

Building and Maintaining Relationships in the Digital Age:  
Using Social Penetration Theory to Explore Communication through Social Networking Sites

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## Abstract

The purpose of this research is to extend Social Penetration Theory (SPT) beyond face-to-face (FtF) relational development by taking into account the unique nature of online interpersonal interactions and self-disclosure practices. More specifically, by applying SPT to social networking sites (SNSs) for relational development and maintenance, this research seeks to test the major assumptions of the theory regarding relational development and self-disclosure. Three studies were conducted to assess SPT in relation to communication online. The first study, discussed in Chapter Three, used a combination of survey and quantitative content analysis of Facebook profiles ( $N = 103$ ) to look at the depth and breadth of communication across the various stages of relationships maintained online. The second and third studies, discussed in Chapter Four, considered how variables related to communication online (audience awareness, information seeking, and privacy concerns) affected relational maintenance and dissolution. The second study utilized focus groups ( $N = 26$ ) to generate reasons for why users of SNSs would end relationships online (e.g., oversharing, conflict). The third and final study used this list to survey participants ( $N = 312$ ) about their own social network of choice (Facebook, Twitter or Instagram). Participants were asked to consider how the reasons generated in the second study related to their own decisions to “unfriend” or “hide” specific members of their social network, reporting on up to 10 members for each participant for a total of 3,062 cases. Participants also discussed their own information seeking and audience awareness as it related to SNS use. Altogether, these three studies highlight important variables needed to consider relational maintenance and development in a multimodal world, supporting the primary claim of SPT that in weighing the costs and rewards of self-disclosure, relational closeness is the best predictor of satisfaction.

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## Chapter 1: Introduction

An integral part of relational development and maintenance is self-disclosure (Altman & Taylor, 1973). Insofar as one is interested in building a connection, a person will share more both in terms of depth and breadth of information in an effort to form a stronger tie with others. Social penetration theory (SPT) argues that for interpersonal relationships this is a gradual and cumulative process: individuals share more and more on varying topics over time as they move through the stages of a relationship (Taylor & Altman, 1987). SPT, while a familiar theory for many communication studies scholars, for whatever reason remains largely untested since its introduction to the field (Taylor & Altman, 1987). The major premise of the role of self-disclosure in interpersonal relationships has been largely credited as furthering theory, however the linear “stage” approach to relational development has been questioned by many (Mongeau & Henningson, 2015). A recent resurgence in interest in the theory in relation to communication online (Ji & Lieber, 2008; Olson, 2012; Rains, Brunner, & Oman, 2014) as well as stage theories in a more general sense (Fox, Warber, & Makstaller, 2013) shows a continued interest in understanding various types of interpersonal relationships from the frame of stages.

When it comes to relational development and maintenance, SPT has five major assumptions that this dissertation will test. First is that SPT assumes a known audience, which is to say, Person A is aware that Person B is the person they are sharing with in order to form a relationship (Altman & Taylor, 1973). SPT also argues that physical proximity is required to develop and maintain interpersonal relationships. The third assumption is that specific disclosures (both in terms of depth and breadth) correlate with relational closeness as imagined in stages (Altman & Taylor, 1973). The fourth assumption is that skipping ahead with disclosure (i.e., sharing more than what was expected for a given stage) can stunt the growth or even lead to

the end of a relationship. The final assumption (closely related to the previous) is that the process of penetration is gradual; with information held closer to the core being revealed only once someone has reached a stable relational point, showing how the weighing of rewards and costs comes into play with relationships (Taylor & Altman, 1987).

It is important to test these assumptions in a digital age particularly due to increasing evidence that suggests audience is not always known online (Bernstein, Bakshy, Burke, & Karrer, 2013) and that proximity is not always necessary to maintain a sense of closeness thanks to technology (Baym, 2010). A desire to broadcast (i.e., share) through social networking sites (SNSs) with one's network but also maintain a sense of privacy is something to consider in relation to SPT. Sometimes referred to as the "privacy paradox" (Krasnova, Kolesnikova, & Günther, 2009), the conflict between the urge to reveal information and maintain privacy is well documented in research on computer-mediated communication (CMC).

Drawing on SPT, this dissertation seeks to address how the use of mediated communication relates to relational development and maintenance. As users of SNSs find themselves engaging in various forms of self-disclosure online, what effect is it having on the development and maintenance of their interpersonal relationships? Context collapse online (i.e., the loss of specific context-based interactions) can cause users of new media to overshare topics with some relational partners. Past research has analyzed the relationship between self-disclosure and context collapse, showing that users are often not fully aware to whom they are disclosing through SNSs (Bernstein et al., 2013; Karakayali & Kilic, 2013). However, no research to date has offered a theoretical grounding to understand how these various sites where individuals build an online presence (e.g., Facebook, Twitter, Instagram) are affecting interpersonal interactions. As CMC becomes an integral part of everyday communication, both in the process of building

and maintaining interpersonal relationships, it is crucial to consider the effect this has on major theoretical assumptions that exist within the Communication Studies field.

This dissertation will extend SPT to interactions through social media and will account for possible additional variables that affect relational development and maintenance online as a result. To do so, this dissertation will introduce several new concepts to SPT that are seen as influential in communication through technology: actual vs. perceived audience (imagined audience), information seeking, and broadcasting. At the same time, a continued focus on the core elements of SPT (e.g., self-disclosure, a linear development of relationships) will be considered in relation to maintenance and development online through SNSs. Taking into account both old and new variables, the primary contribution of this dissertation will be a comprehensive study of SPT as it relates to social media use.

What follows in Chapter Two will be a discussion of the core tenets of SPT as written by Altman and Taylor, as well as an overview of each of the above-mentioned variables that relate to CMC and SNS use. This theoretical foundation sets the stage for Chapter Three, the first study of this dissertation. This study seeks to test assumptions of the theory related to depth and breadth of self-disclosure online and the linear nature of relational development and dissolution as it relates to the use of the popular SNS, Facebook. In Chapter Four, the remaining assumptions of the theory along with new variables related to information seeking and audience are assessed as they relate to more general SNS use through a focus on Facebook, Twitter, and Instagram. These studies rely on a combination of both qualitative and quantitative methods. Study two builds a foundation of understanding the process of unfriending and unfollowing through SNS, allowing Study three to test those and other assumptions regarding development and dissolution through SNS. Finally, Chapter Five will provide a comprehensive overview of

SPT as it relates to the results of each of the studies conducted, while offering future directions for research on the subject of relational development and maintenance in a digital age.

## Chapter 2: Theory

Social penetration theory (SPT) is concerned with how interpersonal relationships develop. Developed by Altman and Taylor (1973), SPT suggests that there are changes (often increases) in the depth and breadth of self-disclosure as relational partners move through the stages of relational development. There are many factors closely associated with increased depth and/or breadth, including: amount of time spent engaging with a relational partner, commitment (satisfaction with the relationship), environment, and the perceived costs and rewards of disclosure (Taylor & Altman, 1975).

### Depth

When discussing depth, the common analogy offered by almost every scholar teaching about self-disclosure and SPT is to think of a person like an onion with layers that can be peeled away; as a relationship develops relational partners move beyond that initial layer, peeling away each time to reach disclosures that are central to who each person in the relationship is as an individual (Altman & Taylor, 1973). The theory argues that as one relational partner increases their depth of disclosures that the other partner will typically reciprocate, provided it is perceived as beneficial to them to continue to maintain that particular relationship and they want to invest in developing it further (Taylor & Altman, 1975).

There are four layers of disclosure suggested by SPT: surface, periphery, intermediate, and central (Altman & Taylor, 1973). Surface disclosure refers to disclosing information that includes very superficial facts; things someone could learn just by looking at a person or would otherwise be seen as non-offensive to discuss (e.g., thoughts on the weather or talking about what classes a person is taking that semester). Sometimes this could lead to a deeper disclosure—if someone is wearing a shirt that is for a favorite band or athletic organization, it

can be an opening for a conversation to move beyond the surface level. Information at this level is often given freely; Taylor and Altman (1975) suggest that surface level (and some peripheral) disclosures are exchanged most often between relational partners, regardless of the “stage” of the relationship, because this information is not seen as harmful or having any sort of “cost” to the relationship to share.

Peripheral disclosures are information that would be shared in most social settings and does not require any sort of intimacy, this is where the person talking to the individual in a shirt for the Chicago Bulls might say, “oh hey, I like the Bulls, too!” even though they are not wearing anything that would demonstrate that information. They see the disclosure of liking a sports team as something they are comfortable disclosing in an open social setting, with no strings attached to it. Allensworth (1996) suggests that topics that fall into this category include: geographic history, family background, and general likes/dislikes.

Intermediate disclosures are information that one would be more selective in disclosing; related to how a person feels about things, particular likes or dislikes that go beyond base level interest in movies, sports, etc. Consider politics as an example; a peripheral or surface level disclosure might be to say, “I voted” or “I’m a Democrat”—but an intermediate disclosure on politics would include information such as saying thoughts or opinions on hot button political issues like abortion or immigration (e.g., “I voted Democrat because I am pro-choice” or “I voted Republican because I think we need tighter immigration policies”).

The final layer is central, and includes personal and private information that is viewed as being intimate and shared with only those who are extremely close friends, relational partners, and/or family (Taylor & Altman, 1987). Keep the same political example from above in mind—at the intermediate level an individual might disclose that they are “pro-choice” but is only at the

central/core level that their motivation for why (e.g., personal experience) would be shared with another person. Consider also the previous example of being a Bulls fan; while this is a peripheral disclosure about a team liked, there could be stories tied to past experience and family that are core to who that person is that would only be shared with the closest of friends.

SPT predicts that as a relationship develops relational partners move through these layers gradually and systematically; they do not willingly or actively skip layers in self-disclosure (Altman & Taylor, 1973). This process is also not always immediately the same for both relational partners—one may be ready to disclose more intermediate/core information, while the other is not (Allensworth, 1996). This goes back to the cost/reward element of SPT: each partner must weigh his or her satisfaction and commitment to the relationship against the cost of disclosure in determining whether to move forward with a disclosure (Taylor & Altman, 1987).

### **Breadth**

The breadth of communication is also important in relational development. SPT is concerned with both category and frequency. Breadth category refers to general areas of information or topics that may be discussed; one may begin to peel away layers but there are also distinct segments as well. For example, a person may begin to self-disclose information about music and school with someone, but not about family or politics. Breadth frequency refers to how much can be disclosed within each category; some information is more superficial and some more private (Altman & Taylor, 1973), with some categories having a greater depth than others. SPT suggests that once a category (facet) has been made accessible that it will continue to receive an increasing amount of time (in terms of hours spent discussing the category) as the social penetration process proceeds (Taylor & Altman, 1987). Although the time spent and categories discussed may not always be mutual between relational partners, it typically evens

out, as disclosure on one end typically begets disclosure by the other partner. This again goes back to weighing the cost/reward of the relationship—it is possible that one person may attempt to share more and more across various categories (breadth) while the other party does not have interest in developing the relationship beyond its current stage (Allensworth, 1996).

### **Stages**

Taking into account the depth and breadth of interactions, Altman and Taylor (1973) establish four stages of relational development for SPT: orientation, exploratory affective exchange, affective exchange, and stable exchange. In the orientation stage, individuals are getting to know each other; they engage in surface level interactions on a small range of topics (Altman & Taylor, 1973). As Ayres (1979) notes, in this stage, “questions can be viewed as devices for probing various aspects of another’s personality in order to obtain rewards” (p. 194). Research into SPT found that attempts at evaluative questions in the orientation stage (i.e., between strangers) were typically responded to descriptively, in an attempt to shift the conversation back to more “safe” ground (Ayres, 1979). At this point, neither individual is “invested” in the relationship, making it important to slowly build towards comfortable topics—as Altman and Taylor (1973) suggest, this is a stage of no conflict, and that means staying within the bounds of conversation that cannot offend either party involved.

As individuals become more comfortable, they enter the exploratory affective exchange stage; here the depth of discussion begins to enter the periphery and intermediate layers, and the breadth covers a wider range of topics for discussion (Altman & Taylor, 1973). While in the orientation stage questions were asked that lead to disclosures that were highly descriptive, in this (and later) stages questions begin to become more evaluative in nature (Ayres, 1979). For example, in the orientation stage a discussion might not engage in value statements, whereas in

the exploratory affective exchange stage relational partners begin to offer their opinions and unique perspective on more topics (Altman & Taylor, 1973). This “testing” of the relationship occurs as a way to further “get to know” each other; if one relational partner perceives that the other is “worth” talking to again, they will begin to engage at this level of conversation. The intermediate layer begins to introduce feelings and perceptions. While they are rarely accessed at this level, they can be, especially if the interest is in developing the relationship further.

Mongeau and Henningsen (2015) give the example for this layer of someone admitting that college was the time that they are happiest. They would not share this with someone they just met, but would disclose it to someone they are getting to know better.

While all relationships fluctuate to some extent, this is the stage that most relationships individuals have do not pass (Altman & Taylor, 1973). It is at this point with a new tie that relational partners determine whether to maintain at this peripheral and intermediate level, no longer strangers, but not close friends who they would call on for support or help in a time of need. Taylor and Altman (1987) suggest that the individuals in this stage are casual acquaintances and friendly neighbors—someone you talk to with some degree of regularity but it lacks significant depth.

In the third stage, affective exchange, the depth of interaction reaches the central layer of disclosure, though inconsistently and not on all possible topic areas. There is a sense of caution associated with this stage, as there is still a concern that the relationship is not entirely stable (Taylor & Altman, 1987). The ability to continually increase the amount of evaluative statements/questions asked in this stage comes as a direct result of the perceived cost and rewards of the relationship (Ayres, 1979). Due to the increased intimacy and time spent developing this tie, the risks associated with disclosing central information can be as more

beneficial than harmful, but there is still some hesitation to fully disclose everything (Altman & Taylor, 1973). For example, a person may disclose their feelings about their parents but not self-perception or feelings of inadequacy. Maintaining in this stage can be difficult over time, as it requires more attention and effort than exploratory-affective exchange. Relational partners in this stage are characterized as “close friends” or in the case of romantic relationships, the “courtship” phase (Taylor & Altman, 1987).

It is not until the stable exchange stage that depth and breadth is achieved for all layers and possible topics (Taylor & Altman, 1987). In this stage there is a general expectation between partners that the cost of disclosure (regardless of the level) will always be low as each is invested greatly in the maintenance of the tie and trusts the other person (Taylor & Altman, 1987).

Individuals a person would refer to as their life partner and/or best friend typically characterize this stage. Even fewer relational partners make it to this stage of relational development (Allensworth, 1996).

Altman and Taylor (1973) also suggest that the same rules would apply for a process of depenetration—as intimacy decreases, so will the breadth and depth of topics discussed, gradually pulling away from the relationship. This portion of the theory is partially supported in the literature; Tolstedt and Stokes (1984) conducted a study that sought to analyze this exact relationship, and while they confirmed a negative correlation between breadth and intimacy, they found that the same did not exist for depth and intimacy. They offered the idea that as a relationship falls apart that some people fall into a “brutal honesty” phase as justification, and suggest more research is needed to assess the long term relationship between depth and intimacy (Tolstedt & Stokes, 1984). For the most part depenetration has remained overlooked as part of the discussion of stage models in recent years, with relational dissolution often being studied in

specific contexts (e.g., marriage and/or dating) rather than from the perspective of self-disclosure.

### **Rewards & Costs**

SPT argues that following each interaction between two potential relational partners (and even those already beginning to establish a relationship) that there exists both an *evaluation* and a *forecast* regarding future interactions (Altman & Taylor, 1973). The evaluation raises the question of satisfaction with the interaction—was it an enjoyable experience, or did something negative occur that makes unlikely that one relational partner would want to interact again? In some cases, Altman and Taylor suggest (particularly early on) the evaluation is one of uncertainty; one or both individuals are not yet ready to make a value claim about the interaction. In this case, and in situations where one or both parties sees the previous encounter as favorable, the potential reward of a follow up is seen as higher than the cost. This is what leads to the forecast—based on the evaluation (favorable, unfavorable, uncertain) individuals involved in the interaction will decide whether or not future encounters are “worth it”—was the unfavorable perception caused by something that could be prevented in the future, or is it impossible to overcome? Is the uncertainty worth the risk? Altman and Taylor (1973) explain that when both the evaluation and forecast are viewed as potentially rewarding (favorable) for an individual, that they then decide to continue developing/maintaining that particular relationship. At any point if the perception shifts and concerns arise about increased disclosure hurting the relationship, and/or lack of reciprocity (one partner is sharing but the other is not), the theory suggests that the relationship will either “slow down” (never moving past the stage it is in) or begin to dissolve, leading to depenetration as the costs outweigh the rewards (Altman & Taylor, 1973).

## **Physical Environment**

Given the time in which it was developed, it is not surprising that SPT also recognizes the role of environment in interpersonal relationships. With a general lack of technology being used for interpersonal relationships, Altman and Taylor (1973) suggest that physical proximity creates the opportunity for an increase in disclosure (both in terms of depth and breadth) and thus the potential to further develop a relationship. Parks and Floyd (1996) however aptly point out that despite this assumption, proximity is not a *necessary* condition for relational development when considering the variables at play in SPT. Particularly in the context of increasing communication online and long-distance relationships, proximity may be at best a sufficient condition.

Ultimately, there are many factors that contribute to how interpersonal relationships develop and are maintained over time. SPT is a theory that seeks to show how, based on certain levels and kinds of disclosure, different relationships exist (Altman & Taylor, 1973). At the heart of the theory is an argument about self-disclosure and time spent communicating as relational partners weigh the costs and rewards of maintaining a given tie. Understanding how self-disclosure occurs, norms that have developed in use, and the impact it has on relationships are crucial; and even more so in a world that is increasingly multimodal and mediated (Mesch & Talmud, 2006). SPT as a theoretical perspective offers key insight into relational development and maintenance; the next important step requires understanding how users of SNSs undertake self-disclosure.

## **Online Presence**

As new technologies become integrated into daily routines it is important to consider how interpersonal communication theories can be applied (if at all) to those interactions people are having on a regular basis. More specifically, in the context of this dissertation, given what is

know of context collapse, the explosion in the number of ties maintained through CMC, and a need to develop and maintain interpersonal relationships, it is important to begin to reconfigure what SPT might look like when applied to the use of social networking sites (SNSs). Self-disclosure remains an important topic, but additional variables must be considered as relationship development and maintenance becomes a multimodal process.

There are many possible SNSs for a person to have an online presence through. Recent research on the use of social media suggests that three of the most used are Facebook, Twitter, and Instagram (Duggan et al., 2015). While each site offers its own unique approach to communication online, together they represent a more popular set of SNSs today. Ellison and boyd (2013) define SNSs as:

A networked communication platform in which participants 1) have uniquely identifiable profiles that consist of user-supplied content, content provided by other users, and/or system-provided data; 2) can publicly articulate connections that can be viewed and traversed by others; and 3) can consume, produce, and/or interact with streams of user-generated content provided by their connections on the site (p. 158).

While there is a challenge in considering cross-platform approaches, it is important to test theory in various ways, which means taking into account multiple SNSs. The purpose of this dissertation then is to assess the possible locations and varying roles an individual has online, by creating a holistic picture of those locations and potential for self-disclosure and relational development and maintenance through these primary sites (Facebook, Twitter, and Instagram). The affordances of SNSs will be discussed below, with existing research discussed related to questions of self-disclosure, audience awareness, and relational development. This chapter will

conclude with a discussion of how SPT would relate back to the current literature surrounding social media.

### **Developing and Maintaining Relationships through SNSs**

While opportunities exist on Facebook to play games, look up local businesses, and “like” a favorite book or band, the primary purpose of the site remains connecting with friends, family, and new acquaintances (Rainie, Smith, & Duggan, 2013). Any person with a profile can log on to Facebook and not only maintain old relationships, but develop new ties as well (Bryant, Marmo, & Ramirez, 2011). Through status updates, the information page, wall posts, pictures, and messaging, Facebook offers multiple ways for users to communicate with one another, with some forms (e.g., status updates) more public than others (e.g., messaging). The affordances of Twitter and Instagram are remarkably similar in terms of function: one builds a basic profile of information (with less provided on the latter two sites) and then connects with other users on their respective site, sharing tweets on Twitter and pictures on Instagram as their form of “status update” to broadcast information with followers (aka, friends). The public nature of Twitter and Instagram is more prominent versus Facebook however; while there exists private messaging functions for one-on-one interactions, and the ability to set the account to be private from the general public, the frequent use of “hashtags” on these two sites versus Facebook as a way to form connections between users increases the potential for public connections.

These multiple opportunities to self-disclose and network with friends can create a difficult situation for a SNS user: if they are “friends” with a classmate, their best friend, their mom, and their significant other, how they communicate offline with each of those individuals is likely to be very different—but does that change how they broadcast information through a status update or tweet online? A person may self-disclose more to their best friend than their mom, and

more to their significant other than the classmate, but also disclose different *types* of information. Offline, these interactions are distinct, but online it becomes less clear about who the audience is when a user decides to post something. While Facebook and other SNSs offer mechanisms by which a user can protect their profile and limit who sees what information in what way, rarely do users actually end up using those privacy tools (Litt, 2013; Vitak, 2012). Acquisti and Gross (2006) found in their work on privacy and Facebook that some users did not even know tools existed that would make their profile more private.

Privacy tools vary from site to site, but an example of a common privacy tool available through Facebook is the “grouping” or listing of friends/followers into separate lists so that a user can selectively share information (Aldhafferi, Watson, & Sajeev, 2013). But it is also more complicated than just a single click of the button on most sites, and a lack of knowledge can attribute to oversharing just as much as a lack of caring about self-disclosure (Aldhafferi et al., 2013; Litt, 2013). More specifically, the results of Litt’s (2013) study concerning privacy management through social network sites found that increased use of a site (in this case, Facebook) increased a user’s confidence in using the privacy tools available to manage their profile. Additionally, the use of smart phones as an access point can make privacy management more difficult (Aldhafferi et al., 2013), which in some cases can lead to less disclosure across the board by users (Kisekka, Bagchi-Sen, & Rao, 2013), decreasing their involvement with their network as a result.

Another possible reason for why users don’t engage in privacy management on Facebook (and other SNSs) is a user’s perception of who their audience is may be quite different from who actually ends up seeing what they post online (closely related to “giving up” on privacy tools due to lack of know-how). When a user writes a status update or shares a picture on their profile, they

perceive a much smaller audience is viewing it than actually reads that update or sees that picture (Bernstein et al., 2013). This discrepancy in audience is a direct result of context collapse. The term *context collapse*, as defined by Vitak (2012) is “the flattening out of multiple distinct audiences in one’s social network” (p. 451). While in some ways this is seen as a positive element of social media (one can share exciting information with everyone at once) the drawbacks are evident as well. As Bernstein et al. (2013) note, perception is incredibly important—who a user perceives their audience to be can have a large influence on what they choose to disclose, particularly when it pertains to the self.

