

This study was done in order to answer the question, "How are interactions between individuals in a group impacted by a group member's interaction with a cell phone at the mall?" In order to answer this question, our team underwent a process of observations in two locations within Perimeter Mall, the food court, which was a busy and bustling location, and a lounge area found outside of one of the department stores, which provided a quieter, less populated environment. Once we gathered our observations, we utilized the method of Grounded Theory to analyze our data.

### **Storyline**

Cell usage in the mall by an individual who is accompanied by one or more companions impels the user to create privacy from the group without physically leaving the group. Privacy is usually obtained through an adjustment of the body position or disengaging from the others in the group in other ways. The companions in turn oblige the desire for privacy by disengaging with the user.

### **How Our Analysis Brought Us to This Storyline**

#### **Concepts**

Our concepts describe the behavior we observed in terms of what we felt like the person was actually doing, not just the physical activity itself. The concepts describing different kinds of momentum varied from the cessation of momentum (Parking) to no change in momentum (Progressing) while using the cell phone. The concepts that fell in between are Delaying, Dawdling, Meandering, and Reorienting. We also eventually lumped in Eating Slowly as a form of a loss of momentum. Originally, we had Eating Normally as a concept too, but we dropped it because we felt like it didn't contain any real information. [Beki/Amy: Our Reflections page discusses our confusion between what should be a concept and what was more of a flag.] Another group of concepts described behavior we witnessed of individuals alone in the mall. This type of behavior ranged from being aware of the environment around them (External Awareness) to a seeming total unawareness that the person was in a public place (Immersion). A third group of concepts emerged that described the behavior we observed when the cell interactor was with one or more companions. The behavior of the interactor ranged from maintaining an interaction with the companion (Participation) to creating a separation between him and the others (Withdrawal). Other concepts in this category described the behavior that took place when the interactor was joined mid-call by his companion (Response, Waiting) to what occurred after the interactor ended the call (Resume). The

fourth group of concepts described the behaviors we saw displayed by the companions when the interactor was using the phone (Lull, Displeasure, Division). We also tried to speculate on the nature of the individual's interaction with the phone, was it a necessary call (Utility usage) or is he just trying to busy himself (Occupy). In the end, we felt we did not have enough data to support these speculations, so they were dropped. A description of the concepts mentioned above and some of the information we coded as Flags are in our Code Book (as can be seen broken down by definition in the Appendix: Code Book).

## **Categories**

Though we had tentatively already grouped our concepts in a way that made coding easier for us, we did not maintain this grouping when it came time for categorization. During our first attempt at categorization, we found we had created too many. We were trying to pursue a story line describing how using the cell phone impacted an individual's level of performance. After trying to move on to identifying the properties and dimensions of our categories, we realized that many of our categories were actually dimensions of larger categories. So, we reorganized our categories into groups of behaviors of individuals who are alone in the mall, those of a cell user with one or more companions, and those of the companions present with a cell user. This process helped to direct our understanding of our study in a clearer fashion. It was at this stage that we began to identify some of the areas where our observations had fallen short. [Beki/Amy: This is also discussed in depth in our Reflections section.] As a group, we still were not sure where our data was leading us. Each time we tried to formulate a tentative story line, we felt the gaps were too large. However, we continued fleshing out our categories. We named our categories as Solo Individual Mall Activity Affected, Accompanied Individual Mall Activity Affected, and Companion's Response to the Impact Using the Cell Phone Had on Mall Activity.

We felt that individual behavior was definitely a category if it's own, due to the fact that cell users who were on their own seemed to display different actions than those who were with companions. The differences seemed distinct enough to keep them in separate categories. We also came to the conclusion that not enough was known through our observations as to why the single users acted the way they did. We could only witness their actions, but had no reason to conclude anything about the purposes behind them. Once we based our properties and dimensions upon this category we came up with Level of Impact on their ability to engage in other activity, which ranged from minimal to heavy. The properties and dimensions seemed to help confirm Solo Individual Mall Activity Affected, as it's own substantial category.

