Relational Distancing and Termination between Online Friends: An Application of the Investment Model

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ABSTRACT

This research examined the relational maintenance versus termination of online friendships in Facebook. Guided by Rusbult's [33] investment model (IM), the study constructed a model to examine 55 matched pairs of Facebook friends consisting of one "primary user" and one "annoyer." Results indicated that primary users' judgments of relational satisfaction with annoyers were influenced by annoyers' narcissistic personality and their overall propensity for posting overly self-focused content. Commitment affected primary users' use of both passive "unfollowing" and active "unfriending" in response to annoyers' behavior. Decisions to maintain or terminate online friendships are related to judgments and actions of both partners. Overall, these results emphasize the dyadic nature of relational maintenance and termination processes in online environments, and the importance of studying them as such.

Author Keywords

relational termination; unfriending; investment model; social network websites; narcissism

ACM Classification Keywords

• H.4.3 Communications Applications

INTRODUCTION

While much existing research has focused on the positive outcomes of SNS network building such as increased social capital [11] fewer studies have examined the potentially negative consequences of maintaining these large networks. This study proposes that one problem with Facebook's facilitation of broad online networks is the costs associated with maintaining relationships with friends that are annoying or irritating.

Many popular press articles have noted the frequency of "annoying behavior" on Facebook, where people post overly self-involved or self-promoting information. Remaining connected to these people on SNSs may produce negative effects if their undesirable content is constantly displayed on one's News Feed. Yet despite these negative outcomes, because being a Facebook friend requires little relational "work" [10, 39], people may choose to maintain these friendships even when they do not necessarily enjoy them. Thus the current study addresses the central question, when do people choose to maintain these online friendships and when are they motivated to terminate them? Although a seemingly straightforward question, the sociotechnical affordances of SNSs like Facebook add a new layer of complexity to existing theory surrounding friendship maintenance and termination, making this a uniquely complex phenomenon worthy of study.

In their attempts to define maintenance, different theorists have emphasized different aspects: Some define it as the basic act of keeping a relationship in existence, while others assert maintenance is also about retaining a mutually satisfying state for both partners [9]. Those who adopt the broader characterization of maintenance as basic relational sustainment have demonstrated that people often maintain unsatisfying relationships with people they don't like out of obligation (e.g., relationship with one's disliked boss or in-laws). When maintaining these unsatisfying relationships, most people engage in some form of distance regulation (hereafter referred to as "distancing") in which they strategically reduce the amount of social contact with the disliked other. Distance has been identified as an important concept in relational communication [7], and has been shown be an effective maintenance strategy, particularly when the relationship is unsatisfying. Relationships that are not maintained eventually end, or terminate. In some cases, termination is immediate and decisive—one or both partners actively end the relationship. Under other circumstances, relationships dissolve as partners gradually detach from one another [2].

The affordances offered by SNSs like Facebook provide several options ranging from complete termination of friendships through "unfriending" to more gradual distancing behaviors, such as "unfollowing" friends' posts. Although unfollowing ensures that an individual no longer has to directly communicate with an annoying friend within the Facebook system, the friendship tie is still technically intact. To an outside observer (and perhaps to the annoyer as well), the friendship is still being "maintained".

These affordances raise questions such as: What constitutes distancing and termination between Facebook friends? What factors influence people's choice of different relational strategies?

The current study begins by describing how Facebook's features provide a "primary user" with varying degrees of relational distancing or termination options in response to an "annoyer." To guide our investigation of the underlying factors that may affect primary users' intentions to perform different distancing behaviors, we adopt the investment model (IM) [33,34] as a central framework. The IM's ability to explain relational commitment (i.e., "stay versus leave" decisions) has been demonstrated in several offline contexts; however, this study adds to existing literature by providing a novel extension of the IM into social media. By using matched pairs of Facebook friends, we examine the annoyer's narcissistic personality and message production behavior as antecedents of the primary user's evaluations of the Facebook friendship along key IM variables.

Previous work has examined the qualities and types of relationships that users report unfollowing on Twitter [20] and unfriending on Facebook [19,24,37]. Most of these studies rely on the primary users' responses about their own motivations to distance themselves from others by unfollowing and unfriending. To our knowledge, only one previous study [30] has examined *pairs* of Facebook friends, and found that friendships were more likely to stay intact (e.g., less likely to terminate) when (a) they had friends in common, (b) shared socio-demographic characteristics, and (c) were extraverted. While interesting, the authors note that a weakness of their data did not allow them to evaluate "who unfriended whom." Our investigation addresses this issue by examining if primary users' relational evaluations are related to their intentions to distance themselves from annoyers. Thus the current study adds to our understanding of how maintenance and unfriending function in social media across pairs of linked friends.

