most predictors was pilot tested, effect
sizes ranged from medium to large. However, some of the effect sizes for some of the other tests were found to be small to insignificant. Beyond effect sizes, one of the scales for an independent variable to be discussed below contains 19 items that must be factor analyzed. Given the concerns for effect sizes and minimum sample sizes for proper factor analysis, this study aimed to recruit 200-300 participants to each volunteer for both the preliminary questionnaire and the diary method.

**Preliminary Questionnaire**

The questionnaire was a take-home paper and pencil questionnaire. It asked participants to respond to items pertaining to the independent variables that were used to predict dependent variables measured during the diary recorded interactions in hypothesis and research question analyses. These independent variables were sociability gratifications obtained (for use in the calculation of repertoire niche dimensions), gratification opportunities (to be included in the factor analysis of gratifications obtained), media richness, and information control. All of these variables were measured with respect to three interpersonal media channels: instant messaging, e-mail, and cell phone. These channels are being selected because (1) the measures used in this study of been tested previously with these and (2) the use of these channels by the participant population have been three of the most heavily reported (Dimmick et al., 2007).

Previously established scales were used to measure the independent variables. Gratifications obtained and gratification opportunities items developed by previous uses and gratification related studies of interpersonal media (e.g. Dimmick, Kline, & Stafford, 2000; Dimmick, Sikand, and Patterson, 1994; Ramirez, Dimmick, Feaster, & Lin, In Press). The gratifications obtained measures are primarily within a sociability
gratification dimension (example: For the pleasure or fun of communicating.). The sociability dimension were selected because past studies have found that gratifications within this dimension have some of the strongest relationships with actual interpersonal media use (Wei & Lo, 2006). The gratification opportunity scales measure the ability of a medium to satisfy needs while overcoming distance in time and space (example: To communicate in way that fits my busy schedule). The repertoire niche dimensions was calculated using formulas designed by Dimmick (2003) and modified with permission by Feaster (2007b) for application at the level of individuals. The formulas for the calculation of each niche dimension can be found in Appendix C.

Media richness was measured for each medium using the scale developed by Carlson and Zmud (1999) that was based off of Daft and Lengel’s (1986) four conceptual media richness dimensions (feedback, personalization, cues, and varied language). The measure was modified from its original four item version that asked simultaneously for each about one’s self and his/her communication partners (e.g. The cell phone allows me and my communication partners to tailor our messages to our own personal needs.). In this study was broken down into items for self and items for others (e.g. The cell phone allows me to tailor my messages to my own personal needs. & To the best of my knowledge, the cell phone allows my conversation partners to tailor their messages to their own personal needs.) Although the four original items have almost always loaded together as one factor whenever studied, the original double-barreled framing raises questions of validity.
Finally, information control was measured using the scale items developed by Feaster (2008a). The scale measures two dimensions of information control: expressive information control (e.g. The cell phone allows me to recover from mistakes I make during interactions) and avoidance information control (e.g. The cell phone allows me to avoid topics of conversation I don’t wish to discuss). In all tests of the scale, reliabilities have generally ranged from .7 to .9 for all media tested and two factors have resulted from factor analysis interpretation. The questionnaire instrument containing all of the used measures can be seen in Appendix A.

Time-Space Diary

After participants responded to the preliminary questionnaires, they were provided with a time space diary instrument and asked to record up to 10 interactions with friends using one of the three interpersonal media under study on a randomly assigned weekday. After they completed their contact recording, they were asked to report the contacts from the diary on an online contact entry website. A sample page from the time space diary may be viewed in Appendix B.

The diary measured independent and dependent variables that are relevant to the specific communication situations. Two classes of independent variables that were measured for each contact were the goals of the situation and the potential barriers to those goals (Equivocality and face-threats. Goals were measured by respondents selecting goals/purposes from a list. The list included: talk/catch up, seek/provide advice, seek/provide information, ask/seek/provide help with a task, seek/provide emotional support, seek/express caring, resolve a conflict, and coordinate activities. The respondents were instructed to choose all that applied for each contact. The goal
categories were generated from Feaster, Ramirez, and Dimmick’s (2008) time space
diary investigation of goals. The reported goals from this item were used to match select
cases where repertoire niche dimensions based on sociability gratifications could be used
to predict use.

The other independent variables were the barriers involved in the interaction as
argued to be relevant in the previous section. Equivocality was be measured by scales
that measure the levels of complexity, ambiguity, and emotionality in the interaction (e.g.
How would you rate the complexity of the interaction? None at all….A great deal).
Face-threats were measured by the positive and negative face-threat dimensions argued
by Brown and Levenson (1987) to be ever present in interactions: embarrassment and
imposition (inconvenience). This was measured as a matter of potential within the
interactions as opposed to what really was experienced (e.g. When this interaction began,
how much embarrassment did you expect for yourself). These were measured as a
potential so as to not miss embarrassment that may be averted due to the resources that
overcame the embarrassment. The threats were also be measured with regard to other
person (e.g. When this interaction began, how much inconvenience did you expect for
your communication partner). In sum, face-threats were measured with four items (2
dimensions for both partners.)

The dependent variables measured with the diary instrument were: the medium
used for the interaction, the satisfaction with accomplishment of the goal of the
interaction, and the general communication satisfaction. The medium used for the
interaction was measured by respondents selecting the medium from a list of the three
interpersonal media under analysis. Respondents were instructed that if the interaction
involved some other medium, that the interaction was not eligible to be recorded. The satisfaction with the accomplishment of the goal was be measured with a single item, “The purpose/goal of the interaction was accomplished.”

If the interaction by the impression of the participant was mundane or had no purpose, predictions of this variable based on the independent variables may be rather weak. For this reason, as discussed above, it was assumed that mundane interactions generally satisfy everyday maintenance needs (Duck et al. 1991) based on the degree of satisfaction from the interaction. To reach this mundane goal satisfaction, communication satisfaction shall be measured using the scale developed by Hecht (1978). This measure has generally demonstrated to be a reliable tool both for molecular perceptions of individual interactions and molar perceptions of communication in general. To decrease the rigor of the scale, only six of the items were used from it. These six were chosen based on the amount of variance they explained from Hecht’s (1978) original factor analysis of the scale. Although Hecht concluded from his analysis that his scale should appropriately have 16 items (reduced from an original set of 60), the first factor (which contained high primary loadings the six items selected for this study) explained nearly half of the total variance in his rotated factor solution.

Another variable that was measured that was used as a selection variable in testing the superiority hypotheses was the media available to the person. To properly measure competition and superiority it was important to discern that two media were actually competing for use in a situation. This was measured by participants checking boxes next to each of the three media under measurement that were available for use at
the time of the interaction. Additionally, the respondents reported who instigated the interaction. This was measured with the simple item, “I contacted the other person. Yes/No.” This was used a selection variable for both of the hypotheses and the research question that pertains to use with the assumption that if the other person contact the participant, it was not really him/her that made the use decision.

Data Analysis

Before progressing to the results, it is perhaps appropriate to describe the statistical means that were used in the hypothesis and research question. The hypotheses and research question were analyzed using multilevel procedures using HLM 5. To do this, two separate data files were constructed: one containing the level 1 independent and dependent variables from the diary procedure and the other containing the level 2 independent variables from the preliminary questionnaire. The meaning of level 1 and level 2 shall be described below. Multilevel procedures were required due to the independence of observation assumption in regression procedures. The problem with non-independence among observations in traditional regression procedures is that this dependence can bias the intercept of the estimated model. The intercept is the baseline estimation of the outcome variable from which the effect of all predictors within the model are estimated. In other words, it is the average estimate from the data when the values from all the other predictors equal zero. If the all the predictors are mean-centered (subtracting the mean of the variable from each case), the interpretation of the intercept becomes the average expected value in the outcome variable when all other predictors
have an average value. As two or more observations become increasingly dependent (perhaps from measuring the same person or group), the intercept becomes increasingly more representative of those observations.

The same idea could apply to any mean statistic. If Ellen, Dan, and June all take a quiz, and Ellen’s grade is counted three times and Dan and June’s score is counted just once, the mean becomes more representative of Ellen as opposed to the group of three. With time space diaries, if one person reports 10 interactions and another only reports two, the intercept will be most representative of the person with 10 and the estimates of the effect of the predictors will be become biased and misleading.

Multilevel procedures overcome the independence of observation problem by allowing dependent groups of observations to have their own intercept and in some cases, their own set of predictor coefficient estimates. The researcher tells the statistical packages which observations (e.g. students, diary interactions, etc.) should be associated with what groups (e.g. classroom, collection of one respondents interactions, etc.) by labeling each case accordingly. Regression models are then separated into two levels for proper parameter estimation. A common model is offered in figure 4.1 below:

\[
\begin{align*}
\text{Level 1} & \\
\hat{Y} &= \beta_0 + \beta_1 X + e \\
\text{Level 2} & \\
\beta_0 &= \gamma_{00} + \gamma_{10} Z + e \\
\beta_1 &= \gamma_{01} + \gamma_{11} Z + e
\end{align*}
\]

Figure 4.1  Common multilevel model structure
As an example to understand the above model, a researcher may devote attention to two classrooms of students who are both taking the same test. S/he wants to know if some factor such as days attended by students will affect their independent test scores. However, s/he wonders if the class a student is enrolled may affect test score and lumping them together could create bias in his estimation. S/he wonders if some factor specific to the classroom such as teacher enthusiasm will have an effect. To combat this, s/he sets up a multilevel model like the one above. Level 1 of the model looks very much like a normal regression model. $\hat{Y}$ represents the estimated student score and is the outcome variable of the model, $\beta_1$ represents the effect of the days attended variable ($X$) on the outcome, $\beta_0$ represents the intercept or the average estimated test scores when days attended ($X$) equals 0, and $e$ represents the error. The Level 2 models allow the potentially biasing factor of the classroom to be accounted for in each of the estimated parameters of the level 1 model. If there is any difference due to the groupings of variables, this level is designed to account for it. For instance, $\beta_0$, the intercept, may be predicted by the effect ($\gamma_{10}$) of the variable measuring the classroom’s teacher enthusiasm ($Z$). The intercept has an average intercept estimate ($\gamma_{00}$) as well which denotes the estimated $\beta_0$ parameter when all other classroom level predictors are equal to zero. The same interpretations hold true for the estimation of $\beta_1$, which is the effect of days attended. When the level 2 model is set up for the effect of such a predictor ($\beta_1$) the exact same interpretation is made as when an analysis of intervariable interaction effects is done in common regression. This model is finding the intervariable interaction
effect of the classroom variables (e.g. teacher enthusiasm) on the effect of student days attended on predicted test scores.