Actions of users present in a group also became it's own category. Again, their actions seemed more distinct from the other concepts we developed, separating them into their own grouping. We felt that the actions of the users present in groups led them into their own. The users present in a group helped us to gather better ideas as to precise reasons for the actions they would undergo, due to their reactions to the individuals present with them. When deciding upon the properties and dimensions of this group, we once again stated a level of minimally to highly affected impact on the interaction with others, as well as a level of sensitivity to the other individuals, which ranged from insensitive to sensitive.

Our third category easily fell into place after these first two were confirmed. This category was the Companion's Response to the Impact Using the Cell Phone Had on Mall Activity. This category became all those concepts that were created from the way in which the members of a group reacted to the cell user, later to become a more important category than we had originally imagined. This category was given the properties and dimensions of the number of companions in a group, ranging from a single companion to several companions, as well as the level of reaction towards the cell interactor, which ranged from participating in the call to ostracizing.

### **Axial Coding**

Our Axial Coding stage became one of the most integral parts of our process of Grounded Theory. This stage helped us to solidify our categories and gain more awareness of where our research was leading us. We began to speculate more heavily on what our storyline should be, from a number of possibilities that began to appear to us in our data. Axial Coding helped in creating more of a dynamic in which to view our cell users. The process of Axial Coding helped to better define our categories, but also encouraged debates later as we tried to identify our core category (as discussed in the selective coding section). In retrospect, this step in the analysis best aided in centering on our storyline and exactly what our data showed to us.

For our category of Solo Individual Mall Activity Affected, we centered our causal conditions upon a call being in progress, a call being made, or using the phone in a non-verbal communications form. The non-verbal communications form condition was created due to the occasions where we could not tell what a user was doing, searching through a phone book, text messaging, or simply sorting through menus, but yet they were obviously interacting with their phone. The context of this category ranged from a level of negligible to heavy impact. The intervening conditions that appeared with this category were decided to be technological status, social status, and cultural, the cultural category coming from the idea that it was generally acceptable to be in public places such as the mall on the phone. The actions and interactions attributed to this category became ceasing or interrupting a call, adjusting the body to create privacy, and, in the lounge, moving to areas with less people traveling through it. Once this information was concluded, it appeared that the strategy to the actions in this category were that the user was focused on avoiding distractions, with possible consequences of the level of impact upon the mall activities expanding.

Our second category, Accompanied Individual Mall Activity Affected, became a stronger category than originally anticipated. The causal conditions attributed to this category were that the user must be present with one or more other companions, and that some form of cell usage had to take place. The context of this category ranged from minimal to heavy and insensitive to sensitive. The intervening conditions at first seemed to clash, until they were broken down into more distinct definitions, and became societal norms, based upon acceptance of cell phone usage, while also being provided with societal pressures, which was based upon it being rude to be on the cell phone while present with company. The action and interaction presented in this category become strategies focused on creating a level of privacy,

which also included a level of no privacy whatsoever, and on respecting or maintaining the relation with the other people present in the group. This lent towards the consequence of this category being the impact upon the relationship between the cell user and the companions present.

The third category, that of the Companion's Response to the Impact Using the Cell Phone Had on Mall Activity, also became more beneficial in this stage. The causal conditions decided upon were that the person had to be present with someone who was interaction with a cell phone. The context of this category became based upon the number of companions present in the group. The intervening conditions were societal norms and the relationship to the group member's relation to the person on the phone. The action and interaction of the companion's was decided to be an attempt to provide privacy for the cell user. The consequences of this category were that unnecessary lulls could be created in group conversations, as well as possible impacts upon the relationship between the group member and the cell user.