Online Friendship Maintenance, Distancing, & Termination

Annoying Behavior in Facebook

While SNSs like Facebook encourage the sharing of personal content, there is a distinction drawn by many users in which too much disclosure becomes problematic. Many popular press writers have noted the increase of annoying or irritating behaviors on Facebook and often describe such posts as: self-promoting ("the humble brag"), over-sharing ("publicizing private information"), overly-emotional or attention-seeking ("vague-booking"), or mundane [5].

Although some users may accept such annoying behaviors as the "cost of doing business" on SNSs, others have noted that these posts detract from their enjoyment of Facebook.

Koroleva et al. [19] found that many of their teen interview subjects disliked "the increased amount and decreased quality of information on Newsfeeds" (p. 4). As one respondent noted: "'I receive too many news [updates], so I don't read them, especially if they are stupid like: "I'm going to the bathroom"'" (p. 4). Similar motivations for unfollowing in Twitter—irritating "burst" tweets and mundane tweets—have also been reported [Kwak].

Users' responses to others' annoying Facebook behavior can vary. Some individuals report quitting Facebook altogether in an effort to avoid the "time-wasting artificiality" that is characterized by such content [29]. While "Facebook suicide" is the most extreme response to others' annoying content, more common responses range from simply ignoring irritating posts, to the permanent deletion of annoying Facebook friends, a process dubbed "social pruning" [23]. Thus within the context of Facebook, those who frequently produce overly self-focused messages are evaluated as being anti-normative and often do provoke responses from their social contacts.

Primary Users' Behavioral Strategies in Facebook

Interestingly, Facebook may render distancing and termination behaviors relatively inconspicuous in comparison to offline. Offline distancing behaviors such as physical avoidance (e.g., avoiding someone at a party, etc.) may (eventually) be recognized by the annoyer. But unfollowing in Facebook may be less visible; although the primary user would be aware of the behaviors (as he or she would be enacting them), the annoyer might not be, since Facebook does not alert their users when someone has filtered them out of their News Feed.

The features of Facebook also provide a variety of options for distancing. These options can be conceptualized as existing on a continuum that varies with regard to permanency and directness. The most permanent and direct of these many options is unfriending, which creates an unambiguous cutting off of the relationship. In this case, the system renders the friendship status perfectly dichotomous—either the annoyer and primary user a friendship pair or they are not (although this is not universal across all SNSs, see Twitter). As soon as one member chooses to sever the tie, complete relational termination is executed. SNS users often see the unfriending option as a "last resort" as it is removes all ties with another person [24]. In order to re-establish the tie, one partner would have to initiate a new Facebook friend request and the other would have to accept it (presumably, if such a renewal was requested, the annoyer might realize at this point that the tie had been previously severed by the primary user).

At the other end of the continuum, primary users may engage in more transient and passive distancing behaviors. Cutting the annoyer's status updates from the News Feed could be executed by deliberately unfollowing the annoyer

so that the irritating updates no longer appear. In this way, annoyers and primary users remain connected online, but the primary user does not have to view the annoyer's content. Another even more passive behavior would be if the primary user chose to "skip" or simply ignore the annoyer's content. Such options reflect more tractable options in comparison to termination.

With regard to these different behavioral strategies, results from the Pew Internet Project's survey of 802 teen SNS users indicated that 74% of their sample had deleted someone from their network [23]. This suggests that unfriending annoying others is a viable option among users. However, Pew researchers did not ask their sample about their tendency to use more passive relational distancing strategies such as unfollowing.

RQ1: Are primary users more likely to intend to use termination or distancing behaviors with annoyers in Facebook?

If the primary users' behavioral intentions to perform different strategies do indeed vary, then what factors influence their decisions to maintain through distance rather than terminate the friendship? To better understand some of the factors that may influence primary users' choice of behavioral strategies in response to their annoying friends, we turn to the IM.

The Investment Model in Facebook Friendships

Rusbult's [33,34,35] IM has been used to predict and explain people's commitment to their relational partners and also to their jobs or organizations. The IM defines commitment as "the tendency to maintain a relationship and to feel psychologically attached to it" [35, p. 102]. Commitment levels are determined through a cost-benefit analysis in which both partners compare the outcomes of their current relationship to their personal comparison level, or their expectations of what they believe that type of relationship (e.g., friendship, marriage) should be. When outcomes exceed the comparison level, satisfaction is high, and commitment increases. Within the IM, each partner also evaluates the quality of available alternatives to the relationship. If a person perceives that other individuals exist who could provide greater rewards than the current partner, this reduces feelings of commitment. Lastly, higher amounts of invested resources (e.g., money, time) represent a greater potential loss if the relationship were to dissolve, thereby strengthening commitment. In summary, commitment is predicted to fluctuate as each partner continually evaluates the relationship along satisfaction, quality of alternatives, and investments. The greater the commitment, the greater one's intention to maintain rather than terminate the relationship.

