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Correlates of Social Anxiety, Religion, and Facebook

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Abstract:

This study examined how religiosity, network homophily, and self-monitoring relate to social and Facebook-specific anxiety, role conflict, and Facebook Intensity. Correlation analyses indicate a connection between Facebook use and anxiety, as well as a link between religiosity and anxiety. We found that Role Conflict correlates with Facebook Intensity, Facebook-specific Anxiety, and Social Anxiety. Regarding religiosity, those who prefer a literal interpretation of the Bible, attend church more frequently, and pray more often have higher anxiety. Facebookers who are higher self-monitors have a less homophilous Facebook network and are less likely to identify their religious views on Facebook.

In October 2012, Facebook claimed 1 billion users (Facebook newsroom). Further, Facebook saturation (94% according to Ellison, Steinfield, Lampe, 2007) among US colleges and universities is higher than ever. Clearly, the social networking site is a force in the online world. Further, research has indicated that online social networking sites are capable of playing powerful roles in one's social life (see especially boyd studies and Wellman studies). As Facebook continues to pave greater inroads into daily life, we begin to see small and great effects that technology can have on our sociality (boyd, 2008; Turkle, 2004). Additionally, the line between online and offline life continues to blur as more and more of our online network is attached to an offline relationship.

Regardless of forum, individuals tend to desire social acceptance (Farquhar, 2008, 2009), and individuals attempt to achieve this acceptance by presenting themselves in the best light possible in any situation (Goffman, 1959; 1967). In offline settings, it might be the case that an individual changes clothing, language, temperament, and communication style in order to "fit in" with an immediate group. Online, though, it might simply be a matter of following social norms of communication (Farquhar, 2008, 2009). The key to successful presentation of self relies on the ability of the individual to read the social cues, behave accordingly, and adjust behaviors as needed (Goffman, 1969; Mead, 1932, 1936). On Facebook, identity presentations often rely heavily on group identities and commercial identities (Farquhar, 2012; Zhao, Grasmuck,, & Martin, 2008). This, again, is to ensure that the individual's behaviors are *generally* accepted by the network; and these behaviors are typically grounded in offline life (Zhao et al). Additionally, individuals tend to exaggerate their online presentations in order reduce confusion

or ambiguity about *who they are* (Geidner, Flook, & Bell, 2007; Smith & Kollock, 1999).

One gap in online identity research is the connection with religion. Few studies have examined the role of religion in online arenas (Armfield & Holbert, 2003; Kluver & Cheong, 2007; Linderman & Lövheim, 2003; Nyland & Near, 2007), and no studies were found that examined the role religion plays in online identity presentations. The complexity of online presentations with regard to religion comes through what boyd (2002) has called the *collapse of context*. Online, we may have the entirety of our social world, including friends who share religious beliefs as well as many who perhaps do not share the same beliefs (family, coworkers, bosses, subordinates, religious leaders, law enforcement, ex-lovers, and so on). Given that these relationships all have offline anchors (Kadushin, 1995; Mcmillan & Morrison, 2006; Pempek, Yermolayeva, & Calvert, 2009), certain religious beliefs expressed online may potentially lead to offline, social consequences. On the other hand, minimizing religious beliefs online may also lead to offline, social consequences. Research has shown that in offline scenarios, the presence of multiple groups creates strain on the individual caught in the middle as he or she tries to satisfy competing social pressures (Krackhardt, 1999).

Further, given that Facebook and other social media provide a digital archive, our online actions are essentially removed from spatio-temporal context (boyd, 2002). Thus, while online presentations allow greater control over the messages, they greatly reduce control over the audience (Campbell, 2006; George, 2006; Hewitt & Forte, 2006). Consequently, there is seemingly a required task of self-monitoring happening on Facebook. Facebookers must anticipate reactions from

others, tailor performances accordingly, and continually adjust based on response (or lack thereof).

The purpose of this paper is to examine how users monitor and adjust behaviors and religious beliefs while dealing with Facebook's collapse of context. Specifically, we examine the role religiosity, network size, and Facebook involvement level and how they relate to social anxiety and wellbeing.

Conceptual Framework

There are many variables under examination in the present study. To give focus to the study and clarification to the reader, we have divided them into two areas: Social Networking variables and Religiosity variables.