### **Selective Coding**

This stage began a level of debate upon which of our categories should be the core category. One possibility was with the Individual Mall Activity Affected category. This was examined with the possibility that each other category had actions similar to those of the individual user. In the end, we decided against this category for the fact that it did not seem clear enough as to the reasons for the user's actions, only the fact that they performed those actions. Instead, the group decided in favor of Accompanied Individual Mall Activity Affected as the core category. This category seemed to better represent the overall findings of our study, and each of the other categories lent to it in one sense or another. The Solo Individual Mall Activity Affected could be used to show that people generally move around or park in a place by mildly secluded if they are unanchored by a group. Also, the Companion's Response to the Impact Using the Cell Phone Had on Mall Activity clearly supported the impact the cell phone had on the group dynamic. Once this core category was agreed upon, we began to use the information provided in our observation notes as well as the process mentioned above to create one final storyline that best encompassed as much of our data as possible.

### **Storyline**

The storyline presented above seemed to best fit with all the data. It followed more specific concepts behind the actions of all the people we observed. Most of our group data lent well to the fact that both the cell user as well as the companions of the user tried to create a form of privacy, but never actually got up from the table to move away from the group. The primary user would turn from the companions, such as in observations 10, 34, 35, and 47. This withdrawal became equated with the user attempting to separate from the distraction of the other members of the group, and create an environment in which the call was strictly between the user and the person on the other end of the phone. We noticed many of these users never even glanced at the other members of their group while they had ended the phone call.

Some users may not have turned from the other members of the group, but still disengage with the

members by looking in the opposite direction or staring down at their food. Such events could be seen in groups 4, 6, 7, 9, 41, 42, and 64. Group 10 actually showed signs of both withdrawal and extra inattention to the companions present. This withdrawal provided messages to the rest of the people present in the group

The idea of this privacy concern was further demonstrated through many users' actions of resuming conversation or other group activities as soon as they ended their cell usage. These users, such as in groups 9, 10, 34, 47, and 51, acted as if there was never an interruption in the group activities.

Another action taken by a user in accordance to a group member was actually taken when a new person would join them. In this response, the user would hang up the phone within a minute of the companion joining them. This happened in groups 4, 45, and 51. This seemed to show a mixture of the user not wanting to create a distraction from the conversation with the person present, but also not feeling like sharing their conversation with the newcomer, once again showing a level of wanting privacy for their phone call. Observation 57 was a case in which interactor seemed to just be waiting on the friend rather than using the phone in a necessary way.

More observation would need to be done in order to see exactly how those users who were attentive to the group members present could fit into this category. It would appear that they only took a small level of acknowledgement concerning those present. Perhaps this helped appease the companions, and they paid less attention to the phone call. Attention could be seen in group 43, where the user had a child present and was tending to the child's needs, and also to group 44 where a husband and wife sat while the husband spoke on the phone, in this case it may have simply been the comfort level of the two companions that made them still pay some attention to one another.

The groups often took their cue from the user, and would continue on their own actions or conversations without the cell user, which could be seen in group 64. These groups would avoid looking at the cell user while the phone was being interacted with. In both of these situations, it was almost as if neither the user nor the group members wanted to take recognition of one another. Through the reactions of the other group members surrounding a user it could be seen that most of the reactions of the companions were namely in response to the person on the phone, and that it would not have been that way normally. This created lulls in the conversations if not paid attention to properly. It does seem hard to relate the category of participation to this storyline though. More research would be needed to find out if participation could fit with the final storyline. It is believed that participation might be found to have the user trying to create a level of privacy for the entire group and not just the user.

Many groups or pairs were not coded with an Inattentive or Withdrawal code, but could be worked into our storyline. Many times the calls were very short (18, 45, 51, and 57) or the Interactor was on the phone for so long that there were times of attentiveness and times of withdrawal (48). Once there were very small children with the interactor (43). In observation 44, the man is actually lagging behind the woman who is clearly headed down the hall toward the restaurant. He makes eye contact with her, but is not really engaged with her. Our total outliers (32) were a group of women who looked to all be related

who were using the phone and all participating the call. The phone was even passed around once. These observations presented gaps in our analysis, but are fairly easy to explain. We could explain them even better if we had data on the relationships among the parties involved.