While we adopt the IM to explain people's commitment to maintain or terminate Facebook friendships, its applicability may be limited by our shift from offline to online contexts. Below, we explore how the IM's key variables function within the Facebook context, discuss its limitations, and offer a novel extension of the model.

Annoyer Personality and Message Production: Effects on Primary user Relational Satisfaction

The IM suggests that a person will find a relationship satisfying when the benefits outweigh the costs and when the relationship fulfills or exceeds their expectations regarding the nature of that type of relationship. Satisfaction is then predicted to be positively related to the primary user's commitment to the friendship. In the current context, if the annoyer is irritating the primary user, it is likely to be associated with a reduction in the primary user's friendship satisfaction, as well as overall commitment to the Facebook friendship. Thus identifying what motivates the annoyer's online behavior is an important extension to examining the IM's chain of events.

One factor predicted to affect the annoyer's likelihood of producing annoying messages is trait narcissism. Several studies have found a link between narcissism and SNS use [6, 8, 13, 26, 27]. For example, McKinney and colleagues [23] found that narcissism was positively related to the number of self-focused tweets individuals posted to Twitter. Following this research, we examine an annoyer's trait narcissism as one antecedent of annoying Facebook posts.

Narcissism, as measured by the narcissistic personality inventory (NPI), is based on a variety of aspects such as "a grandiose sense of self-importance," "exhibitionism," and "entitlement of special favors" [31, p. 891]. Ackerman et al. [1] further clarified the structure of the NPI by defining and measuring three substantially different dimensions. The "leadership/authority" (LA) dimension was defined as the extent to which individuals reported leadership tendencies and confidence in their ability to take charge. "Grandiose exhibitionism" (GE) focused on individuals' desire to show off and be the center of attention. Lastly, "Entitlement/exploitativeness" (EE) referred to individuals' feeling that they deserve a great deal and are willing to manipulate people to get what they deserve. Previous SNS work has tended to use the full NPI, but Carpenter [8] found that focusing on particular subscales enabled more exact prediction of different kinds of SNS behavior—specifically, results indicated that GE was positively related to self-promoting Facebook behaviors. Due to this increase in predictive precision in this context, this study employs Ackerman et al.'s subscales rather than the full NPI, with particular focus on GE narcissism.

With regard to the nature of annoying behavior, Sibona and Walczak [37] identified four categories of Facebook behavior that most often led to online friendship distancing: "unimportant/frequent posts, polarizing posts, inappropriate posts, and everyday life posts" (p. 3). As these findings suggest, many kinds of Facebook behaviors may be thought of as "annoying", but given the conceptual definition and understanding of GE narcissism, we expect that annoyers'

GE narcissism will correlate most highly with frequency of posting overly self-focused content (i.e., vague-booking, self-promotion, and mundane events), rather than polarizing content (i.e., opposing religious or political content).

H1: Annoyer GE narcissism scores are positively associated with the frequency of producing annoying, overly self-focused Facebook content.

Consistent with the IM model, we offer two additional predictions with respect to relational satisfaction:

H2: Increases in the annoyer's production of annoying content are negatively associated with the primary user's judgments of relational satisfaction.

H3: Primary users' judgments of satisfaction are positively associated with their judgments of friendship commitment with annoyers in Facebook.

Primary Users' Relational Investments

Rusbult [33] also proposed that as a person increases the size of investments into the friendship, commitment levels should also increase, thereby reducing the likelihood of termination. Investments can be both "intrinsic" (e.g., time, effort) and "extrinsic" (e.g., money, material possessions). Although the relationship between investments and commitment seems straightforward in Rusbult's approach, translating the concept of investments into social media may complicate the associations predicted in the IM.

Offline forms of maintenance such as phone calls, hand-written letters, and face-to-face visits require resources such as time, planning, and coordination, but computer-mediated communication (CMC) reduces the "transaction costs" associated with such communications. For example, Facebook's asynchrony allows friends to communicate when it's convenient; social support, self-disclosure, and agreement can be signaled through "lightweight" cues such as "likes" and comments [39]. These features allow individuals to maintain multiple friendships by reducing the resources that they must contribute to each friend.

