When Online Dating Partners Meet Offline: The Effect of Modality Switching on Relational Communication Between Online Daters

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Despite the popularity of online dating sites, little is known about what occurs when online dating partners choose to communicate offline. Drawing upon the modality switching perspective, the present study assessed a national sample of online daters to determine whether face-to-face (FtF) relational outcomes could be predicted by the amount of online communication prior to the initial FtF meeting. Results were consistent with the hypothesized curvilinear relationship between the amount of online communication and perceptions of relational messages (intimacy, composure, informality, social orientation), forecasts of the future of the relationship, and information seeking behavior when meeting their partner FtF. The results provide support for the modality switching perspective, and offer important insight for online daters.

Keywords: Online Dating, Modality Switching, Hyperpersonal Communication, Online Personals, Relational Communication, Internet Relationships, Mixed Mode Relationships.

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Once stigmatized as rife with deception and desperation, online dating services such as have become popular venues for adults to meet potential romantic partners. Data from the PEW Internet and Daily Live project reveals that 11% of online adults, and 74% of single adults seeking romantic relationships have used an online dating service (Madden & Lenhart, 2006). As of October 2012, Match.com reports that one in five new relationships, and one in six new marriages occur between partners who met
using an online dating service. Given its prevalence, researchers are attempting to understand how online dating differs from traditional processes of romantic relationship formation (for a review, see Finkel, Eastwick, Karney, Reis, & Sprecher, 2012). Most research has conceptualized online dating using the frameworks of self-presentation (Ellison, Heino, & Gibbs, 2006; Ellison, Hancock, & Toma, 2011; Whitty, 2008), or self-disclosure/uncertainty reduction (Gibbs, Ellison, & Lai, 2011). This literature provides excellent understanding of the various factors related to impression management and deception/honesty in online dating, yet it is limited to the scope of profile construction and interpretation. Little is known regarding what occurs once partners choose to meet each other in person.

Online dating sites foster initial communication between potential romantic partners. Once initial contact has been established, partners must determine whether to pursue other forms of communication outside of the dating site. Although some online daters engage in a drawn-out process of mediated courtship, most prefer to meet potential partners face-to-face (FtF) relatively quickly after the initial communication. Indeed, 65% of online daters in Whitty and Carr’s (2006) study reported arranging FtF meetings within one week of their initial online encounter. This meeting is important because it provides additional cues that could either enhance or diminish online daters’ perceptions of each other (Finkel et al., 2012), and therefore helps daters assess their offline romantic relationship potential (Whitty, 2008). It remains unknown, however, whether various factors pertinent to the online relationship (e.g., amount of online interaction) influence the relational communication that occurs once partners meet FtF.

The process of transitioning from online communication to offline interaction has been examined under the label of modality switching (MS) (Ramirez & Zhang, 2007; Ramirez & Wang, 2008). The modality switching perspective suggests that online partners who meet offline might experience different outcomes depending upon the amount of time and online communication preceding the initial FtF meeting. Research reveals that MS leads to reduced uncertainty and more positive outcomes within short-term online partnerships, yet often provokes uncertainty and more negative outcomes by violating the expectations of long-term online partners (Ramirez & Zhang, 2007; Ramirez & Wang, 2008). This perspective has been tested almost exclusively in the context of experimental partnerships, yet it should provide a useful lens for examining the context of online daters who switch modalities by meeting offline.

The present study’s investigation of MS in online dating will provide important practical and theoretical insight. On a practical level, online daters might be unsure regarding whether it is better to meet potential partners FtF soon after establishing online contact, or postpone offline encounters until important relational markers such as trust and intimacy have been established. The present study will speak toward this issue, and might therefore provide daters with important advice regarding the ideal timing of FtF meetings. On a theoretical level, the present study seeks to enhance scholarly understanding of the MS process. Prior research has utilized experimental designs in which participants were randomly paired with a partner and assigned a task to complete (e.g., Ramirez & Zhang, 2007; Ramirez & Wang, 2008). These experiments were designed to mimic the pattern of workgroups formed online and eventually migrate offline, yet ecological validity may have suffered due to the artificial nature of the partnerships and tasks. The present study seeks to remedy this issue by extending the modality switching perspective to the applied and naturalistic setting of online dating partners who elect to establish FtF contact during their relationship initiation process.

**Literature Review**

**Online Dating**

Conventional notions of romantic relationship initiation hinged upon an individual’s chance encounters with other single adults in his/her geographic proximity (e.g., meeting someone at work, a
social engagement, or grocery store), or introductions made by members of his/her social network (e.g., being set up by a friend or a family member). Online dating sites break free from these conventions by providing individuals with “increased information about a wider pool of potential partners than usually available in face-to-face encounters” (Heino, Ellison, & Gibbs, 2010, p. 428). As a result, online dating sites are a convenient way for single adults to strategically locate other individuals who are seeking a romantic relationship.