Social Networking Variables

Social Network (SN) variables are those that focus on the direct impact of one's involvement in the Facebook social network structure. They include Facebook Intensity, Number Unique Groups, Role Conflict, Social Anxiety, Facebook-specific Anxiety, and Self-Monitoring. These measures are important as a starting point in understanding how Facebook, Religiosity, and Anxiety interrelate.

Facebook Intensity (FI) and Number of Unique Groups (NUG)

.Within scholarship on online communities, Facebook specifically, a consistent measure regarding Facebook usage and involvement can be found (Ellison, Steinfield, Lampe, 2007; Steinfield, Ellison, Lampe, 2008; Valenzuela, Park, & Kee, 2009). The *Facebook Intensity Scale* focuses on number of friends a Facebooker has and how important Facebook is to an individual. Quite simply, larger networks and deeper involvement on Facebook lead to higher FI scores.

In the social world, belonging to groups brings with it expectations about behaviors toward other group members and toward non-group-members (Nadel, 1957; Van Maanen, 1978). Though Facebook Intensity accounts for number of friends online, we are specifically interested in the various (sub)groups *within* the network. Thus, we are also accounting for number of sub-groups, which, potentially, would present the Facebooker with differing social norms to which he or she must attempt to adhere. Given their similarities, it is likely that the NUG and FI will correlate .

Role Conflict

A role conflict occurs whenever an individual experiences incompatible or conflicting expectations or performance demands (Krackhardt, 1999; Rizzo, House, and Lirtzman, 1970). For example, role conflict has been examined in the cross-contexts of work and family life, showing that incompatible demands based on different roles increased stress and diminished psychological wellbeing (Coverman, 1989; Hecht, 2001; Home, 1998). Given the market saturation of Facebook, it is very possible that role conflicts occur among Facebook users, particularly those with large networks populated with dozens of unique (sub)groups. Conflict would occur for those who must negotiate the expectations of those various groups of their network to maintain their desired social identity(ies). Role conflict, Facebook Intensity, and Number of Unique Groups likely go hand in hand (Krackhardt, 1999).

Social Anxiety and Facebook Anxiety

Social anxiety is a term that translates to fears of such tasks as eating in public and meeting strangers. Social anxiety stems from a concern of being shamed and not accepted (Liebowitz, 1987). Further, individuals suffering from social

anxiety tend to simply avoid certain – typically public – behaviors (Liebowitz).

Social phobia or anxiety occurs in roughly 13 percent of the population (Kessler et al., 1999). Those with social anxiety can have reduced quality of life and lower well-being (Stein & Kean, 2000). Such phobia is also connected with troubled school functioning, early educational termination (Van Ameringen, 2003), and difficulty in maintaining regular employment (Wittchen & Fehm, 2003).

Based on the social anxiety scale, we developed a measure of seven Facebook-specific anxiety items. These items relate to performing Facebook activities such as commenting on posts, uploading pictures, and making status updates (see Appendix 1 for full list of these items). Trying to sort through these complex social situations *offline* leads to anxiety (Friedlander, et al, 1986), and we expect a similar outcome for the complex social life on Facebook.

Self-monitoring

Successful “impression management” involves intentional work to ensure a suitable and acceptable presentation of self (Goffman, 1959). Snyder (1974) argues that a keen awareness of social cues, and the ability to regulate and modify one’s own self-presentation according to those cues, indicates well-developed self-monitoring skills. Since the development of the Self-Monitoring Scale in 1974, research has focused in areas such as personal relationships and social interaction (DeCremer, Snyder, & Dewitte, 2001; Gudykunst 1985; Wright, Holloway, & Roloff, 2007) workplace behavior (Turnley & Bolino, 2001), and emotional expression (Friedman & Miller-Herringer, 1991). The structure of Facebook networks leads to a probable struggle to self-monitor in the midst of potentially competing normative expectations placed upon the individual. While Facebook is still a relatively new

phenomenon, researchers have had nearly eight years in which to study the actions and interactions of its users. Thus, it is notable how little is known about Facebook users and self-monitoring behavior. Nonetheless, there are a few studies that have contributed to this question. Rosenberg (2009), found that self-monitoring on Facebook was not associated with particular presentation tactics such as manipulation and self-promotion. Interestingly, Gogolinski (2010) found self-monitoring to be related to a greater preference for displaying potentially controversial information on Facebook. With regard to the present study, variables such as Facebook Intensity and number of unique groups are expected to be related to increased role conflict. Further, previous research consistently shows that increased role conflict leads to anxiety and weakened social well-being (Krackhardt, 1999; Rizzo et al., 1970). Lastly, we anticipate that a higher level of role conflict would likely necessitate a higher level of self-monitoring.