The effect of CMC on maintenance investment produces two competing hypotheses with regard to commitment in Facebook friendships. On one hand, Facebook allows people to invest fewer resources for greater rewards. If Facebook lessens the amount of investment needed to maintain friendships, this should make less-than-optimal friendships with annoyers easier for primary users to maintain. Thus, in comparison to outright termination, remaining distant friends with annoyers may be a more attractive option for primary users in Facebook. On the other hand, the IM suggests that reduced investments within multiple, superficial online friendships should result in reduced commitment to each one, and so greater intention to terminate rather than maintain should result. After all, if the tie is weak and few resources are invested, there should be no real "cost" to letting the friendship go. In this way,

the features of Facebook (and social media more generally) may alter the investment variable's predictive power in the context of online friendships. Although competing predictions exist, we advance the hypothesis below, in keeping with the IM's original predictive logic:
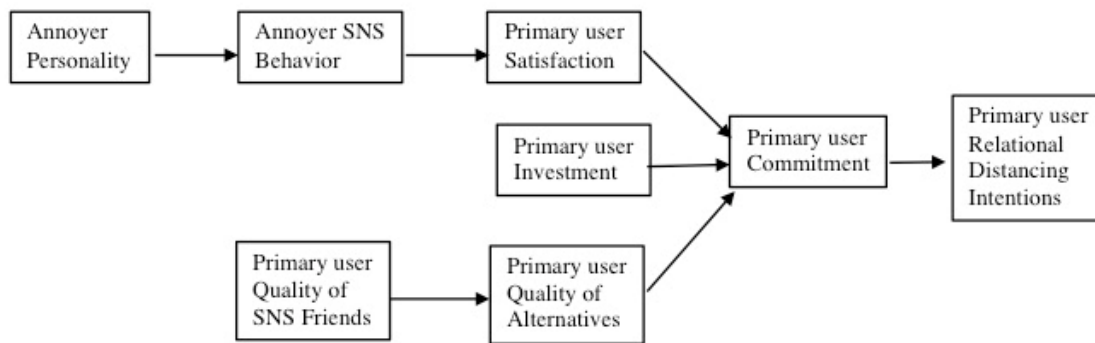
H4: Primary users' judgments of investments are positively related to their judgments of relational commitment with annoyers in Facebook.

Quality of Friendship Alternatives in Facebook

In the IM, quality of alternatives refers to how people perceive other available or potential relationship options, which should in turn affect how committed they feel to their current partner. Most tests of this association have been examined within romantic contexts where alternative quality refers to pursuing relationships with other potential partners, or remaining single. In friendships, the construct is defined as comparing the quality of the rewards reaped from the current friendship to the quality of the rewards derived from being friends with other available social connections [34]. Unlike romantic relationships, friendships are less exclusive; one can have many friends simultaneously without violating social norms and relational expectations. In the past, this has led to speculation of whether quality of alternatives would predict commitment within friendships. For example, Lin and Rusbult [21] found that the simple negative association between quality of alternatives and commitment was significant for dating relationships, but not for cross-sex friendships.

Similar to the investment variable discussed above, the IM's predicted relationship between quality of alternatives and commitment is complicated by the transition into social media. Within Facebook one can have as many friends as the system will allow (technologically speaking), but in actuality, one can only attend to so much content from these friends. If the annoyer clutters a primary user's News Feed with irritating posts, then the primary user will look to other Facebook friends as alternatives who produce more rewarding content. Assuming finite time to read the Facebook News Feed, the general quality of the content produced by members of one's network overall should be related to the of quality of alternatives to a particular annoying friend in this context.

Research in Twitter [20] shows that if a user is judged to be "informative" (i.e., defined as the number of retweeted posts), others will be less likely to unfollow him or her. Presumably, because others find that primary user to be informative and useful, and in comparison to others within their Twitter network few alternatives exist, then it follows that the lack of alternatives increases commitment making it more likely that pair will stay intact. Thus the primary user's quality of alternatives to the annoyer is a function of the rewards the primary user believes are available from other friends in his/her network.

Figure 1. Conceptual Model

In line with previous work, we hypothesize the following:

H5: Increases in a primary user's estimate of the overall quality of their Facebook friendship network is positively associated with the primary user's quality of friendship alternatives to the annoyer.

H6: Primary users' judgments of quality of friendship alternatives are negatively associated with their judgments of relational commitment with annoyers in Facebook.

Commitment in Facebook Friendships

The core of Rusbult's original model reflecting the role of commitment is represented in the center of the model depicted in Figure 1. Specifically any decreases in satisfaction or investment, as well as any increases in the perceived quality of friendship alternatives are predicted to directly lessen the primary user's amount of commitment to the annoyer. In turn, decreased commitment will increase the primary user's decision to terminate the friendship.