The "e" in the level two model represents the random effects in the prediction of each level 1 parameter. Leaving these random effect unsuppressed allows for variance between cases left unaccounted for by the predictors included at level two to be accounted for in the prediction of the level 1 parameter. When the random effects are suppressed the average of the level 1 unit across cases is taken based on the average of effects of the level 2 predictors. When the random effects are left unsuppressed, this allows each level 2 case (respondents for the present analysis) to have their own average level 1 parameters (intercepts and regression coefficients). The random effects for the intercept were left unsuppressed for all analyses such that all effects could be predicted based on each respondents own average regarding the dependent variable.

The analyses in this study used multi-level analyses as described above. A participant's preliminary questionnaire responses was analyzed at one level (level 2) and each interaction for the participant was modeled at another level (level 1). This study has hypothesized for no interactions, so it was not be necessary to analyze the effects of the preliminary questionnaire reports (level 2 predictors) on the effects of predictors on the outcome variable at the level of the interaction (level 1 predictors). In comparison to the model above, the models in the present analysis generally took the following form:
Level 1
\[ \hat{Y} = \beta_0 + \beta_1 X + \epsilon \]
Level 2
\[ \beta_0 = \gamma_{00} + \gamma_{10} Z + \epsilon \]
\[ \beta_1 = \gamma_{01} \]

Figure 4.2 Common multilevel structure to be used in the present investigation

The specifics regarding each individual analysis will be discussed as the relevant hypothesis and research question analyses are reported. Their descriptions should be interpretable with consideration of the information provided above.
CHAPTER 5

RESULTS

Preliminary Analyses

Before hypothesis testing and research question analyses were conducted, factor analyses and reliability analysis were performed, and descriptive statistics were calculated for each index to be used in hypothesis testing. Consistent with the arguments of Dimmick and Dobos (1988), all factor analyses were conducted using principle axis factoring with oblique (direct oblimin in SPSS) rotation with a minimum Eigen value of 1.0 required for a factor to load. The retention rules for an item to be included in a factor were for it to (1) have a primary factor loading of at least .35 in the structure matrix and (2) no secondary loadings within .2 of the primary loading. Since it was the aim to generate indices that would serve for cross media comparison, the variables within each index for all 3 analyzed interpersonal media were entered into each factor analysis together. This was done to generate factors that accounted for variance patterns across all compared channels. The Cronbach’s alpha reliabilities of each index were analyzed for each medium separately.

Gratifications. Although gratifications obtained and gratification opportunities are two separate constructs and gratification opportunities are not being assessed within
this procedure, the items used to measure the two constructs have loaded together as a
single gratification utility factor in previous research (e.g. Ramirez, Dimmick, Feaster, &
Lin, In Press). Therefore, the 26 gratifications obtained and gratification opportunity
items were all included in the study instrument and entered together into a single factor
analysis. After applying the retention rules described above, seven items were removed
from the analysis. After this removal, three highly correlated factors loaded using the
critical Eigen-value criterion explaining 45.32%, 5.24%, and 3.12% of the variance
respectively. There were numerous crossloads within the structure matrix with little
meaningful interpretation to the patterns that emerged. Given the substantially greater
proportion of variance explained in the first factor, this result was interpreted as single
factor containing multiple highly correlated dimensions. To confirm this interpretation,
the factor analysis was repeated with one factor specified. A single factor model
explaining 44.87% of the variance was produced with acceptable loadings resulted. The
loadings are reported in Table 5.1. As done my Ramirez et al. (In Press), this dimension
shall be referred to as gratification utilities.

The reported values from the items that loaded within the gratification utility
dimension in the analysis described in the last paragraph were used for the calculation of
repertoire niche breadth and repertoire competitive superiority using the formulas
provided in Appendix C. The alpha reliabilities as well as the descriptive statistics for the
index for each medium are reported in Table 5.2. The descriptive statistics for repertoire
niche breadth, repertoire niche overlap and repertoire competitive superiority dimensions
Information Control The expressive and avoidance information control items were entered together into a factor analysis with the above described procedures. After applying retention rules when performing factor analysis in the development of the information control scale, Feaster (2008a) initially found a three factor solution. The first and third factors split the expressive information control items into two somewhat meaningful dimensions. Factor 1 appeared to pertain to the management of one's self presentation and factor 3 appeared to deal with the direct management of an interaction. There was a high degree of correlation between the two factors; cross loadings on a majority of the items in each factor; and only a slight increase in variance explained from the inclusion of the third factor. Therefore, a two factor solution was specified which resulted in acceptable loadings. The same result occurred in the current analysis. After applying the retention rules, three items were removed from the analysis. Using the critical Eigen-value criterion, a three factor solution was produced with the factors one, two, and three explaining 27.00%, 11.35%, and 4.30% of the total variance respectively. The same patterns of cross loads, factor correlation, and variance explained as occurred in the results reported by Feaster (2008a) emerged. Hence, the factor analysis was repeated with a two factor solution specified. The factor loadings in the resulting solution were acceptable and are reported in Table 5.1. The descriptive statistics and alpha reliabilities for the expressive and avoidance information control indices for each medium are reported in Table 5.2.
<table>
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<th>Information Control</th>
<th>Gratifications</th>
<th>Communication Satisfaction</th>
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<tr>
<td></td>
<td>Factor 1</td>
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Variance Explained: 26.63% 11.22% 45.87% 47.94%
Factor Correlation: .232

Table 5.1 Factor loadings for information control, uses and gratifications, and communication satisfaction items

Note: + Variable was reversed coded
Media Richness. As noted in the previous chapter, a variation of the media richness scale developed by Carlson and Zmud (1999) was used for analysis in this dissertation. Because the items had a double-barreled structure in requesting reports for impressions of self and other simultaneously (e.g. Allows me and my conversation partners to tailor our messages to our own personal needs), each of the items was broken up into two items to measure self and other separately. Although the items in their original form produced single factor solutions for all channels in previous research (e.g. Carlson & Zmud, 1999; Feaster, Dimmick, & Ramirez, 2007), the same result was not obtained in the present analysis. When the eight items were entered into a factor analysis using the above described procedures, a three factor solution was produced. Each of the two item sets (self and other) within each of the original dimensions (tailor, feedback, cues, and language) loaded as their own factors. Depending on which items were included or removed from the analysis, items from separate dimensions would load together on a factor. Since the items that shared a factor between dimensions shifted depending on which items were included or excluded, no meaningful interpretation could be formed for the cross dimensional factor sharing. Each medium was analyzed separately to discern if the result was due to distinctions between the channels, but the results were just as uninterpretable.
<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Cronbach's Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cell Phone Gratifications</td>
<td>2.49</td>
<td>0.57</td>
<td>0.884</td>
</tr>
<tr>
<td>E-Mail Gratifications</td>
<td>3.60</td>
<td>0.40</td>
<td>0.894</td>
</tr>
<tr>
<td>Instant Messaging Gratifications</td>
<td>2.90</td>
<td>0.60</td>
<td>0.917</td>
</tr>
<tr>
<td>Cell Phone Feedback</td>
<td>4.48</td>
<td>0.77</td>
<td>0.813</td>
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<tr>
<td>Cell Phone_Tailor</td>
<td>3.94</td>
<td>0.94</td>
<td>0.735</td>
</tr>
<tr>
<td>Cell Phone_Cues</td>
<td>4.55</td>
<td>0.73</td>
<td>0.747</td>
</tr>
<tr>
<td>Cell Phone_Language</td>
<td>4.05</td>
<td>0.96</td>
<td>0.822</td>
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<tr>
<td>IM Feedback</td>
<td>3.98</td>
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<tr>
<td>IM_Will</td>
<td>3.89</td>
<td>0.84</td>
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<tr>
<td>IM_RW</td>
<td>3.15</td>
<td>1.00</td>
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<tr>
<td>IM_Language</td>
<td>3.59</td>
<td>1.03</td>
<td>0.798</td>
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<tr>
<td>E-Mail Feedback</td>
<td>3.28</td>
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<td>E-Mail_Tailor</td>
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<td>E-Mail_Cues</td>
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<td>0.98</td>
<td>0.735</td>
</tr>
<tr>
<td>E-Mail_Language</td>
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<td>0.93</td>
<td>0.788</td>
</tr>
<tr>
<td>Cell Expressive IC</td>
<td>3.99</td>
<td>0.62</td>
<td>0.855</td>
</tr>
<tr>
<td>IM Expressive IC</td>
<td>3.79</td>
<td>0.66</td>
<td>0.856</td>
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<tr>
<td>E-Mail Expressive IC</td>
<td>3.70</td>
<td>0.63</td>
<td>0.809</td>
</tr>
<tr>
<td>Cell Avoidance IC</td>
<td>3.28</td>
<td>0.89</td>
<td>0.706</td>
</tr>
<tr>
<td>IM Avoidance IC</td>
<td>4.17</td>
<td>0.66</td>
<td>0.686</td>
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<tr>
<td>E-Mail Avoidance IC</td>
<td>4.22</td>
<td>0.67</td>
<td>0.641</td>
</tr>
</tbody>
</table>

Communication Satisfaction    | 3.97 | 0.85               | 0.839            

TABLE 5.2 Descriptive statistics for gratification indices, media richness dimensions, and information control dimensions for cell phone, instant messaging (IM), and e-mail.
Within the factor analysis of the media richness items, the only consistent finding was that in all of the analyses performed was that the two items that represented each dimension always loaded together. It was therefore deemed appropriate to analyze each dimension separately. The means of the self and other items within each dimension were calculated to generate the tailor, feedback, cues, and language variables. The descriptive statistics and alpha reliabilities for each of these variables for each medium are reported in Table 5.2.

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cell Phone Repertoire</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Niche Breadth</td>
<td>0.857</td>
<td>0.146</td>
</tr>
<tr>
<td>Competitive Superiority over IM</td>
<td>47.391</td>
<td>16.519</td>
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<td>Competitive Superiority over Email</td>
<td>37.681</td>
<td>17.845</td>
</tr>
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<td><strong>Email Repertoire</strong></td>
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</tr>
<tr>
<td>Niche Breadth</td>
<td>0.609</td>
<td>0.228</td>
</tr>
<tr>
<td>Competitive Superiority over Cell</td>
<td>11.836</td>
<td>3.270</td>
</tr>
<tr>
<td>Competitive Superiority over IM</td>
<td>29.714</td>
<td>17.796</td>
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<td><strong>IM Repertoire</strong></td>
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<td></td>
</tr>
<tr>
<td>Niche Breadth</td>
<td>0.476</td>
<td>0.207</td>
</tr>
<tr>
<td>Competitive Superiority over Email</td>
<td>15.127</td>
<td>11.994</td>
</tr>
<tr>
<td>Competitive Superiority over Cell</td>
<td>8.831</td>
<td>6.267</td>
</tr>
<tr>
<td><strong>Reptoire Niche Overlaps</strong></td>
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</tr>
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<td>Cell Phone Overlap with IM</td>
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<td>0.505</td>
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<tr>
<td>Cell Phone Overlap with Email</td>
<td>1.288</td>
<td>0.486</td>
</tr>
<tr>
<td>Email overlap with IM</td>
<td>1.251</td>
<td>0.479</td>
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</tbody>
</table>

TABLE 5.3 Descriptive statistics for repertoire niche dimensions

Note: The means for the repertoire niche dimension are to be interpreted as the system level niche dimensions for the sample. See formulas in Appendix C.
Communication Satisfaction The 6 communication satisfaction items that were taken from Hechts (1979) scale and used in the diary instrument were entered into a factor analysis using the procedures described above. A single factor was extracted using the critical Eigen value criterion. The one factor that emerged explained 47.94% of the variance. The loadings for all included items were acceptable. The factor loadings are reported in Table 5.1. The descriptive statistics and Cronbach's alpha for the resulting index are reported in Table 5.2.