Finkel and colleagues (2012) summarize that online dating sites provide users with three key services: 1) unprecedented access to potential dating partners, 2) the ability to communicate using mediated channels before determining to meet F2F, and 3) the option of being matched using romantic compatibility algorithms. Sites differ in the specific process through which they seek to facilitate these services. Dating services such as eHarmony.com and Chemistry.com utilize compatibility algorithms that attempt to match customers with other highly compatible users. Sites such as Match.com and PlentyOfFish.com, on the other hand, allow members to search through an entire database of user profiles without the constraints of compatibility algorithms. Regardless of the exact matching process, the sites typically require members to construct a profile by providing textual and photographic indicators that convey personal information (e.g., height, body type, age, occupation, etc.), and identify the qualities they desire in a potential partner. The profile serves as an important first impression for daters who are hoping to catch the attention of potential partners (Heino et al., 2010). As a result, most online dating research has focused on understanding issues of self-presentation and misrepresentation during the creation and interpretation of profiles (Ellison et al., 2011; Toma & Hancock, 2011).

The hyperpersonal perspective (Walther, 1996) is frequently employed to examine self-presentation and impression formation in mediated communication contexts. The perspective suggests that online communicators are able to utilize the asynchronous and anonymous nature of mediated communication to craft messages that represent selective, and often overly positive, self-presentation (Walther, 2007). As a result, communicators are prone to developing hyperpersonal relationships that reflect increased intimacy relative to F2F communicators. Although not developed with this context in mind, the perspective provides potentially important clues regarding the role of self-presentation and self-disclosure in online dating. For example, existing research indicates the perceived anonymity of online dating can lead daters to display an accelerated rate of self-disclosure relative to F2F couples (Wang & Chang, 2010; Wang & Lu, 2007). Online daters often utilize profile names or first names only, which provides a sense of disconnection (and security) from their offline identity. This sense of anonymity might provoke users to share more information than they would if interacting in the offline world.

In addition to disclosing more personal information, online daters often portray idealized versions of their selves by revealing socially desirable aspects of their identity, while strategically omitting their less favorable characteristics (Hancock & Toma, 2009). Self-presentation always involves a degree of perceptual subjectivity because individuals perceive things in ways that reflect their unique experiences and motivations (Leary & Kowalski, 1990). That said, online dating sites enable even greater levels of perceptual ambiguity because individuals must utilize text and photo-based communication to describe aspects of their identity that would be readily apparent in the offline world (Ellison et al., 2011). As a result, daters often indicate their identities are somewhat malleable; they can pick and choose which aspects of their past, present, or ideal future selves to display on their profile. Participants in Ellison et al.’s (2011) study reasoned it was acceptable to omit or exaggerate details “as long as the discrepancy was not too significant and the future self was within the realm of possibility” (p. 52). Indeed, the authors concluded that the profiles serve as a promise, meaning that daters operate under good faith that F2F encounters will not reveal significant differences from a person’s profile.

Online dating profiles provide users with a relatively blank slate to craft their desired image, yet daters must be cautious of the fine line between slightly enhanced self-presentation and dishonest
misrepresentation (Hancock & Toma, 2009). Daters in Gibb et al.’s (2006) study acknowledged skepticism that others correctly represent, for instance, their appearance, age, and relationship goals. In fact, the authors concluded that honesty is negatively correlated with online dating self-presentation such that disclosing honest yet negative information can hinder daters’ ability to attract potential partners. According to Heino et al. (2010), dating profiles are designed to promote positive attributes, so most users account for dishonesty by assuming that potential partners have exaggerated or omitted pieces of information. For example, daters might share a common understanding that someone who lists their body type as being “curvy” is likely attempting to portray their large body size in an honest yet flattering way (Ellison et al., 2011).

Despite the potential for dishonesty and strategic misrepresentation, most online daters possess the goal of establishing a meaningful offline romantic relationship. Because they anticipate FtF interaction, daters realize that their online “image should be flattering and positive, such that it attracts potential mates, but also realistic, such that it makes it possible to develop and sustain relationships” (Toma & Hancock, 2011, p. 49). Indeed, 81% of Toma and Hancock’s sample misrepresented profile aspects such as their height, weight, and age; however, these misrepresentations were of a very small nature. Similar conclusions were reported by Whitty (2008), who found that approximately 50% of daters admit to exaggerating or enhancing their qualities in order to appear attractive, yet most discouraged the use of blatant and malicious lies that would generate completely false expectations. Those who engage in blatant misrepresentation were said to hurt their chances at forming an offline romantic relationship.

In sum, it appears that online daters might engage in strategic misrepresentation to cultivate positive yet realistic impressions that will not provoke distrust if they were to meet a partner in person (Ellison et al., 2006; Toma & Hancock, 2011). Despite this growing body of research, considerably little work has attempted to understand the dynamics of online dating once partners shift toward offline interaction. Most daters would be unwilling to engage in a committed romantic relationship without having met their partner FtF (Whitty & Carr, 2006), so the lack of research regarding offline interactions between daters is noteworthy. In Whitty’s (2008) study, approximately 68% of online daters indicated that the first FtF meeting functions as a “screening out process” that determines whether a relationship is worth pursuing (p. 1719). Whereas initial online communication helps daters verify basic information and coordinate an offline encounter, the first FtF meeting provides important cues that enable them to establish the veracity and attractiveness of each other’s physical world identity. Questions remain, however, regarding which factors affect dater’s experience of relational communication upon meeting FtF.