One study on context collapse from boyd (2008) suggests that while context collapse existed before the Internet (e.g., weddings, graduations, anniversaries), they were controlled (and very ritualistic) environments. The nature of social media and the “flattening out” of networks into one giant network that is shared creates what boyd describes as “unexpected collisions” (p. 38) (e.g., interactions between two unlikely social networks a person belongs to—such as being out with one group of friends, but running into your boss who typically sees you in a different role). When these collisions occur offline, a person can generally correct them fairly immediately, but online a user may not even know the collisions are occurring and have no way to adjust their presentation of self to account for the mistake, potentially damaging that relational tie. Consider this example: you accept a friend request from a classmate, and later that day you see her post a status update discussing how much she hates another girl she thought was her best friend but is “definitely not” anymore. In the process, she discloses details about both herself and the other girl you did not know, and are not sure you wanted to know. It is likely she may not have perceived you as the audience when she wrote that status (after all, she may not even know you accepted the friend request yet) and you only just met the week before in class. What effect

would this have for relational development between these two people? It is possible that after reading that status you suddenly feel less inclined to *get* to know her better, and just like that, a potential relationship is dissolved. These studies point again to a clear limitation of SPT: online the audience has the *potential* to be almost anyone.

Vitak's (2012) research on context collapse and Facebook questioned the role of audience size, privacy concerns, and the use of friend lists in relation to self-disclosure on the site. Vitak hypothesized that with a larger and more diverse audience users would engage in what is known as the "lowest common denominator" strategy for self-disclosure and, as a result, disclose less on the site (p. 455). The results however showed a correlation in the opposite direction; there was actually an *increase* in disclosure on the site as audience size and diversity increased (Vitak, 2012). A possible reason suggested is that with more ties to connect to online, Facebook becomes a primary form of interaction and thus the need to use it for self-disclosure for building and maintaining relationships increases (Vitak, 2012).

Additional research on this same question suggests that self-disclosure has more to do with how users perceive norms of self-disclosure on the site in terms of what is or is not appropriate to share (Karakayali & Kilic, 2013). The self-disclosure of highly private information in a status update to a broader audience tended to make participants (those reading the post) uncomfortable and/or annoyed with the poster (Karakayali & Kilic, 2013). This research highlights the possible negative relational consequences of oversharing online. While none of the participants of this particular study (Karakayali & Kilic, 2013) indicated they ended a relationship because of self-disclosure, it does point to how it can potentially stunt relationship growth (weak ties remain weak ties). One participant discussed, for example, how their old high school friends disclosed too much of their private life on Facebook, and in doing so identified

them as weak ties, rather than the strong tie they once were (Karakayali & Kilic, 2013). While offline this relationship would likely cease to exist altogether (as social media is often attributed to the continuation or renewal of old high school ties), it is a relationship that exists now where disclosure levels must be negotiated. This is consistent with earlier work on Facebook from McLaughlin and Vitak (2012) that discussed norms and violations through the site and found that oversharing of information in particular was viewed negatively.

This research points to a growing concern about self-disclosure on social media and its relationship with unintended audiences. What the current literature base is missing is a theoretical grounding and explanation for what this means for interpersonal relationships both online and offline. If it is true that users are under-estimating who sees the information that they self-disclose online, and that people tend to disclose more as their network size grows, what is this doing to their relationships with friends, family, and significant others? Binder, Howes, and Sutcliffe (2009) suggest that as social networks conflict (friends versus family versus professional) that there is tension that can have a lasting negative effect on relational ties, particularly in the case of family. Research on unfriending suggests that the primary reason to unfriend on Facebook is simply posting *too* much (regardless of content), and that topics that were considered polarizing or inappropriate by the reader are also likely reasons for unfriending (Lang & Barton 2015; McLaughlin & Vitak, 2012). Recent research (Peña & Brody, 2014) highlights the importance of content in the process of unfriending: their study found that disclosures made through Facebook that are considered face-threatening acts (i.e., status updates or pictures that contradicted a user and/or made them look bad) often led to varying degrees of hiding and unfriending through Facebook.

Ultimately, self-disclosure in relationships can lead to a variety of possible outcomes that are important to the development and maintenance of that tie (Craig & Wright, 2012). This is particularly true and can be easily seen through Facebook profiles online, for example, someone “friends” a classmate because they started talking and get along, although they really do not know a lot about each other yet. But, while perusing their classmate’s profile they discover from a status update that they are involved in a local organization that happens to have similar beliefs as the person looking—that person now feels comfortable commenting on the status and disclosing their own beliefs on the issues because their classmate disclosed about the topic in the first place. This is one example of a weak tie (classmate) that is maintained through social media.

Indeed, past research has shown that Facebook provides the opportunity for users to maintain several weak ties that they may not have been able to maintain otherwise (Donath & boyd, 2004, Lewis & West, 2009). In some cases, those relationships have even developed into stronger ties over time as users engage in self-disclosure through the site, which in turn increases closeness, leading to a stronger relationship (Ellison et al., 2007). Facebook also allows us to connect to what Haythornthwaite (2005) refers to as “latent ties” which are relationships that are possible but not yet “activated” (p. 137); from the example of Facebook, these are friends of friends who may see us post or disclose on Facebook and a result become friends with us or vice versa. If looked at on a continuum, a latent tie is one step further out from weak tie, as they are connected to Facebook users only as a result of someone else and because each person in the network uses that medium of communication—commenting on each other’s updates may start a weak tie relationships, which could lead to more frequent interactions developing into a stronger tie over time. While it is clear that social network sites (such as Facebook) can be used to strengthen weak ties, and introduce us to latent ties (turning both potentially into strong tie

relationships), research has also shown that SNSs can be used for maintaining those relationships that are already strong ties.

Facebook can be successfully used to maintain strong ties (e.g., close friendships); although it might not be the primary means of communicating with such ties, nor is it essential to the long-term viability of the relationship (Ellison et al., 2011a). Given that Facebook's primary function is for building and maintaining low commitment weak ties (Lewis & West, 2009), it is important to consider the possible negative relational consequences for these particular connections as noted above. Binder et al.'s (2009) research on context collapse and Facebook give a good example of how this can become a problem; if a user posts a message for a good friend but it is read (unintended) by a new acquaintance, it can make that acquaintance not want to be friends anymore if taken the wrong way.

This is particularly interesting to consider because research continues to suggest that Facebook users imagined audience is their strong ties, not their weak ties (Lewis & West, 2009), when users post on social media. Binder et al.'s (2009) study in particular is important to highlight in relation to this research, because the results of their survey found that the more heterogeneous a users online network (i.e., Facebook friends coming from a variety of contexts) the more likely that users reported the potential for tension. While this study points to the primary source of tension being family ties, it stands to reason that other relationships from varying social groups would also struggle with disclosure issues online as seen in other studies (Lewis & West, 2009; Vitak, 2012).

Romantic relationships can also be developed and maintained through SNSs and should be considered in the context of SPT and self-disclosure. Fox et al. (2013) found through a series of focus groups that the use of the Facebook function of being "in a relationship" (commonly

referred to as “FBO” for Facebook Official), plays an important role in establishing a clear “this is what stage we are in” for romantic connections online. Fox et al.’s (2013) research relied on Knapp’s (1978) model of relational development (initiating, experimenting, intensifying, integrating, and bonding), which is similar to SPT in structure but more focused on romantic relationships. Fox et al.’s study points to growing problems in an already established relationship through Facebook: findings suggested that while working through the intensifying and integrating stages of development that participants struggled with appropriate Facebook use in terms of posting relationship status, sharing pictures as a couple, knowing how to post status updates about the relationship, and exchanging wall posts between each other (Fox et al., 2013). The integrating and intensifying stages can be compared to the point of disclosure in SPT where personal information is shared at wider breadth and depth, called the “affective exchange” stage of relational development (Altman & Taylor, 1973). Given that friends also do things like post status updates that might tag each other and share pictures, this is an interesting comparison to consider between relationship types and their use of Facebook.

This difficulty described by Fox et al. shows support for SPT in terms of negotiating the affective exchange stage of a relationship; and points to the need for additional variables in stage models: the struggle described by participants was often due to the public nature of the site (audience). The researchers even suggest, “When networks can view your relationship status, your partner’s page, and wall posts, pictures, and other artifacts of your relationship, the relationship becomes shaped by its actual and perceived audience” (Fox et al., 2013, p. 785). When developing an interpersonal relationship through a semi-public website, the pressure to consider how to “perform” that relationship (particularly in the context of romantic relationships) is much higher than in a FtF context.

Fox et al. also discuss the early stage of relationships in noting that users will use Facebook as a way to gather information about someone online. Participants in their study referred to this as “creeping” on the page because the owner of the profile was none the wiser (Fox et al., 2013). This is similar to what Ellison et al. (2011a) discuss when they talk about social information seeking through Facebook. The items in their study included things like “I have used Facebook to check out someone I have met socially” and “I use Facebook to learn more about other people in my classes” (Ellison et al., 2011a, p. 881). This highlights how the act of “creeping” goes beyond any one type of relationship. Given that similar information is available on other SNSs, it is important consider how the intake of information early on in a relationship may or may not affect relationship development online. Recent research from Rains, Brunner, and Oman (2014) suggests that a high amount of superficial disclosures through communication technology can decrease satisfaction with a relationship, but the question would be whether or not reading that information up front rather than experiencing those posts in real time is viewed the same, leading to similar results.

### **New Variables, New Theory?**

Until one can adjust for the change in audience and information seeking that occurs online, SPT will fail to account for the nature of interpersonal relationships today both in terms of development and dissolution. This research will seek to address these two variables as they are related to SPT, considering the major assumptions of the theory outlined in the introduction as they relate to questions of self-disclosure and relational maintenance. Wilson, Gosling, and Graham (2012) note that: “as Facebook becomes increasingly integrated into everyday life, it becomes a necessity to monitor and examine the platform’s positive and negative impacts on society” (p. 204). The same can be said for Twitter and Instagram, which are each year gaining

in users since their introduction in 2006 and 2010, respectively (Duggan et al., 2015). However, it is not just the platform that it is important to study, but also the theories themselves. Testing theories and their applicability across multiple interactions is important to understand their applicability and the boundaries that exist in those theories current form (Parks, 2011).

As the previous literature has already shown, the number one variable that must be added to SPT for future analysis is actual versus perceived audience (the idea discussed in past literature of the “imagined audience”). Because the actual audience is known in offline interactions, what is known about the process of self-disclosure in the model is fairly straightforward. But in online interactions the perception of who is viewing a profile on a given SNS can vary drastically from who is *actually* viewing that page, changing that process entirely. A new model of SPT would need to measure knowledge of audience (actual and perceived) as a starting point to theorizing about the process of disclosure. As SPT already suggests, different audiences lead to different levels of disclosure, making this an important part of advancing the theory (Altman & Taylor, 1973). In a new model of SPT, underestimating actual audience could lead to negative consequences (stagnation, dissolution) for a relationship when the disclosure made is at a greater depth/breadth than the current stage of that relationship.

Finally, as is noted in the context of romantic relationships, but also was found to be true for new friendships built through SNSs, there is a change in the speed of disclosure through CMC. As Altman and Taylor (1973) write, “social penetration is ordinarily gradual because reward/cost projected outcomes are more certain for adjacent interaction areas than for distant ones” (p. 40). Users of SNSs are now actively seeking information online about new and potential relational partners, changing the process of disclosure and intention to share. Fox et al.’s (2013) study of romantic relationships call this process “creeping”, wherein someone goes

to the profile of a user and reads about them but does not share that they were there or learned anything new. This is consistent with research about online communities in general, which have found that the most common role that a person takes on is that of “lurker” rather than active poster, making them incredibly difficult to account for in the process of impression management and relational maintenance (Nonnecke & Preece, 2001).

A new version of SPT would have to account for this change in speed as a result of online presence—users of new media are disclosing more (both in terms of depth and breadth) simply by being online and building a presence over time (Binder et al., 2009). A person could create a profile on any one of the sites mentioned and have it for several years before they meet someone, and when that new acquaintance comes across that page, they would be able to go back and read all their old tweets (Twitter) or see all their old pictures over the years (Instagram). Likewise, new Facebook friends can easily search the timeline or photos to see what newly accepted friends have done prior to knowing them, disclosures that are not immediately thought about when a user hits the “accept” button, but has been made easier by Facebook in recent years with updates to the site and increased searchability. This ability to “chug” rather “sip” information is noted by Fox et al. (2013) in their study of romantic relationships, and is likely to be true of friendships online as well.

Altman and Taylor (1973) suggested when they first created SPT that there was a “cultural minimax” (i.e., a set amount of acceptable disclosure based on minimizing costs and maximizing rewards), that encouraged relationships to develop gradually over time. Research today however suggests that as “reality” television programming proliferates, so does a need to self-disclose online (Stefanone & Lackaff, 2009). Likewise, social norms of use related to social networking sites online indicate increased disclosure (McLaughlin & Vitak, 2012). Coupled

together, these arguments suggest that disclosing more (and more frequently) is growing more common, and should be factored into SPT. While SPT did not originally account for information seeking, a new model would likely find that the speed of disclosure (both voluntary and involuntary) is faster in terms of both depth and breadth when engaged through mediated and/or multimodal communication with a relational partner, regardless of the anticipated relationship stage.

What follows in the next chapter will be an assessment of SPT as it currently stands—is it possible to apply the major premises of the theory to communication through the most popular social networking site of all, Facebook? This is an important first step in studying SPT in a digital age: seeing how depth and breadth map onto communication online and what that means for the types of relationships maintained through the site sets the stage to consider possible additional variables. In the chapter that follows, an analysis of these new variables (audience, information seeking) are considered as they relate to the process of development and dissolution through Facebook, Twitter, and Instagram.

### **Chapter 3: Examining the Depth & Breadth of Communication through Facebook**

#### **Abstract**

This study seeks to extend Social Penetration Theory (SPT) to online communication by investigating how relationships are developed and maintained through the popular social networking site, Facebook. Drawing on SPT, the researcher collected a combination of self-reported survey data and samples of shared content (i.e., the Friendship Page) from Facebook users ( $N = 103$ ) for analysis of different types of relationships. Results of the study suggest that the relational stages of SPT can be mapped onto communication through Facebook, proximity, however, is no longer a required component of relational development. Results also showcase the depenetration process by highlighting lapsed connections maintained through Facebook.

When two individuals begin a relationship, they engage in self-disclosure as a way to bond (Derlega, Winstead, & Greene, 2012). During the process of self-disclosure and relational development, both parties must weigh the benefits and costs of sharing with the other person; is there a personal risk in telling them something? Would they make fun of them or judge them for what they have said, or reciprocate with a disclosure of their own? (Derlega et al., 2012). How does this process change when the disclosures are made in a public location, overheard by friends and family alike? Past research on self-disclosure has found that, for the most part, individuals will disclose more in computer-mediated communication (CMC) interactions as opposed to face-to-face (FtF) interactions, both in the sense of general computer-mediated communication (Tidwell & Walther, 2002) and communication through social media (Jiang, Bazarova, & Hancock, 2013; Schouten, Valkenberg, & Peter, 2009).

Social Penetration Theory (SPT) helps to explain the process of self-disclosure in relational development, arguing that self-disclosure is integral to the development and maintenance of interpersonal relationships over time (Altman & Taylor, 1973). This has found to be true particularly for relationships maintained online as opposed to face-to-face (Tong, Kashian, & Walther, in press). With the increasing use of social networking sites (SNS), such as Facebook, to develop and maintain various interpersonal ties online (Ellison, Steinfield, & Lampe, 2011; Parks, 2010), research addressing how self-disclosure and relational development may change in a digital age is needed. More specifically, analyzing the life of these relationships as they play out through communication online may give needed insight into the process of relational development and dissolution today.

As Facebook continues to integrate into everyday maintenance of interpersonal relationships, it is crucial to consider the effect this has on major theoretical assumptions

surrounding interpersonal communication. Rains and Brunner (2014) note in their survey of research on SNS that there is a need to tie theory to the study of communication technologies, something this study places as the central focus in advancing an understanding of Facebook interactions through the lens of SPT. The purpose of this study is to extend SPT to communication through Facebook, testing key assumptions of the theory that suggest specific types of disclosures (both in terms of depth and breadth) correlate to specific relationship stages and that physical proximity is necessary for relational development. The primary contribution of this chapter will be an examination of the degree to which the central presumptions of SPT can be applied to online interactions. Before looking to the current research regarding self-disclosure and relational maintenance practices on Facebook, a thorough summary of SPT will be presented, highlighting the key parts of the theory that will be important to consider when discussing relational development in a digital age.

### **Social Penetration Theory**

Developed by Altman and Taylor (1973), SPT argues that relational partners engage in increasing levels of disclosure as they move through the stages of relational development. More specifically, relational partners weigh the costs and benefits of maintaining a connection over time and make conscious decisions to increase or decrease self-disclosure both in terms of depth and breadth as they decide whether to move a relationship forward (Taylor & Altman, 1987). According to SPT there are four levels of depth: *surface*, *periphery*, *intermediate*, and *central* (Altman & Taylor, 1973). Surface disclosures refer to information someone would share based on the surroundings (e.g., talking about an event you are at together) or is seen as neutral in topic (e.g., the weather). Peripheral disclosures are information that would be shared in most social settings and does not require any sort of intimacy, examples for this category might include

where you are from (geographic history) or general likes and/or dislikes in regards to music and movies (Allensworth, 1996). Intermediate disclosures are information that one would be more selective in disclosing; related to how you feel about things (Altman & Taylor, 1973). Consider music as an example—a peripheral level disclosure might be “I like jazz music” but an intermediate level disclosure would be explaining what about jazz you like and/or why you like it (e.g., jazz helps you feel more connected to your family).

The final layer is central. This layer includes private information seen as intimate and is shared with only those who are extremely close to the person disclosing (Taylor & Altman, 1987). SPT predicts that as a relationship develops relational partners move through these layers gradually; they do not willingly skip layers in self-disclosure (Altman & Taylor, 1973). It is possible that one relational partner may be ready to share more than the other, but in the process of weighing costs and rewards to reach the point of a higher level disclosure, it is typically a reciprocal process showing that both partners are ready to move to that next stage for the relationship (Allensworth, 1996).

The breadth of communication is also important in relational development. In SPT, Altman and Taylor (1973) describe breadth in terms of category and frequency. Breadth category refers to the range of topics that can be discussed; one may begin to peel away layers but there are also distinct segments of personality as well. For example, a person may begin to self-disclose information about music with someone because of a t-shirt they are wearing, but not discuss school or family. Breadth frequency refers to how much can be disclosed within each category in terms of depth; some information is more superficial and some more private, or central (Altman & Taylor, 1973).

SPT outlines four stages based on increasing levels of depth and breadth: *orientation*, *exploratory affective exchange*, *affective exchange*, and *stable exchange* (Altman & Taylor, 1973). The orientation stage is viewed as the “getting to know you” stage. Here, individuals engage in surface level interactions (depth) on a small range of topics (breadth). This is a public stage and can require more than one encounter to move past, though is typically short lived as assessments are made quickly (Altman & Taylor, 1973). This stage will not be addressed in depth in this study, as the act of friending on Facebook would suggest that users have already met and desire to move past the orientation stage as they get to know each other more (Bryant et al., 2011; Fox et al., 2013).

The first stage most likely to be represented online is the exploratory affective exchange stage. Here, the depth of discussion begins to enter the periphery and intermediate layers (depth), and the breadth covers a wider range of topics. According to Altman and Taylor (1973) this stage is where the majority of relationships that individuals have in life are maintained at because in the process of weighing the cost and rewards of a new relationship, the effort to share more outweighs any potential reward of having a closer friend.

In the third stage, affective exchange, the depth of interaction reaches the central layer of disclosure, but is often inconsistent and on a small range of topics (Taylor & Altman, 1987). This stage represents the wider friend circle of someone, or the courtship phase of a romantic relationship. Due to the increased intimacy and time spent developing this type of tie, the risks associated with disclosing central information can be seen as more beneficial than harmful, but there may still be hesitation to have full disclosure (Altman & Taylor, 1973). It is not until the stable-exchange stage that full depth and breadth is achieved for all layers and possible topics.

Very few relational partners make it to this stage, but those that do favor openness in the relationship, with disclosure seen as benefiting the relationship (Taylor & Altman, 1987).

SPT also accounts for the dissolution of relationships through the discussion of depenetration (Altman & Taylor, 1973; Taylor & Altman, 1987). As interdependence and intimacy within a relationship decreases, so will the depth and breadth, leading to a gradual pull away from the relationship, similar to the stages discussed above. Little work has been conducted on the depenetration process (Tolstedt & Stokes, 1984) with the majority of research of relational dissolution focusing on specific ties, often romantic.

As a theory, SPT demonstrates that specific types (breadth) and levels (depth) of disclosure correlate to varying relationship stages (Altman & Taylor, 1973). SPT has several basic assumptions, two of which will be tested in this study: first, that specific types of disclosure correlate with relationship stages, and, second, that physical proximity is necessary to develop a relationship (Taylor & Altman, 1987). While the variables associated with SPT (e.g., depth, breadth) are often used in conjunction with research on relational development and maintenance through communication technologies, the specific stages created and the process described by Altman and Taylor have only recently started to receive attention in relation to communication online. SPT as a theoretical perspective offers key insight into relational development and maintenance; the next important step requires understanding how users of Facebook undertake self-disclosure and develop ties online.

### **Self-Disclosure and Relational Maintenance through Facebook**

Facebook provides the opportunity to maintain and develop multiple types of relationships, ranging from weak to strong ties (Bryant et al., 2011; Ellison et al., 2011a; Ramirez & Bryant, 2014). It has been suggested that many individuals turn to Facebook after

an initial offline encounter as a way to learn more about someone, initiating the relationship and taking it a step past simply a one-time encounter (Fox et al., 2013). This is due in large part to the profile: on Facebook a user is encouraged to fill in information about themselves ranging from favorite movies and hobbies to education, to religious and political affiliations. Once users become “friends” on the site, the ability to have directed communication (e.g., wall posts) allows for more specified self-disclosure and targeted relational maintenance strategies in both friendships and romantic relationships (Burke & Kraut, 2014; Fox et al., 2013).

Most of the research highlighting the relational maintenance benefits of Facebook point to the low effort, high reach of the SNS: by writing status updates letting friends and family know what is going on in their life, a user can ensure that those that they care about are up to date at all times without significant effort on their part (Bryant et al., 2011). While these actions have been shown to help in the maintenance (Lewis & West, 2009), and in some cases, the development of a weak tie into a strong tie (Ellison et al., 2011b), what is known of one-on-one and directed communication through the site?

Communication through Facebook can take the form of either public or private actions; an example of a private interaction on Facebook would be using the messaging/chat function to have a one-on-one conversation with a friend on the site. The majority of Facebook communication between two friends, however, is public, as very little of the site outside of Facebook messenger is a private form of communication (Facebook, 2014). For the purposes of this study, Facebook communication can be understood as tagged status updates, wall posts shared, the sharing of pictures, and displays of mutual friends and interests as is illustrated in the “Friendship Page” that the site generates for each relationship a user has (Facebook, 2014).

Burke and Kraut (2014) conducted research to assess the association of Facebook communication (use) on relational closeness. They found an increase in tie strength that resulted uniquely from communication through the site (e.g., wall posts, messages), particularly in the case for non-family relationships that do not communicate through any other medium. They also noted that the association was stronger for communication that was written (e.g., comments, posts) versus simply “liking” a status update of that Friend. This would suggest that by examining the directed communication between Facebook Friends that a correlation is likely to be found in terms of relationship stage. Which is to say, those who share more communication through the site will have a stronger relationship than those who do not.