Because reports of communication satisfaction tend to be negatively skewed (tendency for reports of greater satisfaction), an informal check of the histogram for the satisfaction variable was done to assess skewness. There was indeed a negative skew in the data. As deviations from normality in a dependent variable can bias regression analyses, log transformation and standard score transformations were attempted. Neither procedure brought the variable to take on a more normal distribution. Therefore, the communication satisfaction index was used in the analyses in its unaltered form.

Hypothesis Testing

As discussed in the previous chapter, all hypotheses was analyzed using multilevel logistic regression procedures. Using HLM 5.05, the level 2 units of analysis were the cross sectional reports taken from the preliminary questionnaire (individuals) and the level 1 units of analysis were the recorded contacts from the diaries (individuals within situations). Restated, the level 2 variables (e.g. repertoire niche dimensions, information control, media richness, etc.) were reported once by each respondent and the level 1 variables (e.g. medium used, communication satisfaction, etc.) were reported by each respondent within each reported contacts. The multilevel structure allows the level
2 variables (that are assumed to have an effect across level 2 units) to predict level 1 units without biasing the regression results. For all tested models, the random effects for the intercepts were left unsuppressed to avoid violating the independence of observations regression assumption (Luke, 2004). Although no problems arose with near singularities, the significance levels were interpreted using the robust standard error portions of the output.

Hypothesis one and two dealt with predictions pertaining to the likelihood for the use of a medium. A dichotomous (use/not-use) dependent variable was used for each analysis. For these two hypotheses, the HLM analysis was set for logistic estimation by setting the optional specifications to the multinomial nonlinear analysis option with 2 category outcomes. All other options (e.g. the number of iterations, changes required to stop iterating, restricted maximum likelihood estimation, etc.) were set to the default settings. Because it was argued that repertoire niche dimensions calculated from sociability gratifications should predict use only in situations where the goals are consistent with those gratifications, only recorded contact cases (level 1 units) that involved social goals (talk/catch up, advice, emotional support, caring, and conflict) were included in the analyses for these two hypotheses.

Hypothesis one predicted that greater repertoire niche breadth for a medium would be associated with a greater likelihood for selecting that medium. To analyze this hypothesis for each medium, repertoire niche breadth was entered as a level 2 predictor for the level 1 dichotomous use/not-use variable set as the dependent variable. This hypothesis was supported only for instant messaging. See table 5.4 for specific information regarding significance and beta coefficients.
Hypothesis two predicted that greater repertoire competitive superiority of one medium (medium \(a\)) over another (medium \(b\)) would be associated with a greater likelihood for the use of that medium (medium \(a\)). To test these hypotheses, cases were selected where the medium (medium \(b\)) over which the medium under analysis (medium \(a\)) had superiority was available. For example, in testing the effect of the repertoire competitive superiority of cell phone over instant messaging, only the contact cases (level 1 units) where instant messaging was available to be used were included in the analysis. This selection criterion was put in place to analyze cases where competition was plausible between the two channels of interest. Similar to hypothesis one, repertoire

<table>
<thead>
<tr>
<th></th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
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<tbody>
<tr>
<td><strong>Cell Phone</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>(\gamma_{00})</td>
<td>0.654</td>
<td>0.117</td>
<td>-5.592</td>
<td>192</td>
<td>0.000</td>
</tr>
<tr>
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<td>0.87379</td>
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<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>(\gamma_{00})</td>
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<td>179</td>
<td>0.000</td>
</tr>
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</tr>
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<td>192</td>
<td>0.001</td>
</tr>
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</table>

TABLE 5.4 Likelihood of cell phone, e-mail, and instant messaging use logistically regressed repertoire niche breadth using multilevel procedures
competitive superiority was entered as a level 2 predictor for the level 1 dichotomous use/not-use variable set as the dependent variable. Hypothesis two was supported for the repertoire competitive superiorities of cell phone over e-mail, instant messaging over e-mail, and e-mail over instant messaging. See table 5.5 for specific information regarding statistical significance and beta coefficients.

Although there were no hypotheses or research questions posited regarding the effects of barriers on the likelihood of using various channels, during the course of hypothesis testing, it was thought to be appropriate to assess the potential for such effects. To examine this, the equivocality and face threat barriers were entered as level 1 predictors for the dichotomous (use/not-use) variables for each medium using the logistic regression procedures described above. See table 5.6 for the results of these analyses. Somewhat against the claims of the PAIM, some barriers were found to be significant predictors of use for the channels. For the cell phone, greater degrees of emotional quality and perceived imposition of one's conversation partner were associated with greater likelihood for use. With email, greater emotional quality and perceived embarrassment for one's conversation partner were associated with lesser likelihood for use and greater complexity was associated with greater likelihood. For instant messaging, greater emotional quality and perceived embarrassment for one's conversation partner were associated with greater likelihood for use and greater perceived imposition for one's conversation partner was associated with less likelihood. These results shall be discussed in the next chapter.
<table>
<thead>
<tr>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
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<td><strong>Cell Phone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>γ₀₀</td>
<td>0.459</td>
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<tr>
<td><strong>Rep. Comp. Superiority over Email</strong></td>
<td>γ₀₁</td>
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<td>0.00179</td>
<td>1.997</td>
<td>130</td>
</tr>
<tr>
<td>Intercept</td>
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<td>0.00876</td>
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<td></td>
</tr>
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</tr>
<tr>
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<td>γ₀₁</td>
<td>0.002</td>
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<td>0.03657</td>
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TABLE 5.5 Likelihood of cell phone, e-mail, and instant messaging use logistically regressed on repertoire competitive superiority using multilevel procedures.
<table>
<thead>
<tr>
<th></th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cell Phone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>β0</td>
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<td>0.093285</td>
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<td>221</td>
<td>0.000</td>
</tr>
<tr>
<td>Complexity</td>
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<td>-0.139</td>
<td>0.0794</td>
<td>1.747</td>
<td>612</td>
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<td>0.167</td>
<td>0.081797</td>
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<td>0.452</td>
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<td>0.651</td>
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<td>Embarrass Me</td>
<td>β4</td>
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<td>0.122196</td>
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<td>0.112</td>
</tr>
<tr>
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<td>β5</td>
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<td>0.717</td>
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<td>0.473</td>
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<tr>
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<td></td>
<td></td>
<td></td>
</tr>
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<td>0.253</td>
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<td>612</td>
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<td>-0.403</td>
<td>0.138568</td>
<td>2.907</td>
<td>612</td>
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</tr>
</tbody>
</table>

TABLE 5.6 Likelihood of cell phone, e-mail, and instant messaging logistically regressed on equivocality and face threat barriers using multilevel procedures
Hypotheses three and four were concerned with effects pertaining to situational barriers or controlling for such effects. Before the hypotheses were analyzed, the barriers were entered as level 1 predictors for the outcome variables of goal accomplishment and general communication satisfaction for each medium. As expected from the model proposed in this dissertation, all of the barriers had negative effects on goal accomplishment and communication satisfaction when significant with the exception of emotional quality (emotionality) which had positive effects. This result shall be discussed later in more detail in the next chapter, but it appears that participants may have responded to the item with consideration of positive outcomes.

As with effects on likelihood, there were no hypotheses or research questions posed for the effects of barriers on communication outcomes using the interpersonal media. Since the PAIM argued that barriers should have a negative effect on outcomes, it was thought to be appropriate to assess the potential effects. Upon entering the barriers as level 1 predictors into analyses predicting communication satisfaction and goal accomplishment for each medium, most of the results were in line with what would be expected given the claims of the PAIM.

For cell phone, greater reports of imposition of self and perceived embarrassment of one's conversation partner predicted lesser degrees of both communication satisfaction and goal accomplishment. Additionally, greater degrees of ambiguity and complexity were associated with less goal accomplishment. For e-mail, greater reports of self imposition were associated with less communication satisfaction and goal accomplishment. Additionally for e-mail, greater perceived embarrassment of one's conversation partner and self embarrassment predicted less communication satisfaction
and goal accomplishment respectively. For instant messaging, greater degrees of ambiguity, perceived embarrassment for one’s conversation partner, and ambiguity were associated with lesser degrees of both communication satisfaction and goal accomplishment. Against expectations, greater emotional quality was positively associated with greater goal accomplishment for instant messaging and with greater communication satisfaction with communication satisfaction for e-mail and instant messaging. The results of the analyses for the effects of the barriers on goal accomplishment and communication satisfaction are reported in Tables 5.7 and 5.8 respectively. Since the remaining hypotheses and research question are hierarchical in nature and HLM does not allow for hierarchical regression procedures, these coefficients should be interpreted as the step 1 coefficients for the analyses discussed below.
<table>
<thead>
<tr>
<th></th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
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<tbody>
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</tr>
<tr>
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<td>0.064</td>
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<td>0.03107</td>
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<td>690</td>
<td>0.026</td>
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<td>Embarrass Me</td>
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<td>0.066</td>
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<td>Embarrass Other</td>
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<td>0.04426</td>
<td>0.034</td>
<td>245</td>
<td>0.973</td>
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<td>0.016</td>
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</table>

**TABLE 5.7** Goal accomplishment regressed on equivocality and face threat barriers for cell phone, e-mail, and instant messaging using multilevel procedures.
<table>
<thead>
<tr>
<th>Cell Phone</th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
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<td>690</td>
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</tr>
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<td>0.968</td>
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<table>
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<th>T-ratio</th>
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<th>P-value</th>
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<tbody>
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<td>0.176</td>
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<td>2.705</td>
<td>198</td>
<td>0.007</td>
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<td>-1.816</td>
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<td>β6</td>
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<td>0.08058</td>
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<table>
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<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
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<td>0.0423</td>
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</table>

TABLE 5.8 Communication satisfaction regressed on equivocality and face threat barriers for cell phone, e-mail, and instant messaging using multilevel procedures.
Hypothesis three predicted that greater levels of media richness would be associated with greater degrees of goal accomplishment (H3A) and general communication satisfaction (H3B) after controlling for barriers. Before testing the hypotheses, preliminary analyses were performed to discern the effects of the resources on the outcomes without controlling for barriers. The four media richness dimensions were entered as level 2 predictors for the level 1 outcomes of goal satisfaction and communication satisfaction for each medium to check for general effects. The coefficients and significance levels for the effects of the media richness dimensions on goal accomplishment and communication satisfaction are reported in the upper part of Tables 5.9 and 5.10 respectively.