**Modality Switching and Online Dating**

One of the most unique affordances of online dating is the ability to determine compatibility levels with potential partners through online interaction before deciding whether to meet them FtF (Finkel et al., 2012). One must consider, then, how this type of meeting might alter the outcomes of online dating relationships. One applicable approach for examining the online dating process is through the occurrence of MS. Gibbs and colleagues (2006) point out that daters often “engage in ‘modality switching’ from online to offline communication as they form relationships” (p. 153). Existing literature suggests that this process significantly affects the manner in which partners evaluate their relationships (Ramirez & Wang, 2008; Ramirez & Zhang, 2007). Ramirez and Zhang (2007) investigated whether the timing of a switch influences relational outcomes such as intimacy, task-social orientation, and social attraction. Drawing upon the hyperpersonal perspective (Walther, 1996) and online partners’ tendency to engage in selective self-presentation, the authors speculated that switches would be most beneficial when they occur before partners have had time to form idealized impressions. Overall, the findings showed that FtF meetings between previously online-only partners can either enhance or
dampen relational outcomes depending upon the timing of the switch. Switching from mediated to FtF early (after 3 weeks) in an association appeared to provide cues that enhanced relational outcomes. Conversely, switching from mediated to FtF late (after 6 weeks) provided cues that contradicted existing impressions and dampened relational outcomes.

MS has also been examined using an expectancy violations theory (Burgoon, 1993) framework to investigate how social information gleaned (i.e., expectedness, valence, and importance) during switches impact social judgments and relational outcomes. Ramirez and Wang (2008) revealed that modality switches can provide information that violates a person's expectations regarding their partner and their potential relationship; however, this effect was also contingent upon the timing of the modality switch. Specifically, individuals in short-term associations evaluated violations as positive and uncertainty reducing. However, participants in long-term associations reported violations as negative and uncertainty provoking. Although these results pertain to dyads with the goal of task completion rather than romantic involvement, similar trends might emerge for online daters who switch to a FtF modality.

Existing literature advocates that the concept of MS is quite applicable and “especially relevant to the communication service offered by online dating sites” (Finkel et al., 2012, p. 36). Online dating sites can encourage relationship development and intimacy, but users must carefully navigate the online to offline transition. Consistent with the modality switching perspective, Finkel and colleagues (2012) suggest that the “time frame between the initial CMC interaction and the initial face-to-face interaction is likely to be important” (p. 38). The authors speculated that daters would experience the most positive outcomes when they move toward FtF relatively quickly. Indeed, meeting FtF might provide daters with impression-enhancing information that develops the relationship in a positive manner. However, a tipping point likely exists to the extent that daters who wait too long before meeting FtF may risk developing idealized impressions that will be violated upon meeting FtF. The potential for this is particularly likely in the online dating context, given that daters are prone toward making small and strategic self-enhancements on their profiles (e.g., Ellison et al., 2006; Toma & Hancock, 2011; Whitty, 2008). Such claims are consistent with the experimental MS research discussed above. In summary, whereas Finkel and colleagues’ (2012) identify the online-to-offline time gap as an important turning point, as we note below previous MS research provides a potential explanation for its importance (Ramirez & Zhang, 2007; Ramirez & Wang, 2008) by implying a curvilinear relationship between the amount of time that online daters spend communicating and relational communication outcomes upon meeting FtF.

One primary difference between the current study and previous tests of the modality switching perspective is that prior research (e.g., Ramirez & Wang, 2008; Ramirez & Zhang, 2007) was able to experimentally manipulate the timing of the switch. In the present study, it is unfeasible to ask partners to meet FtF at a designated point in time not of their choosing. In order to analyze real-world online dating relationships, the present study will treat the length of association as a continuous variable. Bridging the short-term/long-term dichotomy enables a greater understanding of the association between the length of online communication before FtF interaction, and relational communication indicators upon meeting FtF. Combining the short- and long-term predictions and subsequent findings reported by Ramirez and colleagues (Ramirez & Zhang, 2007; Ramirez & Wang, 2008), it is predicted that this association will display an inverted u-shaped pattern with an initial positive association that becomes negative over time.

Given the importance of communication in the management of the online-to-offline transition, this inverted u-shaped pattern should emerge in terms of perceptions of relational communication, or how communicators define themselves, their partner, and the relationship between them (Burgoon & Hale, 1987). Consistent with previous research on CMC and MS (e.g., Ramirez & Zhang, 2007; Walther, 1992), relational communication in the present study is conceptualized as multidimensional encompassing several distinct themes upon which partners interpret messages including: Intimacy encompasses a complex of experiences such as immediacy/affection, similarity/depth, and trust; Dominance focuses
on moves to control, persuade, and command others or the relationship; Composure reflects the extent to which partners convey a sense of comfort, relaxation, and calmness; Formality refers to the extent to which messages fit prescribed and proper norms according to socially defined communicator roles; and task-social orientation focuses on the degree to which messages range from task-related to personal in nature. The inclusion of multiple dimensions allows for a broader assessment of relational message interpretations and comparison with previous research.

H1: The amount of time spent communicating online prior to meeting FtF will be curvilinearly associated with perceptions of relational communication: (a) intimacy, (b) dominance, (c) composure, (d) formality, and (e) task-social orientation.