Taking into account this past research on disclosure practices and relational maintenance through Facebook, this study will focus on communication highlighted on the Friendship Page on Facebook for each relationship, as it is these public displays of connection that are likely to be indicative of tie strength. Thus, the following hypothesis is offered:

*H1: Facebook communication on the Friendship Page will be highest for relational partners in the stable exchange stage, followed by the affective exchange stage, and then exploratory affective exchange stage.*

### **Types of Relationships Maintained**

An oft-touted benefit of Facebook is the possibility of “reconnecting” with old friends from high school and/or college once a person has moved onto a new life stage. In particular, in its earliest years, when it was first introduced to just college students, the effort to find and friend an old high school classmate was high (Bryant et al., 2011; Parks, 2010). This ability to connect with ties from various points in a person’s life probably leads to larger online networks: early research suggested around 150-250 friends on Facebook (Ellison, Steinfield, & Lampe, 2007;

Walther, Van Der Heide, Kim, Westerman, & Tong, 2008), while studies published in 2014 suggest an average ranging closer to 650-850 friends (e.g., Litt et al., 2014; Sosik & Bazarova, 2014). Given the increasing size of networks, it is not surprising that when recent research by Ellison, Vitak, Gray, and Lampe (2014) asked the additional question of “actual friends” distinguished from Facebook friends, that the findings showed that participants believed only roughly 37% of their total Facebook friends were actual or current friends.

Parks' (2010) analysis of Facebook friendships suggests in all there are 13 possible typologies of ties that are maintained through the site, with five being the most frequently reported: close friends (less than 10%), activity friends (ties based primarily on a shared activity, e.g., church or sports group), acquaintances, lapsed friendships (i.e., ties that were once stronger than they currently are; e.g., old high school friend), and friends of friends (i.e., connections made as a result of a mutual tie). Many of these relationships can correlate to stages of SPT, however the “lapsed friendship” stands out as a unique connection resulting from technology use. The maintenance of long-distance relationships is often seen as a benefit of technology: someone goes off to college, or moves to a new town, and they are able to still connect with those they knew previously through technology. Absent a social networking site connection like Facebook, that tie might simply fade away—visits becoming less frequent and phone calls cease to exist. Given that it typically takes an active negative action on Facebook to lead to de-friending (Peña & Brody, 2014), these lapsed friendships can subsist for years solely online. Parks' (2010) research suggests that these relationships are just another form of a weak tie; closer to an acquaintance than a current friendship or strong tie relationship. SPT rests on the idea that relational partners weigh the costs and reward of the relationship. At any point if the perception shifts and concerns arise about increased disclosure hurting the relationship the theory

suggests that the relationship will either “slow down” (never moving past the stage it is in) or begin to dissolve, leading to depenetration as the costs outweigh the rewards (Altman & Taylor, 1973). Similarly, if there is a lack of reciprocity (one partner is sharing information but the other is not), depenetration may occur in the relationship (Altman & Taylor, 1973). Thus, the following hypothesis and research question are posed:

*H2: Current friendships will be significantly different from lapsed friendships and acquaintances in terms of Facebook communication on the Friendship Page.*

*RQ1: How do lapsed friendships and acquaintances differ in terms of Facebook communication on the Friendship Page?*

### **The Role of Proximity**

A final issue to consider here is geographical distance. Altman and Taylor (1973) discuss physical proximity and its effects on how relationships both evolve and devolve in relation to SPT. As research has shown, those who are in close proximity are more likely to disclose more both in terms of depth and breadth over time versus those who are not (Altman & Taylor, 1987). In a mediated world, there still exists the ability to maintain that same sense of intimacy and relational satisfaction across distances (Baym, Zhang, & Lin, 2004; Craig & Wright, 2012). In a survey of Facebook literature, the single most common reason that users engaged with Facebook was out of a desire to keep in touch with all of their “friends” who they could not see every day (Wilson et al., 2012). Internet research in general has frequently shown that geographical proximity is not needed to maintain a personal relationship online (Baym, 2000; Parks & Floyd, 1996). In testing the assumptions of SPT, the following hypothesis is offered based on research regarding CMC to date:

RQ2: *How do relational partners across various relationship stages differ in their Facebook communication on the Friendship Page based on geographical distance?*

## **Method**

### **Participants**

Participants ( $N = 103$ ) were recruited from three large Midwestern universities. Participants at two of the universities received either partial course credit (less than 5% of their overall grade) or extra-credit for participation. Participants from the third university were obtained through snowball sampling and did not receive any form of compensation for participation. Multiple universities were used to ensure sample diversity. Fifty-three participants were female (51.5%) and fifty were male (48.5%). Age ranged from 18-53 years old with a mean of 21.60 ( $SD = 5.60$ ,  $mdn = 20$  years old). Seventy-seven participants identified as Caucasian (74.8%), seven each as African-American/Black, Hispanic/Latino(a), and Biracial/Mixed Race (6.8% each), four as Asian (3.9%), and one as Pacific Islander/Native Hawaiian (1%).

### **Procedures**

This study was conducted in two parts. Participants were recruited and first asked to provide the researcher access to the Friendship Page of a self-selected relationship on Facebook, and then participants were asked to complete a brief survey about the friendship they selected. The Friendship Page displays all directed “public” (i.e., wall posts, status updates, not messages and chats) communication between two friends, as well as highlighting things in common (e.g., shared likes, friends) (Facebook, 2014). Participants were randomly assigned to one of three possible scenarios for selecting a friend, with definitions crafted to correspond with key details known about each SPT stage based on the existing literature: “*This is a person you share your thoughts and feelings with on a regular basis. This is one of the first people you would tell if*

*something really good or really bad happened in your day*” (corresponding with stable exchange), *“This is a person you either haven’t known very long or have drifted apart over the years, but are still “Facebook friends with. You would not feel comfortable disclosing your most personal thoughts and feelings with them at this time”* (corresponding with exploratory affective exchange), and, finally, *“This is a person who you wouldn’t share your most personal life stories with them, but you are comfortable interacting with on a semi-regular/regular basis through Facebook, you would write on their status updates or wall if you thought they shared something interesting”* (corresponding with affective exchange). This process was meant to ensure that the three primary relationship stages of SPT were represented equally in the sample for testing hypotheses and answering the research questions. Participants self-reported on four types of relationships: acquaintance (24.3%), friendship (66%), romantic tie (7.8%), and extended-family member (1.9%). Length of relationship ranged from less than a year to 46 years, with a mean of 6.66 years ( $SD = 6.91$ ,  $mdn = 5$  years). Forty-five of the friends reported on were male (43.7%) and 58 were female (56.3%).

After providing access to the Friendship Page based on the friend selected, the researcher downloaded the entire page for content analysis, while the participants completed an online questionnaire about their relationship with the friend they selected. Being able to compare the participants’ internal perceptions of the relationship to the public communication shared by participants’ and their Facebook friend was important in assessing the unique role the site plays in relational development and maintenance.

Welch and Rubin’s (2002) measure of relationship stage was used as a manipulation check. This measure mirrors the stages of relationships according to Knapp’s (1978) staircase model. Items from this scale were used to correspond to the three primary stages of SPT used in

this study: Exploratory-Affective Exchange, Affective Exchange, and Stable Exchange. Six items were used to correspond with Exploratory Affective Exchange. Sample items included: *we share basic information about ourselves, I am interested in getting to know him/her, and our conversations are casual in nature*. This scale was reliable ( $\alpha = .87$ ). Five items were used to correspond with Affective Exchange, with sample items including: *we share secrets, I am comfortable asking for or doing favors for him/her, and I tell him/her things I would only tell a close friend*. This scale was reliable ( $\alpha = .95$ ). Seven items were used to correspond with Stable Exchange. Sample items included *I feel totally committed to him/her, his/her needs are just as important as mine are, and we freely talk about anything*. This scale was reliable ( $\alpha = .94$ )

Individual questions were also asked regarding communication technology preference and use of Facebook as descriptive information. Participants were asked to rate on a scale of 1 (Strongly Disagree) to 7 (Strongly Agree) their preference for communicating with the friend in question through several modes of communication (e.g., text messaging, video chat, face-to-face, Facebook). Participants were then asked to report how many Facebook friends they had (i.e., ranging from 1 = 100 or fewer friends to 10 = 900 or more friends). The mean was 5.99, correlating to roughly 501-600 friends on average. Finally, participants were asked to select which sites they used to build and maintain relationships (Facebook, Twitter, and Instagram were provided as options, with an “other, please list” checkbox as well): 32% reported that they only used Facebook, 28.2% reported that they used all three Facebook, Twitter, and Instagram, 22.3% reported using just Facebook and Twitter, and 8.7% reported using just Facebook and Instagram. Remaining options (Twitter and Instagram, just Twitter, just Instagram, or “Other”) accounted for less than 5% each. The most commonly reported “Other” was Snapchat, which was used by 6.8% of participants.

## Measures

In addition to the above-mentioned measures, participants completed a survey with items measuring their self-disclosure, and the questions regarding their relationship with the friend selected. **Self-disclosure online** was measured both in terms of depth and breadth. Items that were developed by Parks and Floyd (1996) were adapted for the study; breadth was reliable ( $\alpha = .86$ ) as was depth ( $\alpha = .91$ ).

**Relationship information.** Participants were also asked to identify the past and current geography of their relationship (geographically close or long-distance). Of the sample, 92.2% indicated that their relationship had been geographically close when they first met, while only 37.9% of the relationships reported on were currently geographically close relationships. Participants were also provided with an open-ended box that asked them to describe how they knew the person in question. These responses were used to establish whether a friendship was current or lapsed; with language used by participants such as “we used to be close, but now we never really talk at all” and “They were my best friend in high school but I haven’t talked to them in years” as indicative of a lapsed connection. This additional coding suggested that 31.7% of the sample had reported on a lapsed connection, while 23.8% reported on an acquaintance and 44.6% reported on a current friend. Only two participants failed to describe the nature of the relationship in question and were coded as missing for this particular variable.

## Independent Profile Coding

Three independent coders coded all 103 Friendship pages for six cues related to counts (e.g., number of shared posts) and self-disclosure (i.e., breadth, depth) between the primary participant and Facebook friend selected. Cues were identified from past research on Facebook communication and modified from existing measures of self-disclosure related to breadth and

depth that were also used in the self-reported survey (Parks & Floyd, 1996). The only change made to the measure was to allow for a code of “zero” for breadth and depth for any profiles that had no shared wall posts. Two coders were trained independently for roughly 20 hours on sample Friendship Pages that were not a part of the data set. During the training, the coding scheme was modified and clarified to increase reliability. Once training was complete, the two coders and primary researcher independently assessed all 103 Facebook Friendship Page for all codes. Reliability was calculated using Hayes and Krippendorff’s (2007) alpha MACRO for SPSS. Average reliability was .80 (See Table 1).

## Results

Table 2 shows the correlations between the self-reported and coded variables. As the results show, coded measures of depth and breadth were highly correlated to the self-reported measures ( $p < .01$ ) suggesting that it is possible to assess self-disclosure in a relationship through viewing content on the Friendship page. Coded variables and self-reported variables were analyzed in separate MANOVAs.

The first test was a manipulation check to ensure that the experimental assignment was consistent with the self-reported stage information provided by participants. Analysis showed an overall effect of relationship stage for each of the self-reported stages,  $F(6, 196) = 19.21, p < .001, \eta^2 = .37$ . More specifically, exploratory affective exchange was significant,  $F(2, 100) = 44.49, p < .001, \eta^2 = .47$ , as was affective exchange,  $F(2, 100) = 69.10, p < .001, \eta^2 = .58$ , and stable exchange,  $F(2, 100) = 67.03, p < .001, \eta^2 = .57$ . This test confirms that the randomly assigned conditions represent the stages of SPT as planned. The mean scores show that the experimentally assigned groups were each highest in the corresponding self-reported stage of stable exchange, affective exchange, and exploratory affective exchange (see Table 3).

H1 sought to address the relationship between communication through Facebook and relationship stage, predicting that those participants in the closest relationships (Stable Exchange stage) would have more communication through Facebook, followed by Affective Exchange and then Exploratory-Affective Exchange. Two separate MANOVAs (one with self-reported variables, one with coded variables) were conducted in order to answer H1, wherein the experimentally assigned relationship stage was the independent variable, and Facebook Communication (depth, breadth, shared friends, shared pictures, shared likes, and shared posts) made up the dependent variables. Analysis showed an overall effect of relationship stage for the self-reported variables of depth and breadth,  $F(10, 192) = 11.58, p < .001, \eta^2 = .38$ . More specifically, depth was significant,  $F(2, 100) = 47.89, p < .001, \eta^2 = .49$ , as was breadth,  $F(2, 100) = 35.12, p < .001, \eta^2 = .41$ . This shows that based on stage, depth and breadth were significantly different when communicating through Facebook.

Post hoc analyses to the univariate ANOVA's for self-reported depth and breadth required pairwise comparisons to further assess differences across stages. As Table 4 shows, H1 was fully supported based on the self-reported survey responses for depth and breadth. Those relationships in the Stable Exchange stage reported the highest levels of depth and breadth, followed by Affective Exchange, and finally Exploratory-Affective Exchange.

A MANOVA was also conducted to test the effect of relationship stage on the coded variables: depth, breadth, shared pictures, shared likes, shared friends, and shared posts. Significant differences were found overall among the three stages for the coded variables,  $F(12, 190) = 3.19, p < .001, \eta^2 = .17$ . Table 4 contains the means and standard deviations for the coded dependent variables and three relationship stages. Post hoc analysis showed that depth,  $F(2, 100) = 17.76, p < .001, \eta^2 = .26$ , breadth,  $F(2, 100) = 17.73, p < .001, \eta^2 = .26$ , and shared posts,  $F(2,$

100) = 9.76,  $p < .001$ ,  $\eta^2 = .16$ , were significantly different based on relationship stage. However, shared friends,  $F(2, 100) = .15$ ,  $p = .86$ ,  $\eta^2 = .003$ , shared likes,  $F(2, 100) = .23$ ,  $p = .80$ ,  $\eta^2 = .01$ , and shared pictures,  $F(2, 100) = 2.59$ ,  $p = .08$ ,  $\eta^2 = .05$ , showed no differences across stages (see Table 5). These results show that high levels of depth, breadth, and posting are indicative of relationship stage while number of shared friends, likes, and pictures were not significantly different across stages.

In order to test H2 and RQ1, MANOVAs were conducted to determine the difference between relationship type (i.e., current friend, lapsed friend, acquaintance) for communication through Facebook as coded through the open-ended item regarding the nature of the relationship between the primary participant and Facebook friend. Analyses showed an overall effect of relationship type for the self-reported variables of depth and breadth,  $F(4, 194) = 15.14$ ,  $p < .001$ ,  $\eta^2 = .24$ . More specifically, depth was significant,  $F(2, 98) = 29.43$ ,  $p < .001$ ,  $\eta^2 = .38$ , as was breadth,  $F(2, 98) = 32.94$ ,  $p < .001$ ,  $\eta^2 = .40$ .

Post hoc analyses to the univariate ANOVA's for self-reported depth and breadth as well as the coded depth, breadth, and shared posts required pairwise comparisons to further assess differences across types. As Table 6 shows, H2 was fully supported based on the self-reported survey responses for depth and breadth. Those who reported being currently friends reported significantly higher levels of depth and breadth compared to lapsed friendships and acquaintances, however, no significant differences were found between lapsed friends and acquaintances (RQ1).

A MANOVA was also conducted to test the effect of relationship type on the coded variables: depth, breadth, shared pictures, shared likes, shared friends, and shared posts. Differences were found among the three types in the overall model,  $F(12, 186) = 2.80$ ,  $p < .01$ ,

$\eta^2 = .15$  (see Table 6). Post hoc analyses showed that depth,  $F(2, 98) = 13.08, p < .001, \eta^2 = .21$ , breadth,  $F(2, 98) = 9.45, p < .001$ , and shared posts,  $F(2, 98) = 6.43, p < .01, \eta^2 = .12$ , were significantly different based on relationship type. However, shared friends,  $F(2, 98) = 1.17, p = .34, \eta^2 = .02$ , shared likes,  $F(2, 98) = .94, p = .40, \eta^2 = .02$ , and shared pictures,  $F(2, 98) = 2.63, p = .08, \eta^2 = .05$ , were not significantly different between relationship type. As Table 6 shows, H2 was still largely supported through the coded data; current friends showed significantly higher levels of depth, breadth, and shared posts compared to lapsed friendships and acquaintances, however, no significant differences were found between lapsed friends and acquaintances for all but one of the dependent variables (i.e., depth).

The final research question sought to address the effect of geography in addition to relationship stage and communication through Facebook. To address RQ2, a 3 (relationship stage) x 2 (geographical distance) multivariate analysis of variance (MANOVA) was used to examine potential differences in participants' Facebook communication. The three relationship stages remained the experimental conditions (i.e., Stable Exchange, Affective Exchange, Exploratory Affective Exchange) while the two geographical conditions referred to the current nature of the relationship being discussed: geographically close or long-distance. When it came to the self-reported depth, there was no main effect for current geography,  $F(1, 97) = .85, p = .36, \eta_p^2 = .01$ , nor was there was a significant interaction effect for geography and relationship type,  $F(2, 97) = .07, p = .95, \eta_p^2 = .001$ . The same was found for self-reported breadth; there was no main effect for current geography,  $F(1, 97) = .27, p = .61, \eta_p^2 = .003$ , nor was there was a significant interaction effect for geography and relationship type,  $F(2, 97) = .08, p = .92, \eta_p^2 = .002$ .

While the coded data found a main effect for current geography for depth,  $F(1, 97) = 6.45, p < .01, \eta_p^2 = .06$ , there was not a significant interaction effect for geography and relationship type,  $F(2, 97) = .33, p = .72, \eta_p^2 = .01$ . Coded breadth also showed a main effect for current geography,  $F(1, 97) = 7.64, p < .01, \eta_p^2 = .07$ , but no significant interaction effect for geography and relationship type,  $F(2, 97) = 1.22, p = .30, \eta_p^2 = .03$ . Shared likes had no main effect for current geography,  $F(1, 97) = 1.94, p = .17, \eta_p^2 = .02$ , nor was there was a significant interaction effect for geography and relationship type,  $F(2, 97) = .26, p = .77, \eta_p^2 = .01$ . Shared pictures had no main effect for current geography,  $F(1, 97) = .82, p = .37, \eta_p^2 = .01$ , nor was there was a significant interaction effect for geography and relationship type,  $F(2, 97) = .23, p = .80, \eta_p^2 = .01$ . Shared friends had no main effect for current geography,  $F(1, 97) = .27, p = .61, \eta_p^2 = .003$ , nor was there was a significant interaction effect for geography and relationship type,  $F(2, 97) = .95, p = .39, \eta_p^2 = .02$ . Finally, shared posts had no main effect for current geography,  $F(1, 97) = .83, p = .36, \eta_p^2 = .01$ , nor was there was a significant interaction effect for geography and relationship type,  $F(2, 97) = 1.76, p = .18, \eta_p^2 = .04$ . In sum, communication through Facebook based on relationship type was not significantly different when it came to geographically close or long-distance relationships.

### **Discussion**

Altman and Taylor (1973) write that the goal of SPT is to “describe the course of development and dissolution of... relationships, and to portray what happens as individuals form and manage various types of social bonds” (p. 3). That goal does not change as relationships grow and form online, but the management of those “various types of bonds” becomes increasingly more complicated. The results of this study highlight self-disclosure practices both in terms of depth and breadth as they relate to communication practices through Facebook. More

specifically, they show that the three primary stages of SPT (exploratory-affective exchange, affective exchange, and stable exchange) can be tied to the various relationships users maintain on Facebook. Further, as the theory suggests, as an individual discloses more both in terms of depth and breadth they develop a closer relationship (Altman & Taylor, 1973).

The results also show that specific behaviors on Facebook beyond just disclosure (i.e., number of shared wall posts) are indicative of relationship stages, while highlighting that other indicators provided on the Friendship Page, such as shared likes and shared pictures, have no bearing on the nature of the tie. Given that much of what constitutes shared likes would be considered peripheral disclosures in terms of the depth of the communication (Taylor & Altman, 1987) it is not surprising that this does not forecast the strength of a relationship; two strangers could both like the same music or movie but not be good friends. Conversely, the number of shared posts was found to be a strong indicator of relational stage. The ability to test and see these interactions through the Friendship Page is a unique affordance to analyzing the life of a relationship online. This variable highlights repeated interaction between relational partners, which is consistent with SPT's argument that continued interaction is necessary for a relationship to move forward (Taylor & Altman, 1987). Finally, depth and breadth were both indicators of stage, which is consistent with the primary tenants of the theory (Altman & Taylor, 1973).

This research is important in assessing the applicability of SPT in a digital age in that communication through Facebook appears to support the key theoretical assumptions of the theory. Existing research that applied SPT to online communication found that disclosures tended to not correlate with relationship stage (Gibbs, Ellison, & Heino, 2006; Ji & Lieber, 2008). Online dating as a platform is reliant on being open to receive the best possible connection—users felt that sharing more to a stranger at the start (i.e., intermediate and core

level disclosures) was worth the potential risk of not having a relationship with that person at all. Conversely, the present study found when assessing specific one-on-one relationships maintained through Facebook, disclosures both in terms of depth and breadth were found to be consistent with the stage that a user not only was experimentally assigned to, but self-reported they were in. Given that Facebook is a site used primarily for friendship (Bryant et al., 2011; Ellison et al., 2011a), it is not surprising that these results differ from online dating research and are more in line with the theoretical assumptions of SPT. Facebook is also a public site where multiple other members of one's social network may view the disclosures and interactions taking place, compared to an online dating site where the initial profile has high levels of disclosures by almost all parties involved both in the profile and in one-on-one conversations (Gibbs et al., 2006). When it comes to weighing the cost-reward side of disclosure, the public nature of Facebook may make members more cautious, but more research would be required to know if this is the case.

Parks (2010) found that roughly a quarter (25.7%) of the relationships reported in his study were classified as lapsed friendships, a type of relationship that was specifically assessed in this study. The high frequency of lapsed friendships maintained as connections on Facebook, in addition to the suggestion based on the results of this study that they are no different than acquaintances, shows the potential need for development of discussion of the depenetration side of SPT. Lapsed friendships are something uniquely held online that perceptually are considered important, yet show no real closeness or value similar to a current friendship. Past work on depenetration (Tolstedt & Stokes, 1984) did find a gradual decrease in breadth as a relationship faded, but did not support a gradual decrease in communication depth. The results of this study would support the *slow pull away* that Taylor and Altman (1987) discuss as related to the

dissolution of relationships—particularly when the self-reported and coded data are considered side by side. While no significant difference was found for any self-reported variables when it came to acquaintances and lapsed friendships, the coded data did find a significant difference between the two for depth. This is not surprising, as the coded data consisted of a back-log of posts shared between the two relational partners sometimes spanning 5-6 years, which in those earliest posts would indicate a greater depth, thus highlighting that slow decline in disclosure over time. This is an important approach to studying relationships and communication that was previously inaccessible.