From the preliminary analyses of the effects of media richness dimensions on outcomes, it appears that the increases in the feedback dimension significantly predicted greater communication satisfaction for all three channels and significantly predicted greater goal accomplishment for the cell phone and instant messaging. Against expectations, increases in the tailor dimension significantly predicted lesser goal accomplishment for the cell phone and approaching significantly less communication satisfaction for instant messaging. The tailoring dimension additionally had a positive relationship with communication satisfaction using e-mail that was approaching significance.
<table>
<thead>
<tr>
<th></th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
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<td><strong>Cell Phone</strong></td>
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**TABLE 5.9** Goal Accomplishment through use of cell phone, e-mail, and instant messaging regressed on media richness and information control dimension using multilevel procedures
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<tr>
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<th>Standard Error</th>
<th>T-ratio</th>
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<th>P-value</th>
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**TABLE 5.10** Communication satisfaction through use of cell phone, e-mail, and instant messaging regressed on media richness and information control dimensions using multilevel procedures
After assessing the preliminary effects of the media richness dimensions on the outcome variables, the equivocality and face threat barriers were controlled by entering them as level 1 predictors into the models for each medium and for each outcome to test the hypotheses. The results of these analyses for the cell phone, e-mail and instant messaging are reported in Tables 5.11, 5.12, and 5.13 respectively.

When the barriers were entered as predictors, some of the effects of the media richness dimensions on goal accomplishment and communication satisfaction changed slightly. The positive effect of the feedback dimension on communication satisfaction and goal accomplishment over the cell phone and goal accomplishment using instant messaging, and the negative effect of the tailor dimension on goal accomplishment over the cell phone and communication satisfaction all remained constant or increased in strength. None of the effects for email communication satisfaction or goal accomplishment were significant after the inclusion of controls. The effect of the feedback dimension on communication satisfaction using instant messaging reverted from being significantly positive to significantly negative. Additionally, however, the positive effect of cues on communication satisfaction using instant messaging reached a level that was approaching significance.

In summary the support for hypotheses 3A and 3B was mixed. Greater reported feedback appears to be consistently related to greater goal accomplishment using the cell phone and instant messaging and with greater communication satisfaction with the cell phone. Greater affordances for tailoring messages, however, was consistently related to less communication satisfaction. These were the only stable results between the analyses with and without the barriers included.
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<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
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**TABLE 5.11** Communication satisfaction and goal accomplishment using cell phone regressed on media richness and information control controlling for barriers using multilevel procedures
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TABLE 5.12 Communication satisfaction and goal accomplishment using e-mail regressed on media richness and information control controlling for barriers with multilevel procedures.
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</tr>
<tr>
<td>Tailor γ₀₂</td>
<td>-0.188</td>
<td>0.0937</td>
<td>-2.008</td>
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</tr>
<tr>
<td>Cues γ₀₃</td>
<td>0.110</td>
<td>0.06693</td>
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</tr>
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<td>Language γ₀₄</td>
<td>-0.066</td>
<td>0.07004</td>
<td>-0.944</td>
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</tr>
<tr>
<td>Expressive IC γ₀₅</td>
<td>0.056</td>
<td>0.09334</td>
<td>0.596</td>
<td>116</td>
</tr>
<tr>
<td>Avoidance IC γ₀₆</td>
<td>0.106</td>
<td>0.0759</td>
<td>1.392</td>
<td>116</td>
</tr>
<tr>
<td>Complexity β₁</td>
<td>0.006</td>
<td>0.05597</td>
<td>0.105</td>
<td>193</td>
</tr>
<tr>
<td>Emotional Quality β₂</td>
<td>0.179</td>
<td>0.04403</td>
<td>4.062</td>
<td>193</td>
</tr>
<tr>
<td>Ambiguity β₃</td>
<td>-0.116</td>
<td>0.04633</td>
<td>-2.506</td>
<td>193</td>
</tr>
<tr>
<td>Embarrass Me β₄</td>
<td>-0.055</td>
<td>0.06851</td>
<td>-0.804</td>
<td>193</td>
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<tr>
<td>Embarrass Other β₅</td>
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<td>0.06603</td>
<td>-3.355</td>
<td>193</td>
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<tr>
<td>Impose Me β₆</td>
<td>-0.246</td>
<td>0.0619</td>
<td>-3.976</td>
<td>193</td>
</tr>
<tr>
<td>Impose Other β₇</td>
<td>-0.054</td>
<td>0.05307</td>
<td>-1.024</td>
<td>193</td>
</tr>
</tbody>
</table>

**TABLE 5.13** Communication satisfaction and goal accomplishment using instant messaging regressed on media richness and information control controlling for barriers with multilevel procedures
Hypothesis four predicted that greater levels of information control would be associated with greater degrees of goal accomplishment (H4A) and general communication satisfaction (H4B) after controlling for barriers. Just as was done with media richness, before hypothesis testing, the two information control dimensions were entered as level 2 predictors without barriers entered. According to the preliminary results, increases in expressive information control predicted greater degrees of goal accomplishment for the cell phone and e-mail. Additionally, expressive information control had a positive relationship with communication satisfaction that was significant for email and approaching significance for the cell phone. No significant relationships were found for avoidance information control for any of the analyzed interpersonal media. The beta coefficients and levels of significance are reported in the upper portion of Table 5.9.

When the barriers were entered to test the hypotheses, the positive relationship between expressive information control and goal accomplishment for the cell phone and instant messaging were the only relationships that were unchanged. The relationship between expressive information control and communication satisfaction strengthened and reach a high level of statistical significance. The relationship between expressive information control and communication satisfaction was weakened and lost statistical significance. Interestingly, the negative relationship between expressive information control and goal accomplishment using instant messaging reached a level that was approaching significance. Additionally, the positive relationship between avoidance information control and communication satisfaction using e-mail reached a level that was approaching significance. The results for the analyses regarding the effect of the
information control dimensions on communication outcomes for the cell phone, instant messaging and e-mail after controlling for barriers are reported in tables 5.11, 5.12, and 5.13 respectively.

In summary, the support for hypotheses 4A and 4B (like hypotheses 3A and 3B) were mixed as well. However, expressive information control demonstrated to be a promising example of a media affordance resource for the production of goal accomplishment and communication satisfaction for cell phone and e-mail. The effects of avoidance information control appear to be negligible.

The research question asked if the effects of the repertoire niche dimensions on the likelihood of channel selection would change or remain the same after controlling for media affordance resources (media richness and information control). The analyses for this research question were conducted using the same multilevel logistic regression procedures as those described for hypotheses one and two.

Before the effects of the repertoire niche dimensions on the likelihood of using the interpersonal media were analyzed, the effects of the media affordance dimensions on the likelihood of channel selection were examined. Contrary to the claims of active media selection scholars (e.g. Daft et al., 1987; Rice, 1993; Short et al., 1976) but consistent with the claims of the planning approach to interpersonal media use and selection posited in this dissertation, media affordance resources had very little predictive power over the selection of any of the three channels. None of the affordances were significant for the cell phone. The feedback dimension within media richness had a positive effect on the likelihood of instant messaging use that was approaching significance. The cues dimension within media richness had a positive relationship with
the likelihood of e-mail use. This result is intriguing since e-mail, being a text channel, was classically argued to be handicapped by this media richness dimension (Daft et al., 1987). The results of these analyses are reported in Table 5.14.

After assessing the effects of the media affordances on medium selection in the preliminary analyses, the repertoire niche dimensions were added to the models to answer the research question. The research question, like hypotheses three and four, is hierarchical in nature. As noted above, hierarchical regression is not possible with HLM. Therefore, the coefficients from the preliminary analyses (see Table 5.14) are to be interpreted as the step 1 coefficients for each analysis. After controlling for resources, there was very little change in the effects of the repertoire niche dimensions on the likelihood. The positive effect of repertoire niche breadth and repertoire competitive superiority over e-mail on the likelihood of instant messaging use remained significant. Additionally, the positive effect of repertoire competitive superiority over instant messaging on the likelihood of e-mail use remained significant. The one change that did occur after controlling for resources was that the positive effect of repertoire competitive superiority of cell phone over e-mail on the use of e-mail lost statistical significance. The results of the analyses for the cell phone, e-mail, and instant messaging are reported in Tables 5.15, 5.16, and 5.17 respectively.
<table>
<thead>
<tr>
<th></th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Intercept</td>
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<td>0.120659</td>
<td>-5.442</td>
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<td>0.000</td>
</tr>
<tr>
<td>Feedback</td>
<td>$\gamma_{01}$</td>
<td>0.107</td>
<td>0.167233</td>
<td>-0.642</td>
<td>176</td>
<td>0.520</td>
</tr>
<tr>
<td>Tailor</td>
<td>$\gamma_{02}$</td>
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<td>0.14624</td>
<td>-1.718</td>
<td>176</td>
<td>0.085</td>
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<td>$\gamma_{03}$</td>
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<td>176</td>
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<td><strong>E-Mail</strong></td>
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<td></td>
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</table>

**TABLE 5.14** Likelihood of cell phone, e-mail, and instant messaging logistically regressed on media richness and information control media affordance resource dimensions using multilevel procedures
<table>
<thead>
<tr>
<th>Repertoire Niche Breadth</th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
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<tr>
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<td>0.422</td>
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<tr>
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<table>
<thead>
<tr>
<th>Superiority over E-Mail</th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
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<td>γ₀₁</td>
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<table>
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<th>T-ratio</th>
<th>D.F.</th>
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<tbody>
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</tr>
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<td>Rep. Comp. Sup. Over IM</td>
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</tr>
<tr>
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</table>