Solo individuals helped provide some backing of the concept that users sought a form of privacy creation, yet they were able to physically change locations. Some individuals were rather obvious to have been seeking privacy. A single user would walk into an area that distanced themselves from others and the stores surrounding them. People seemed to utilize the lounge area especially for the white noise created by the fountain, which blocked out a lot of background noise. Even the individual users who wandered around and would not enter a store seemed to also show a possible awareness that the user may enter the field of other people, and therefore lose some of their privacy. It almost seemed as if the individual users created a separate world to exist in while they were on their cell phones.

[Beki/Amy: It took us a really long time to finalize our story line because we felt there was a large gap down every path we went. The notion of privacy within a group emerged to be the most interesting, but definitely not one for which we have enough supporting data. We wish we could start over again with this idea in mind.]

## **Reflections on the Experience**

### **Points of Confusion**

We were met with staggering confusion at several points along the way during our analysis. Starting from the beginning, we feel unsure if our concepts and categories are correctly formulated. In our first pass through the field notes, we found ourselves essentially codifying the actions and behaviors we saw in a simplistic way. An example is “Exit Prior” which meant exiting the observation area prior to ending the call. Another is “Staring Off” which meant looking off in an aimless and unfocused way. After our first coding session, we did some additional research online into Grounded Theory and found information that led us to believe we were approaching it the wrong way. Concepts should capture the essence of the behavior and be descriptive of what is really going on in the situation. We began to refine our concepts into ones we thought better described what we thought was the reason or impetus behind a behavior or what it represented. So, our concepts emerged to be what we have presented, such things as meandering, delaying, and distraction. This process reduced our number of concepts by about a third and also caused us to recode our data.

Next, we tried to group these concepts into categories. We found our concepts describing the behavior of individuals who were alone, the behavior of individuals who were with one or more companions, and the behaviors of the companions. We found it interesting that people engaged in rather long calls even while in the company of one or more people. We found it interesting that we never observed a person physically get up from the table to converse on the phone to achieve actual privacy. We

also found the differences between individual men and women to be quite interesting. Our challenge was to find what was most represented in the data as a whole and required little speculation on our part.

Our analysis led us to two refinements in our research questions. Our original research question was “How do people use technology in public settings?” with a particular interest in seeing the differences between a busier, louder public space (the Food Court) in contrast to a quieter, more private space (the Lounge). We didn’t see a lot of stark differences in people’s behaviors in the lounge as opposed to the food court. Generally, people in the lounge were alone or just walking through. There are two main differences between the food court and the lounge. First, the food court is an area where people are generally taking care of their appetites while talking on the phone. In contrast, the lounge was not an area where any activity was expected to take place, making it an ideal choice for a person who wanted to pause their current activities to talk on the phone. In this area, we observed people who were using the area to specifically talk on the phone. Second, the food court was a main thoroughfare that connected one side of the mall to the other while the lounge was sort of a median area where traffic would commonly move around but not through. Therefore, differences in use between the two setting seemed to be due to the nature of the interaction, which we defined as utility use or occupying. We feared, without interviews, we were delving too much into speculation about the individual’s interaction. Even though these differences were easy to identify, they didn’t seem to support an interesting storyline.

Our first revision led us to “How does interaction with a cell phone affect individual’s activities in the mall?” We collected a lot data about people who were alone and with others. We collected data on people who were walking and people who were seated. The problem with this route is that it was too broad. We basically observed what we felt was the entire gamut of behaviors with a cell phone at the mall and couldn’t tease out a storyline that would reveal something new about cell interaction at the mall. Also, a problem with this question was that we felt like we needed more data to actually be able to identify what a person’s activity at the mall actually was. We would need more data such as surveys and interviews to understand more about the nature of the person’s visit to the mall, the relationship with the person on the phone, and the amount of time the person has to spend at the mall. We felt like we needed to keeping working.