Although the results show that currently maintained connections have more self-disclosure comparative to lapsed ties, future work needs to be done to better understand the function of lapsed friendships. When a friendship lapses and the two relational partners no longer have high levels of disclosure both in terms of depth and breadth, they have the potential to set that tie apart from a mere acquaintance which never reached those levels; yet these results would suggest that while we may label them differently, perceptually they are treated the same. Work that considers at what point a friendship truly lapses and subsequent expectations of how that tie fits into one's social network is important in a world where digital communication leads to the growth of networks and minimal maintenance effort required to keep those ties (Baym, 2010).

Finally, the original SPT model (Altman & Taylor, 1973) argued that close proximity was required to increase depth and breadth, however, as this study demonstrates, technology can be used successfully to build and maintain relationships regardless of geographical distance. This is not surprising given what is known of communication through the Internet (Baym, 2000; Parks & Floyd, 1996) and Facebook (Bryant et al., 2011; Ellison et al., 2011). This would suggest that updating SPT in a digital age requires the acceptance that geography plays a different role than

was once expected. It is important to note that this study did ask for both current geography of the relationship, and when the relationship was first formed. Although the results only point to the *current* geography playing no role in terms of depth and breadth of communication online, past research has found that relationships formed and maintained online with no geographical proximity can reach those later stages of relational development. As this only accounted for 7.8% of the total sample, it would be hard to draw any conclusions from this dataset. However, as the results do show, that shift in geography to long-distance did not affect the communication patterns (up to 62.1% long-distance for current relationships).

### **Limitations and Future Directions**

This study did not attempt to assess the first relationship stage outlined by Altman and Taylor (1973), “orientation.” Given the multimodal nature of relationships, from the outset it was clear that being able to find an adequate sample of people who had interacted only one to two times - either face-to-face or online - was unlikely. As previously suggested, the act of friending through Facebook would signify the desire to move beyond orientation and into the exploratory affective exchange stage, which has been noted in earlier research on relational development and social media use (Bryant et al., 2011; Fox et al., 2013). While there are Facebook relationships that are no longer maintained and in past research participants have admitted they do not even know if they know their entire social network online (Parks, 2010), these lapsed ties illustrate a new type of relational stage rather than orientation. These lapsed connections, and the ability to map the de-penetration of a relationship through the Friendship Page, are important to consider as we consider the affordances of new media. If they are functionally no different than an acquaintance, what is the purpose of maintaining that tie online, and what a does a user gain from having this relationship as a part of their overall social network?

This study also only focused on a subset of information available through Facebook, so cannot be generalized to all interactions that occur through the site. The Friendship Page consists solely of status updates that tag the two parties involved (either by them or a third party), wall posts made between the two friends, tagged photo albums that contain both friends, and a list of any shared friends, photos, and likes. This leaves out information such as communication through Facebook messages/chat and commenting on a status update where one of the parties was not originally tagged. In particular, the latter information (commenting on status updates), has the potential to offer additional insight into relational maintenance behaviors through Facebook. This study has highlighted that specific disclosures are made at an increasing depth and breadth in relation to a specific relationship; future research must continue to account for different ways of interacting through Facebook, and the resulting effect on interpersonal relationships.

## **Chapter 4: Relational Development and Dissolution through SNSs**

### **Abstract**

This study seeks to extend Social Penetration Theory (SPT) to online communication by investigating how relationships maintained and dissolved through social networking sites (SNSs). Drawing on SPT, the first study used a series of focus groups ( $N = 26$ ) to determine reasons why users may end relationships through SNSs. The final study used a survey ( $N = 312$ ) to test those reasons as they related to specific members of a user's social network, as well as questions related to privacy, self-disclosure, and information seeking through SNSs. Results of the two studies suggest that in weighing the rewards and costs of a relationship most users favor taking no action in the face of an infraction online (e.g., oversharing or posting too frequently) rather than unfriending or unfollowing. Results also showed that all SNS users actively seek information online, and that those who use Twitter and Instagram comparative to Facebook are less likely to be concerned with privacy and use mechanisms to secure their content on the site. Implications for results as they relate to SPT are discussed.

Impression management is an active process; individuals often work to give off a particular impression of self that best fits the situation they are in, whether face-to-face (Goffman, 1959) or online (Donath, 2007). Indeed, a person could be just as likely to handpick an outfit to wear to an important event as they are to carefully select a profile picture for a social networking site (SNS). But, when the act of managing one's identity or "self" moves online, complications can arise. On the one hand, a user may engage in directed communication (e.g., messaging or commenting back and forth) with various members of their network. In this scenario, the user knows their audience and makes active choices on what to share or not share. On the other hand, the use of status updates to broadcast information and images shared online can lead to friends passively consuming details about a relational partner that the user might not otherwise have known, negatively affecting that relationship as a result (Litt et al., 2014). This is in part due to the masspersonal nature of many SNSs today, where broadcasting interpersonal information through a SNS can complicate relationships (O'Sullivan, 2005, Tong et al., in press). Given that many studies highlight relational development and maintenance through sites such as Facebook as a primary motivation for use (Craig & Wright, 2012; Daintain, 2013), it is important to address impression management through SNSs as it relates to interpersonal relationships.

A key part of the process of developing and maintaining relationships regardless of whether it is offline or online, as discussed in social penetration theory (SPT), is this process of self-disclosure (Altman & Taylor, 1973). Indeed, disclosures online (both directed or passively consumed) can increase tie strength, in some cases turning a weak tie into a strong tie (Burke & Kraut, 2014; Ellison et al., 2007). The flip side, however, is that if a disclosure is made too quickly it could stunt a relationship or even lead to the loss of that tie (Altman & Taylor, 1973). Given that the majority of a user's online social network connections are weak ties (Parks, 2010),

this can increase the potential for this to occur. Audience awareness and disclosure in a masspersonal setting are important factors to consider when maintaining and developing ties online, as well as an important part of developing SPT to account for online, not just face-to-face communication and relationships (Mongeau & Henningsen, 2014). Closely related is the concept of privacy: when users *are* aware of the breadth of their audience, how do they deal with this ability to broadcast online? Delving into research about privacy regulation through SNSs as a way to curb unwanted disclosures is an important issue to consider in relation to SPT.

This study will test three major assumptions of SPT when it comes to relational development and maintenance online, drawing on the affordances of SNSs in relation to the theory to better understand how relationships function in a digital age. The first assumption is that SPT presumes the audience is known when disclosure happens. Research has already shown a disconnect between audience awareness and SNS disclosure, but what does this mean for relational development? Very closely related is the argument that SPT assumes that “skipping” ahead in disclosure can be detrimental to relational development. If it is true that the true size and nature of an audience is not always known online (Bernstein et al., 2013), the potential to disclose inappropriately may result in negative effects for new or once blossoming relationships. Third, SPT assumes slow penetration; which is to say that the process of disclosing between relational partners, particularly in the context of depth, will be gradual (Taylor & Altman, 1987). The very act of having online profiles that build up details and a history of a person’s life over time provides new relational partners with a searchable database of information they can peruse, resulting again in potentially unintentional disclosures, and at a much faster rate than the theory suggests (Altman & Taylor, 1973). Although Walther (1996) originally theorized that information is “sipped” online, research on romantic relationships in particular suggests a

“chugging” of available information (Fox, et al., 2013; Gibbs et al., 2011). The key question in regards to SPT becomes whether this is the case for *all* interpersonal ties.

By testing these major assumptions of the theory, this study offers a new understanding of how relationships are developed and maintained in the digital age. In particular, by considering key variables such as audience awareness and information seeking, this study can offer insight not only into penetration, but the depenetration of relationships, a core part of SPT (Altman & Taylor, 1973). A brief discussion of SPT will first be offered, followed by a discussion of literature surrounding the major concerns associated with relational maintenance online: information seeking, audience awareness, and the dissolution of relationships.

### **Social Penetration Theory Revisited**

Altman and Taylor’s (1973) theory of the process of relational development and maintenance rests primarily on the role of self-disclosure. The central claim of the theory is that as a relational partner increases disclosures both in terms of depth and breadth that the other partner is likely to reciprocate, allowing the relationship to progress through the stages of development outlined.

SPT suggests four levels, or “layers”, of depth: surface, periphery, intermediate, and central (Altman & Taylor, 1973). Surface disclosures consist of superficial information or topics that are considered non-offensive. Peripheral disclosures are information that would be shared in most social settings and lack intimacy; for example, talking about basketball with someone while watching the game at a bar would be viewed as a peripheral level disclosure. The next layer is intermediate. Here, a person is more selective in what they share, with disclosures related to how a person feels, showing a degree of emotion not present in the previous levels.

The final layer is central, and consists of private information that is viewed as extremely intimate and shared with only the closest ties a person holds (Taylor & Altman, 1987).

The other part of self-disclosure is breadth; which according to SPT is both a question of category and frequency. Breadth category is a question of topic areas—one may begin to peel away layers but there are also distinct segments as well. For example, an individual may begin to self-disclose information about sports with a classmate, but has not yet opened up about their family or job. Breadth frequency is about how much is disclosed within each category or segment (Altman & Taylor, 1973).

A crucial component of SPT is the idea of rewards and costs. Altman and Taylor (1973) suggest that following each interaction between two (potential) relational partners there exists both an *evaluation* and a *forecast* regarding future interactions. The evaluation is a question of satisfaction: was the interaction enjoyable? Based on the evaluation (e.g., was it favorable, unfavorable, or are they still uncertain) the two relational partners involved in the interaction will decide whether or not future encounters are likely or even wanted; hence the “forecast” (Altman & Taylor, 1973). SPT suggests that when both the evaluation and forecast are viewed as favorable (i.e., rewarding), then those involved will decide to continue developing and/or maintaining that tie (Altman & Taylor, 1973). The evaluation and forecast are ongoing throughout the relationship, and if at any point the cost of maintaining the relationship is viewed as not worth the potential reward (i.e., the forecast is unfavorable), the theory suggests that the relationship will either “slow down” (maintaining in the stage it was in with little to no chance of developing further) or it will begin to dissolve, leading to depenetration (Altman & Taylor, 1973).

Taking into account all of these arguments, Altman and Taylor (1973) suggest that SPT has four stages of relational development: orientation, exploratory affective exchange, affective exchange, and stable exchange. In the orientation stage, individuals are just getting to know each other; they engage in surface level interactions on a small range of topics (Altman & Taylor, 1973). As individuals become more comfortable, they enter the exploratory affective exchange stage; here the depth of discussion enters the periphery and intermediate layers, and the breadth covers a wider range of topics for discussion (Altman & Taylor, 1973). In the third stage, affective exchange, the depth of interaction reaches the central layer of disclosure, but the process is tentative and does not cover all possible topic areas (Taylor & Altman, 1987). There is a sense of caution associated with central level disclosures, as there is still a concern that the relationship is not entirely stable (Taylor & Altman, 1987). It is not until the stable exchange stage that full depth and breadth is reached for all layers and possible topics (Taylor & Altman, 1987). In this stage there is general expectation between partners that the cost of disclosure (regardless of the level) will always be low as each partner is invested in the maintenance of the tie and views a disclosure as necessary for the long term maintenance of the relationship (Taylor & Altman, 1987). Very few relationships ever make it to this stage (Allensworth, 1996).

Altman and Taylor (1973) suggest that the same rules for penetration (relational development) may also apply for the process of depenetration. Recall the discussion of evaluation and forecasting; as a relationship stagnates or issues arise the evaluation and forecast are such that further communication or disclosure would be unfavorable for the relationship. As a result intimacy decreases between relational partners and the breadth and depth of topics communicated lessens. The theory argues that similar to the process of penetration that depenetration is a gradual step away from the relationship until all communication ends.

Depenetration has been tested even less than the process of penetration, and is only partially supported in the literature. Tolstedt and Stokes (1984) study confirmed a negative correlation between breadth and intimacy, but did not find a negative relationship for depth and intimacy. This is not that surprising; Johnson et al. (2004) argue that just because a relationship ends, it does not mean a person forgets the information he or she once knew about someone. They also suggest that a common problem with stage models when it comes to dissolution is a focus on romantic rather than platonic interpersonal relationships. In their study of friendships, Johnson et al. found that while roughly half of the dissolved friendships could be explained by a typical linear pattern, the remainder of friendships discussed experienced varying degrees of ups and downs. For the most part, depenetration has been overlooked as part of the discussion of stage models, with relational dissolution often being studied in specific contexts (e.g., marriage and/or dating) rather than from the perspective of self-disclosure. This makes this an important step to consider, particularly in the context of unwanted or unintended disclosures and how users respond for the sake of maintaining (or ending) a relationship).

### **Building Relationships through SNSs**

Early research on SNSs focused almost exclusively on Facebook. Ellison et al.'s (2007) study of college students' use of the site highlighted how the SNS was used for interpersonal relationships of varying degrees. In a follow up study, Ellison et al. (2011a) considered how users of Facebook managed their communication through the site, and noted that one of the most common uses was what they called "social information seeking", which referred to the process of meeting someone offline and then using Facebook to learn more about them. Fox et al. (2013) found similar results in their analysis of romantic relationships and Facebook use. As they note, "unlike peeling away the layers of an onion as Altman and Taylor (1973) proposed in social

penetration theory...Facebook allows one to slice right into a target's personality and social history, thus more deeply accessing the feature's close to one's core" (Fox et al., 2013, p. 782). In their analysis, Fox et al. found that Facebook was seen as a key component in gathering information during the early stages of a relationship. Because a user does not know who is viewing their profile (Facebook does not report this information), a new tie can peruse pictures, status updates, and more without the profile owner being the wiser, because no trace (e.g., comment or like) is left behind in the process. This practice is commonly referred to as "creeping" on Facebook, and as one participant in the study noted, "everybody does it, whether they admit it or not" (Fox et al., 2013, p. 779).

Together, these studies show how disclosure has the potential to occur much faster online, with the affordance of the medium decreasing the risk of any cost. At the same time, because users suggest they do not admit to seeking information, the question of whether there is any reward (or benefit) to this affordance is raised as well. Binder et al.'s (2009) suggest that this happens because of persistence. Unlike face-to-face interactions, posts, pictures, and interactions through SNSs do not disappear, they *persist* over time. Simply put, if someone did not have a backlog of posts to look at for social information gathering, a friend would likely not actively seek out those details somewhere else, they would learn them by getting to know that person. In their analysis of rules of use of Facebook, Bryant and Marmo (2012) found that in particular, users believed they should use Facebook to learn more about a person as a form of relational maintenance in the context of acquaintances and their outer circle of friends, as opposed to close, strong tie relationships. More specifically, their study also found that users who engaged with Facebook more were more likely to abide by these expectations or rules. This suggests that as someone comes to use a SNS more, they understand these norms of use and are more likely to

engage in a behavior like “creeping” (i.e., information gathering) of a newly formed tie. This would also suggest that the “slow process” of penetration -- once viewed as the norm -- is less likely to be the case with the availability of SNSs. Thus, the first hypothesis is offered:

**H1:** *Regular users of SNS actively seek information in relationships through social networking sites.*

McLaughlin and Vitak’s (2012) study of norm evolution and violation through Facebook would provide further support for this hypothesis—they suggest that norms of use on the site are often implicit and that users felt they learned how to behave by observing the behaviors of others. Therefore, the more someone uses a SNS the more likely they are to engage in normative behavior, like social information seeking (Ellison et al., 2011a). Another possible norm that would relate to the process of seeking information through SNSs is the size of one’s social network. McLaughlin and Vitak (2012) also suggested that it was “rude to ignore or deny a Friend request” (p. 305) from someone a person had met offline. The act of adding someone new encourages reading more about that person as you add them, having normative behaviors feed each other in turn. Thus the following research question is posed:

**RQ1:** *Does size of social network influence information seeking through social networking sites?*

It is also possible that age may play a role in information seeking. McAndrew and Jeong (2012) conducted a series of correlations between possible uses of Facebook and age and found that as users get older they use Facebook less, but that when they do use the site it is for one-on-one interaction and engaging with family, versus younger users who are more likely to have a higher number of friends on the site, spend more time online, and do things like post pictures, and engage in social comparison. This is fairly consistent with what is known of other research

related to specific age groups and communication online—a desire to talk about and engage with family as one ages, and have a larger social support network of friends when one is in college (Ellison, et al., 2007, 2011; Schwartz et al., 2013). This sets up the following research question:

**RQ2:** *Does age influence information seeking through SNSs?*

A final important question to consider is that the majority of the existing literature only applies to Facebook use, raising the question of potential differences in terms of affordances between the sites and users. Thus the following research question is posed:

**RQ3:** *Do users of Facebook, Instagram, and Twitter differ in their information seeking through their preferred site?*

### **Audience Awareness in SNSs**

Ellison et al. (2011b) suggest that the use of social network sites can create a push-pull for users wherein they must balance the need to withhold information, so as not to risk oversharing or hurting their self-image, with the need to disclose as a way to gain social capital. They suggest that users engage in three specific strategies for managing their relationships that center around friending behaviors (being selective about who can access the profile), managing one's audience via privacy settings (limiting who can view what information), and disclosures on the site (failing to share information at all). Offline, the process typically would play out such that Person A meets Person B and they gradually share more information (depth) on a variety of topics (breadth), and in doing so make an active choice to move from acquaintances to friends based on those reciprocal disclosures. Online, the process of self-disclosure and knowledge of whom one is disclosing *to* can be less clear—leading to “masspersonal” communication (O’Sullivan, 2005; Tong, Kashian, &, Walther, in press). Logging onto a SNS, Person A may post a status update disclosing information with Person B in mind, without realizing that Persons

C, D, E, and F have now also been privy to that disclosure. This act of *broadcasting* through a status update, tweet, or picture on Instagram can make it more difficult to know what to share and with whom. The existence of all of these different ties in a single location is what is often referred to as “context collapse” (Vitak, 2012). As a result of this context collapse, there is a constant struggle to balance privacy concerns with the urge to self disclose to one’s social network (Ellison et al., 2011b; Litt, 2013; Vitak, 2012). This newer line of research on context collapse is consistent with early studies on Facebook and privacy concerns, which found that despite an interest in privacy, individuals still used Facebook and trusted in their ability to self-censor to maintain a sense of privacy online, even if their assessment of who saw what online was typically inaccurate (Acquisti & Gross, 2006).

In fact, the lack of recognition of the “masspersonal” nature of disclosures is quite high. Bernstein et al. (2013) utilized log data from Facebook in conjunction with surveys and found that a user’s perception of the audience who will read what they share through Facebook is just a quarter of the actual size of their real audience. More specifically, most individuals assumed their audience was restricted to the fraction of friends they interacted with on the site (e.g., the friend liked or commented on something or vice versa). This misperception of audience size can trigger an increase in disclosure to other members of a social network that are beyond the depth and breadth the initial poster (user) might be interested in sharing.

One thing these series of studies have in common once again is a focus on Facebook, raising the question of the extent to which the results can extend to other SNS as well (i.e., Twitter, Instagram). Aldhafferi, Watson, and Sajeev’s (2013) study of privacy mechanisms and social media included users of Twitter, Google+, and “other sites”, which was an unidentified category. They found that many users are concerned with privacy on SNS (67%) and that as a

result had used settings online to address those concerns (59.5%). Given an inconsistent focus however, the following research questions are posed:

**RQ4:** *Are users of Facebook, Instagram, and Twitter different in their use of privacy settings online?*

**RQ5:** *Are users of Facebook, Instagram, and Twitter different in their self-disclosure practices online?*

In addition to specific sites, a return to a discussion of norms (McLaughlin & Vitak, 2012) and site use (Vitak, 2012) can potentially shed light on audience awareness and the process of self-disclosure through SNSs. More specifically, despite a perception that one should avoid oversharing (McLaughlin & Vitak, 2012), research by Vitak (2012) found that as one's network grew larger (and more diverse) that they disclosed *more* online. While Vitak suggests that perhaps this is perhaps due to increased opportunities to disclose, the results appear counter intuitive given that earlier research found the opposite to be true (Brandtzæg, Lüders, & Skjetne, 2010). Thus, the following research questions are raised:

**RQ6:** *Does size of network influence use of privacy settings online?*

**RQ7:** *Does size of network influence self-disclosure practices online?*

In terms of norms of use, regular users should be more likely to engage in the use of privacy settings on a site, as they would be more familiar with them over time (McLaughlin & Vitak, 2012). They would also be more likely to be conscious of their self-disclosure online and react accordingly (McLaughlin & Vitak, 2012). This is further supported by Litt's (2013) study of privacy concerns, which found that those used SNSs more often were more likely to use privacy tools. Thus the following hypotheses are posed:

**H2:** *Frequent users of SNS will be more likely to use privacy settings available.*

**H3:** *Frequent users of SNS will be more likely to limit their self-disclosures online.*

A final important variable to consider in relation to privacy tools and self-disclosure online is age. Litt (2013) found that older users were less likely to engage in the use of privacy mechanisms through SNSs compared to younger users, even when controlling for other factors such as general concern for privacy and frequency of use. Litt suggests however that these results are counter-intuitive in terms of theory (which would suggest that older adults might be more likely to be concerned for and find ways to protect their privacy). Thus the following research questions are posed:

**RQ8:** *Does age influence the use of privacy mechanisms through SNSs?*

**RQ9:** *Does age influence the process of self-disclosure through SNSs?*

### **Relational Dissolution through SNSs**

As previously noted, relational dissolution is a component of SPT that has often been overlooked—particularly in the context of non-romantic ties. In a new model of SPT, underestimating actual audience could lead to negative consequences (stagnation, dissolution) for a relationship when the disclosure made is at a greater depth or breadth than the current stage of that relationship. There is a large disconnect between users' expectation of audience and actual audience (Bernstein et al., 2013), but at what expense? SNSs provide the potential to grow a large network of strong and weak ties that can be difficult for one to balance if they do not make the appropriate choice in self-disclosure. SPT would argue that any skipping ahead (so, a high depth disclosure by a weak tie) would be detrimental to a relationship if the other relational partner were not prepared for that level. McEwan's (2013) study of self-disclosure and relational maintenance through Facebook would support this argument: as disclosures on the site increased, satisfaction and liking in the relationship decreased. McEwan suggests that this is a result of the

“masspersonal” nature of many disclosures through Facebook: because users tend to “broadcast” information (e.g., post a status update to their entire network) rather than engage in actual social interaction, oversharing occurs and is detrimental to the relationship.

Oversharing is a common trend highlighted in the discussion of norms and violations of expectations of use when it comes to Facebook and other SNS (Karakayali & Kilic, 2013; McEwan, 2013; McLaughlin & Vitak, 2012). The question becomes what happens as a result of violating this expectation of what is and is not an acceptable depth of sharing online? McLaughlin and Vitak’s (2012) study of norm evolution and violation through Facebook found that many behaviors were considered taboo on the site such as: frequent posting, overly emotional or private posts, fighting or name-calling online, as well as the sharing of pictures of a friend where they didn’t look their best. Serious infractions (e.g., suggesting someone could be a racist or otherwise threatening their face online) led to that person being removed as a friend on the site, while less serious ones (e.g., posting too often) typically led to being “hidden” on the site. Hiding means that the only way a user would be able to see the posts of that friend would be by going directly to their profile, rather than seeing them in their newsfeed. While this was originally an affordance unique to just Facebook, Twitter followed suit by having a “mute” option to keep posts out of the feed, and those who use Instagram can use an add-on application to “hide” rather than “unfollow.”