TABLE 5.15 Likelihood of cell phone use logistically regressed on repertoire niche breadth and repertoire competitive superiority dimensions controlling for resources with multilevel procedures.
<table>
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<tr>
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<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
</thead>
<tbody>
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<td>0.971</td>
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</tbody>
</table>

| Intercept    | -2.178      | 0.204312       | 10.662  | 164  | 0.000   |
| Rep. Comp. Sup. Over Cell Phone | 0.010      | 0.019405       | -0.531  | 164  | 0.595   |
| Feedback     | 0.406       | 0.171504       | -2.369  | 164  | 0.018   |
| Tailor       | -0.184      | 0.293643       | 0.627   | 164  | 0.530   |
| Cues         | 0.197       | 0.265892       | -0.742  | 164  | 0.458   |
| Language     | 0.321       | 0.2449         | -1.312  | 164  | 0.190   |
| Expressive IC| -0.269      | 0.39343        | 0.684   | 164  | 0.494   |
| Avoidance IC | 0.145       | 0.325669       | -0.444  | 164  | 0.657   |

| Intercept    | -2.009      | 0.255197       | 7.873   | 99   | 0.000   |
| Rep. Comp. Sup. Over IM | 0.026      | 0.011152       | 2.297   | 99   | 0.022   |
| Feedback     | 0.336       | 0.219939       | -1.529  | 99   | 0.126   |
| Tailor       | 0.562       | 0.343433       | -1.637  | 99   | 0.101   |
| Cues         | 0.185       | 0.311722       | -0.594  | 99   | 0.552   |
| Language     | 0.085       | 0.290454       | -0.294  | 99   | 0.769   |
| Expressive IC| -0.651      | 0.522606       | 1.245   | 99   | 0.213   |
| Avoidance IC | -0.089      | 0.350952       | 0.254   | 99   | 0.800   |

TABLE 5.16 Likelihood of e-mail use logistically regressed on repertoire niche breadth and repertoire competitive superiority dimensions controlling for resources with multilevel procedures
<table>
<thead>
<tr>
<th></th>
<th>Fixed Effect</th>
<th>Coefficient</th>
<th>Standard Error</th>
<th>T-ratio</th>
<th>D.F.</th>
<th>P-value</th>
</tr>
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<td>Feedback</td>
<td>$\gamma_{02}$</td>
<td>0.404</td>
<td>0.194036</td>
<td>-2.081</td>
<td>175</td>
<td>0.037</td>
</tr>
<tr>
<td>Tailor</td>
<td>$\gamma_{03}$</td>
<td>-0.033</td>
<td>0.250604</td>
<td>0.093</td>
<td>175</td>
<td>0.927</td>
</tr>
<tr>
<td>Cues</td>
<td>$\gamma_{04}$</td>
<td>0.051</td>
<td>0.163294</td>
<td>-0.315</td>
<td>175</td>
<td>0.753</td>
</tr>
<tr>
<td>Language</td>
<td>$\gamma_{05}$</td>
<td>-0.148</td>
<td>0.164611</td>
<td>0.901</td>
<td>175</td>
<td>0.368</td>
</tr>
<tr>
<td>Expressive IC</td>
<td>$\gamma_{06}$</td>
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<td>0.227081</td>
<td>0.436</td>
<td>175</td>
<td>0.663</td>
</tr>
<tr>
<td>Avoidance IC</td>
<td>$\gamma_{07}$</td>
<td>-0.076</td>
<td>0.213851</td>
<td>0.357</td>
<td>175</td>
<td>0.721</td>
</tr>
<tr>
<td><strong>Superiority over Cell Phone</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
<td>$\gamma_{00}$</td>
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<td>0.152537</td>
<td>9.665</td>
<td>169</td>
<td>0.000</td>
</tr>
<tr>
<td>Rep. Comp. Sup. Over Cell Phone</td>
<td>$\gamma_{01}$</td>
<td>0.029</td>
<td>0.037002</td>
<td>0.792</td>
<td>169</td>
<td>0.429</td>
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<tr>
<td>Feedback</td>
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<td>0.184887</td>
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<td>169</td>
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<tr>
<td>Tailor</td>
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<td>0.759</td>
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<tr>
<td>Cues</td>
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<td>0.162424</td>
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<td>0.723</td>
</tr>
<tr>
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<td>169</td>
<td>0.275</td>
</tr>
<tr>
<td>Expressive IC</td>
<td>$\gamma_{06}$</td>
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<td>0.250635</td>
<td>-0.315</td>
<td>169</td>
<td>0.753</td>
</tr>
<tr>
<td>Avoidance IC</td>
<td>$\gamma_{07}$</td>
<td>-0.256</td>
<td>0.201293</td>
<td>1.272</td>
<td>169</td>
<td>0.204</td>
</tr>
<tr>
<td><strong>Superiority over E-Mail</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intercept</td>
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<td>117</td>
<td>0.000</td>
</tr>
<tr>
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<td>0.020102</td>
<td>2.643</td>
<td>117</td>
<td>0.009</td>
</tr>
<tr>
<td>Feedback</td>
<td>$\gamma_{02}$</td>
<td>0.216</td>
<td>0.233406</td>
<td>-0.927</td>
<td>117</td>
<td>0.354</td>
</tr>
<tr>
<td>Tailor</td>
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<td>0.326966</td>
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<td>117</td>
<td>0.780</td>
</tr>
<tr>
<td>Cues</td>
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<td>0.969</td>
<td>117</td>
<td>0.333</td>
</tr>
<tr>
<td>Language</td>
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<td>0.205435</td>
<td>1.274</td>
<td>117</td>
<td>0.203</td>
</tr>
<tr>
<td>Expressive IC</td>
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<td>0.256186</td>
<td>0.363</td>
<td>117</td>
<td>0.716</td>
</tr>
</tbody>
</table>

**TABLE 5.17** Likelihood of e-mail use logistically regressed on repertoire niche breadth and repertoire competitive superiority dimensions controlling for resources with multilevel procedures.
From the above discussed analyses, it appears that there is some evidence to support the claims of the planning approach to interpersonal media use described in the previous chapters. A summary of the results of the hypothesis and research question analyses are provided in Table 5.18. The interpretation of these results, some discussion as to why some hypothesized relationships were found while others were not, and some general conclusions regarding the planning approach to interpersonal media use shall be discussed in the chapter that follows.
<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Cell Phone</th>
<th>Email</th>
<th>Instant Messaging</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1: Greater repertoire niche breadth for a medium will be associated with a greater likelihood for the use of that medium</td>
<td>Not Supported</td>
<td>Not Supported</td>
<td>Supported</td>
</tr>
<tr>
<td>H2: Competitive superiority of one channel over another will predict greater likelihood of use for the superior channel</td>
<td>Partial Support</td>
<td>Partial Support</td>
<td>Partial Support</td>
</tr>
<tr>
<td>H3A: After controlling for barriers, greater media richness for a medium will be associated with greater goal accomplishment</td>
<td>Mixed Support</td>
<td>Not Supported</td>
<td>Partial Support</td>
</tr>
<tr>
<td>H3B: After controlling for barriers, greater media richness for a medium will be associated with greater communication satisfaction</td>
<td>Partial Support</td>
<td>Not Supported</td>
<td>Partial Support</td>
</tr>
<tr>
<td>H4A: After controlling for barriers, greater information control for a medium will be associated with greater goal accomplishment</td>
<td>Partial Support</td>
<td>Partial Support</td>
<td>Not Supported</td>
</tr>
<tr>
<td>H4B: After controlling for barriers, greater information control for a medium will be associated with greater communication satisfaction</td>
<td>Partial Support</td>
<td>Limited Partial Support</td>
<td>Not Supported</td>
</tr>
<tr>
<td>RQ: Will the relationships proposed in H1 and H2 remain after controlling for media affordance resources?</td>
<td>Repertoire competitive superiority over e-mail lost significance</td>
<td>No change</td>
<td>No change</td>
</tr>
</tbody>
</table>

**TABLE 5.18 Summary of hypothesis and research question analysis results**

**Note:**
- **Not Supported** - No statistically significant results
- **Supported** - All hypothesized relationships were statistically significant
- **Partial Support** - Some but not all hypothesized relationships (underlying dimensions) were statistically significant
- **Limited Partial Support** - Some or all hypothesized relationships were approaching statistical significance
- **Mixed Support** - Some of the hypothesized relationships were statistically significant in the predicted direction and others were statistically significant in the opposite direction
CHAPTER 6

DISCUSSION

As discussed in previous chapters, this dissertation had two interdependent purposes. The primary purpose was to situate various concepts relevant to interpersonal media use and selection into a synthesized model rooted in classic interpersonal constructs and theory. The secondary purpose (which supported the primary purpose) was to synthesize a goal based planning approach to interpersonal communication theory that incorporated various assumptions and constructs from previous work on planning in communication. This planning approach to interpersonal communication was used as a base for the development of a planning approach to interpersonal media use and selection (PAIM).

The purpose of this chapter shall be to review the claims of the PAIM and to discuss its utility as a basis of understanding for mediated interpersonal communication. First, the logical flow of the PAIM and the results of the empirical tests of the relationships within it shall be reviewed. Next, potential model revisions shall be discussed. Finally, some concluding remarks regarding the utility of the PAIM will be offered and considerations for future research will be discussed.
Review of Conceptual Model and Results

As shown in the conceptual model of the PAIM displayed in figure 6.1, the approach argues that individuals are goal/need driven and rely on past experience (patterns of success) situated into scripts to guide their media use actions in a largely automatic process to gratify those needs/goals. Interpersonal media are situated in these scripts through repertoire and system level niches in that they define the range of needs the media gratify for the individual and the system within which s/he is operating (repertoire/system niche breadth), the degree to which the media compete to gratify the same needs (repertoire/system niche overlap), and the degree to which various media are superior to each other for the gratification of needs (repertoire/system competitive
superiority). Furthermore, it argues that the situational outcomes that shape these niches and scripts over time are driven by resources (media affordances) and barriers relevant to focal communication situations.

The results of the empirical investigation described in the previous chapters generally support the claims of the PAIM as an abstract model to organize interpersonal media theory and concepts. The supported claims were in line with both selection (predicted likelihood of selection) and use (predicted outcomes through use). With regard to selection, the repertoire niche dimensions appeared to serve well as conceptual equivalents to interpersonal scripts and had some degree predictive power over the selection of the interpersonal media that were investigated. First, recall that repertoire niche breadth referred to the range and magnitude of different goals satisfied using an interpersonal medium. Just as a component within an interpersonal script (e.g., beginning a conversation with “Hi, how are you?”) will be increasingly more likely to be utilized as it brings increasing degree success in a wide variety of situations, a medium will be more likely used if it accomplishes goals in a wider variety of situations as measured by repertoire niche breadth. In line with expectations, increases in repertoire niche breadth for instant messaging predicted a greater likelihood for use.

Second, recall that repertoire competitive superiority was the degree to which one medium better helps an individual to accomplish social goals than does another medium. As one component of an interpersonal interaction script (e.g., Hi, how are you?) brings upon more positive outcomes than a potential alternative (e.g., What up, teach?) the more likely it will be utilized over the alternative when situations arise where either could be used. The same holds true for interpersonal media. Repertoire competitive superiority
for instant messaging over email, email over instant messaging, and cell phone over e-
mail (before controlling for barriers) predicted a greater likelihood for the uses of instant
messaging, e-mail, and cell phone respectively.