When online daters meet in person after a period of online interaction, one of their goals is to determine the viability of the potential relationship (Whitty, 2008). Predicted outcome value (POV) theory holds that the primary goal of such interactions is to derive a forecast of a relationship’s potential to provide present and future rewards (Sunnafrank, 1986; Ramirez, Sunnafrank, & Goei, 2010). Individuals who anticipate they will interact with a partner at a later date are more likely to engage in information-seeking processes that enables estimation of the POV of future encounters (Sunnafrank & Ramirez, 2004). Those who do not anticipate future partner contact, on the other hand, are unlikely to exert effort to develop the relationship further. Such an explanation is also consistent with social information processing theory and the hyperpersonal perspective (Walther, 1996), which identify the anticipation of future interaction as a necessary condition for developing relationships and exaggerated expectations.

These results appear to translate well into an online dating context, as the environment affords users many opportunities to reduce uncertainty and seek information through online communication and observation. Indeed, Gibbs and colleagues (2006) report that anticipated FtF interaction is positively associated with self-disclosure in online dating. More specifically, daters begin the information acquisition process by perusing the photographs and narratives that potential partners share on their profile. They might establish contact to assess potential compatibility, and ultimately set up a FtF meeting to determine the viability of an offline relationship (for a review, see Finkel et al., 2012). Daters who choose to meet FtF likely see the potential for a positive POV, however, the first FtF meeting provides an immense amount of information that might enhance or diminish their outcome forecast about their partner.

When attempting to determine a POV forecast during initial FtF interactions, online daters will likely compare social and visual information gained about each other online to that experienced in person (Gibbs et al., 2006). Information about perceived inconsistencies between attributes claimed online and those inferred in person would be sought. Partners who meet FtF with very little online interaction likely lack the basic background information that would provide fodder for developing the relationship. Due to this limited amount of message exchange, such partners likely possess underdeveloped partner expectations, engaged in little idealization, and should be able to incorporate the new social and visual information into their perceptions thus maintaining a positive POV. However, partners who develop idealized perceptions due to a prolonged online communication process may have their expectations violated in a manner that hinders their POV (Ramirez & Wang, 2008). Moreover, Sunnafrank (1986) argues that POV is a product and reflection of the communication that occurs between partners and thus, should mimic the pattern predicted of the relational dimensions in the present study.

Hence, consistent with Ramirez and Zhang (2007) the present study examined two outcomes drawn from POV theory (Sunnafrank, 1986) relevant to online dating: information seeking and POV forecasts. Evaluation of the attractiveness of a potential partner is determined primarily through communication
and information acquisition, resulting in a POV forecast (Sunnafrank, 1986). Ramirez and Zhang (2007) reported that partners who engaged in an early switch to FtF interaction report a more positive POV forecast, a reduction in uncertainty, and an increase in information seeking. Yet, individuals experiencing a late switch reported a lowered POV forecast, an increase in uncertainty, but a continued increase in information seeking. These combined results suggest a curvilinear association between the continuous indicator of time spent communicating online prior to meeting FtF, and daters’ POV upon switching to FtF. Ramirez and Zhang’s results also showed that information seeking displayed a linear pattern irrespective of length of association. This latter finding was inconsistent with what would be predicted from a modality switching perspective, thus only a research question is posed for information seeking.

H2: The amount of time spent communicating online prior to meeting FtF will be curvilinearly associated with perceptions of outcome value predictions (POV).

RQ1: What is the association between the amount of time spent communicating online prior to meeting FtF and information seeking?

Method

Participants
Participants were recruited by a market research firm that maintains panels of Internet users. Respondents recruited for the present study had participated in an online dating site during the previous 3 months and met at least one partner from the site FtF during that period. The final sample of 433 respondents (168 men, 265 women) reported an average age of 39.77 years (SD = 11.49), had a median annual income range of $35,001-$50,000, and were primarily Caucasian/White (n = 359, 83%), and college educated (n = 329, 76% reported at least some college). Additionally, respondents had 17.11 months (SD = 9.84) of total experience using various Internet dating sites, with 9.01 (SD = 5.22) of these months attributed to the dating site where they met the partner that was reported on for the present study.

Procedure and measures
Following initial recruitment via e-mail by the market research firm announcing the nature and availability of the study as well as the participation criteria described above, potential participants were directed to a webpage containing a human subjects consent form and two prescreening questions. The first question asked respondents to confirm that they had participated in an online dating site during the preceding 3 months, and the second asked them to confirm that they had indeed met with a partner in person during that time period. Respondents who failed to respond affirmatively to both questions were redirected to a webpage indicating they were ineligible for the study, and eligible respondents were connected to the study’s website. Irrespective of whether they qualified for the study, all respondents were provided a nominal reward from the market research firm for their participation.

Upon entering the study website, eligible participants were informed that they would be asked a series of questions regarding their most recent instance in which they met a potential partner on an online dating site and eventually met him/her in person. They were told to keep this person in mind for the remainder of the survey, and were then presented with a series of demographic questions about themselves as well this partner. Next, they were presented with items regarding their relationship, including who initiated contact on the site, estimates of the number of photographs each individual posted on their
profile, and the use of additional communication channels prior to the FtF meeting. Based on a review of the relevant literature (for pertinent reviews, see Gibbs, et al., 2006; Finkel et al., 2012), these variables were assessed as potential control variables in the analyses. Participants also reported the current status of their relationship (i.e., still dating, no longer dating).