Although one of the early studies found support for the above IM relationships in the friendship context [34], other work focused more centrally on friendship termination has found less support for commitment as a mediator. Branje [4] found a direct positive relationship of quality of alternatives on adolescents' tendency to switch friends (i.e., end one friendship and move to another), without commitment as a mediating variable. Such logic is also readily applicable to Facebook, where unfriending and friend switching are easily executable, and commitment may be relatively low. Thus, while it is difficult to predict the precise nature of commitment, as the IM suggests that commitment is the strongest predictor of staying or leaving a relationship [35], the current research adopts this logic and hypothesizes that commitment is negatively related to the primary users' intentions to engage in the distancing and termination strategies described above:

H7: Primary user commitment will be negatively related to primary user's intentions to (a) unfriend, (b) hide the annoyer, and (c) skip past the annoyer's status updates.

METHOD

Samples

To test the above hypotheses, the current study administered pairs of linked surveys to matched samples of "primary users" and "annoyers" that were recruited from communication classes at two Midwestern universities. There were 425 primary users (133 male, 284 female, 8 declined to answer) with the mean age of 21.62 (SD = 3.77). Upon completion of the survey, primary users were asked to help recruit annoyers for the second survey. Primary users forwarded an email invitation to the annoyer for the second data collection and were offered a chance to win $25 if their referred annoyer responded. Of the referred annoyers, 55 responded (15 male, 40 female) and had a mean age of 24.95 (SD = 9.70). Annoyers were also offered a chance to win $25 for participating.

Procedures

Primary users

After consent was obtained, the primary users were asked to focus on someone (a) whose Facebook behavior they found annoying and (b) that they knew well enough to answer questions about them. Primary users provided their responses and were then asked to send an email invitation to the annoyer that included a live weblink to the annoyer survey. The recruitment invitation was written by the researchers and simply stated that the person emailing them had completed a survey and that they were being asked to recruit others. That concluded the primary user's participation.

Annoyers

Annoyers gave their informed consent then completed the online survey. In order to reduce the likelihood that annoyers would find out they were selected by primary users as an "annoying" person, annoyers were strongly cautioned not to discuss the survey. They were not debriefed as it would violate the confidentiality of the primary users who nominated them; this knowledge had the potential to upset annoyers if it was known they were considered as such. Institutional review boards of both research sites approved these procedures.

Instrumentation

Primary users

With regard to original measures, primary users were asked three questions about intentions to use Facebook relational distancing behaviors of unfriending, unfollowing, and skipping past content from News Feed. They responded on 5-point scales ranging from "not at all likely" to "definitely." These items were developed by adapting other behavioral intentions items used in the Theory of Planned Behavior [12]. IM scales [36] of satisfaction, investment, quality of alternatives, and commitment were adapted for the Facebook context by replacing the word "partner" with "Facebook friend" and putting the word "Facebook" before the existing word, "relationship." The primary users then reported on the overall quality of their Facebook friends' content by responding to two items on 5-point Likert scales. Primary users then completed demographics.

Annoyers

Initially, the annoyers completed the items for the three subscales of the NPI [1]. The NPI presents matched pairs of statements and asks participants to indicate which statement is "closer to my own feelings about myself". The items were scored such that choosing the narcissistic choice was scored as 1 and the other choice scored as 0. Items were averaged together such that a proportion was formed and a score closer to 1 (agreeing with all the narcissistic items) indicated greater levels of each type of narcissism. Annoyers were asked to estimate the frequency of their self-focused Facebook behaviors on 5-point Likert-type response scales. They then responded to demographic items. Items and descriptives are available in Table 1.

Measurement model

The overall measurement model of the newly created measures was assessed using confirmatory factor analysis based on the centroid algorithm in the lessR package for R Statistics [14,15,17]. Factor loadings were all above 0.5; these factor loadings and interfactor correlations were used to derive predictions of inter-item correlations. Deviations from the predicted model indicated poor fit. The initial fit test indicated that the third commitment item was weakening fit so it was dropped. After dropping that item, the correlation between the relationships observed and those predicted was strong, $r = .96$ (similar to CFI in interpretation). The absolute average error was at acceptable levels at .06 (similar to SRMR). These indices indicated that the measurement model could be maintained.

RESULTS

In this section, we first present the results regarding general patterns in primary users' distancing and termination behaviors, followed with examination of pairwise relationships. Lastly analysis of the overall model using structural equation modeling with the full information maximum likelihood algorithm [40] implemented using the lavaan package in R [32] is presented.