McLaughlin and Vitak’s (2012) study suggested that choices related to unfriending versus hiding were related to strength of tie; close friends were more likely to be engaged directly for discussion of infraction, while weak ties users would let it go or be more likely to remove from the site if repeated infractions occurred. Lang and Barton (2015) conducted focus groups that asked similar questions and found that repeated violations would likely lead to

unfriending. This is not too far off from what SPT would predict would occur when it comes to strong and weak ties: recall the discussion of forecasting and weighing costs and rewards for relationships. A closer relationship has more to lose if a fight is picked over something that occurred on a SNS versus a weak tie relationship where less is at stake. Overall, this research suggests that relational closeness effects whether or not someone will choose to “unfriend” rather than “hide”, similar to SPT, but it is important to consider what other effects may exist as well.

The following hypotheses and research questions are offered:

**H4:** *Disclosures on SNSs by weak ties will be more likely to result in unfriending/following compared to strong ties.*

**H5:** *Disclosures on SNSs by strong ties will be more likely to result in “hiding” tactics compared to weak ties.*

**RQ10:** *What causes users to hide or unfriend/follow through SNSs?*

It is important to note that each of these studies discussed in this section speak to behaviors on Facebook, not SNS as a whole, and raises the question of particular differences that may or may not exist dependent on use, thus the final research question is posed:

**RQ11:** *Are users of Facebook, Instagram, and Twitter different in their hiding and/or unfriending/following practices through the site?*

## **Study One Method**

### **Participants**

Twenty-six participants were recruited for a series of four focus groups ranging in size from five to nine participants each conducted at a large Midwestern university. Given past research suggesting that age potentially influences the use of SNSs (McAndrew & Jeong, 2012; Schwartz et al., 2013), participants were divided into focus groups based on their age. Two focus

groups were devoted to participants 21 and younger with the remaining two focus groups devoted to participants 22 and older. This was arranged so that those participants most likely to be in the last year(s) of school would be in separate groups from those just starting, as research suggests that turning points (starting college vs. ending college) can affect relationships. Age ranged from 18-42 years old ( $M = 22.62$ ,  $SD = 6.31$ ). Fourteen participants were male (53.8%) and twelve were female (46.2%). The majority of the participants (69.2%) identified as Caucasian, followed by Asian (15.4%), Hispanic/Latino(a) (11.5%), and African-American/Black (3.8%).

### **Procedures**

Four focus groups were held over the course of two weeks in the early fall of 2014 to better assess the process of relational dissolution through SNSs as a way to address the final two research questions posed in the study (RQ10 and RQ11). All focus groups were held in the same building in the same room to ensure consistency between groups. When participants arrived they were greeted by the moderator for the focus group and guided through the informed consent process. The format was semi-structured, with a guide used to lead the discussion (see Appendix C). Participants began with a general introduction to get warmed up while talking about their use of SNSs, gradually leading into a discussion about practices related to relational maintenance tied to the process of building and severing ties across sites. Participants were asked to consider all SNS use, comparing sites and considering differences that may arise.

### **Data Analysis**

All focus groups were transcribed into a single document and read through once for comprehension. Following the initial read through, open line-by-line coding was conducted to consider relationships that existed between the data. More specifically, the data was coded to

consider the motivations behind unfriending/hiding practices through SNSs to generate a list of reasons for use in Study Two. The constant-comparison method was used to assess a series of codes, and ultimately themes related to the data (Miles, Huberman, & Saldana, 2013). By beginning with a larger series of codes (eleven) the goal was to reach a clear conclusion from the data by engaging in what Miles et al. (2013) refer to as an “eliminative inductive mode of work” (p. 292). This process requires considering the conclusions drawn related to the data and using them in relation to each other to consider and eliminate alternative answers and create a firm set of conclusions. This led to a list of reasons (see Table 8) that will be discussed below.

### **Study One Results**

The primary goal of the focus groups was to gauge reasons that might arise for why individuals would choose to unfriend, unfollow, or hide someone through SNSs, highlighting the use of a cost-benefit analysis related to SPT (Altman & Taylor, 1973). This process required users to consider the extent to which topics, actions, or certain relationships may make them more or less likely to end that relationship online. The list generated from these focus groups could then be used to further test how users of SNSs make choices regarding relationships online. As Table 8 shows, relational closeness, the nature of the topic, and frequency of communication related to a choice to maintain a connection or not. It is also important to note that participants did not indicate any major differences in these choices based on the SNSs discussed (i.e., Twitter, Instagram, and Facebook). Each of the items listed in Table 8 will be included for discussion in Study Two to further clarify RQ10 and RQ11.

#### **Relational Closeness**

The strength of tie played an important role in the decision to maintain a connection through SNSs. While a particular behavior might otherwise lead to “unfriending” or

“unfollowing” through various sites, if the perpetrator was a strong tie, then the participant indicated that they were more likely to hide the action or do nothing. This highlights the use of rewards and costs (SPT) in determining an action through a given SNS. There were various justifications for why this may be the case, including hurt feelings: “That’s when you hide. You don’t want to hurt their feelings, but you don’t want to see their stuff” as well as the potential conflict it would introduce: “Depending on who it is, more convenient to unfollow than to unfriend, because if you unfriend, they try to friend you again, if they are close, it is a difficult conversation.” These examples show that users were likely to weigh the cost and determine that it was more beneficial in the case of strong ties to keep a connection online rather than sever it.

### **Topic Preference**

Participants were asked if specific topics discussed might prompt them to sever a relationship through SNSs. Frequently considered “hot button” topics such as politics and religion were discussed as reasons to disconnect. One participant commented, “political or religious content, that is grounds regardless of partisan background, I’m just not a fan of that.” Another noted, “[The] only time I can remember going out of my way to unfriend someone is they had conflicting religious view, and I don’t have a problem with that, but she was bashing mine. I was like I don’t need this, its not healthy. It was not a loss.” In the latter case the topic, combined with what the participant felt like was an attack on her own views, led to the end of the relationship online. The only other topic brought up and considered potentially polarizing was children, one participant commented, “I hate when parents overshare about their kids and their bodily functions online. I just don’t need to hear about that.”

### **Frequency of Interaction**

In addition to topics, frequency of posting was also cited as a frustration, but in this case it usually led to hiding (Facebook) or muting (Twitter). One participant commented about how they work to remove people like this regularly: “[The] majority of my online friends... don’t show up in my feed because I pulled them out... [they] posted too many pictures or quotes that I could care less about so I weeded them out... I have everything so fine-tuned.” Similarly other participants noted that as a general rule, “If someone posts a lot, I’ll hide them from my feed.” No participant indicated that over-posting led to unfriending or unfollowing, however a lack of interaction offline (and online) was cited on multiple occasions as a reason by participants in the older age groups as reasons why they cut friends or followers from their list of connections on a given site. This is discussed in more detail below.

### **Age Effects**

The different focus groups yielded results that suggested differences based on age, with participants in the older age groups noting that their age played a role in their use of SNSs. More specifically, in both of the older focus groups, participants discussed how they wanted smaller networks and that they had no problem severing a relationship through SNS. Conversely, the two younger focus groups did not have past experience with cutting ties online, and were not eager to do so—even if a relationship had ended offline (e.g., a romantic relationship breakup). Participants in the younger groups discussed keeping that social media connection while the older focus groups tended to unfriend or unfollow immediately. One participant in the older group reflected on her younger days, stating: “In high school, I would add everyone, [but then] I went through phases where I would purge half my friends list, and now its like I don’t add anyone.” Another participant noted that, “I can see it in the people still in high school that I follow. They get 200-300 likes on Instagram. But I don’t think I feel the pressure, at my age, but

I can see how others might. That raises their popularity more. It just spirals.” Others echoed this idea of the need to be popular and know a lot people when they were younger, with another participant noting, “when I see someone with 1300 friends, I’m like, I don’t even know 1300 people.” Others still suggest that the place in life they find themselves now is just too different to keep relationships they don’t feel are helpful:

“People I haven’t really talked to in along time, gone in a different direction with their life. People I used to be really close friends with got that way, but there is nothing I can do to help them, and I’m so far away, there is nothing I can do. Better to cut the cord then to try to get through it.”

This difference in age is important to consider in moving forward with Study Two, wherein it is important to test for any possible effects that age may have on the relationships between the variables being considered:

**H6:** *As participants get older they will be more likely to engage in unfriending and unfollowing practices through SNSs.*

## **Study Two Method**

### **Participants**

Participants were recruited through a combination of college students from a large Midwestern university and the use of Amazon’s Mechanical Turk (MTurk) to increase the diversity of the sample. MTurk is a crowd sourcing service available through Amazon that can connects researchers (“Requesters”) with workers (also called “Turkers”) based on whatever criteria they establish (e.g., must be from the United States). The Requester sets up a Task (the study) and boundaries for participation—stating the number of participants needed, amount paid, and expected time for completion (Buhrmester, Kwang, & Gosling, 2011; Mason & Suri, 2012).

Average payment for participants varies based on assignment expectations and length, with research showing that paying as little as two cents for a survey that takes thirty minutes can yield reliable participants, however a more acceptable range is ten cents per ten minutes of work (Buhrmester et al., 2011). MTurk has been successfully used in past social science research (Buhrmester et al., 2011) particularly in the context of SNS use (Emery, Muise, Dix, & Le, 2014; Panek, Nardis, & Konrath, 2012). Some research suggest that participants from MTurk are as reliable as those gathered through a university setting, and had a much lower response error than that collected through online discussion boards (Paolacci et al., 2010).

College students were awarded partial course credit (< .5% of final grade) for participation in the study and MTurk workers were paid 30 cents upon completion. Inclusion criteria established for MTurk participants were that they were from the United States, at least 18 years old, had a 95% completion satisfaction rate, and had one of three SNSs available for analysis (i.e., Facebook, Twitter, and Instagram). Similarly, the college student sample was required to be at least 18 years old and have one of the above-mentioned SNSs.

While the survey was completed by 492 people, an instructional manipulation check (IMC) led to the loss of roughly 36.5% of the sample, the majority of which were from the college student sample (76%). The use of an IMC was necessary to ensure, given the length of the study, that participants were reading items carefully (Oppenheimer, Meyvis, & Davidenko, 2009). Three hundred and twelve participants used in the present analysis, of which 157 were college students (50.3%) and 155 were from MTurk (49.7%). Male participants made up 34.3% of the sample ( $n = 107$ ), and female participants constituted 65.7% of the sample ( $n = 205$ ). Participants ranged in age from 18-73 years old with a mean age of 26.02 ( $SD = 10.02$ ,  $mdn = 22$  years old). In terms of race/ethnicity, 72.8% of the sample identified as Caucasian, 7.4%

identified as Mixed Race/Bi-Racial, 7.1% as African-American/Black, followed by 5.8% each Hispanic/Latino(a) and Asian-American/Pacific Islander. Of the remainder of the sample, 0.3% identified as Native American and 1% identified as “Other” with answers including Middle Eastern and Indian. The majority of the participants indicated they had had at least some college (59.3%), followed by 19.9% of the sample having completed a four-year degree, 8.3% had a high school degree, 6.1% indicated they had an associate’s degree, 4.8% had a graduate level degree, 1% had a doctorate, and .3% indicated that they completed some high school.

### **Procedures**

The data were collected in the fall of 2014. Following an informed consent form, participants completed a survey about their general use of SNSs and a series of items regarding their views on self-disclosure practices, privacy concerns, and information gathering through SNSs. They were then instructed to self-select a single site (i.e., Facebook, Twitter, or Instagram) for the remainder of the survey. From here, based on selection choice, participants were provided with instructions on how to randomly select 10 individuals from their social network for the study. If using Facebook, participants were instructed to go to their events calendar and select the first ten birthdays of the subsequent month (e.g., if it was September they would click on October and report on the first ten birthdays for that month). Participants were instructed that if they did not have ten birthdays in that month to continue onto the next one until they reached ten friends. If using Twitter, a random follower generator ([www.twitterdraw.com](http://www.twitterdraw.com)) was used to ensure random selection. Finally, if participants selected Instagram they were asked to use their full count of people they follow (e.g., 310) and divide that by the number ten to receive a count to randomly sort through their friends. In this case, this would select every 31<sup>st</sup> friend for analysis. In all cases individuals were instructed that they should only report on people they

personally knew (no business pages or celebrities) and in the case of Twitter and Instagram, someone that there was a mutual follow relationship (see Appendix D). For each of the ten relationships participants were asked to select the nature of the connection, complete a series of items on relational closeness and SNS contact, and finally to decide whether or not specific actions taken on the part of each of those friends/followers would result in unfriending/following or hiding (see Appendix D). Actions were all drawn from existing literature (e.g., and as a result of the focus groups (see Study One), and consisted of things such as: political or religious posts, oversharing, fought offline, and a lack of face-to-face communication.

Of the 312 participants, there were 3,062 relationships reported on. Participants were asked how they knew the person selected. Figure 1 shows the overall composition of the data and various relationships reported on. As the figure shows, the majority of the relationships were weak tie (e.g., lapsed friendships, acquaintances) with a smaller percentage representing strong tie connections (e.g., best friends, significant others). A small percentage of the sample (3.2%) indicated “other” for their relationship. Of those who indicated “Other” common answers included things such as, “my hairdresser” and “my trainer.” Participants reported having an average of 459.91 friends or followers on the site they reported on, with the total ranging from just five friends up to 2,527 members in their social network.

## **Measures**

Three scales were used to measure and relate to the major assumptions of SPT. Two scales existed prior to the study, and a third scale was created for the purpose of assessing information gathering through SNSs as one did not previously exist. Each is detailed below.

**Self-Disclosure Practices.** Items were adapted from Wheelless and Grotz’ General Disclosiveness Scale (1976) (see Appendix D). The purpose of this scale was to assess the extent

to which participants are aware of the choices they make when sharing information about the self through SNSs. This scale was reliable for both the college sample and MTurk sample (see Table 9). Higher scores on this scale indicate an awareness of disclosure and choices made when sharing online.

**Privacy Concerns Online.** Items were adapted from Vitak's (2012) scale measuring privacy concerns related to posting online, with the addition of new items specific to this study (see Appendix D). The purpose of this scale was to measure the extent to which participants are concerned about their privacy when it comes to using SNSs. This scale was reliable for both the college sample and MTurk sample (see Table 9). Higher scores on this scale indicate a higher concern for privacy and use of mechanisms to protect information online.

**Information Gathering.** Three items were used to test the extent to which individuals may gather or seek information online when making a new connection. Participants were prompted with "When I have recently added someone on this site that I have just met I..." and asked to choose on a scale of 1 (Strongly Disagree) to 7 (Strongly Agree) for each item: *Look at old pictures to learn more about them*, *Read their profile to learn more about them*, and *Read old posts they made to learn more about them*. This scale was reliable for both the college sample and MTurk sample (see Table 9). A correlation matrix (see Table 10) shows the relationship between all variables used.

## Study Two Results

In order to answer the research questions and hypotheses posed, a combination of regression analysis and multi-level modeling (MLM) was used. Multi-level modeling was necessary for the latter hypotheses posed as they dealt with data wherein multiple relationships discussed were nested within a single participant. Each research question and hypothesis is

addressed below, detailing the procedures used and results of the statistical analysis.

A regression analysis was run to consider the possible relationships that exist between the frequency of use, size of network, age, and size in relation to information seeking. The overall regression model was not significant,  $F(5,310) = 1.95, p = .09$ . As Table 11 shows, only frequency of use contributed significantly to the model ( $\beta = .13, p < .05$ ). Selection of SNS (Twitter, Facebook, or Instagram) had no effect on the decision to seek out information. Together the variables only accounted for 3% of the variance in scores for information gathering ( $R^2 = .03$ ). This shows some support for H1 (that regular users of SNS would be more likely to seek information online).

H2 suggested that frequent users of SNS would be more likely to use privacy settings available on the site they chose. A regression analysis was run to test the hypothesis along with the research questions regarding privacy concerns and age (RQ8), size of network (RQ6), and differences in terms of which site was used (RQ4). The overall regression model was significant  $F(5,310) = 2.44, p < .05$ . In this case, Twitter use ( $\beta = -.15, p < .05$ ) and Instagram use ( $\beta = -.15, p < .01$ ) were the only variables to contribute significantly to the model. This shows that both those who use Twitter and Instagram comparative to Facebook are less likely to be concerned with privacy and use mechanisms to secure their content on the site. Taken together these, five variables only account for 4% of the variance in scores for speed of disclosure ( $R^2 = .04$ ). See Table 12 for full results of the regression analysis. H2 was not supported.

The third hypothesis was also tested through the use of regression to answer the question of whether or not frequent SNS users are more likely to limit their self-disclosure online. This model also addressed the relationship between self-disclosure and age (RQ9), size of network (RQ7), and which site was used (RQ5). The overall model was statistically significant  $F(5,310)$

= 3.77,  $p < .01$ . In this model, age ( $\beta = .16, p < .01$ ) and Instagram use ( $\beta = -.13, p < .05$ ) contributed uniquely to the variance in scores, suggesting that as someone gets older they are more likely to limit their disclosure online, and that those who use Instagram are less conscious of their self-disclosure practices. Taken together, the variables accounted for 6% of the variance in scores for speed of disclosure ( $R^2 = .06$ ). See Table 13 for full results of the regression analysis. H3 was not supported.

The remaining hypotheses and research questions were addressed through the use of multi-level modeling. All of the items used were the result of data gathered in Study One (see Table 8). Participants were provided with that list of items and asked to consider how each, in relation to selected members of their network, would be handled (e.g., would they do nothing in the face of oversharing by that person, would they unfriend them, or would they hide them). This resulted in the use of categorical outcome variables. Positive beta values suggest that users are more likely to hide or mute, while negative values suggest users are more likely to unfriend or unfollow. MLM analyses using categorical outcomes were conducted to test the hypotheses to determine if, in each case, particular behaviors may be more likely to yield unfriending/following or hiding practices dependent on the questions raised (e.g., relational closeness). The data were structured so that individual observations of relationships were nested within each participant of the study. Figure 2 shows the overall distribution of behavioral choices (i.e., hide, do nothing, unfriend) across categories (e.g., oversharing). Table 14 outlines the results of each of these analyses.

H4 and H5 predicted that relational closeness would effect decisions to unfriend/follow and hide through SNSs. The results of the regression analyses showed that in all but one case (political posts), relational closeness was a significant predictor for whether someone would hide

versus unfriend or unfollow someone based on a particular infraction online or offline. More specifically, the results show that as a relationship is closer (strong ties) a user is more likely to hide (mute) or do nothing, while weaker tie relationships would be more likely to be unfriended or unfollowed through the site. In this case, full support is provided for H4 and H5.

RQ10 asked more generally what caused users to unfriend/unfollow and hide through SNSs. It was discovered as a result of Study One (see Table 8) that offline conflict in a relationship would impact choices to maintain or sever a connection online. This was looked at through the item “fought with me offline” to suggest there was a disagreement in the relationship. The only significant predictor for this item was relational closeness ( $\beta = .35$ ,  $p < .001$ ). Study One also showed that frequency of interaction online and offline could impact a decision to keep a relationship. This was looked at through four items: “frequent posts”, “never posts”, “FtF lack” and “SNS lack”. As previously noted, relational closeness was a significant predictor for all four variables. For all but “frequent posts” the number of friends a user has on the site was also found to be a significant predictor. Finally, as noted above, Instagram was found to be different than Facebook and Twitter in terms of a lack of face-to-face contact and frequency of posting, while Twitter was only different in terms of frequent posting.

RQ11 inquired about individual differences that may arise as the result of specific site use (i.e., Twitter vs. Instagram vs. Facebook). These variables were dummy coded and included in the MLM for each potential infraction. Twitter only differed from Facebook in one instance, in which it was found to be a significant predictor for those who post frequently online ( $\beta = -1.01$ ,  $p < .01$ ). This suggests that it is seen as more acceptable to post frequently on Twitter compared to Facebook when determining whether to unfriend or unfollow someone. Instagram saw several more cases of difference from Facebook and Twitter. As Table 14 shows, Instagram was a

positive significant predictor of oversharing (e.g., private information), frequent posting, and a lack of face-to-face contact.

The final hypothesis (H6) indicated that older users would be more like to unfriend or unfollow compared to younger users. Of the regression models ran, it was found that only age was a significant positive predictor for frequency of posting ( $\beta = .15, p < .01$ ). This hypothesis was not supported.

### General Discussion

SPT can be useful in accounting for the importance of both deliberate and accidental self-disclosure in relational maintenance and development. In particular, considering how rewards and costs and the process of *forecasting* a relationship and what stage a individual wants to be in shows how users reflect on what they see online. While multiple studies in the past have suggested possible negative outcomes as a result of inappropriate disclosures online, this did not appear to be the case with this study. A major takeaway from the results, as highlighted by Figure 2, is that individuals overwhelmingly choose to maintain a connection (i.e., do nothing) rather than take action if a friend or follower posts something online that might be considered unacceptable (e.g., oversharing personal information). This would suggest that despite past studies saying broadcasting information through status updates or wall posts can negatively affect a relationship (Bazarova, 2012; Burke & Kraut, 2014; McEwan, 2013), users still find that in forecasting a reaction to the behavior of a specific relational partner that the overall rewards outweighs potential costs of knowing more in terms of depth or breadth than they might expect (Altman & Taylor, 1973).

As a result, like SPT claims, the *evaluation* is one that sides with finding a solution that promotes maintaining the tie with little disruption—in the case of closer ties, this was found to

be “hiding” or “muting” rather than unfriending or unfollowing someone online. This is consistent with past work (McLaughlin & Vitak, 2012) that found in the case of close friends and family, hiding was preferred. This also confirms the results of Study One, wherein participants indicated they were more likely to “hide” or “mute” close friends and family because the cost (dealing with the fall out and confrontation of explaining the choice) outweighed any potential benefits of severing the tie. This is also consistent with past research on the rules of Facebook use; Bryant and Marmo (2012) suggested that users were more likely to remove an acquaintance on the site rather than a close friend because as a relationship grows closer there are mechanisms to overcome issues that threaten face (i.e., the cost of one mistake online does not outweigh the reward of keeping the relationship going). Indeed, the fear of removing someone and the resulting confrontation is viewed as face threatening (Peña & Brody, 2014), with the general consensus being that it is easier to hide someone rather than deal with the negative backlash of explaining why a relationship was removed. This shows support for the social exchange side of SPT in that users rely on costs and rewards to determine their next step in the relationship (Altman & Taylor, 1973).

The results of the regression analysis regarding information seeking is also important to consider in relation to SPT. While the overall model was not significant, this study did find that frequent users are more likely to engage in behaviors that seek out information through SNS about a recently added friend or follower (e.g., looking at past posts or pictures). While this accounts for a small portion of the overall variance, it is consistent with past research and expectations of site use (Binder et al., 2009; Bryant & Marmo, 2012; Ellison et al., 2011a). Information seeking is counter to expectations of SPT because it suggests that a relational partner is able to (and frequently does) learn more in terms of both depth and breadth about a new

acquaintance. However, given that other studies have noted that users do not admit to and/or do anything with information once they have it (e.g., Fox et al., 2013) the next important step to consider would be if this information seeking changes the nature of a relationship or its overall trajectory. If this is something that actively occurs online across relationships, it is likely to alter a key expectation of SPT.