With regard to use, the concepts that were placed within resources and barriers
were generally associated communication outcomes as they were predicted. With regard
to resources, dimensions within the media affordance resources of media richness and
information control positively predicted goal accomplishment and/or communication
satisfaction for all analyzed media channels. All barriers with the exception of emotional
quality were negatively associated with both goal accomplishment and communication
satisfaction and one (self imposition) was statistically significant for all three media for
both outcomes.

Model Revision

As noted above, the results described in the previous chapter showed some
support for the PAIM. There were, however, a number of null findings in the results.
When such findings arise, it must be considered as to whether revisions are necessary.
The revisions that are call for are both methodological and conceptual. As the results
could generally be categorized in terms of interpersonal media use and selection, the
discussion of revisions shall be organized in this manner.

The PAIM and Media Selection

The hypotheses relevant media selection pertained to the repertoire niche
dimensions. Specifically, it was predicted that greater repertoire niche breadth for a
medium would lead to a greater likelihood for the use of that medium [H1] and greater
repertoire competitive superiority for one medium (medium a) over another (medium b)
would lead to a greater likelihood of use for that medium (medium $a$)[H2]. The predictions regarding the effects of the repertoire niche were supported only for instant messaging. The predictions regarding competitive superiority were confirmed for cell phone, e-mail, and instant messaging. However, only half of the proposed relationships received support and even fewer after controlling for resources. These results do supply some limited evidence for the efficacy of repertoire niche dimensions to serve as scripts that guide the interpersonal media selection behaviors of focal individuals; however, given the null findings, some revision is perhaps necessary. The necessary revisions do not pertain to the conceptual structure of the PAIM, but more to the way interpersonal media selection is investigated and results are interpreted using the approach.

Specifically, greater concern for cognitive schemata and system level niches is necessary for greater precisions in discerning media selection patterns using the PAIM. These two factors shall be discussed below.

*Schemata.* As noted above, repertoire niche breadth was hypothesized to positively predict the likelihood for the selection of the different interpersonal media; however, this was only supported for instant messaging. This result does not call for anything to be added or removed from the conceptual model of the PAIM, but perhaps suggests that one of its included components warrant closer attention in future investigations using the approach. This conceptual component is schemata.
In consideration of schemata, recall that in chapter 1 of this dissertation, their place was discussed specifically. It was stated:

Scholars have argued that scripted behavior sequences and expectations become logged into schemata (Abelson, 1981) situated in hierarchically by relationships (Fletcher, 1993). This relationship situated knowledge can affect not only the scripts reproduced but also by newly produced interaction patterns (perhaps in planning) via orientations to the communication context (e.g. family communication schemata, Koerner & Fitzpatrick, 2002).

Later, in chapter 3, in the discussion of context, this point was explained further:

How we perceive others and choose to interact with them is based on information stored in hierarchical schemata situated from most abstract to least: general beliefs of others, beliefs about relationships, and beliefs about specific individuals (Fletcher, 1993). These perceptions and beliefs are the make-up of our assumptions of interacting with others.

According to these passages, different assumptions and scripts are applied to different relationships. Given that repertoire and system level niches are argued within the PAIM to serve as scripts guiding media use behaviors, they should be situated into hierarchical schemata as well.

An inattention to schemata within the method of this dissertation may have led to the null findings. This speculation is given credence when evidence from a previous system level niche analysis is considered. Through the use of a time-space diary method, Dimmick, Ramirez, and Feaster (2007) analyzed the niches of interpersonal media with regard to network relationships. The results of the multilevel logistic regression analyses are reported in table 6.1.
Table 6.1 Results from Dimmick et al. (2007): Beta coefficients for the reported use of cell phone, e-mail, landline phone, and text messaging based on relationships using multilevel modeling logistic regression procedures

<table>
<thead>
<tr>
<th>Relationship</th>
<th>Cell</th>
<th>Email</th>
<th>IM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquaintance</td>
<td>Reference</td>
<td>4.366***</td>
<td>0.503</td>
</tr>
<tr>
<td>Friend</td>
<td>0.444</td>
<td>1.573***</td>
<td>2.091***</td>
</tr>
<tr>
<td>Significant Other</td>
<td>1.418***</td>
<td>Reference</td>
<td>0.578</td>
</tr>
<tr>
<td>Other Family</td>
<td>1.169***</td>
<td>2.499***</td>
<td>Reference</td>
</tr>
<tr>
<td>Parent/Grandparent</td>
<td>1.949***</td>
<td>2.657***</td>
<td>Reference</td>
</tr>
</tbody>
</table>

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

The coefficients reported in table 6.1 reflect the effect of reporting different relationships for the person of whom the respondent was in contact during a mediated encounter on the likelihood that a medium would be reported for that encounter. The patterns of significance in the coefficients across the different relationships were used to interpret the niches of the interpersonal media with regard to contact relationships within focal individuals’ networks. The significant relationship category was interpreted as the primary relationship that made up the niche of each medium within the contact relationship resource dimension. The reference categories (which were necessary for regression procedures) denoted relationships over which the respective media did not compete (interpreted based on smallest proportion of contacts for each medium). Note that friends were the only relationship category that was significant for instant messaging while there were multiple relationship categories for the other channels.
Although the specialized nature of instant messaging in comparison to the other interpersonal media was a system level finding, this may provide some explanation as to why repertoire niche breadth was only a significant predictor for the likelihood of instant messaging use with the method that was used. The preliminary questionnaire used within the study procedure of this dissertation measured the bases of the repertoire niche dimensions, gratifications, in general terms. For example two items that were used in the calculation of the repertoire dimensions asked how helpful the different interpersonal media were for "For communication that helps me fit in with my social groups.." and "To feel or express caring.." Such gratifications obtained items were thought be helpful for the assessment of scripts because it was assumed that respondents would reflect on their past experiences and successes using the interpersonal media for the purposes described. Although the findings do not suggest that they did not do this, it is uncertain as to whether respondents were considering the same relationships for all purposes.

Even if the same relationships were considered for all gratifications, there is no guarantee that all the contacts were with that relationship type when they were recorded in the time-space diaries. The only medium for which it appears likely that respondents considered mostly one relationship and had contacts mostly with that same relationship in their recorded contacts is instant messaging given Dimmick et al.'s (2007) findings regarding the contact relationship types within the niches of interpersonal media. The other two interpersonal media, cell phone and e-mail, according to the results regarding relationship niches, are used for a wider variety of relationships.

Given the concern regarding relational schemata, the method for assessing interpersonal media using the PAIM should be revised. In future studies using the PAIM,
specific relationships should be specified within the measurement of gratifications and for contacts recorded in the diaries. For example, instead of framing a gratifications obtained items around how helpful an interpersonal medium is for the relevant needs in a general sense, they should be framed around a specific relationship such as friends. Likewise, in the time space diary, the respondents should be requested to record only contacts with the focal relationship that was specified in the gratifications. Such an action would better ensure that the schemata are being measured with precision and that the recorded contacts are those where those schemata should be operating.

**System-Level Niches.** With regard to the interpretation of results from analyses pertaining to media selection using the PAIM, attention to BOTH system-level and repertoire niches should be considered in future research. Although the system-level niches of interpersonal media were argued to operate in a functionally equivalent manner to situational scripts, there were no predictions made for their effect within the hypotheses posed. This lack of attention to system-level niches in the framing of the analysis and its interpretation allowed for a gap in the explanation of the null findings. This exclusion mostly concerns interpretations regarding competition among the interpersonal media.

As discussed in chapter two, niche overlap is a measurement of competition between two compared media forms. There must be a meaningful degree of overlap on a relevant resource dimension for competitive superiority of one form over another on that resource dimensions to have a displacement effect. For example, in nature, a wildebeest is superior to the cheetah in the consumption of plant life. However, since the cheetah does not depend on the consumption of plant life for survival (no overlap – no
competition) the superiority of the wildebeest does not threaten the eating patterns of the cheetah. The same holds true for the interpersonal media: if two channels depend on different gratifications, they are not competitors.

Looking back at the descriptive statistics reported in Table 5.3 (5.3) in chapter 5, the average repertoire niche overlaps for the cell phone/e-mail, cell phone/instant messaging, and e-mail/instant messaging pairings were 1.586, 1.288, and 1.251 respectively. According to the formulas used to calculate system level niche dimensions and repertoire niche dimensions, the average of any one repertoire niche dimension for a sample is equivalent to the system level niche overlap for that sample (see formulas in Appendix C). As the overlap formulas are variants of Euclidian distance formulas, greater values indicate less overlap. In examining the overlap values, it is observable that the least overlap (least competition) is between cell phone and instant messaging. Since there are no benchmark values for levels of overlap in niche analyses, dimensions within an analysis must be compared to each other to discern the magnitude of any one dimension. In making such a comparison, the cell phone/instant messaging overlap was significantly different from cell phone/e-mail overlap, $t(332) = 9.017, p < .001$, and e-mail/instant messaging overlap, $t(330) = 14.266, p < .001$.

Considering the effect of system level niches as argued in the PAIM, the finding of significantly less overlap between cell phone and instant messaging may partially explain why the repertoire competitive superiority of either interpersonal medium over the other had any significant effect on the likelihood of use for either channel.

In addition to system-level niche overlap, the severity system-level competitive superiority can affect the relationship between repertoire niche dimensions and media
use. Feaster (2008b) found that although repertoire competitive superiority was a
significant predictor for differences in use frequency for most of the compared channels,
the effects were weakened for the media pairings that had the strongest patterns of system
level (sample level) competitive superiority. In cases where the system level competitive
superiority was the most extreme, the repertoire dimensions had no predictive effect on
use patterns. The interpretation was that when superiority was so extreme at the system
level, individuals, out of a need to participate within that system, had to act in accordance
with its demands.

The effect of extreme competitive superiority as was found by Feaster (2008b)
appears to have had an effect in the current analysis. Looking to the values from table
5.3 in chapter 5, the competitive superiority of the cell phone suggests that it was viewed
by the system as the superior channel. This interpretation is supported given the finding
that the cell phone's competitive superiority over instant messaging and e-mail values
were significantly greater than instant messaging competitive superiority over cell phone,
$t(218) = 26.585, p < .001$, and e-mail competitive superiority over cell phone, $t(218) =
16.161, p < .001$, respectively. Cell phone's overall competitive superiority at the system
level then may have washed out the effects of the repertoire competitive superiorities
involving cell phone use. The extreme system-level competitive superiority of cell phone
over the other channels may partially explain why neither email nor instant messaging
competitive superiorities over cell phone were significant predictors for the likelihood of
use for either channel (beyond the overlap explanation discussed above).