Variable	Mean	SD	α
1. NPI- L	**0.55**	**0.24**	**0.71**
2. NPI-GE	**0.40**	**0.27**	**0.79**
3. NPI- EE	**0.25**	**0.28**	**0.56**
4. Reported Self-Focused	**2.79**	**0.92**	**0.85**
How often do you post….			
…status updates on Facebook?			
…status updates on Facebook that are only about yourself?			
…status updates on Facebook in which you "self promote"?			
…status updates on Facebook that try to get attention from other people?			
…pictures on Facebook that feature you?			
…everyday updates on Facebook about your day-to-day life?			
…status updates that show you are upset about something (but without a detailed explanation of what you're upset about?			
5. Quality of FB Friends	**3.54**	**0.79**	**0.79**
When I read my News Feed on Facebook, I enjoy reading what people post			
A lot of my Facebook friends post interesting updates on Facebook			
6. Satisfaction	**2.15**	**0.85**	**0.90**
7. Quality of Alternatives	**3.76**	**0.92**	**0.89**
8. Investment	**2.01**	**0.94**	**0.89**
9. Commitment	**2.11**	**1.00**	**0.94**
10. Intent to Unfriend	**2.83**	**1.41**	
How likely are you to unfriend him or her in the future?			
11. Intent to Unfollow	**3.02**	**1.42**	
How likely are you to adjust your Facebook settings so that you no longer see ANY of this person's items?			
12. Intent to Skip Past	**3.70**	**1.33**	
How likely are you to skip past this person's items in your News Feed rather than carefully reading or looking at them?			

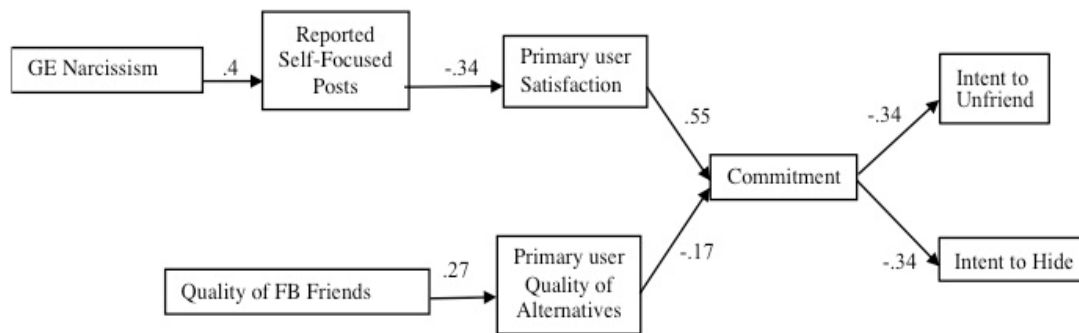**Table 1. Item Wordings and Descriptive Statistics**

Figure 2. Obtained Model with Standardized Path Coefficients

General Patterns in Primary user Behavior

Because the nature of Facebook friendships can vary substantially, we asked primary users to describe the nature of their relationship with the annoyer that they selected. Results indicated that the primary users characterized their nominated annoyers as: acquaintance ($n = 218$), close friend ($n = 65$), extended family ($n = 60$), immediate family ($n = 35$), ex-romantic partner ($n = 12$), and no response ($n = 35$).

Of interest in RQ1 was which type of behaviors primary users would have the greatest intention to perform with annoying annoyers. Examination of the mean endorsement of permanent termination and passive distancing shown in Table 1 suggested a linear trend such that as the behavior became more direct or permanent, it was less likely to be enacted by the participants. A repeated measures ANOVA revealed that the linear contrast was statistically significant, $F(1, 382) = 95.44$, $p < .001$.

Test of Specific Pairwise Relationships

Analyses began with examination of pairwise relationships among narcissism, key IM variables, and primary users' distancing and termination behavioral intentions. Correlations showed that GE narcissism was substantially related to the annoyers' self-reports of their own self-focused behavior, $r(53) = .40$, $p < .05$ consistent with H1. Results also indicated support for H2 which predicted that the annoying posting behavior of the annoyers would be negatively related to the primary users' satisfaction with the Facebook friendship $r(52) = -.34$, $p < .05$. The remaining hypotheses were based primarily on the IM and were all supported: H3 proposed that the satisfaction would be positively related to commitment, $r(418) = .59$, $p < .05$. H4 predicted positive associations between investment and commitment $r(423) = .78$, $p < .05$. H5 predicted that the overall quality of the primary user's network would be positively related to their assessments of other friendship alternatives $r(413) = .27$, $p < .05$. H6 proposed quality of alternatives would be negatively related to commitment $r(423) = -.29$, $p < .05$. Lastly, H7 proposed that commitment to the SNS relationship would be negatively related to intentions to (a) unfriend the annoyer $r(391) = -.34$, $p < .05$, (b) hide the annoyer $r(408) = -.34$, $p < .05$, and

(c) skip past the annoyer's content $r(404) = -.18$, $p < .05$. Together, these results show a general replication of IM relationships within the Facebook setting.