The results of this study also highlight the intricate relationship between age, the size of a social network, and what practices lead to relational dissolution online. Recall the Binder et al. (2009) study on conflicting social spheres online, which found first that younger users experienced greater tension on Facebook and second that they had larger social networks. As the results of this study show, that tension is likely the cause for severing connections: as a user's network grows in size they are more likely to experience that tension and have no problem letting a few people go that they don't talk to that much (FtF and SNS lack) or engage in disclosure practices that they are unhappy with (e.g., oversharing). Overall, however, age had little effect on the decision to unfriend or unfollow versus hide through the site. This may be a result of what was discussed in the focus groups; if older users have already made the choice to remove extraneous connections through "purging" ties online, assessing those differences after the fact would be difficult as many of the remaining ties would be closer relationships that they would be unlikely to unfriend or follow. Further research would be needed to test and understand this relationship and what it means for SPT. The process of "purging" (removing many connections on a SNS at one time) is a unique behavior that does not have an offline equivalent, short of considering moving to a new town or country and starting over without talking to old connections (which would be a more extreme case). Rather, the removal of old ties (e.g., old

coworkers, classmates, lapsed friendships) shows deference to what life would be like without SNSs, as these connections are not maintained absent the site.

One of the things SPT is concerned with is the regularity of communication and interaction between relational partners (Altman & Taylor, 1987). The results of this study found that those who are frequent users of SNSs are more likely to hide or do nothing when it comes to a member of their network oversharing personal information rather than unfriending or unfollowing them. When this is considered in relation to research that suggests users who are frequently on SNS are themselves high self-disclosers (Chang & Heo, 2014) it is possible that the behavior is not seen as egregious for those who visit the site regularly.

A final question to consider is potential differences across sites. Is it possible to apply theory uniformly to Facebook, Twitter and Instagram, or are there norms of use and expectations that change patterns of communication across these sites? The results showed that, generally speaking, the sites are more similar than different, but some key distinctions did arise that are important to consider. First, compared to Facebook, Twitter and Instagram users are less likely to engage in privacy mechanisms. This may be a result of the increased focus on and available mechanisms on Facebook versus the other two were it is really primarily a question of “public” or “private” but does the raise a question of awareness and understanding of who sees what on a site and effects on relationships as a result. Results also showed that Instagram users were less likely to be concerned about making conscious choices regarding self-disclosure on the site. This may explain why, compared to Facebook and Twitter, Instagram users were more likely to engage in “hiding” practices of users that overshare on the site; they simply experience it more often. Another difference that arose between the three sites was regarding frequency of posting. While again with Instagram it was a significant predictor in favor of hiding or doing nothing,

Twitter users were more likely to unfriend or unfollow compared to Facebook if someone posted too frequently. This is something that should be studied further to consider in relation to SPT, as it seems counter-intuitive to an interest in “live-tweeting” through Twitter versus other social media.

### **Conclusions**

The features, or affordances, of SNSs are what create a tension for interpersonal communication in a digital age and should be focus for building and expanding theory in the future. As Binder et al. (2009) note, “boundaries between social spheres occur naturally in offline networks...this elaborate structure is dropped in online environments” (p. 966). More specifically, the ability to broadcast and the persistence of information on a profile over time creates a unique approach to relational development that raises the question of how relatable SPT can be to communication today. While the process of choosing to maintain or sever a relationship shows the weighing of costs and benefits similar to that discussed in SPT, it begins with an assumption of depth or breadth for a given tie. Indeed, many things contribute to the forecasting and evaluation process of a relationship that experiences oversharing: the current strength of the relationship, how often the user themselves is online, and the overall size of their network all contributed to whether or not this was found to be a serious enough infraction to take an action against. While this is often touted as the primary frustration and potential pitfall to relationships that use SNS, it would appear the opposite might be the case: generally speaking users do not mind knowing more. In particular, further research into the effect of information gathering is important as this shows the real issue of applying SPT to relationships developed and maintained in a digital age: with the click of a button a person can learn a great deal in terms of both depth and breadth of a person online, and while they do share this information with

others, it is accepted as a norm of use for SNSs. Future studies of relational development, regardless of whether considering face-to-face or online must account for this important variable.

### **Limitations**

The loss of 36.5% of a sample is not something to be ignored, but does highlight the importance of using an instructional manipulation check for data collection. While the initial concern was that the MTurk sample might be susceptible to inattentiveness (Rouse, 2015) it was in fact the college sample that constituted the highest number of individuals pulled from the data set for failing the IMC for this very reason. Oppenheimer et al. (2009) show how the use of an IMC can greatly increase the statistical power of a study, as those who fail at the IMC take less time and tend to provide inconsistent answers increasing the risk of “noise” in the results, masking significance. What this study shows is that greater effort should be taken to encourage active participation and attention to research by college students, as they are a frequent group sampled for research purposes. Additionally, there are always risks to web-based research but using attention-check items can improve the quality of the sample.

In that same line of reasoning, another possible limitation of the research is in the make up of the sample of relationships represented. While each participant based on the SNS selected (Facebook, Twitter or Instagram) was provided directions to ensure a random array of connections from their online network, there is no way to verify that someone used the instructions provided as the study occurred online. That said, given that the composition of the over all sample did not appear heavily skewed towards close relationships, this would suggest that most if not all participants did use the instructions provided.

Information seeking should also be analyzed further. The prompt provided to participants indicated in the case of adding a new friend or follower what they would do, but did not clarify

what that meant (e.g., new as in just met, or new as in, new to the site). This distinction is important to show the significance of the results, if participants perceived it to be the latter, rather than the former, it would show how in the case of adding someone to an SNS that is an old connection (e.g., old high school friend) that participants might be more likely to read up and see what they have been up to since they last talked, creating a false sense of intimacy between the two despite no communication over the last several years.

### **Future Directions**

One thing this study did not account for was the overall composition (i.e., proportion) of a users' social media network, and would be an important future step when considering the affordances available through SNSs and interpersonal uses of the sites. Given the increasing use of Twitter and Instagram, and for reasons beyond interpersonal communication, this would truly show how masspersonal communication plays out online (Duggan et al., 2015). Breaking down how different sites are used for different relationships or reasons could also show different effects online. For example, while this study found some support for the idea of information gathering through SNSs when it comes to newly formed relationships, how might that change in the context of a friendship versus a romantic relationship? Prior work on romantic relationships (Fox et al., 2013; Fox et al., 2014; Gibbs, Ellison, & Lai, 2011; LeFebvre et al., 2015) show a reliance on the Internet for uncertainty reduction in this particular type of relationship, but comparative work is needed to understand how this would change in other types of interpersonal relationships, and if there are unique differences between them.

It is also important that future research consider how this applies to multimodal relationships; would a disclosure on Facebook effect future interactions on Twitter or Instagram, or vice versa? This should expand beyond just technology; given that relationships do not exist

strictly online or offline, expanding theories of interpersonal communication and relational maintenance and development must account for both sides (Mongeau & Henningsen, 2015). Also important is to consider how online disclosures effect offline interactions and expectations for the relationship; with past research suggesting that disclosures through CMC can be viewed as more intimate and reciprocated as such (Jiang et al., 2013), what does it mean for relationships maintained online and offline, and can theory account for these changes?

## **Chapter 5: Conclusions & Future Directions for Research**

The reality of interpersonal communication reveals a carefully calculated process that can be easily disrupted by mediated interactions and involuntary disclosures due to broadcasting information through social media (Attrill, 2012). The purpose of this research was to consider the applicability of social penetration theory (SPT) in a time where social networking sites (SNSs) occupy a significant part of communication in interpersonal relationships. By testing the major assumptions of the theory (See Table 15) the three studies conducted sought to provide a thorough understanding of how SPT fits into a digital world. Given this shift towards a more multimodal world, is it possible to still argue for gradual and linear development of relationships? Additionally, what effects, if any, do the affordances of technology and specific SNSs have on expectations for development and maintenance?

As Chapter Three showed, general assumptions of depth and breadth as relating to specific stages and questions of relational closeness in SPT can be seen in the way relational partners interact online through Facebook. More specifically, consistent with SPT, as an individual discloses more both in terms of depth and breadth they develop a closer relationship (Altman & Taylor, 1973). This study is important because it shows that expectations of closeness or stage are still consistent with the varying levels of breadth or depth, with those who share the most in terms of depth being the closest. As noted in Chapter Three, this is also important because other research (e.g., Gibbs et al., 2006; Ji & Lieber, 2008) regarding disclosure online has found that users will share beyond the stage the relationship is in (e.g., online dating sites). Given that SNSs are typically seen as extension of one's offline life rather than a separate means of maintenance entirely, it is not surprising that the levels of communication are consistent with those that were self-reported.

The study conducted and reported on in Chapter Three also showed some support for the depenetration process as being gradual. Having access to the profile allowed for the content analysis to be more than just a “current state” of the relationship question, giving access to turning points in communication as participants graduated high school, moved to new towns, or even experienced a break up. This shows that decrease in depth and breadth of communication over time to the point that while the self-reported communication at the time of the study was low, the content analysis showed that at one point in time, communication had been higher for these now lapsed connections.

These lapsed relationships are one of the more important parts of the study to consider for future research. The self-reported data showed that participants did not view these ties as any different than an acquaintance for the purpose of communicating and building a sense of closeness, but yet they were still maintained insofar as they were kept as a connection through Facebook. This was further seen in the results discussed in Chapter Four, where lapsed friendships accounted for the highest percentage of relationship reported on (see Figure 1), yet participants remained hesitant to sever those relationships. While the results of the both the focus groups and survey supported the idea that relational closeness and tie strength was what came first in deciding whether or not to keep a relationship through a SNS, the latter study showed overwhelming that participants were not interested in taking action to end relationships online even if the “skipping ahead” (i.e., oversharing personal information) occurred that SPT suggests would lead to depenetration (Altman & Taylor, 1973). The combined discussion of these studies introduces one of the major issues with SPT, which is an inability to account for the process of what relational dissolution looks like in a digital world. This is important to consider given the existing rhetoric surrounding research on context collapse and SNS use which often suggests that

the pitfall of various ties in one location is oversharing, and thus, the severing of relationships. However, as this study has shown, quite the opposite is true—users seek out more information online about a variety of ties, and tend to see oversharing as a minor nuisance that at most would warrant “hiding” rather than ending that relationship online.

Technology allows for low effort maintenance of a wide range of ties (Baym, 2010), and the tools available through each SNS creates the potential to “hide” or “mute” users without that person who has been “hidden” or “muted” being any wiser, making that process potentially even easier for someone who wants to narrow their interaction on the site and to capitalize on how they use their time online. While ultimately using such tools would likely prevent further growth of the relationship through active communication online, it does suggest that users find some value in maintaining *more* connections even if some remain unseen through a SNS. But what is that value? The results of the focus groups in Chapter Four suggest that those who are “hidden” are strong tie relationships that are easier to not have to confront about an infraction or that it is a way to “save face” because unfriending can lead to a public confrontation with that person. While this would suggest the process of forecasting discussed by Altman and Taylor (1973), showing that the strength of the relationship would outweigh having to deal with the fallout of arguing about ending things online, but this does not account for those weaker ties (e.g., lapsed friendships, acquaintances) that are still maintained in the face of oversharing or overposting as seen in the survey discussed in Chapter Four. Future work is needed to address these results, which seem to suggest that in a digital age, absent extensive conflict, relationships do not end. The results of these studies would show that despite a slow pull away in communication to lapse back to an earlier stage of relationship as demonstrated in the first study, that depenetration is not entirely linear and the relationship is still maintained even if that means it is just through the

recognition of having a connection through a SNS. It seems unlikely that SPT or any sort of linear model of relationships would be able to account for the growth of networks in a digital age, but that does not negate the need to continue to study this phenomenon. Johnson et al.'s (2004) study of friendship and turning points may be the best starting point for better understanding relationships from a nonlinear perspective. Participants reported having an average of 500-600 friends in the first study (Chapter Three) and 459 friends in the final study (Chapter Four), much larger social networks than is anticipated for regular contact (Parks, 2010). Users maintain various types of relationships ranging from lapsed ties to best friends to family to significant others. Lapsed relationships and other weak ties such as classmates and acquaintances make up the largest portion of a user's online network (Parks, 2010). There are many possible reasons for keeping such a large network, none of which can be explained by SPT. The importance of memory cannot be understated. At one point a lapsed tie meant something, perhaps they are an ex-boyfriend or girlfriend, or old roommate. Having that relationship maintained through the site creates the opportunity to reflect back on who a user once was at a time in their life, this is highlighted by recent applications through Facebook such as TimeHop and On This Day. Some users may also care about the visibility and overall public nature of the site and having a large network. Severing relationships is an active choice; it is easier to keep and maintain a higher number of connections that publically creates an image of self rather than limit relationships online on a regular basis. It may also be a question of conflict style; as noted by some participants in study two during the focus groups, they wanted to avoid confrontation about ending the relationship. It is easier to "hide" or "mute" and have no one be the wiser in the case of someone who dislikes conflict than have them know you are no longer connected online and confront you about it.

Chapter Four also continues the trend of Chapter Three in highlighting the importance of relational closeness in making decisions about one's social network, by considering the role of context collapse and audience in developing and maintaining relationships. As Goffman (1959) explains, impression management is an active process that requires acknowledgement and understanding of the audience and their expectations. Different audiences result in different types of disclosure, due to the role assumed in a given situation (Goffman, 1961). A person can step into a role, knowing that there are functions and impressions associated with that role that must be met by the individual (Goffman, 1961). Individuals take on many roles in life, and self-present to a variety of audiences in ways that are not always conflicting, but with context collapse online, those audiences that do conflict (e.g., business versus personal, weak versus strong ties) are all viewing the same information available on a profile. While it is possible roles could conflict offline, it is less likely, as most individuals make an effort to be consistent in their behavior across interactions. Litt (2012) notes, "the less an actual audience is visible or known, the more individuals become dependent on their imagination" (p. 331). While research on the question of the invisible audience and context collapse speculates the potential for conflict and risk to relationships, no such results were found in the case of this study. In fact, while SPT would say that learning more information than one would expect would negatively impact a relationship that is not ready for it, the results of the final study suggest that the cost of acknowledging the infraction and talking it through is not worth it to many users. While in the focus groups users suggested topics such as religion, politics, or in general sharing personal details bothered them online—ultimately taking the step from passive consumer of the information to having a face-to-face conversation or other form of interaction (e.g., breaking off the relationship online) was not worth it.

In considering SPT's argument regarding the process of evaluation and forecast for weighing costs and rewards, the claim here would be that knowing more information in terms of depth or breadth (even if it reflects poorly on the relational partner) is not enough to *end* that relationship. This does not mean that SPT cannot still be applied, but that the extent to which individual's are willing to break off a relationship is at question; simply put—learning more, particularly when the information came not as the result of direct communication (e.g., messaging), may reflect poorly in the moment, but has little long term effect. Future research would need to continue to test this—a study that looked at intimacy and relational satisfaction as it relates to disclosures through SNSs is needed to better understand this relationship.

SNSs allow users to learn more, more quickly, about potential ties more so than ever before. Whether it be the result of reading a tweet on Twitter or status update on Facebook or seeing a picture on Instagram, users are able to peruse information about Friends and Followers that persist over time, learning as much or as little about them as the user chooses. While the disclosure process is still two-sided (ultimately, one can only learn as much as the person cares to post online) much of what is discovered is passively consumed and rarely discussed. Users freely admit to reading old posts and looking at old pictures, but future work would need to consider what effect this uniquely has on a relationship. SPT would argue that knowledge leads to closeness, but that is not necessarily what is happening online for many users as shown by the results of study one. A study that had participants read sample profiles with varying degrees of information and then asked questions regarding their perception of closeness may help to get at to what extent consuming information online effects interpersonal relationships, closeness, and to some degree, satisfaction. The ability to learn more without the other person knowing (and never actually talking about it) disrupts the expectation of the relationship between self-

disclosure and relational development. If it were true that passive consumption does not lead to increased closeness, then a future model of SPT would have to account for the varying ways in which information can be disclosed online.

The final important distinction and focus for future research should be the different affordances available through SNSs. Is it possible to apply theory uniformly or are there norms of use and expectations that change patterns of communication across these sites? Can the results of the first study, showing relationships mapped out through Facebook, be replicated on Twitter or Instagram? Twitter and Instagram do not offer “see friendship” functions similar to Facebook, making it more difficult to encourage one-on-one relationships versus an entire network, making this a unique affordance of the site. The focus on the visual on Instagram is also important to consider, particularly in the context of romantic relationships. The ability to look at years worth of old pictures through an easy slide of a finger on a phone versus clicking through the timeline on Facebook may be preferred in trying to get to know more about a person. Together these studies have touched on the major affordances that tie these SNSs together, and the results would suggest that users do not view them all that differently. But future work that is more comparative with a larger sample is needed to really test these potential effects.

This dissertation is an important step forward for research on relational development and maintenance. The continued persistence of disclosures made online as users form new connections make the study of SNSs within this context an important part of the literature (Binder et al., 2009). Additionally, the ability for researchers to study the process of development and maintenance as it plays out online opens the potential for longitudinal analysis gathered at a single time point. Existing theories of relational development and maintenance as related to CMC such as hyperpersonal theory and social information processing theory are important but

do not account for relationships that are maintained both online and offline. Walther (2011) notes that in future work on CMC that the multimodal nature of relationships and offline comparisons are important. This study shows that a theory meant to apply to communication offline does not hold up in a multimodal world. The next step then is developing and testing theoretical explanations that do explain this process of relational maintenance online as it relates to self-disclosure. A continued discussion of key variables like information seeking, audience awareness, and privacy as they relate to maintaining ties across SNSs should help to make this happen.

## References

- Acquisti, A. & Gross, R. (2006). Imagined communities: Awareness, information sharing, and privacy on Facebook, In G. Danezis & P. Golle (Eds.), *Privacy Enhancing Technologies: 6<sup>th</sup> International Workshop*, (pp. 36–58.) Berlin, Germany: Springer.
- Aldhafferi, N., Watson, C., & Sajeev, A. S. M. (2013). Personal information privacy settings of online social networks and their suitability for mobile Internet devices. *International Journal of Security, Privacy, and Trust Management*, 2, 1-17.  
doi:10.5121/ijspmt.2013.2201
- Allensworth, N. J. (1996, March). *Social penetration: A description, research, and evaluation*. Paper presented at the Annual Meeting of the Southern States Communication Association, Memphis, TN.
- Altman, I., & Taylor, D. A. (1973). *Social penetration: The development of interpersonal relationships*. New York, NY: Holt, Rinehart, & Winston.
- Attrill, A. (2012). Sharing only parts of me: Selective categorical self-disclosure across Internet arenas. *International Journal of Internet Science*, 7, 55-77.
- Ayres, J. (1979). Uncertainty and social penetration theory expectations about relationship communication: A comparative test. *The Western Journal of Communication*, 43, 192-200. doi:10.1080/10570317909373968
- Baym, N. K. (2000). *Tune in, log on: Soaps, fandom, and online community*. Thousand Oaks, CA: Sage.
- Baym, N. K. (2010). *Personal connections in the digital age*. Malden, MA: Polity Press.

- Baym, N. K., Zhang, Y. B., & Lin, M-C. (2004). Social interactions across media: Interpersonal communication on the internet, phone, and face-to-face. *New Media & Society*, 6, 299-318. doi:10.1177/1461444804041438
- Bernstein, M. S., Bakshy, E., Burke, M. & Karrer, B. (2013, April 27-May 2). *Quantifying the invisible audience in social networks*. Presented at the ACM Conference on Human Factors in Computing Systems: CHI 2013 in Paris, France.
- Binder, J., Howes, A., & Sutcliffe, A. (2009, April 4-9). *The problem of conflicting social spheres: Effects of network structure on experienced tension in social network sites*. Presented at the ACM Conference on Human Factors in Computing Systems: CHI 2009 in Boston, MA.
- Bond, B. J. (2009). He posted, she posted: Gender differences in self-disclosure on social network sites. *Rocky Mountain Communication Review*, 6, 29-37.
- boyd, d. m. (2008). *Taken out of context: American teen sociality in networked publics*. (Doctoral dissertation). Retrieved from:  
<http://www.danah.org/papers/TakenOutOfContext.pdf>
- Brandtzæg, P. B., Lüders, M., & Skjetne, J. H. (2010). Too many Facebook “friends”? Content sharing and sociability versus the need for privacy in social network sites. *International Journal of Human Computer Interaction*, 26, 1006-1030.  
doi:10.1080/10447318.2010.516.719
- Bryant, E. M., Marmo, J., & Ramirez, Jr., A. (2011). A functional approach to social networking sites. In K. B. Wright & L. M. Webb (Eds.) *Computer-mediated communication in personal relationships* (pp. 3-20). New York, NY: Peter Lang Publishing.