In summary, the null findings regarding media selection suggest revisions to the
way studies are designed using the PAIM and results are interpreted. It appears that
investigations using the approach must be planned with proper attention to all of the components relative to media selection as argued in the approach. Specifically, schemata of the users must be accounted for in the measurement of gratifications and recording of contacts. Also, the system-level niches of the interpersonal media must be considered. Given that individuals are part of a system of communicators, hypotheses should be framed around system-level features, or at least, they must be taken into account when results pertaining to repertoire niche effects are interpreted in future studies.

The PAIM and Media Use

One of the major goals in the construction of the planning approach to interpersonal media use and selection within this dissertation was to develop a proper framing of media affordances within interpersonal media research. The approach framed them as factors that lead to outcomes as opposed to those that lead to selection. The data analyzed for this dissertation were generally supportive of this claim. Hypotheses three and four were concerned with the positive effects of media affordance resources for goal accomplishment (for the assessment realized goals) and communication satisfaction (for the assessment of unrealized social goals). The components of the PAIM that addressed media use were concerned with media affordance resources and barriers. As with the components pertaining to media selection, some adjustments to the approach will be necessary. The revisions for these components, however, pertain to assumptions and the conceptual structure of the PAIM. The implications for revision for media affordances followed by those for barriers within the PAIM shall be discussed below.

Media Affordances. In line with the claims of the PAIM, the media affordances analyzed within this dissertation, when statistically significant, were positive predictors
of communication satisfaction and goal accomplishment. Also in line with expectations, none of the analyzed media affordances were statistically significant predictors of selection. Although there were a number of null findings with regard to media affordances for the interpersonal media under investigation, the evidence does not warrant alteration of the position of media affordances or the relationships posed in the conceptual model of the PAIM. However, some refinement may be necessary regarding assumptions about the similarity of the interpersonal media with regard to media affordances.

As noted above, the intentions behind the construction of the approach were to provide a lens to evaluate interpersonal media that is based in classic interpersonal communication theory and to provide a means to demonstrate how different concepts and theories focused on interpersonal media are interdependent. The evidence showed that the interpersonal media theories and concepts worked in accordance with their positioning in the approach. Any one piece of the approach would have been falsified (or warranted alteration) if NONE of the relationships within the categories had received support. Given that the concepts generally operated in accordance with their conceptual categorization (resource, barrier, etc.).

If it does not suggest alteration to the conceptual model, the evidence does suggest that the interpersonal media may be more dissimilar in what media affordances are relevant to them. More specifically, the evidence suggests that it should not be assumed that a factor that helps a person to be successful with one medium (e.g. expressive information control) will be helpful for all media. The error to avoid,
however, is to assume that communication is an entirely different thing when over a
different medium because of these findings and that the interpersonal media cannot be
understood with a single abstract approach.

This potential error can be made clear by comparing the differences between
interpersonal media to differences in communication contexts. For example, a person’s
charming demeanor is a resource that may help him/her to accomplish goals in a wide
variety of interpersonal situations. It may however, not help a person get through an oral
examination. Even though charm is not helpful in that context, it does not mean that it is
irrelevant to interpersonal communication or that it should not be considered a resource;
it simply does not have an effect in that context. The same can be said for the media
affordance resources tested within the PAIM. For example, although the feedback media
richness dimension was not a strong predictor of communication satisfaction or goal
accomplishment with e-mail, it was for both cell phone and instant messaging. This
finding suggests that feedback is a media affordance that is helpful for some media and
not for others. It does not suggest that it’s categorization as a resource does not apply.
When applied to different media the categorization of the concept of feedback as a
resource will be helpful in discerning how communication goals are obtained through
those media. The same will be for the other concepts in their respective categories within
the PAIM as new interpersonal channels are investigated.

In short, the position of media affordance resources within the PAIM and relevant
associations should remain. It may be the case that some media affordances may only be
relevant to a relative few interpersonal media channels. Given the results found in this
dissertation, differences should be assumed and expected among the interpersonal media.
The notion that the media are differentiated along media affordances (which are relevant to the way that gratification resources are obtained) is consistent with Dimmick's (2003) theory of the niche, which is a theory upon which the PAIM is strongly rooted.

Although different media affordances may affect communication differently when using different media, understanding them as resources helps in understanding how any one affordance operates within the larger process of communication and may aid in understanding similar processes as newer interpersonal media come under investigation. As new media affordances are proposed, scholars following the tenants of the PAIM will recognize them as factors that drive outcomes and not immediately assume them to drive selection as has been done in the past (e.g. Daft et al., 1987, Short et al., 1976).

Certainly, such relationships should be tested, but using the PAIM as a base of assumption will lead to a more systematic investigation of new media and new concepts. Doing so will avoid the mistake of assuming that any one theoretical approach to studying a medium is one independent from other forms of communication (e.g. telephone model” or multi-user dungeon theory).

**Barriers.** The effects of barriers within the analyses were in some ways consistent with the way they were framed within the planning approach to interpersonal media use and selection and in other ways inconsistent. Consistent with the way they were framed within the approach, most of the barriers, when significant, had a negative effect on the production of goal accomplishment and communication satisfaction. Each barrier had a significant effect on at least one outcome for at least one medium, but complexity and the face threats of embarrassment for one’s communication partner and imposition for one’s self were the most consistent.
At least two findings were inconsistent with the way barriers were framed in the planning approach to interpersonal media use and selection and call for revision. The first inconsistent finding was that emotionality, when significant, had a positive relationship with communication outcomes for some interpersonal media. This may have occurred for a number of reasons, both conceptual and theoretical. Although Daft and Lengel (1984, 1986) described emotionality in communication as a contributing factor to equivocality, the data found in this dissertation suggest that the position of emotional quality as a barrier to mediated should be questioned if not removed. Its positioning as a barrier may have been based on assumptions associated with information transfer approaches to communication which may not have as much utility outside of certain circumstances.

The second inconsistent finding was that barriers appeared to have significant effects on the likelihood that different media would be utilized within communication situations. The approach framed scripts as the primary determinant of media use with barriers and resources having effects only on outcomes. Given the results, however, some revision appears to be warranted to the conceptual association with barriers within the PAIM. Considering this result, barriers appear to be part of interpretation of situational factors that lead to media selection. Such interpretation may be involved in the process of matching the appropriate scripts to the needs of the situation. Also, as discussed in the various approaches to planning (e.g. Schank & Abelson, 1977), when complications set in, individuals become more actively engaged in the sequencing of the
communication actions. The results seem to suggest that as situations become more complex, situational factors enter into the planning process perhaps for the adaptation of known scripts.

In summary, revisions for the PAIM with regard to media use were that assumptions should be changed for the interpersonal media with regard to their similarity in the effect of media affordances and the conceptual relationships pertaining to barriers in the approach. With regard to media affordances, the important findings in support of the claims of the PAIM were that they, when statistically significant, positively predicted communication outcomes (goal accomplishment and communication satisfaction) but did not predict media selections. This justifies that the position of media affordances as resources within the conceptual model of the PAIM does not merit adjustment. It does however warrant adjustment to assumptions. The position of barriers may, however, require some refinement. In line with the claims of the PAIM, according to the secondary analysis, barriers, when statistically significant, negatively predicted communication outcomes. Against the claims of the PAIM, however, barriers did significantly predict the likelihood of selection for the interpersonal media analyzed. The adjustment needed pertains to the connection between barriers and gratifications sought (planning). As opposed to the broken bar that was intended to suggest a loose but not significant (statistically or conceptually) connection, a solid bar is necessary to account for the obtained results. The revised conceptual model of the PAIM is displayed in figure 6.2.
FIGURE 6.2 Revised conceptual model of the planning approach to interpersonal media use and selection with the loosely jointed relationship between barriers and gratifications sought replaced by a solid relationship.

Conclusion

Within this dissertation an approach to the study of mediated interpersonal communication, the PAIM, has been constructed. This was done to provide a systematic means of analyzing interpersonal media channels. The approach is not in and of itself a theory. The conceptual model was intended to provide a means to organize theories and constructs pertaining to interpersonal media use and selection in a way that shows how those theories are interdependent and how they reflect theories and concepts relevant to the wider context of social interaction. Although not all of the hypothesized relationships obtained support, the model was demonstrated to be a meaningful way to understand interpersonal media use. The concepts and theories that have been (and will be in the
future) applied within the method appear to be contingent on factors related to the
differences within the media and perhaps the users and communication contexts. The
approach is meaningful as long as is treated as an approach to organize theory as opposed
to a theory in and of itself.

Although the PAIM has made valuable contributions, there is room for improvement. First, although the planning approach to interpersonal communication argued for a number of factors outside of those assessed within the planning approach to interpersonal media use (e.g. situational, personal, & relational resources/barriers, interpersonal needs, contradictions/paradoxes in communication, etc.), they were not analyzed for media use. Factors that fit into these categories such as communication anxiety (Leary, 1983), social skills (Spitzberg & Cupach, 2002), or interdependence in the relationship (Stephen, 1984a, 1984b) have undoubted effects on the interpersonal process and outcomes. Additionally, the repertoire niches of others with whom a focal individual is in direct contact (dyadic system) should have an effect. Second, approaches that view interpersonal media use as dependent/related to uses within a given time period (Stephens, 2006, 2007) must be accounted for as well. These factors among others should be later addressed by the model. Finally, although the approach makes arguments for construction of system level and repertoire niches over time through direct and vicarious observation, these were not analyzed within this dissertation. Future research should investigate these potential areas for expansion more closely.

It has been the hope that with this dissertation to allow for meaningful assessments of interpersonal communication concepts. This dissertation has been oriented toward interpersonal media use, but the general abstract ideas may be applied to
any subject or context of communication. Most of the concepts used in the development of both the planning approach to interpersonal communication and the planning approach to interpersonal media use are borrowed from other branches of thought. Although this borrowing has precluded the labeling of either approach as a theory or model of its own, the development of these approaches denote one of the few attempts to weave some highly useful constructs together in a systematic way such that they can better account for communication processes. Hopefully with future refinement, both the planning approach to interpersonal media use and selection and the planning approach to interpersonal communication will serve as valuable tools for understanding the complexities and subtleties involved in interpersonal media use and general interpersonal communication patterns in everyday life.
BIBLIOGRAPHY


APPENDIX A

PRELIMINARY QUESTIONNAIRE
Interpersonal Media Use Study

Contact John Feaster by email at feaster.5@osu.edu with any questions you may have about this study.

Throughout this questionnaire, three media will be discussed. While there are potentially many different interpretations as to what these media are, in this survey these media are to be understood as follows:

Cell/Mobile Phone should be understood as using a wireless mobile phone to talk with someone with spoken messages. Textual messages sent over a cell phone or any other mobile device should not be considered when thinking of this medium in this survey.