The next set of measures focused on the initial FtF meeting, and contained items from the Relational Communication Scale (RCS; Burgoon & Hale, 1987), a multidimensional measure that captures perceptions of relational messages. The complete RCS includes 65 Likert-type items, with each subscale ranging from 3 to 9 items. The present study used five of the subscales: intimacy, dominance, formality, composure, and social orientation. In order to avoid participant fatigue, only 3 to 5 items from each scale were used (see Hale, Burgoon, & Householder, 2005 for acceptability of this approach). Participants were asked to rate their agreement with each item on a 7-point scale (7 = strongly agree) based on the initial FtF meeting. The reliability estimates were acceptable: intimacy (5 items), $\alpha = .90$; dominance (3 items), $\alpha = .70$; formality (3 items), $\alpha = .85$; composure (3 items), $\alpha = .87$; and social orientation (3 items), $\alpha = .85$.

Predicted outcome value was assessed using Sunnafrank's (1986) 10-item measure that utilizes a 6-point scale (1 = much less than I expected, 6 = much more than I expected). Participants were asked to evaluate the extent to which their partner's communication behavior, attitudes, and overall impression met or exceeded their expectations based on their initial FtF meeting. Items included, “Considering your general expectations about how your partner responded to what you did and said, how positive did you expect this relationship to be for you?” and “Considering your general expectations about how he/she felt about you, how positive did you expect this relationship to be for you?” The scale produced a coefficient alpha of .90.

Information seeking was assessed through items from Ramirez and Zhang's (2007) measure of information seeking. The 4 items asked participants to rate on a 7-point Likert-type scale (7 = strongly agree) the extent to which they asked questions, encouraged the sharing of personal information, followed up on partner comments, and actively attempted to get the partner to self-disclose during the initial FtF meeting. The scale yielded an alpha coefficient of .86.

Based on the results of a small-scale pilot study of 42 online dating site users, the primary predictor variable of amount of time prior to meeting FtF (AMT) was operationalized via an index of two self-reported items: the number of e-mails exchanged as well as the length of time communicating with their partner on the dating site prior to their initial FtF meeting. Previous research investigating MS reports a strong, positive association between the two variables (Ramirez & Zhang, 2007; Ramirez & Wang, 2008). The results of the pilot study confirmed the presence of the same strong, significant positive correlation between the items ($r = .82, p < .001$). As a result, the two items were averaged to create the AMT index.

The results also indicated the need to include three control variables due to their significant correlations with several of the outcomes. The first control variable asked participants to indicate who initiated contact on the dating site (dummy coded as 0 = self, 1 = other). The second control asked participants to report the number of photographs he/she had posted on their profile at the time contact was made. Participants selected a value ranging from 1 to 7, with the latter labeled “7 or more.” The third control asked participants to report the number of additional communication channels used prior to the FtF meeting “not including the dating site itself.” They were presented with a set of channels (private e-mail, text messaging, phone calls, instant messaging, Skype/videoconferencing) and asked to indicate whether they had used each (dummy coded as 0 = no, 1 = yes). Responses were summed and utilized in the analyses.

Summary statistics for each variable of interest in reported in Table 1. All of the variables measured at the interval level were standardized prior to conducting the analyses.
Table 1  Intercorrelations Among Variables of Interest (N = 433)

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Initiated contact</td>
<td>1.49</td>
<td>.50</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<td>–</td>
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<tr>
<td>2. # of profile photos</td>
<td>3.23</td>
<td>1.49</td>
<td>–.04</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<td>–</td>
<td>–</td>
<td>–</td>
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<td>–</td>
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<tr>
<td>3. # of channels</td>
<td>2.58</td>
<td>1.07</td>
<td>–.13*</td>
<td>–.08</td>
<td>–.13**</td>
<td>–.12*</td>
<td>–</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>4. AMT</td>
<td>14.43</td>
<td>10.29</td>
<td>.08</td>
<td>.25**</td>
<td>.08</td>
<td>.30**</td>
<td>–</td>
<td>–</td>
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<tr>
<td>5. Intimacy</td>
<td>5.14</td>
<td>1.33</td>
<td>–.15**</td>
<td>.25**</td>
<td>.08</td>
<td>–.19**</td>
<td>–.10</td>
<td>–.15**</td>
<td>–.19**</td>
<td>–</td>
<td>–</td>
<td>–</td>
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<tr>
<td>6. Dominance</td>
<td>3.31</td>
<td>1.85</td>
<td>–.08</td>
<td>–.19**</td>
<td>–.07</td>
<td>–.15**</td>
<td>–.10</td>
<td>–.15**</td>
<td>–.19**</td>
<td>–</td>
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<tr>
<td>7. Formality</td>
<td>5.29</td>
<td>1.40</td>
<td>–.10</td>
<td>–.07</td>
<td>–.17**</td>
<td>.05</td>
<td>–.10</td>
<td>–.17**</td>
<td>.05</td>
<td>–.10</td>
<td>–.17**</td>
<td>.05</td>
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<tr>
<td>8. Composure</td>
<td>5.17</td>
<td>1.37</td>
<td>–.14*</td>
<td>.28**</td>
<td>.06</td>
<td>.26**</td>
<td>–.10</td>
<td>.39**</td>
<td>.09</td>
<td>–.15**</td>
<td>.46**</td>
<td>–</td>
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<tr>
<td>9. Social orient.</td>
<td>4.97</td>
<td>1.25</td>
<td>–.18**</td>
<td>.10</td>
<td>–.05</td>
<td>–.20**</td>
<td>.38**</td>
<td>–.30**</td>
<td>.36**</td>
<td>–.36**</td>
<td>.38**</td>
<td>–.30**</td>
</tr>
<tr>
<td>10. POV</td>
<td>3.84</td>
<td>1.15</td>
<td>–.18**</td>
<td>.10</td>
<td>–.05</td>
<td>–.20**</td>
<td>.38**</td>
<td>–.30**</td>
<td>.36**</td>
<td>–.36**</td>
<td>.38**</td>
<td>–.30**</td>
</tr>
<tr>
<td>11. Info seeking</td>
<td>4.70</td>
<td>1.13</td>
<td>.17**</td>
<td>–.11*</td>
<td>.35**</td>
<td>.69**</td>
<td>.06</td>
<td>.08</td>
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<td>.02</td>
<td>.02</td>
<td>.23**</td>
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Results