Hypothesis for Social Network Variables

H1: Facebook Intensity is associated with Number of Unique Groups

H2: Facebook Intensity is associated with Role Conflict

H3: Number of Unique Groups is associated with Role Conflict

H4a: Facebook Intensity is associated with Facebook-specific Anxiety

H4b: Facebook Intensity is associated with Social Anxiety

H4c: Facebook Intensity is associated with Self-monitoring

H5a: Role Conflict is associated with Facebook-specific Anxiety

H5b: Role Conflict is associated with Social Anxiety

H5c: Role Conflict is associated with Self-monitoring

H6: Social Anxiety is associated with Facebook-specific Anxiety

H7a: Number of unique groups is associated with Facebook-specific Anxiety

H7b: Number of unique groups is associated with Social Anxiety

H7c: Number of unique groups is associated with Self-monitoring

H8a: Self-monitoring is associated with Social Anxiety

H8b: Self-monitoring is associated with Facebook-specific Anxiety

Religiosity Variables

Religiosity measures have been added to this study to assess the possible mitigating roles religion and religiosity play in the connections between SN and SP variables.

Religion

While scholarship on religion and well-being in the offline world is extensive, examinations of the role religion plays in online contexts is conspicuously lacking. A few studies have examined the role of religion in the use of the Internet. For example, Armfield and Holbert (2003) found that higher religiosity predicts lower use of the Internet, although demographic factors seem to be more predictive of engagement with the Internet. A handful of studies have indicated that the Internet may be an effective “tool” for exploring spirituality (Berger and Ezzy, 2004; Lee, 2009), engaging with religion in a context other than traditional religious communities (Lovheim, 2008), and seeking guidance and advice about spiritual conduct (Mishra & Semann, 2010). The authors could find just one study that investigated the relationship between religiosity and online social networking sites. Nyland and Near (2007) found that religiosity, while not a strong predictor of use of social networking sites, may predict certain uses such as maintenance of preexisting church-based relationships. None of these studies, however, have explored the

relationship between religion and well-being online, a topic that has been well-explored in the literature in the offline world.

Overall, the literature examining offline contexts demonstrates a positive effect on well-being among those who are more religiously active. For example, religiosity has been shown to contribute to decreased anxiety and depression (Abdel-Khalek, 2011; Harris, Schoneman, and Carrera, 2002; Hughes et al., 2004; Jansen, Motley, and Hovey, 2010; Obst, 2009) and even reduced odds of suicide attempts (Rasic, Robinson, Bolton, Bienvenu, and Sareen, 2010). Likewise, Reutter and Bigatti (2014) found that religiosity and spirituality moderated stress and psychological health, serving as forms of resiliency resources. Krause et al (2014) demonstrated that feelings of gratitude to God were associated with more favorable health ratings and fewer depression symptoms.

Much of the relationship between religious involvement and positive well-being can be attributed to the social resources and support that being a member of a religious community can provide to its members (see Ellison & Levin, 1998). Nonetheless, there is complexity in the relationship between religiosity and well-being that suggests being religious, or being a member of a religious community, does not unequivocally bring positive benefits. Research by Storch, Storch, and Adams (2002) demonstrated no relationship between religiosity and social anxiety. Interestingly, some aspects of religion appear to negatively affect well-being. For example, Leonardi and Gialamas (2009) found that while church attendance and belief salience were positively related to life satisfaction, those who prayed more experienced more anxiety. Likewise, Toburen and Meier (2010) showed that when

experiment participants were primed with God-related concepts before completing a task, their anxiety increased.