Instant Messaging should be understood as written messages sent and received using messaging software (i.e. AOL Instant Messenger, MSN Messenger, etc.) on computers (both parties using a computer) using only text to communicate. When instant messaging is considered, it should be assumed that both people involved in a conversation would be actively participating in the conversation (e.g. As one person sends a message the other person is reading it).

E-mail should be understood as written messages sent and received using an electronic mail client software (i.e. Webmail, Hotmail, etc.) on a computer. When e-mail is considered it should be assumed that the person writing the message does not expect that the person receiving the message will read it immediately after the message is sent.

Please check that you have all 7 pages of this questionnaire. This questionnaire involves several sections requesting information about the three media listed above. In each section, scales will be provided that you will use to answer the questions relevant to that section. Questions will be answered for each medium by writing a number from the scale in a box that corresponds to the column of the medium and the row of the questionnaire item. Please read each section carefully and try to answer each item to the best of your knowledge. If you do not use any one of the media listed above, please do not respond to the items that pertain to that medium.
You may find it necessary to take breaks in the middle of responding to this questionnaire. Please feel free to do so.

Please do not write your name or any other identifying information on this questionnaire. Thank you for your participation.
For each of the following actions, please indicate how much you agree or disagree that you can perform these actions when using each of the listed communication channels by writing a number from 1 to 5 each box for all three corresponding media where:
1=Strongly Disagree
2=Disagree
3=Neither Agree nor Disagree
4=Agree
5=Strongly Agree

<table>
<thead>
<tr>
<th></th>
<th>Cell/Mobile Phone</th>
<th>Instant Messaging</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>When I make mistakes during interactions, I can generally recover from them.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can generally present myself well in interactions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When things don’t go the way I intend in an interaction, I can feel that I am able to adapt as needed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can always say what I need to say in interactions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can detect changes that occur during interactions.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to plan the way interactions will proceed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interactions often don’t go the way I intend them to go.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>When I need to do so, I can execute necessary communication strategies.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I am able to communicate in ways that I feel are appropriate to the situation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can sense my communication partner's feelings and changes in feelings.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I often misunderstand my communication partners.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have the ability to regulate the flow of communication between my communication partner and myself.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I have the ability to control the pace of an interaction if I need to do so.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If an interaction gets heated or overly emotional, I can generally calm the conversation down.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can avoid topics that I don’t want to discuss.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Statement</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>I can easily end an interaction if I need to do so.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can generally hide emotions from my communication partners when I need to do so.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can ignore things about an interaction if I need to do so.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
We are interested in how people use different communication technologies to fulfill different needs and functions. For each statement below, think about your own uses of each technology (Cell/Mobile Phone, E-mail, and Instant Messaging), and please indicate the extent to which you perceive each one as helpful in accomplishing each given need or function by writing a number from 1 to 5 in each box for all three corresponding media where:

1=Not at all helpful  
2=Somewhat helpful  
3=Moderately helpful  
4= Extremely helpful

<table>
<thead>
<tr>
<th>Need/Function</th>
<th>Cell/Mobile Phone</th>
<th>Instant Messaging</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>To keep in contact with people I don't have enough time to see in person.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication that is economical</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To give or receive advice on personal matters or issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To communicate in a way that overcomes peer pressure</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication that is convenient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For a feeling of companionship with people I know.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication that is conversational.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To keep in touch with people.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication that is quick and fast.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For ease of getting a hold of someone.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To keep in contact with people who live far away.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To give or receive information with people I know.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To share ideas or opinions with people I know.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication that is simple and easy.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To communicate in a way that those who are</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>important to me would like me to communicate</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please continue to indicate the extent to which you perceive each medium as helpful in accomplishing each need or function listed below by writing a number from 1 to 5 in each box for all three corresponding media where:

1 = Not at all helpful
2 = Somewhat helpful
3 = Moderately helpful
4 = Extremely helpful

<table>
<thead>
<tr>
<th>Need</th>
<th>Cell/Mobile Phone</th>
<th>Instant Messaging</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>For communication that fits people's work schedules...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication with people in different time zones...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To communicate like those around me...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To feel or express caring...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For fun or pleasure of communicating...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To communicate personal messages with those closest to me...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication that helps me fit in with my social groups...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To send and receive personal messages...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For coordinating social events with people I know...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To resolve conflicts (e.g., my own, between friends, etc.)...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>For communication that is &quot;different&quot; than face-to-face...</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>To pass time...</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
On this page, we are interested in what each communication technology (Telephone, E-mail, and Instant Messaging) allows you and other people to do while communicating. For each technology, please indicate your level of agreement with each statement by **writing a number from 1 to 5 in each box** where:

1 = Strongly Disagree
2 = Disagree
3 = Neither Agree nor Disagree
4 = Agree
5 = Strongly Agree

<table>
<thead>
<tr>
<th>Cell/Mobile Phone</th>
<th>Instant Messaging</th>
<th>E-Mail</th>
</tr>
</thead>
<tbody>
<tr>
<td>It allows me to give and receive timely feedback with my communication partners.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It allows me to tailor my messages to my own personal requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It allows me to communicate a variety of different cues (such as emotional tone, attitude, or formality) in my messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>It allows me to use rich and varied language in my messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To the best of my judgment, it allows others to give and receive timely feedback.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To the best of my judgment, it allows others to tailor their messages to their own personal requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To the best of my judgment, it allows others to communicate a variety of different cues (such as emotional tone, attitude, or formality) in their messages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>To the best of my judgment, it allows others to use rich and varied language in their messages</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Finally we would like to know a bit about you.

I am a (Please check one):

_____ Male
_____ Female

What is your age? ___________________

Which of the following best describes your ethnic heritage? (Please check one)

_____ African American
_____ Middle Eastern Descent
_____ Caucasian
_____ Hispanic
_____ Native American
_____ West Asian
_____ East Asian
_____ Multiracial
_____ Other

If other, please specify: ______________________________

End of Questionnaire

Please return this questionnaire with your signed consent form in the provided envelope to your class location on the day specified on the cover of
the envelope in which this questionnaire was provided. Please do not make any mark on your envelope or on this questionnaire that could identify you in any way. Thank you again for your participation.
APPENDIX B

SAMPLE ENTRY SHEET FOR TIME-SPACE DIARY INSTRUMENT
<table>
<thead>
<tr>
<th>Medium Used:</th>
<th>E-Mail</th>
<th>IM</th>
<th>Cell Phone</th>
</tr>
</thead>
<tbody>
<tr>
<td>What media were available for use for you at the time of the interaction? (Circle all that apply)</td>
<td>E-Mail</td>
<td>IM</td>
<td>Cell Phone</td>
</tr>
<tr>
<td>Who initiated the contact?</td>
<td>I did</td>
<td>The other person did</td>
<td></td>
</tr>
</tbody>
</table>

### Contact 1

Please indicate the reason(s) for this interaction. (Check all that apply)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talk/Catch Up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek/Provide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek/Provide Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek/Express Caring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask/Seek/Provide help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolve a Conflict with a task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate Activities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The purpose/goal of the interaction was accomplished.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I was very satisfied with the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Nothing was accomplished in the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I would like to have another interaction like this one.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I did NOT enjoy the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

The interaction went smoothly.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I was very satisfied with the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

### Contact 2

Please indicate the reason(s) for this interaction. (Check all that apply)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Talk/Catch Up</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek/Provide</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Advice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emotional Support</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek/Provide Information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Seek/Express Caring</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ask/Seek/Provide help</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resolve a Conflict with a task</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coordinate Activities</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The purpose/goal of the interaction was accomplished.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I was very satisfied with the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

Nothing was accomplished in the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I would like to have another interaction like this one.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I did NOT enjoy the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

The interaction went smoothly.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

I was very satisfied with the interaction.

<table>
<thead>
<tr>
<th>Strongly Disagree</th>
<th>Strongly Agree</th>
<th>Strongly Agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
<td>1 2 3 4 5</td>
</tr>
</tbody>
</table>

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APPENDIX C

FORMULAS USED FOR THE CALCULATION OF REPERTOIRE AND SYSTEM LEVEL NICHES
### Niche Breadth Equations

**System-Level Niche Breadth**

\[ B = \frac{\sum_{i=1}^{k} \left( \sum_{j=1}^{m} \left( \frac{GO_{i} - GO_{j}}{K} \right) \right)}{N} - K \]

**Repertoire Niche Breadth**

\[ B = \frac{\left( \sum_{i=1}^{k} \sum_{j=1}^{m} \left( \frac{GO_{i} - GO_{j}}{K} \right) \right)}{K(u - 1)} \]

### Niche Overlap Equations

**System-Level Niche Overlap**

\[ O_{ij} = \frac{\sum_{i=1}^{k} \left( \sum_{j=1}^{m} \left( \frac{GO_{i} - GO_{j}}{K} \right) \right)}{N} \]

**Repertoire Niche Overlap**

\[ O_{ij} = \frac{\left( \sum_{i=1}^{k} \sum_{j=1}^{m} \left( \frac{GO_{i} - GO_{j}}{K} \right) \right)}{K} \]

### Competitive Superiority Equations

**System-Level Competitive Superiority**

\[ S_{s_{ij}} = \frac{\sum_{i=1}^{k} \sum_{j=1}^{m} \left( m_{ij} = m_{ij} \right)}{N} \]

**Repertoire Competitive Superiority**

\[ S_{s_{ij}} = \sum_{i=1}^{k} \sum_{j=1}^{m} \left( m_{ij} = m_{ij} \right) \]

**System-Level Competitive Superiority**

\[ S_{s_{ij}} = \frac{\sum_{i=1}^{k} \sum_{j=1}^{m} \left( m_{ij} = m_{ij} \right)}{N} \]

**Repertoire Competitive Superiority**

\[ S_{s_{ij}} = \sum_{i=1}^{k} \sum_{j=1}^{m} \left( m_{ij} = m_{ij} \right) \]

**KEY:**

- \( u, l \) = the upper and lower bounds of a scale (Breadth only)
- \( GO \) = a gratification obtained rating on a scale
- \( N \) = the number of respondents using a medium
- \( n \) = the first respondent
- \( K \) = the number of scales on a dimension
- \( k \) = the first gratification scale
- \( I, j \) = medium i and medium j (Overlap and Superiority only)
- \( m_{i>j} \) = the value of a respondent's rating for those scale items on which I is rated greater than j (the sum of the actual values) (Superiority Only)
- \( m_{j>i} \) = the value of a respondent's rating for those scale items on which j is rated greater than I (the sum of the actual values) (Superiority Only)

Macro- and micro-level equations for niche breadth, niche overlap, and competitive superiority

Note: All system-level formulas in this table are copyrighted to John Dimmick and have been used and modified with permission.