Preliminary analyses

A set of preliminary analyses were undertaken prior to conducting tests of the hypotheses and research question. First, Pearson correlations among the variables of interest were examined for evidence of multicollinearity. Table 1 reports the correlations and indicates moderate associations, with only one correlation exceeding the .5 level, that between AMT and information seeking ($r = .69, p < .001$). Moreover, most involving the (linear) AMT term were not statistically significant, suggesting a lack of linear association between AMT and the other variables. Second, analyses were conducted to confirm whether the set of control variables required inclusion in the primary analyses. Hierarchical multiple regression analysis conducted on each outcome confirmed that the three control variables consistently emerged as significant predictors. As a consequence, the block was included in the analyses reported below.

Primary analyses

Hierarchical multiple regression tests were conducted in the following manner to examine the hypotheses and research question. In the first step, the three control variables were entered as a block. In the second step, because the predictions and query involved assessing an inverted U-shaped trend, the linear AMT index term was then added (see Cohen & Cohen, 1983, and Pedhazur, 1982 for a discussion). In the final step, the quadratic AMT term was added and examined for statistical significance. Table 2 reports the results.

Hypothesis 1

The first hypothesis predicted a curvilinear, inverted u-shaped relationship between AMT and perceptions of (a) intimacy, (b) dominance, (c) composure, (d) formality, and (e) task-social orientation. Overall, the prediction was supported on 4 of the 5 dimensions.

Hypothesis 1a was confirmed as the quadratic AMT term was significantly associated with perceptions of intimacy ($\beta = -.35, p < .001$). Although respondents reported initial increases in intimacy, said levels showed a long-term decrease. The addition of the quadratic AMT term accounted for 5% of the variance in the outcome ($R^2$-change = .05, F-change (1, 427) = 18.27, $p < .001$). Table 2 shows the three
Table 2  Summary of Multiple Regression Analyses of Relational Communication Dimensions

<table>
<thead>
<tr>
<th>Predictor</th>
<th>Intimacy</th>
<th>Dominance</th>
<th>Formality</th>
<th>Composure</th>
<th>Social orientation</th>
<th>POV</th>
<th>Information seeking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initiated contact</td>
<td>-.14**</td>
<td>-.05</td>
<td>-.08</td>
<td>-.12*</td>
<td>-.08</td>
<td>-.17**</td>
<td>.19***</td>
</tr>
<tr>
<td># of profile photos</td>
<td>.24***</td>
<td>-.16**</td>
<td>.17**</td>
<td>.13**</td>
<td>.19**</td>
<td>.17**</td>
<td>-.13***</td>
</tr>
<tr>
<td># of channels</td>
<td>.16**</td>
<td>-.03</td>
<td>.07</td>
<td>.27***</td>
<td>.14**</td>
<td>.11**</td>
<td>.22***</td>
</tr>
<tr>
<td>Linear AMT</td>
<td>.05</td>
<td>-.11</td>
<td>.03</td>
<td>.04</td>
<td>.05</td>
<td>.04</td>
<td>.31***</td>
</tr>
<tr>
<td>Quadratic AMT</td>
<td>-.35***</td>
<td>.11</td>
<td>-.28***</td>
<td>-.25***</td>
<td>-.29***</td>
<td>-.23**</td>
<td>-.64***</td>
</tr>
<tr>
<td>Overall F (5, 427)</td>
<td>16.39***</td>
<td>2.07</td>
<td>6.33***</td>
<td>13.18***</td>
<td>8.47***</td>
<td>7.33***</td>
<td>37.98***</td>
</tr>
<tr>
<td>Adjusted $R^2$</td>
<td>.16</td>
<td>–</td>
<td>.08</td>
<td>.13</td>
<td>.09</td>
<td>.09</td>
<td>.31</td>
</tr>
</tbody>
</table>

Note: Regression coefficients reported are standardized and reflect the final model.

*p < .05; **p < .01; ***p < .001.

control variables also emerged as significant predictors. Initiating contact, having more photos on one’s profile, and using a greater diversity of communication channels with the partner were significantly predicted perceptions of intimacy.

However, hypothesis 1b was not confirmed. Dominance was coded such that higher scores represent increased perceptions of dominance. Neither of the AMT terms (linear: $\beta = -.11, p > .05$; quadratic: $\beta = .11, p > .05$) achieved statistical significance with respect to perceptions of dominance. The only significant predictor of perceptions of dominance was the control variable of the number of photographs posted to one’s profile ($p < .01$), suggesting the greater the number of photos participants had posted to their profile, the less dominance was perceived.