- Bryant, E. M., & Marmo, J. (2012). The rules of Facebook friendship: A two-stage examination of interactions rules in close, casual, and acquaintance friendships. *Journal of Social and Personal Relationships, 29*, 1013-1035. doi:10.1177/0265407512443613
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science, 6*, 3-5. doi:10.1177/1745691610393980
- Burke, M., & Kraut, R. (2014, April 26-May 1). *Growing closer on Facebook: Changes in tie strength through social network site use*. Presented at the ACM Conference on Human Factors in Computing Systems: CHI 2014 in Toronto, Canada.
- Chang, C-W., & Heo, J. (2014). Visiting theories that predict college students' self-disclosure on Facebook. *Computers in Human Behavior, 30*, 79-86. doi:10.1016/j.chb.2013.07.059
- Craig, E., & Wright, K. B. (2012). Computer-mediated relational development and maintenance on Facebook. *Communication Research Reports, 29*, 119-129. doi:10.1080/08824096.2012.667777
- Dainton, M. (2013). Relationship maintenance on Facebook: Development of a measure, relationship to general maintenance, and relational satisfaction. *College Student Journal, 47*, 113-121.
- Donath, J., & boyd, d. (2004). Public displays of connection. *BT Technology Journal, 22*, 71-82. doi:10.1023/B:BTTJ.0000047585.06264.cc
- Duggan, M., Ellison, N. B., Lampe, C., Lenhart, A., & Madden, M. (2015). Social media update 2014. *Pew Research Internet Project*. Retrieved on January 9, 2015 from: <http://www.pewinternet.org/2015/01/09/social-media-update-2014/>

- Ellison, N. B., & boyd, d. (2013). Sociality through social network sites. In W. H. Dutton (Ed.), *The oxford handbook of internet studies* (pp. 151-172). Oxford: Oxford University Press.
- Ellison, N. B., Steinfield, C., & Lampe, C. (2007). The benefits of Facebook “friends”: Social capital and college students’ use of online social network sites. *Journal of Computer-Mediated Communication*, *12*, 1143-1168. doi:10.1111/j.1083-6101.2007.00367.x
- Ellison, N. B., Steinfield, C., & Lampe, C. (2011a). Connection strategies: Social capital implications of Facebook-enabled communication practices. *New Media & Society*, *13*, 873- 892. doi:10.1177/1461444810385389
- Ellison, N. B., Vitak, J., Steinfield, C., Gray, R., & Lampe, C. (2011b). Negotiating privacy concerns and social capital needs in a social media environment. In S. Trepte & L. Reinecke (Eds.) *Privacy online: Perspectives on privacy and self-disclosure in the social web* (pp. 19-32), New York, NY: Springer.
- Ellison, N. B., Vitak, J., Gray, R., & Lampe, C. (2014). Cultivating social resources on social network sites: Facebook relationship maintenance behaviors and their role in social capital processes. *Journal of Computer-Mediated Communication*, *19*, 855-870. doi:10.1111/jcc4.12078
- Emery, L. F., Muise, A., Dix, E. L., & Le, B. (2014). Can you tell that I’m in a relationship? Attachment and relationship visibility on Facebook. *Personality and Social Psychology Bulletin*, *40*, 1466-1479. doi:10.1177/0146167214549944
- Facebook (2014). *Glossary of terms: Friendship page*. Retrieved on November 5, 2014 from: <https://www.facebook.com/help/215303908549311>
- Facebook Newsroom (2014). Retrieved on September 26, 2014 from: <http://newsroom.fb.com/company-info/>

- Fox, J., Warber, K. M., Makstaller, D. C. (2013). The role of Facebook in romantic relationship development: An exploration on Knapp's relational stage model. *Journal of Social and Personal Relationships, 30*, 771-794. doi:10.1177/0265407512468370
- Fox, J., Osborn, J., & Warber, K. M. (2014). Relational dialectics and social networking sites: The role of Facebook in romantic escalation, conflict, and dissolution. *Computers in Human Behavior, 35*, 527-534. doi:10.1016/j.chb.2014.02.031
- Gibbs, J., Ellison, N. B., Heino, R. D. (2006). Self-presentation in online personals: The role of future interaction, self-disclosure, and perceived success in Internet dating. *Communication Research, 33*, 152-177. doi:10.1177/0093650205285368
- Gibbs, J., Ellison, N. B., & Lai, C-H. (2011). First comes love, then comes Google: An investigation of uncertainty reduction strategies and self-disclosure in online dating. *Communication Research, 38*, 70-100. doi:10.1177/0093650210377091
- Goffman, E. (1959). *The presentation of self in everyday life*. New York, NY: Anchor Books.
- Goffman, E. (1961). *Encounters: Two studies in the sociology of interaction*. Indianapolis, IN: Bobbs-Merrill Company.
- Hammer, M. R., & Gudykunst, W. B. (1987). The influence of ethnicity and sex on social penetration in close friendships. *Journal of Black Studies, 17*, 418-437.  
doi:10.1177/002193478701700403
- Haythornthwaite, C. (2005). Social networks and Internet connectivity effects. *Information, Communication, & Society, 8*, 125-147. doi:10.1080/136911800500146185
- Hollenbaugh, E. E., & Ferris, A. L. (2014). Facebook self-disclosure: Examining the role of traits, social cohesion, and motives. *Computers in Human Behavior, 30*, 50-58.  
doi:10.1016/j.chb.2013.07.055

- Jiang, L. C., Bazarova, N. N., Hancock, J. T. (2013). From perception to behavior: Disclosure reciprocity and the intensification of intimacy in computer-mediated communication. *Communication Research*, 40, 125-143. doi:10.1177/0093650211405313
- Ji, P., & Lieber, P. (2008). Emotional disclosure and construction of the poetic “other” in a Chinese online dating site. *China Media Research*, 4, 32-42.
- Johnson, A. J., Wittenberg, E., Haigh, M., Wigley, S., Becker, J., Brown, K., & Craig, E. (2004). The process of relationship development and deterioration: Turning points in friendships that have terminated. *Communication Quarterly*, 52, 54-67.  
doi:10.1080/01463370409370178
- Karakayali, N. & Kilic, A. (2013). More network conscious than ever? Challenges, strategies, and analytic labor of users in the Facebook environment. *Journal of Computer-Mediated Communication*, 18, 175-193. doi:10.1111/jcc4.12005
- Kisekka, V., Bagchi-Sen, S., & Rao, H. R. (2013). Extent of private information disclosure on online social networks: An exploration of Facebook mobile phone users. *Computers in Human Behavior*, 29, 2722-2729. doi:10.1016/j.chb.2013.07.023
- Krasnova, H., Kolesnikova, E., & Günther, O. (2009, August 6-9). “It won’t happen to me!”: Self-disclosure in online social networks. *Published Proceedings of the Fifteen Americas Conference on Information Systems*, 1-9. San Francisco, CA.
- Lang, C., & Barton, H. (2015). Just untag it: Exploring the management of undesirable Facebook photos. *Computers in Human Behavior*, 43, 147-155. doi:10.1016/j.chb.2014.10.051
- LeFebvre, L., Blackburn, K., & Brody, N. (2015). Navigating romantic relationships on Facebook: Extending the relationship dissolution model to social networking

- environments. *Journal of Social and Personal Relationships*, 32, 78-98.  
doi:10.1177/0265407514524848
- Lewis, J., & West, A. (2009). 'Friending': London-based undergraduates experience on Facebook. *New Media & Society*, 11, 1209-1229. doi:10.1177/1461444809342058
- Litt, E. (2012). Knock, knock. Who's there? The imagined audience. *Journal of Broadcasting & Electronic Media*, 56, 330-345. doi:10.1080/0883151.2012.705195
- Litt, E. (2013). Understanding social network site users' privacy tool use. *Computers in Human Behavior*, 29, 1649-1656. doi:10.1016/j.chb.2013.01.049
- Litt, E., Spottswood, E., Birnholtz, J., Hancock, J., Smith, M. E., & Reynolds, L. (2014). *Awkward encounters of an "other" kind: Collective self-presentation and face threat on Facebook*. Paper presented at the Annual CSCW Conference in Baltimore, MD.
- Mason, W., & Suri, S. (2012). Conducting behavioral research on Amazon's Mechanical Turk. *Behavioral Research*, 44, 1-23. doi:10.3758/s13428-011-0124-6
- McAndrew, F. T., & Jeong, H. S. (2012). Who does what on Facebook? Age, sex, and relationship status as predictors of Facebook use. *Computers in Human Behavior*, 28, 2359-2365. doi:10.1016/j.chb.2012.07.007
- McEwan, B. (2013). Sharing, caring, and surveilling: An actor-partner interdependence model examination of Facebook relational maintenance strategies. *Cyberpsychology, Behavior, and Social Networking*, 16, 863-869. doi:10.1089/cyber.2012.0717
- McLaughlin, C., & Vitak, J. (2012). Norm evolution and violation on Facebook. *New Media & Society*, 14, 299-315. doi:10.1177/1461444811412712

- Mesch, G., & Talmud, I. (2006). The quality of online and offline relationships: The role of multiplexity and duration of social relationships. *The Information Society*, 22, 137-148. doi:10.1080/01972240600677805
- Mesch, G. S., & Beker, G. (2010). Are norms of disclosure of online and offline personal information associated with the disclosure of personal information online? *Human Communication Research*, 36, 570-592. doi:10.1111/j.1468-2958.2010.01389.x
- Miles, M. B., Huberman, M., & Saldana, J. (2013). *Qualitative data analysis: A methods sourcebook* (3<sup>rd</sup> ed.). Thousand Oaks, CA: Sage.
- Mongeau, P. A., & Henningsen, M. L. M. (2015). Stage theories of relationship development. In D. O. Braithwaite & P. Schrodt (Eds.) *Engaging theories in interpersonal communication: Multiple perspectives* (2<sup>nd</sup> ed.) (pp. 389-402). Thousand Oaks, CA: Sage.
- Nonnecke, B., & Preece, J. (2001). Why lurkers lurk. *Americas Conference on Information Systems*, 1-10.
- Olson, A. M. (2012). *Facebook and social penetration theory*. Unpublished master's thesis completed at Gonzaga University, Spokane, WA.
- Oppenheimer, D. M., Meyvis, T., & Davidenko, N. (2009). Instructional manipulation checks: Detecting satisficing to increase statistical power. *Journal of Experimental Social Psychology*, 45, 867-872. doi:10.1016/j.jesp.2009.03.009
- Paolacci, G., Chandler, J., & Ipeirotis, P. G. (2010). Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making*, 5, 411-419.
- Parks, M. R., & Floyd, K. (1996). Making friends in cyberspace. *Journal of Communication*, 46, 80-97. doi:10.1111/j.1460-2466.1996.tb01462.x

- Parks, M. R. (2010, June). *Who are Facebook friends? Exploring the composition of Facebook friend networks*. Paper presented at the annual conference of the International Communication Association, Singapore.
- Parks, M. R. (2011). Boundary conditions for the application of three theories of computer-mediated communication to MySpace. *Journal of Communication, 61*, 557-574. doi:10.1111/j.1460-2466.2011.01569.x
- Peña, J., & Brody, N. (2014). Intentions to hide and unfriend Facebook connections based on perceptions of sender attractiveness and status updates. *Computers in Human Behavior, 31*, 143-150. doi:10.1016/j.chb.2013.10.004
- Rainie, L., Smith, A., & Duggan, M. (2013, February 5). Coming and going on Facebook. *Pew Internet & American Life Project*, <http://www.pewinternet.org/Reports/2013/Coming-and-going-on-facebook.aspx>
- Rains, S. A., & Brunner, S. R. (2014). What can we learn about social network sites by studying Facebook? A call and recommendations for research on social network sites. *New Media & Society, 1-18*. doi:10.1177/1461444814546481
- Rains, S. A., Brunner, S. R., & Oman, K. (2014). Self-disclosure and new communication technologies: The implications of receiving superficial self-disclosures from friends. *Journal of Social and Personal Relationships, 1-20*. doi:10.1177/0265407514562561
- Ramirez, Jr., A., & Bryant, E. M. (2014). Relational reconnection on social network sites: An examination of relationship persistence and modality switching. *Communication Reports, 27*, 1-12. doi:10.1080/08934215.2013.851725
- Rouse, S. V. (2015). A reliability analysis of Mechanical Turk data. *Computers in Human Behavior, 43*, 304-307. doi:10.1016/j.chb.2014.11.004

- Schouten, A. P., Valkenberg, P. M., & Peter, J. (2009). An experimental test of processes underlying self-disclosure in computer-mediated communication. *Cyberpsychology: Journal of Psychosocial Research on Cyberspace*, 3, article 3. Retrieved from: <http://cyberpsychology.eu/view.php?cisloclanku=2009111601&article=3>
- Schwartz, H. A., Eichstaedt, J. C., Kern, M. L., Dziurzynski, L., Ramones, S. M., Agrawal, M., Shah, A., Kosinski, M., Stillwell, D., Seligman, M. E. P., & Ungar, L. H. (2013). Personality, gender, and age in the language of social media: The open-ended vocabulary approach. *PLOS One*, 8, 1-16. doi:10.1371/journal.pone.0073791
- Sosik, V. S., & Bazarova, N. N. (2014). Relational maintenance on social network sites: How Facebook communication predicts relational escalation. *Computers in Human Behavior*, 35, 124-131. doi:10.1016/j.chb.2014.02.044
- Stefanone, M. A., & Lackaff, D. (2009). Reality television as a model for online behavior: Blogging, photo, and video sharing. *Journal of Computer-Mediated Communication*, 14, 964-987. doi:10.1111/j.1083-6101.2009.01477.x
- Taylor, D., & Altman, I. (1975). Self-disclosure as a function of reward-cost outcomes. *Sociometry*, 38, 18-31. doi:10.2307/2786231
- Taylor, D., & Altman, I. (1987). Communication in interpersonal relationships: Social penetration processes. In M. Roloff and G. Miller (Eds.), *Interpersonal processes: New directions in communication research* (pp. 257-277), Newbury Park, CA: Sage.
- Tidwell, L. C., & Walther, J. B. (2002). Computer-mediated communication effects on disclosure, impressions, and interpersonal evaluations: Getting to know one another a bit at a time. *Human Communication Research*, 28, 317-348. doi:10.1111/j.1468-2958.2002.tb00811.x

- Tolstedt, B. E., & Stokes, J. P. (1984). Self-disclosure, intimacy, and the depenetration process. *Journal of Personality and Social Psychology, 46*, 84-90. doi:10.1037/0022-3514.46.1.84
- Tong, S. T., Kashian, N., & Walther, J. B. (in press). Relational maintenance and CMC. In K. B. Wright & L. M. Webb (Eds.) *Computer-mediated communication in personal relationships* (2<sup>nd</sup> ed.) (pp. 1-40). New York, NY: Peter Lang Publishing.
- Vitak, J. (2012). The impact of context collapse and privacy on social network site disclosures. *Journal of Broadcasting & Electronic Media, 56*, 451-470.  
doi:10.1080/08838151.2012.732140
- Walther, J. B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research, 23*, 3-43.  
doi:10.1177/009365096023001001
- Walther, J. B., Van Der Heide, B., Kim, S-Y., Westerman, D., & Tong, S. T. (2008). The role of friends' appearance and behavior on evaluations of individuals on Facebook: Are we known by the company we keep? *Human Communication Research, 24*, 28-49.  
doi:10.1111/j.1468-2958.2007.00312.x
- Welch, S-A., & Rubin, R. B. (2002). Development of relationship stage measures. *Communication Quarterly, 50*, 24-40. doi:10.1080/01463370209385644
- Wilson, R. E., Gosling, S. D., & Graham, L. T. (2012). A review of Facebook research in the social sciences. *Perspectives on Psychological Science, 7*, 203-220.  
doi:10.1177/1745691612442

## Appendix A

**To begin:** you should have just completed a download of a sub-section of posts from your Facebook profile page containing interactions between you and one other person. For this survey please keep that same person in mind, as they will be whom you are focusing on for the remainder of the study.

**1) Please enter the initials of the person that you will be focusing on for this study, and describe in your own words your relationship with them:**

**2) How long (in years) have you know this person? \_\_\_\_\_**

**3) Please indicate their gender:**

Male  
Female

**4) Please indicate their age (in years): \_\_\_\_\_**

**5) How would you classify this relationship?**

Acquaintance  
Friendship  
Romantic  
Family  
Other, Please Specify: \_\_\_\_\_

**6) Please classify the geography of this relationship when you first met:**

Geographically Close  
Long Distance  
Other, Please Specify: \_\_\_\_\_

**7) Please classify the geography of this relationship currently:**

Geographically Close  
Long Distance  
Other, Please Specify: \_\_\_\_\_

### **Welch & Rubin (2002)—Relationship Stages**

**Below are a series of statements that describe relationships. Keep in mind the person you chose for this study as you indicate your level of agreement with each of the following statements as it pertains to your relationship with him or her:**

1. I am interested in getting to know him/her.
2. I don't know much about him/her. (R)
3. We talk about what we have in common.
4. We have in-depth conversations.
5. Our conversations are casual in nature.
6. We share basic information about ourselves.
7. We share secrets.
8. I tell him/her things I would only tell a close friend.
9. I am comfortable asking for and doing favors for him/her.
10. I spend most of my time with him/her.
11. We use nicknames and private terms with each other.
12. I feel totally committed to him/her.
13. His/her needs are just as important as mine are.
14. I trust him/her completely.
15. We freely talk about anything.
16. We exchange tokens of affection for each other.
17. We talk about “we” did rather than what “I” did.
18. We understand how each other feels without asking.

### **Parks & Floyd (1996)— Interpersonal Relationships Online Scale**

**Please keep the person that you chose at the start of the study and your relationship to them in mind as you answer, indicating your level of agreement with each statement in regards to your interactions online:**

1. Our communication online is limited to just a few topics.
2. Our communication covers issues that go well beyond the topic of any single site or group.
3. Our communication ranges over a wide variety of topics.
4. Once we get started talking online we move easily from one topic to another.
5. We contact each other in a variety of ways besides the Internet.
6. We communicate through more than just one site online.
7. I usually tell this person exactly how I feel when we talk online.
8. I feel quite close to this person.
9. I try to keep my personal judgments to myself when this person says or does something with which I disagree online.
10. I have told this person what I like about him or her.
11. I feel I could confide in this person about almost anything.
12. I would never tell this person anything intimate or personal about myself.
13. I have told this person things about myself that he or she could not get from any other source.
14. Our communication stays on the surface of most topics.

### **Modes of Communication Scale**

\*\*\* Modeled off Caughlin & Sharabi's 2013 NCA study scale.

**Consider how you have communicated with the person you have chosen for this study in the last month as you determine your level of agreement with each of the following statements:**

1. I prefer to communicate with this person through text messaging.
2. I prefer to communicate with this person through video chat.
3. I prefer to communicate with this person face to face.
4. I prefer to communicate with this person through Facebook.
5. I prefer to communicate with this person through Twitter.
6. I prefer to communicate with this person through phone calls.
7. I prefer to communicate with this person through Instagram.
8. I prefer to communicate with this person through email.
9. I prefer to communicate with this person through instant messaging.

### **Ellison et al.'s (2007) Facebook Intensity Scale**

\*\*\* First item modified to account for higher number of FB friends seen in research in the last few years.

**About how many total Facebook friends do you have?**

1. 100 or fewer friends
2. 101-200
3. 201-300
4. 301-400
5. 401-500
6. 501-600
7. 601-700
8. 701-800
9. 801-900
10. 900 or more friends

**In the past week, on average, approximately how many minutes per day have you spent on Facebook?**

- Less than 10
- 10-30
- 31-60
- 1-2 hours
- 2-3 hours
- More than 3 hours

**Demographic Questions**

**The following questions are used to provide demographic information about participants in the study.**

**1) Please choose one:**

Male  
Female

**2) Please indicate the racial/ethnic background you choose to identify with:**

Caucasian  
African American/Black  
Latino/Hispanic  
American Indian  
Pacific Islander/Native Hawaiian  
Asian  
Biracial/Mixed Race  
Other, Please Specify

**3) Please enter your current age in years: \_\_\_\_\_**

## Appendix B

### COUNTS

**Total # of shared pictures between them** = indicate number listed on the friendship page.

**Total # of shared likes between them** = indicate number listed on the friendship page.

**Total # of shared friends between them** = indicate number listed on the friendship page.

**Total # of posts between them** = count total number of posts.

**Total # of posts by primary participant** = count the total number of posts by person indicated as “PP” on the page.

**Total # of posts by Facebook friend** = count the total number of posts by person indicated as “FBF” on the page.

**Total # of posts referencing other mediums for interaction** = count the total number of posts posts that draw in other modes of communication (e.g. a tweet, picture from Instagram, YouTube video, or face-to-face interaction).

### 5 POINT SCALES (OVERALL IMPRESSION OF POSTS)

**\*\*\*Important: do not include information from mutual events, likes, friends, or pictures unless context is provided in text that develops a connection (e.g. having 15 mutual likes does not necessarily indicate high breadth of interaction, but if all of those likes were discussed in text as well, it would.)\*\*\***

**Depth of Interaction** = Interactions between Primary Participant (PP) and Facebook Friend (FBF) in terms of the amount of disclosure on a single topic area (developed, i.e. in depth).

3 measurements → overall, disclosures by PP and FBF.

5 (HIGH) = PP and FBF consistently share detailed and personal information with each other through FB (this includes wall posts and status updates). Includes things like: personal beliefs, fears, value-laden opinions.

Example: *“Nope that wasn't me. I love food too I just torture myself in the gym so I can eat pizza and strawberry cream pies lol, don't want to get fat!!!”*

3 (MIDDLE) = PP and FBF sometimes disclose semi-personal information with each other through FB (this includes wall posts and status updates). Includes things like: Attitudes, values and beliefs (e.g., expressing one's likes and dislikes in relation to entertainment, sports, food, surface lifestyle choices, etc.).

Example: *“I am officially a boring old woman. I listen to NPR all day and at the end of the day, I enjoy several episodes of not only Antiques Roadshow, but its newer sister show, Genealogy Road Show. Seriously, I can't get enough.”*

1 (LOW) = PP and FBF rarely (if ever) share personal information with each other through FB (this includes wall posts and status updates). Includes things like: Age, gender, major, the weather, talking about their surroundings, or year in school (e.g., senior, sophomore).

Example: *“I know you'll appreciate this from garage sales today for under \$3 total I got floor puzzles, a CD, & alphabet stamps (complete with a cute little case) for my classroom & a coffee table for my house (the table was 20 cents by the way :)”*

**Breadth of Interaction** = Interactions between Primary Participant (PP) and Facebook Friend (FBF) in terms of the amount of disclosure across a variety of topics areas.

3 measurements → overall, disclosures by PP and FBF.

5 (HIGH) = PP and FBF talk about a wide variety of topics through FB (this includes wall posts and status updates).

3 (MIDDLE) = PP and FBF talk about two to four topics consistently through FB (this includes wall posts and status updates).

1 (LOW) = PP and FBF talk about really just one, maybe two (but the second is less developed) topics and nothing else through FB (this includes wall posts and status updates).

**Current Relationship Stage** = Based on the definitions provided below (Altman & Taylor, 1987), please use the corresponding number for each stage to indicate where you would place this relationship in its *current state*:

1 (Orientation) = Peripheral disclosures are made, little evaluation occurs about what is shared. Very little self-disclosure occurs, that which is remains descriptive. It is evident that both parties are “getting to know” each other at this point. If you assigned a “1” to breadth and/or depth above, this is the likely relationship stage. Characterized as an acquaintance.

2 (Exploratory-Affective) = Intermediate disclosures are made (e.g. likes/dislikes); they share aspects of their personality with each other and spend time together. No Core level disclosures are made at this time, though the potential could be there. Characterized as friends in the larger social circle, someone they would label a “friend” but not necessarily go to when they had a problem or needed support.

3 (Affective-Exchange) = Individuals share personal/core information in some, but not all areas of their lives consistently and openly. Potential exists to move to final stage (4) but is not there yet, either due to lack of interest or time. Characterized by close friends (5-10 people they would likely spend time with and share life details to) and/or romantic partners (boyfriend/girlfriend).

4 (Stable-Exchange) = Complete and open communication appears to be occurring between both parties—they engage in disclosures with significant depth and breadth with ease. Characterized as a best friend, and/or life partner (husband/wife).

### **ZERO CLARIFICATION:**

If count is 0 then it is a zero (0). Please code a “0” for breadth and depth if no posts exist.

## Appendix C

### Focus Group Guide: Study Two Dissertation

Open questions for all participants to answer, warm up, get to know each other:

- What social networking sites do you use the most?
- How often do you use this social networking site?
- How long have you had an account on this site?
- What are the biggest reasons you use social networking sites?

*<Allow for open discussion; ask probing questions as needed>*

Let's focus on relational reasons for SNS use for a bit. What might be reasons why you use social networking sites to help you interpersonally?

*<Allow for open discussion; ask probing questions as needed>*

When you meet new people, do you immediately connect with them through social networking sites? Which ones? Why or why not?

*<Allow for open discussion; ask probing questions as needed>*

Do you think there is a benefit to having access to these online profiles when you form new relationships? Why or why not?

*<Allow for open discussion; ask probing questions as needed>*

Can you think of any specific instances where a relationship intensified because you used a social networking site to communicate? How so?

*<Allow for open discussion; ask probing questions as needed>*

Let's consider the opposite—what are behaviors you've witnessed (either in yourself or others) that might warrant ending a relationship on a social networking site?

*<Allow for open discussion; ask probing questions as needed>*

How do you differentiate between “hiding” and “unfriending”? What's the breaking point?

*<Allow for open discussion; ask probing questions as needed>*

Do you believe there are differences in determining who you are connected to (e.g., friends with) depending on the social networking site you are using? Are there some sites where you would be more likely to maintain a tie versus others? Why or why not?

## Appendix D

### Social Media Use Items

What social networking site of the following options would you say you use the most?