Model Testing

The fit of the path model proposed in Figure 1 was examined by (a) determining if all the hypothesized paths were sufficient and then (b) testing if this operationalization of the overall model fit the observed data. Model testing was conducted by examining the comparative fit index (CFI) and root mean squared error of approximation (RMSEA). The first model tested was the same as the model shown in Figure 2. The fit indices did not show acceptable levels of fit [16], suggesting modification of paths (CFI = .815, RMSEA = .118).

The fit of a model is a function of the extent to which the predictions for the relationships hypothesized in the model match those obtained from the data. One method of diagnosing sources of error is to assess if the obtained correlations indicate that two variables are more strongly related to one another than is predicted in the model. Causal modeling algorithms assume that distally related variables are more weakly related than directly related variables [28]. The correlations predicted by the model were compared to those obtained from the data in order to find ways of altering the model in order to increase fit.

The first modification centered on the intent to skip outcome. The correlation matrix indicated that the intent to skip variable was substantially related to the extent to which the annoyer produced self-focused messages, and more weakly related to the variables of commitment and satisfaction that the model indicated it was predicted to be; in other words, the obtained correlation of primary users' intentions to skip with annoyers' self-focused behavior was higher than anticipated while at the same time, associations with commitment and satisfaction were weaker than predicted by the model. Removing the intent to skip variable produced a slight change in fit (CFI = .828, RMSEA = .124). A second variable of investment was identified as similarly problematic. As noted above, investment may not necessarily play as large a role for friendships in CMC contexts. Removal of investment produced adequate fit (CFI = .923, RMSEA = .068). The

final model is shown in Figure 2. We discuss both of these modifications below.

DISCUSSION

This study was among the first to explore the unique forms of relational distancing and termination in Facebook and people's motivations for and intentions to perform such behaviors. We developed and tested a model based on the IM in which (a) an annoying friend's narcissism and (b) a primary user's online social network were each predicted to affect primary users' relational satisfaction and quality of friendship alternatives to the annoying friend.

Implications for Online Relational Distancing & Termination

This study examined a range of distancing behaviors available to Facebook friends—from passive skipping, to deliberate acts of unfollowing within the News Feed, to active and permanent unfriending. Results indicate that unfriending was the least likely behavior to be selected by primary users, and that the most popular choice was to simply skip over the annoyer. The somewhat active, more direct choice of unfollowing the annoyer's presence in the News Feed was selected more frequently than outright unfriending, but less than simple skipping. These findings suggest that people take advantage of the technological discretion offered by SNSs, preferring less noticeable distancing behaviors if they can be used to successfully achieve their relational goals without detection. It is also possible that these estimates were biased because primary users may have been reluctant to recruit someone they have already distanced themselves from.

While primary users reported high likelihood of engaging in skipping behavior, the results did not reveal model fit when the intent to skip variable was included in the model. Interestingly skipping past someone's annoying posts in the News Feed may not be consistent with the variables that are typically defined within the IM. Indeed, examination of the correlations shows that intentions to skip were not as strongly correlated with commitment as intent to unfriend or unfollow were. In this case, we speculate that commitment may not be associated with skipping intent as it is with more active unfollowing or unfriending behaviors. Skipping content is a passive behavior; primary users do not need to be especially motivated to perform it within their News Feeds. Furthermore skipping might actually be a "default" approach to the Facebook News Feed for some users. In other words, if skipping past friends' content is a more habitual behavior for primary users across all of their friends (annoying and not), then it makes sense that factors like commitment and satisfaction would not be related to such instinctual behavior.

However, as unfollowing a user's content and unfriending are more active, conscious strategies, it is logical that the deliberate nature of these behaviors would be reflected in the stronger negative relationship to the commitment variable. This was seen in the simple correlations. While the current study was the first to establish that people often have the intent to perform these different types of distancing and termination strategies, it is possible that our results are reflective of our participant recruitment strategy—that is asking primary users about their intentions (rather than actual behavior) produced a sample skewed toward more passive distancing as opposed to outright unfriending. Because our results are in line with previous research regarding distancing behaviors [23, 24], we doubt that this was the case; however more research investigating the association of IM variables to the nuances of passive versus active behaviors is needed.