Hypothesis 1c received support. The quadratic AMT term ($\beta = -.25, p < .001$) was significantly associated with perceptions of composure. As communication between daters increased over time, composure initially showed an increase but then declined reflecting the expected curvilinear pattern. Amount of variance explained in composure increased by 4% with the addition of the quadratic AMT term ($R^2$-change = .04, $F$-change (1, 427) = 8.70, $p < .01$). In addition, the three control variables also emerged as significant predictors. Table 2 shows that initiating contact, having a greater number of photos displayed on one’s profile, and using more communication channels with the partner were predictive of perceptions of greater composure.

Hypothesis 1d, which focused on perceptions of formality, was also supported. Formality was coded such that higher scores indicate greater informality. The quadratic AMT term ($\beta = -.28, p < .001$) emerged as a statistically significant predictor of the degree of informality participants perceived during their initial FtF meeting with their partner. Once more, initial reported increases in informality were tempered by a decline over time as communication increased. The quadratic AMT term accounted for 4% of the variance in informality ($R^2$-change = .04, $F$-change (1, 427) = 10.63, $p = .001$). Only one control variable, the number of photographs posted significantly and positively predicted perceptions of informality.

Finally, hypothesis 1e was supported as the quadratic AMT term ($\beta = -.29, p < .001$) significantly predicted perceptions of social orientation. Consistent with the predicted pattern, participants reported an initial increase in social orientation in the short-term but a decrease in the long-term. The addition of the quadratic AMT term accounted for 4% of the variance ($R^2$-change = .04, $F$-change (1, 427) = 11.27, $p = .001$). In addition, two of the control variables surfaced as significant predictors. The greater the
number of photographs posted to one’s profile and the greater the number of communication channels used with one’s partner, the more participants perceived their interaction to be socially oriented in nature (see Table 2).

**Hypothesis 2**
The second hypothesis proposed a curvilinear, inverted U-shaped relationship between AMT and POV. Hypothesis 2 was confirmed. Table 2 reports a statistically significant association between the quadratic AMT term ($\beta = -0.23$, $p < .01$) and outcome value predictions. Initial outcome level forecasts displayed an increase but then declined over time resulting in a curvilinear pattern. The quadratic AMT term accounted for 4% of the variance in POV ($R^2$-change = .04, $F$-change (1, 427) = 8.23, $p < .01$). The three control variables also significantly predicted POV. Initiating contact, having a greater number of photographs posted on one’s profile, and using a greater number of communication channels with the partner were significantly associated with more positive forecasts of the relationship’s future.

**Research Question 1**
The query asked the nature of the association between AMT and information seeking. Table 2 shows that although the linear AMT term ($\beta = .31$, $p < .001$) emerged as a significant predictor of information seeking, this effect was subsumed by the more robust effect produced by the AMT term ($\beta = -0.64$, $p < .001$) suggesting the curvilinear pattern, rather than its linear counterpart, was a better fit for the data. Adding the quadratic AMT term to the analysis explained another 13% of the variance in information seeking ($R^2$-change = .13, $F$-change (1, 427) = 79.25, $p < .001$). The three control variables also emerged as significant predictors. Receiving contact, having fewer photographs posted, and using more channels with one’s partner were significantly associated with greater information seeking behavior.

**Discussion**
The phenomenal growth in the popularity of online dating sites as viable spaces for initiating romantic relationships has been coupled with increased attention from academic scholars (Finkel et al., 2012). Whereas much of this research has focused on processes such as self-presentation (Ellison et al., 2011; Toma & Hancock, 2010), and self-disclosure/uncertainty reduction (Gibbs et al., 2011) during online dating, little attention has been directed to understanding the process and effects of shifting offline. Investigating this latter process is especially important because published research suggests that most daters possess the goal of establishing a romantic relationship that transcends the offline world (Whitty & Carr, 2006). This study sought to fill this void by examining daters’ perceptions after an initial FtF meeting. In doing so, it provides unique contributions to both the literature on MS and online dating.

One contribution that the present study makes is documenting how the MS process (Ramirez & Zhang, 2007; Ramirez & Wang, 2008) translates into the applied setting of online dating. Overall, the results suggest online daters may benefit from meeting their partner in person after a brief period of online interaction. Consistent with predictions, participants reported increasingly positive perceptions of relational messages (intimacy, composure, informality, social orientation), forecasts of the relationship’s potential, and information seeking when meeting their partner FtF after a brief period of time and online communication; only perceptions of dominance failed to exhibit the predicted pattern. However, continuing online interaction for longer, extended periods of time produced negative outcomes: The same relationship characteristics displayed a negative association with AMT,
thereby producing the inverted u-shaped curvilinear pattern. These results are consistent with the modality switching perspective (Ramirez & Zhang, 2007), and indicate that a while a brief period of online interaction can be beneficial, daters may reach a tipping point upon which further interaction begins to produce negative, rather than continued positive, effects on an initial in-person meeting.

It is worth noting that one other study has examined MS predictions in an applied setting, specifically an online message board community (McEwan & Zanolla, 2013). Utilizing a longitudinal survey design, McEwan and Zanolla (2013) investigated participant relationships before and after their in-person meeting. Most relevant to the present study their findings reported a curvilinear effect between participant reports of predicted outcome value forecasts at time 1 and closeness at time 2. Consistent with the findings from the present study, the in-person meeting (time 2) dampened perceptions of closeness based on online-only interaction (time 1).