Our second revision was “How are interactions between individuals in a group impacted by one of the members’ interaction with a cell phone at the mall?” We felt like this impact had more external consequences that we could observe which would require less speculation on our part. We could safely assume that if someone was at the mall with another person, they were there to interact with that person on some level. Perhaps spending time together wasn’t their first priority, but we could at least assume that maintaining a certain level of interaction, such as talking and looking at one another, was a reasonable intention. After all, the mall isn’t the MARTA. We assume people are sitting together because they know each other. This question had challenges of its own, namely not knowing the relationships between the companions and the person interacting with the phone or the interactor and the person on the other end of the phone. As new observers, we were very uncertain of the point at which we had enough information to

speculate. Some people were clearly the spouse or the child of the interactor. Others looked like friends more than coworkers and vice versa. However, when it comes to business associates, it's difficult to know exactly how friendly that relationship is. Do they spend time together outside of work or are they strictly lunch buddies? Overall, we attempted to form our storyline in a relationship-independent way and to read body language and conversation tempo as indications of boredom, awkwardness, detachment, contentment, and indifference.

### **What We Would Have Done Differently**

Thinking back over the project, there were many things we would have done differently. We believe our project could have produced more interesting results if we had allowed the observations from our first day to dictate the formulation of our research question and research focus. It seems that some groups did approach the project in this way, but we unfortunately did not. Our approach was to observe and note nearly every interaction we saw and let our analysis bring forth a storyline. However, with no point of focus, the story brought forth seems weakly illuminating. We are now at the point where we feel like we could actually design an interesting study. Too bad it is at the end of the semester!

Had we approached the project in this manner, we believe our techniques and settings would have been different in some of the following ways. If we had decided to study the differences in styles of use between men and women, we would have firstly watched men's and women's behaviors without the phones in order to build a model of their overall manner of conduct in the mall. We may have realized it was best to narrow the study to men and women who were at the mall alone or men and women who were at the mall with one or more others. We did see differences in style during our observations, but we didn't feel like we had enough data to achieve any level of validity in our findings.

If we had decided to study individuals who were alone exclusively, we would want to know more about that person's agenda at the mall. Also, we would want to know more about that individual's frequency and nature of cell use. We believe it would have been a good idea to follow individuals around to see what kind of stores they visit, how long they linger, how quick their pace is, how long do they remain on the phone, do they make or accept multiple calls. As well, if we could get close enough and had IRB approval, we would like to try to get close enough to make out the type of conversation. Is the conversation work or pleasure-related.

Upon reflection, we feel the food court and lounge weren't different enough to produced interesting contrasts in styles for the type of study we set out to do. They were both areas that afforded pausing to use the phone. We believe perhaps a more interesting contrast would have been the lounge and a spot along the path through the mall. With kiosks, planters, and seating crowding the middle, there is not a generous amount of walking room in Perimeter Mall. If someone is trying to accept or make a call, do they move out of the traffic to talk? If so, how and where do they go? Does one group appear to operate

the phone with more ease than another? Does one group require privacy or quiet more than another? These are all outward expressions of intent that are easier to ascertain through observation.

Other things we wish we would have done differently revolve around data items that we did not try to get. First, we wish we would have moved closer to the groups we observed in the food court in order to have a better chance in identifying the relationship among the members. The relationship may have been the reason for some groups experiencing an awkwardness and conversational lull as opposed to other groups who carried on as if the person on the phone wasn't even there. Second, we didn't watch strangers as closely as we should have. Those observations may have provided some additional insight into privacy needs and what triggered a desire to change the current level of privacy. We could have observed how many strangers surrounded the user and how closely they were positioned.

On coding, we sometimes made the mistake of not coming up with a code for the absence of a phenomenon we had already coded. We believed a concept not being present would provide the same information as the presence of an opposite one. At first, we thought this technique would make creating our categories easier, but instead it made the overall analysis more difficult because we were always trying to figure out what we were saying by what we were not writing.