Facebook  
Instagram  
Twitter

How often do you use this social networking site?

Less than Once a Month  
Once a Month  
2-3 Times a Month  
Once a Week  
2-3 Times a Week  
Daily

How long have you had an account on this site?

Less than a year  
1-2 years  
3-4 years  
5+ years

About how many total friends/followers do you have on this social networking site? (Please reference the site if need be for accuracy) \_\_\_\_\_

Of that total number of friends/followers you listed above, how many do you think regularly interact with you through the site you selected? Give a rough estimate, and explain how you came to that conclusion:

Have you ever unfriended or unfollowed anyone on this social networking site?

Yes  
No

You indicated you have unfriended or unfollowed people through this social networking site please indicate the number of people, through a rough estimate:

5 or fewer people  
5-10 people

11-50 people  
50 or more people, I was "purging" my list

### **Self-Disclosure Scale Items**

**\*\*\*Adapted from Wheelless and Grotz' General Disclosiveness Scale (1976)**

Think about updates you post that go to everyone in your network on the site, to what extent do you agree with the following statements regarding the posts you make? 1 = Strongly Disagree, 7 = Strongly Agree.

When I am self-disclosing on this site, I am consciously aware of what I am sharing.  
When I wish, my self-disclosures on this site are always accurate reflections of who I really am.  
When I am self-disclosing on this site, I am consciously aware of what I am revealing.  
When I reveal my feelings about myself on this site, I consciously intend to do so.

### **Privacy Concerns Scale Items**

**\*\*\*Adapted from Vitak's (2012) Privacy Scale**

The following items regard privacy concerns on the social networking site you have selected. Privacy concerns are related to being worried that the public might see things you post that you did not intend to share with everyone. Please indicate the degree to which you agree with each item: 1 = Strongly Disagree, 7 = Strongly Agree.

I am careful in what I post to this site because I worry about people who are not my friends/followers seeing it.  
Concerns about the privacy of content posted to this site keeps me from posting very frequently.  
Concerns about the privacy of content posted to this site keeps me from posting personal information.  
I have "purged" (deleted) people from this site due to privacy concerns.  
I use extra security settings to ensure limited viewing due to privacy concerns on this site.  
I am not concerned about what others might see me share on this site.

### **Information Gathering Scale Items**

The next series of questions are about choices you make when you have recently added someone on the social networking site you selected. Please indicate your agreement with each of the following statements: 1 = Strongly Disagree, 7 = Strongly Agree.

When I have recently added someone on this site that I have just met I...

Look at old pictures to learn more about them.  
Read their profile to learn more about them.  
Read old posts they made to learn more about them.

## **Survey Part Two: Relationship Analysis**

You were previously asked which social networking site you use the most. Please select that same network again for the next part of the study:

Facebook

Twitter

Instagram

### **Facebook Instructions**

You have selected Facebook. Please login to your Facebook account on a separate tab or browser so that you are still able to complete the survey while being logged in. On the left hand side of the screen you should see the ability to select "Events" as an option (right below "Messages"). Click on Events. Once you have selected Events, once again, on the left hand side of the screen, you will see a series of options, you should select "Calendar" from the tabbed options. The view now on the screen is of a Calendar, with the current month at the top. Please scroll down the screen to the next month (e.g., if the current month is November, scroll to December). On the calendar you should see little square images that are your Facebook friends birthdays that month. This subset of Facebook friends is who you will use to answer the following questions. Please keep the Facebook tab open as you go so you can move through the calendar to the next friend, reporting on a total of 10 friends from your list (just go in order through the pictures/birthdates). If you do not have 10 friends with a birthday in the month selected, please continue into the next month.

### **Twitter Instructions**

You have selected Twitter. Please open a separate tab or browser so that you are still able to complete the survey while completing this task. In this new tab/browser go to the website [www.twitterdraw.com](http://www.twitterdraw.com). Please type your Twitter handle into the box provided to generate a random Twitter follower. If the name that comes up is (1.) A person you personally know and (2.) Someone you also follow in return, you should use them to answer the following series of questions about your relationship to them and expectations regarding Twitter use. You will repeat the random generation for 10 followers in all, each time keeping in mind that you should only report on people you personally know and follow back.

### **Instagram Instructions**

You have selected Instagram. Please login to your Instagram account via your mobile device and go to the list of the people that you follow on the site. The link you clicked on to view this list should have provided the number of people you follow. Divide that number by 10, and round down to an even number. (For example, if you follow 310 people on Instagram, divided by 10 would be 31). The number you get once you divide your friends is what you will use to select followers for the study. Use this number to count through the list (e.g., every 31). The name you land on will be the person you use to answer the questions that follow. Please make sure this is a person you personally know. If you do not, simply select the person above or below them. You should select in total 10 followers you answer questions about for the study drawing from your entire list of followers.

### **Friend/Follower Questions (Repeated for 10 Relationships)**

Please provide their initials:

Which of the following best describes your current relationship with this person?

I am not sure how I know this person

Ex-boyfriend/girlfriend

Lapsed Friendship (e.g., old high school friend)

Acquaintance

Co-Worker

Boss/Advisor

Classmate

Friend of a Friend

Good Friend

Best Friend

Roommate

Significant Other/Spouse

Family (e.g., cousin, sibling, parent)

Other, please describe (if your response is celebrity, group page, etc., please select a new person- you must choose actual people/relationships for this study):

### **Relational Closeness Scale/Items**

The following questions concern your relationship with this person. For each item indicate your level of agreement: 1 = Strongly Disagree, 7 = Strongly Agree.

My relationship with them is very close.

We do a lot of things together.

My relationship with them is important in my life.

We have a strong connection.

### **Social Media Communication Scale**

The following questions concern your current communication with this person through the site you have selected. Please indicate the frequency of each: 1 = Never, 7= Every day.

Share private messages through the site.

Tag each other in posts on the site.

Comment on posts made by each other on the site.

**Unfriend-Hide Items**

The following questions concern the process of unfriending, unfollowing, and hiding through social media. Below are a series of possible actions that the friend you have selected might take on this site. Please indicate whether the action would cause you to unfriend/unfollow, hide from your feed, or do nothing for each.

\*\*\*Please note that if hiding is not an option on the site you have selected, please only select between the other remaining options:

- Shared an unflattering picture of me on the site.
- Shared political views that opposed my own on the site.
- Shared highly personal information on the site.
- Posts too frequently to the site.
- Never posts at all on the site.
- Shared religious views that opposed my own on the site.
- Disagreed with me openly on the site.
- Fought with me offline.
- Hasn't talked to me in person in the last year.
- Shares too much information about their children on the site.
- Used inappropriate language on the site.
- Fought with others on the site.
- Made negative comments about me on the site.

## Tables

**Table 1.** Reliabilities for Coded Variables

---

Variable	Krippendorff's $\alpha$
Shared Posts	.86
Depth	.73
Breadth	.82
Shared Pictures	1.00
Shared Likes	1.00
Shared Friends	1.00

---

**Notes.**  $N = 103$ ; Shared pictures, likes, and friends were numbers listed at the top of each Friendship Page while shared posts required counting through the sample and depth and breadth were subjective measures (1-5 scale).

**Table 2.** Correlations between Self-Reported and Coded Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.
<i>Self-Reported Variables</i>											
1. Breadth	--										
2. Depth	.87**	--									
3. Exp.-Affective Exchange	.81**	.84**	--								
4. Affective Exchange	.84**	.87**	.87**	--							
5. Stable Exchange	.82**	.86**	.89**	.93**	--						
<i>Coded Variables</i>											
6. Breadth	.54**	.59**	.46**	.57**	.57**	--					
7. Depth	.55**	.58**	.49**	.56**	.59**	.89**	--				
8. Shared Posts	.45**	.45**	.36**	.45**	.42**	.73**	.65**	--			
9. Shared Pictures	.25*	.20*	.20*	.36**	.28**	.45**	.42**	.42**	--		
10. Shared Friends	.10	.02	.03	.15	.08	.27**	.25**	.22*	.63**	--	
11. Shared Likes	.14	.17	.07	.14	.10	.23*	.20*	.09	.09	.06	--

**Notes.**  $N = 103$  for correlations. \*  $p < .05$ , \*\*  $p < .01$

**Table 3.** Means and Standard Deviations for Manipulation Check Variables by Group

Group	Exploratory Mean	Affective SD	Affective Mean	Exchange SD	Stable Mean	Exchange SD
Exploratory-Affective Exchange	4.96	1.17	1.98	1.15	2.14	1.05
Affective-Exchange	3.60	1.09	3.84	1.66	3.81	1.29
Stable Exchange	5.97	.80	5.72	.98	5.40	1.10

Note:  $N = 103$ . Items measured on a 1-7 scale.

**Table 4.** Means and Standard Deviations for Self-Reported Variables by Group

Group	Depth		Breadth	
	Mean	SD	Mean	SD
Exploratory-Affective Exchange	2.91 <sub>bc</sub>	1.27	2.83 <sub>bc</sub>	1.22
Affective-Exchange	4.21 <sub>ac</sub>	1.39	4.03 <sub>ac</sub>	1.41
Stable Exchange	5.68 <sub>ab</sub>	.93	5.30 <sub>ab</sub>	.93

Note:  $N = 103$ . Subscripts indicate significantly different groups based on post hoc analysis (LSD). Items measured on a 1-7 scale.

**Table 5.** Means and Standard Deviations for Coded Variables by Group

Group	Depth		Breadth		Shared Likes		Shared Pictures		Shared Posts	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Exploratory Affective Exchange	1.18 <sub>bc</sub>	1.19	1.08 <sub>bc</sub>	1.14	10.97	21.11	9.16	20.48	6.54 <sub>bc</sub>	9.68
Affective Exchange	2.12 <sub>ac</sub>	1.20	1.94 <sub>ac</sub>	1.03	9.58	13.54	21.28	45.65	17.62 <sub>ac</sub>	20.83
Stable Exchange	2.78 <sub>ab</sub>	.91	2.63 <sub>ab</sub>	1.04	11.71	18.36	30.09	40.53	30.50 <sub>ab</sub>	30.34

Note:  $N = 103$ . Subscripts indicate significantly different groups based on post hoc analysis (LSD). Subjective Items measured on a 1-5 scale, likes, pictures and posts by total count. In an absence of posts subjective items were assigned a code of zero.

**Table 6.** Means and Standard Deviations for Self-Reported Variables by Group

Group	Depth		Breadth	
	Mean	SD	Mean	SD
Current Friend	5.38 <sub>bc</sub>	1.18	5.17 <sub>bc</sub>	1.12
Lapsed Friend	3.36 <sub>a</sub>	1.27	3.09 <sub>a</sub>	1.16
Acquaintance	3.46 <sub>a</sub>	1.49	3.33 <sub>a</sub>	1.46

Note:  $N = 103$ . Subscripts indicate significantly different groups based on post hoc analysis (LSD). Items measured on a 1-7 scale.

**Table 7.** Means and Standard Deviations for Coded Variables by Group

Group	Depth		Breadth		Shared Likes		Shared Pictures		Shared Posts	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Current	2.62 <sub>bc</sub>	1.18	2.40 <sub>bc</sub>	1.13	12.58	17.70	30.11	39.84	26.57 <sub>bc</sub>	27.81
Lapsed	1.84 <sub>ac</sub>	1.07	1.67 <sub>a</sub>	1.08	7.13	12.50	11.75	21.17	13.91 <sub>a</sub>	19.66
Acquant.	1.18 <sub>ab</sub>	1.16	1.21 <sub>a</sub>	1.23	11.63	22.97	14.17	49.84	7.43 <sub>a</sub>	12.60

Note:  $N = 103$ . Subscripts indicate significantly different groups based on post hoc analysis (LSD). Subjective Items measured on a 1-5 scale, likes, pictures and posts by total count. In an absence of posts subjective items were assigned a code of zero.

**Table 8.** Reasons for Hiding, Unfriending or Unfollowing through Social Networking Sites

- 
- Political Talk
  - Religious Talk
  - Sharing about their Children
  - Oversharing (personal details)
  - Overposting (frequency)
  - Lack of Contact Online
  - Lack of Contact Offline
  - Relational Conflict
  - Strength of Tie
- 

**Notes.**  $N = 26$ .

**Table 9.** Reliabilities, Means, and Standard Deviations for Dependent Variables

Variable	College Students			MTurkers		
	$\alpha$	M	SD	$\alpha$	M	SD
Information Gathering	.83	5.30	1.35	.81	5.67	1.12
Privacy Concerns	.76	4.55	1.27	.76	4.95	1.29
Self-Disclosure Practices	.78	5.58	1.07	.81	5.88	1.00

**Note.**  $N = 312$ , 155 participants were College Students and 157 were from MTurk. All scales measure from 1 (Strongly Disagree) to 7 (Strongly Agree).

**Table 10.** Correlations Between Dependent and Independent Variables

	1.	2.	3.	4.	5.	6.	7.	8.
<i>Dependent Variables</i>								
1. Information Gathering	--							
2. Privacy Concerns	.18***	--						
3. Self Disclosure	.26***	.07	--					
<i>Practices</i>								
<i>Independent Variables</i>								
4. Age	.07	.09	.17**	--				
5. Frequency of Site Use	.14*	.04	.08	-.05	--			
6. Total Number of Friends	.07	-.02	.00	-.15**	.13*	--		
7. Twitter Use (DC)	.03	-.11	.02	-.28***	.06	-.05	--	
8. Instagram Use (DC)	-.02	-.12*	-.17**	-.21***	.08	.01	-.25***	--

**Notes.**  $N = 312$  for correlations. \*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

**Table 11.** Regression Analysis for Information Gathering

<b>Predictor</b>	<b>b</b>	<b><math>\beta</math></b>	<b>SE</b>	<b>t</b>	<b>Model R<sup>2</sup></b>
Age	.01	.10	.01	1.58	
Frequency of Use	.22	.13	.10	2.26*	
# of Friends	.00	.07	.00	1.21	
Twitter Use	.18	.06	.20	.92	
Instagram Use	.01	.00	.19	.04	
					.03

Notes: N = 312. Twitter & Instagram use were dummy coded variables.

\*\*  $p < .01$ , \*  $p < .05$

**Table 12.** Regression Analysis for Privacy Concerns

<b>Predictor</b>	<b>b</b>	<b><math>\beta</math></b>	<b>SE</b>	<b>t</b>	<b>Model R<sup>2</sup></b>
Age	.00	.02	.01	.28	
Frequency of Use	.12	.07	.10	1.14	
# of Friends	.00	-.03	.00	-.59	
Twitter Use	-.47	-.15	.20	-2.34*	
Instagram Use	-.50	-.15	.20	-2.51**	
					.04

Notes: N = 312. Twitter & Instagram use were dummy coded variables.

\*\*  $p < .01$ , \*  $p < .05$

**Table 13.** Regression Analysis for Self-Disclosure Practices

<b>Predictor</b>	<b>b</b>	<b><math>\beta</math></b>	<b>SE</b>	<b>t</b>	<b>Model R<sup>2</sup></b>
Age	.02	.16	.01	2.57**	
Frequency of Use	.14	.10	.08	1.68	
# of Friends	3.97	.02	.00	.30	
Twitter Use	.08	.03	.16	.47	
Instagram Use	-.35	-.13	.16	-2.21*	
					.06

Notes: N = 312. Twitter & Instagram use were dummy coded variables.

\*\*  $p < .01$ , \*  $p < .05$

**Table 14.** Multi-Leveling Modeling Regression Results

Reasons to Unfriend or Hide	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$	$\beta$
	SE	SE	SE	SE	SE	SE
	Rel. Close	Age	Freq. Use	# Friends	Twitter	Instagram
1. Religious Posts	.19*** (.05)	-.02 (.01)	.08 (.16)	-.14** (.00)	-.58 (.28)	.63 (.03)
2. Political Posts	.15 (.04)	-.02 (.01)	.02 (.15)	-.09 (.00)	-.14 (.30)	.89 (.14)
3. Children Posts	.24*** (.04)	.08 (.01)	.05 (.15)	-.08 (.00)	-.12 (.24)	.17 (.02)
4. Oversharing	.19*** (.04)	-.06 (.01)	.16*** (.14)	-.09* (.00)	-.85 (.23)	.88* (.02)
5. Frequent Posts	.35*** (.04)	.15** (.01)	-.00 (.13)	-.02 (.00)	-1.01** (.21)	1.07** (.02)
6. Never Posts	.22*** (.06)	.14 (.02)	.06 (.20)	-.13** (.00)	-.87 (.27)	.89 (.03)
7. FtF Lack	.11* (.05)	.13 (.01)	.05 (.19)	-.11* (.00)	-.97 (.26)	1.00* (.03)
8. SNS Lack	.17** (.05)	.08 (.01)	.06 (.19)	-.11* (.00)	-.37 (.26)	.42 (.03)
9. Fought W/ Me Offline	.35*** (.04)	-.03 (.01)	.04 (.14)	-.06 (.00)	-.14 (.20)	.10 (.02)

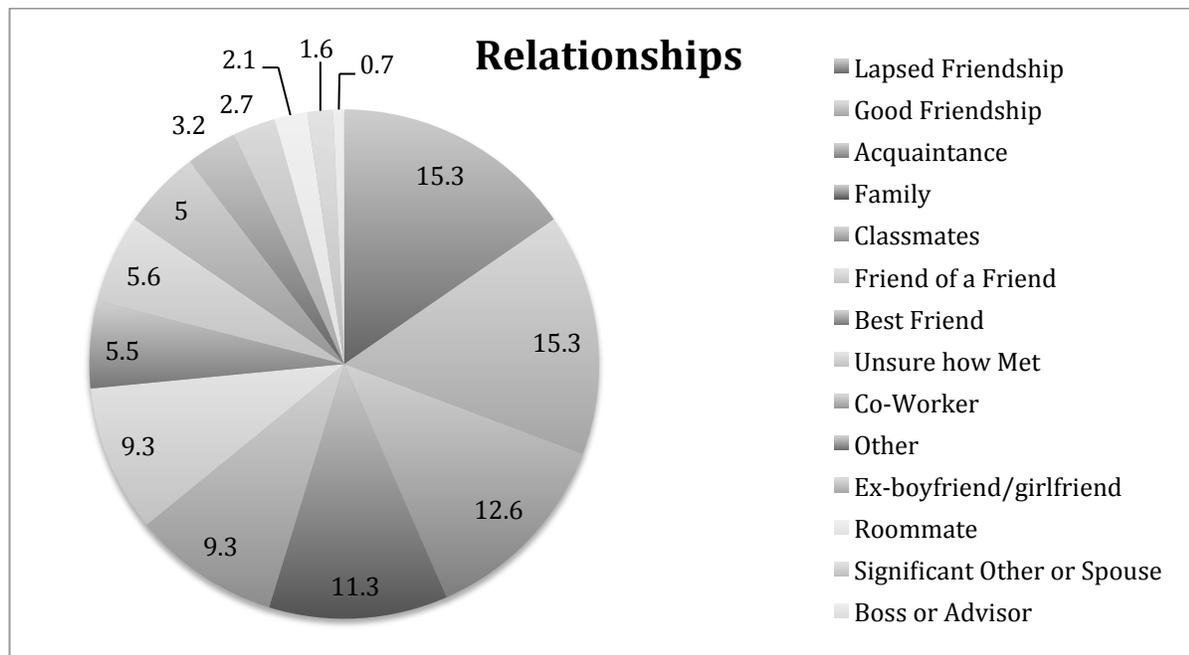
Notes: N = 312; Cases = 3062. \*\*\*  $p < .001$ , \*\*  $p < .01$ , \*  $p < .05$

**Table 15.** Assumptions of Social Penetration Theory & Study Results

<b>Theory Assumption...</b>	<b>Supported?</b>	<b>Study Results</b>
Specific types of disclosure correlate with relational levels	Yes	Study 1, Chapter 3
Physical proximity is needed to develop a relationship	No	Study 1, Chapter 3
A known audience	No	Study 2 & 3, Chapter 4
Slow penetration	No	Study 3, Chapter 4
“Skipping” ahead in disclosure can be detrimental to relational development	No	Study 2 & 3, Chapter 4

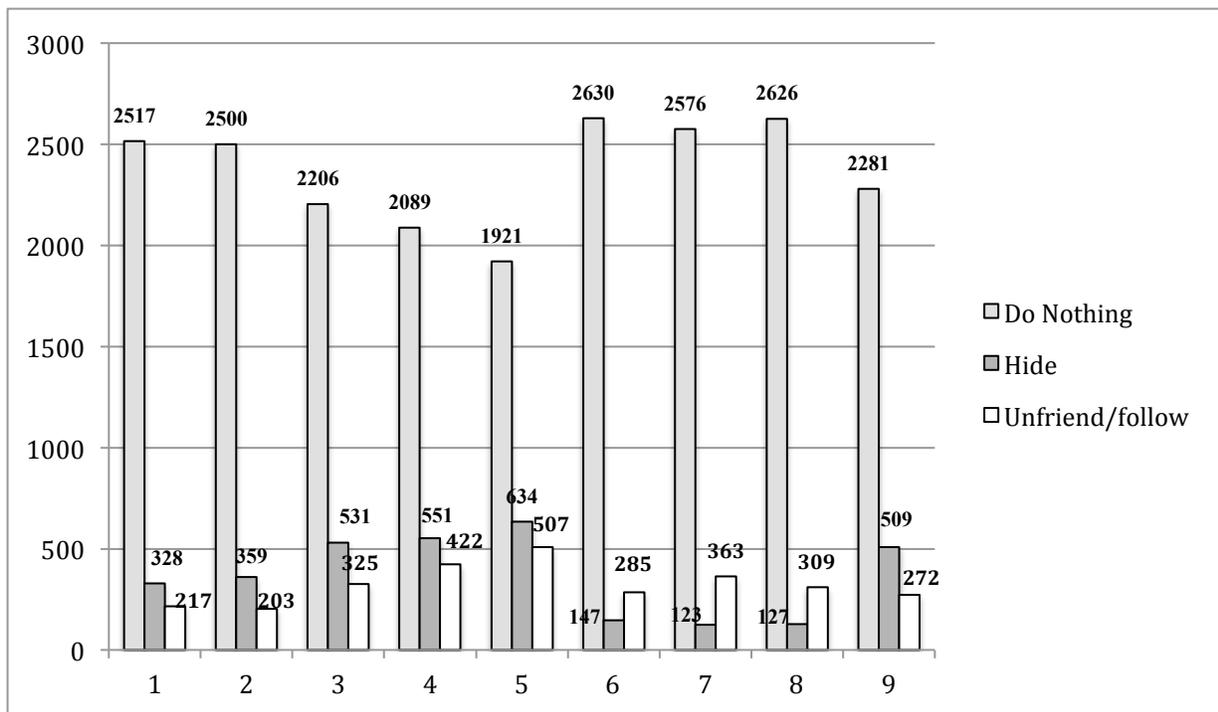
## Figures

**Figure 1.** Composition of the Dataset and Relationships Reported On ( $N = 3062$ )



**Notes.** Relationships begin in order with Lapsed Friendship (15.3) and continue as noted on the legend provided, ending with Boss or Advisor (0.7%).

**Figure 2.** Distribution of Choices Made Across Friendships and Categories ( $N = 3062$ )



**Notes.** Category number correlates with Table 14 placement.