The tipping point likely represents the development of hyperpersonal or idealized impressions (Walther, 1996) that predispose online daters to experience expectancy violations and uncertainty upon their first meeting (Ramirez & Wang, 2008). Although the nature of the data, specifically the AMT variable, in the present study preclude a formal identification of the tipping point, a visual inspection of each dimension suggests a range between 17 (POV) and 23 (intimacy) days within which it may occur. It is worth noting that (1) the tipping point is the plateau/apex of positive interpretations of relational messages, and (2) in real-world numbers that 17 days equals about 2.5 weeks, whereas 23 days is slightly more than 3 weeks, which in relative terms are not very long periods but apparently enough for the diminishing returns to ensue.

The results of the present study suggest online daters create mental constructs of their potential partners by reading their online dating profile, using that information to fill-in-the-blanks of who the partner might really be in the offline world. Daters who wait too long to meet in person, and therefore cross this tipping point, might find it difficult to accept any discrepancies from their idealized mental construct of their partner. Crossing the tipping point should be particularly harmful for daters who developed very inaccurate partner expectations due to the partner's use of dishonesty, misrepresentation, or even exaggeration on their profile. Most daters engage in minor and strategic misrepresentations in order to develop positive impressions on their profile page (e.g., Hancock & Toma, 2009), but doing so might provoke idealized impressions that become increasingly strong and less malleable the longer partners put off meeting FtF. According to the hyperpersonal perspective (Walther, 1996), this combination of selective self-presentation, channel characteristics (e.g., textual communication), receiver feedback, and message malleability, especially in the context of long-term interaction, creates a ripe environment for such an idealization process to ensue (Gibbs et al., 2006). Consequently, partners who meet relatively early might be able to accept any minor differences between their expectations and reality, but partners who wait too long may experience increased uncertainty when the person they interacted with fails to meet their well-developed expectations FtF.

Another contribution of the present study is that it also identified other influences upon the nature of the initial in-person meeting. First, who initiated contact on the dating site significantly predicted 4 of the 7 outcomes. Perceptions of increased intimacy and composure, more positive outcome value forecasts, and enhanced information seeking during the initial FtF meeting were all significantly associated with who initiated contact. Second, the number of photographs online daters made available on their profile significantly predicted all of the outcomes. Perceptions of higher levels of intimacy, informality, composure, and social orientation as well as more positive outcome value forecasts during the in-person meeting were positively predicted by the number of photographs. In addition, a greater number of photographs predicted less dominance and information seeking. The latter finding suggests that the information provided by the photographs may reduce the need for daters to question partners about visually verifiable characteristics, and might therefore turn their attention to other areas. Third, the
expansion of channels from the dating site to more personalized forms of interaction (e.g., personal
e-mail, text messaging, telephone) suggests an incremental process in which partners gradually expand
their communication repertoire before meeting FtF. The number of channels used significantly predicted
5 of the outcomes including greater intimacy, composure, and social orientation. Reports of more posi-
tive outcome value forecasts and increased information seeking were also associated with using a greater
diversity of channels.

The ability of the three controls to predict relational communication outcomes in the present study
indicates that they should be of theoretical interest in future research. It is also worth noting that the
three variables may represent a degree of linear progression in how they influence dater perceptions.
That is, initiating contact alerts a partner to another's interest, which then leads the target to explore
the initiator's profile and photographs, which in turn can lead to further communication and channel
expansion for continued interaction.

Limitations and Conclusions
Although the overall results are consistent with laboratory tests of the modality switching perspective,
the present study differed in several notable ways that might limit their applicability. Moving from
the laboratory into the field creates challenges to theory-testing including reduced experimental con-
trol and the necessity to account for potential confounds (see Cook & Campbell, 1979), such as the
controls in the present study. However, this study's methodology does bolster ecological validity by
enabling a greater understanding of actual dating relationships as they naturally developed online to
offline. Participants in previous studies were partnered to create zero-history teams that completed tasks
over time depending upon which condition they were assigned (Ramirez & Zhang, 2007; Ramirez &
Wang, 2008). In contrast, daters choose with whom to interact and subsequently attempt to develop a
relationship. As such, these differences might produce distinct self-presentation processes (Toma &
Hancock, 2011).

The present study asked participants to recall the events of a naturally occurring online dating rela-
tionship. Its cross-sectional design creates the potential cost of introducing memory bias and leading
participants to focus on extremely positive (or negative) experiences. This investigation attempted to
minimize such biases by limiting the amount of time between the FtF meeting and study participation
(3 months) as well as asking participants to report on their most recent instance. Although these saf-
eguards may not eliminate all potential problems, the methodology can be interpreted as offering insight
that complements and extends prior research.

It must be noted, however, that the results reported should not interpreted to mean that immediate
or delayed meetings inherently predict a relationship's success. That is, meeting in person shortly after
initial online contact does not guarantee the relationship will persist nor does delaying the meeting auto-
matically translate into its failure. This study ends at the point of the initial meeting, and consequently do
not offer insight into long-term success. However, it provides strong support for advancing the modality
switching perspective as a framework for understanding the effect of online dating interactions on out-
comes derived from initial FtF meetings. Future research should use the findings as a springboard for
examining the multitude of factors related to short- and long-term offline relationship success between
online daters.

References
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