A related question raised by these results is how annoyers perceive the primary users' distancing and unfriending behaviors. One potentially useful framework to consider is the imagined audience [22], or the mental conceptualization of those people who might view our online posts, who often "serve as a guide for what is appropriate and relevant to share when an actual audience is unknown or not physically present." Do annoyers consider primary users as part of their imagined audience when they post online? If so, the emotional impact of being unfollowed or unfriended may actually be heightened [see, 3]. On the other hand, if an annoyer didn't consider as specific primary users as part of their imagined audience, then they might not be upset or at all surprised to find out they were unfollowed, since they did not intend for those Facebook contacts to view it in the first place. The current results indicate that even if annoyers are not considering primary users as part of their imagined audience, primary users are still viewing the annoyers' posts and judging them (and their friendship) accordingly. Further research may examine how these and other dynamics affect the annoyers' response to primary users' use of SNS distancing tactics.

The Investment Model in Facebook Friendships

Although many of the hypothesized effects of the model were found, the initial model proposed in Figure 1 was not fully supported by the current results. The investment variable's lack of fit within the Facebook friendship context is not entirely surprising. As noted earlier, it may be that primary users view the overall size of investments (e.g., likes, posts, comments, etc.) with their annoying Facebook friends to be quite small. As a result of this reduced investment size, the overall predictive power of the investment variable among online connections may be diminished. If this is true, it may be that for investment to regain its predictive power within the model, the antecedents of investment need to be identified. For example, because many SNS friendships tend to be mixed-mode (i.e., contain both online and offline dynamics) increased modality and frequency of communication with an annoyer may impact perceived investment. Future research should strive to identify such antecedent variables and incorporate them into the model.

Other directions for future research are suggested by this work. Of particular interest is tie strength; that is, the decision to actively terminate the friendship may be moderated by the degree of relational closeness between the primary user and the annoyer. Our primary users overwhelmingly nominated annoyers who were more distant ties as opposed to close ties. Distant ties might be easier to permanently sever since it is doubtful that such individuals would have the opportunity (or even inclination) to ask questions about why the online relationship was terminated. Furthermore, when primary users are not close to particular SNS friends they may be less likely to care about those friends' emotional response to unfriending.

However, close relational partners are probably less likely to unfriend each other, regardless of the severity of the annoyer's irritating behavior. The probability of future interaction with a close tie (either online or offline, or both) is much greater, as is the potential for the annoyer to notice and then inquire about the distancing behavior. Thus, it is logical to assume that compared to weak ties, individuals would be more committed to continuing a dissatisfying relationship with close SNS friends as compared to distant ones. If this is true, then perceived relational closeness may moderate the relationships predicted in the current model. Other possibilities include desire to maintain a SNS link for inconspicuous "electronic surveillance" after the friendship has ended [38]. Future research may identify other aspects that encourage distancing but not termination.

Limitations

There are limitations to the current results. First, this study focused solely on self-focused posting as irritating SNS behavior. This choice, while useful for the current context, limits these findings. Since many Facebook friendships tend to be mixed-mode, there may be other offline behaviors that may trigger intentions to distance or terminate that the current study did not assess.

Secondly, the outcome variable was behavioral intentions rather than observed behavior. Notably, measuring intentions rather than actual distancing or termination was a purposeful design decision: As the IM is often used to assess partners' commitment levels in intact relationships, we chose to assess primary users' intent to distance or unfriend rather than actual behavior. Asking primary users to nominate an annoyer that they have already distanced or unfriended would be akin to examining an already dissolved friendship, and it would render estimates of key IM variables and relationships between them quite predictable. We also reasoned that to examine already unfriended pairs may have produced rationalizations for behavior rather than predictors. Ideally, longitudinal data should be collected such that the behavior of the annoyer at one time point can be associated with the distancing behaviors of the primary user at a second time point. Although meta-analysis suggests that behavioral intentions

are strongly associated with behavior [18], it should be noted that intentions are not synonymous with actual behavior. We note this limitation and encourage future investigations to examine this issue further.

Conclusion

The current model provides a heuristic benefit of specifying the key variables involved in online relationship maintenance and distancing, pushing scholars to look at both message production and processing in dyads in the SNS context. Clearly, the motivation to terminate relationships is not a one-sided phenomenon—such decisions require consideration of both partners' actions, and (in some ways) the fuller social network as well. Before the popularity of SNSs, many of us had several acquaintances that we knew casually, and interacted with only occasionally. But as SNSs have become more popular, we are suddenly being exposed to far more communication from those acquaintances than we would like. It appears that when this occurs, individuals are sometimes unwilling to sever the online friendship tie, despite the potentially negative consequences such increased connection might inspire. But just as SNSs created the problem of over-connection with such acquaintances, SNSs provide the answer. Facebook in particular allows users to remove those irritating people's presence in our News Feed without those people ever finding out.

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