Several well-being studies also demonstrate complexity in the relationship between religion and psychological outcomes. Doane et al. (2013) found that individuals who exhibit an extrinsic (versus intrinsic) religious orientation perceived lower levels of social support and experienced lower emotional well-being. In a cross-national analysis, Hayward and Elliot (2013) found that religiousness can be harmful to well-being and health if it is practiced in a context in which it is considered deviant. Finally, in a study of Jewish individuals, Rosmarin et al (2009) showed that measures such as Jewish identity and ritual observance were not related to well-being measures. However, trust in God decreased hopelessness and depression and increased happiness.

Despite the various contradictory findings, however, the bulk of the literature suggests support for religiosity and increased well-being. In this light, it is important to note the dearth of information regarding online interaction, religion, and well-being. This study attempts to address this gap by examining religion as a mitigating factor between intensity of involvement with Facebook and certain measures of well-being including Social Anxiety, Facebook-specific Anxiety, and Self-Monitoring behavior.

Despite the general tendency to find a positive relationship between religion and well-being, the complexity of the research findings compelled us to approach our investigation guided by research questions, rather than hypotheses of expected relationships.

Research Questions for Religiosity Measures

RQ1: What impact does participation in religious activities have on Self-monitoring, Role Conflict, and Facebook-specific and Social Anxiety?

RQ2: What impact does Network Religious Homophily have on Self-monitoring, Role Conflict, and Facebook-specific and Social Anxiety?

RQ3: What impact does Religious Affiliation have on Self-monitoring, Role Conflict, and Facebook-specific and Social Anxiety?

Methods

Data Collection and Sample

This study's sample is comprised of college students from five universities. The schools include three universities in the Southeastern United States, one large university in the Midwest, and one junior college in the Northeast. The enrollments for the three SE universities are ~5000 (private, protestant), ~25,000 (public), and ~5000 (public). The enrollment at the large, state school in the Midwest is ~31,000. The Northeast junior college enrollment is ~1600.

The sample includes students enrolled in sociology or journalism courses at the various institutions. Participation was solicited via emails containing a URL address from instructors in these courses. The URL address then linked respondents to the online survey, which took approximately 15 minutes to complete.

After eliminating incomplete surveys, the resulting sample included 336 respondents. About 70 percent of the sample is female, 80 percent are White, most are freshman (41%) or sophomores (27%), the majority live on their campus (66%), and most belong to a fraternity or sorority (72%).

Measures

The survey questionnaire consists of the following established scales: the Facebook Intensity scale (Ellison, Steinfield, & Lampe, 2007; Steinfeild, Ellison, & Lampe, 2008; Valenzuela, Park, & Kee, 2009), the Social Anxiety scale (Liebowitz, 1987), the Role Conflict scale (Murphy & Gable, 1988), and the Self-Monitoring scale (Snyder, 1974). The *number of unique groups* (adapted from McCarty et al., 2001) measured the types of groups present in the respondent's social network (such as family, classmates, coworkers, and the like).

There exist no established measures for Facebook anxiety, thus, we developed a set of questions based on the item wording on the general Social Anxiety scale (Liebowitz, 1987). Fourteen Likert items queried respondents about their feelings on tasks such as "rejecting friend requests on Facebook", "posting potentially controversial comments on Facebook", and other similar items¹.

Similarly, the Role Conflict scale was adapted to represent feelings of conflict experienced while interacting on Facebook. The nine items include statements such as "I do things on Facebook that are likely to be accepted by some people and not accepted by others" and "I am Facebook friends with two or more subgroups that operate quite differently".

We gauge religious behavior and belief using three measures. Church attendance and frequency of prayer measure behavior. Biblical interpretation measures belief. Church attendance is measured by the question, "how often do you attend religious services". There are nine response categories ranging from 1 (never) to 9 (more than once a week). Respondents are also asked about how often they pray. Response categories range from 1 (several times a day) to 7 (never).

¹ A pretest was conducted with a small sample of respondents to gauge any problematic wording or interpretation of questions or response categories. No problems were identified, so no changes were made to the survey after pretesting.

Finally, respondents are asked to choose a statement that most closely represents their feelings about the Bible. The response categories are, “The Bible is the actual word of God and should be taken literally, word for word”, “the Bible is the inspired word of God but not everything in it should be taken literally, word for word”, and “the Bible is an ancient book of fables, legends, history, and moral precepts”. We also asked respondents to indicate their religious preference. Response categories included Protestant, Catholic, Jewish, None, and Other.

Respondents were asked about their religious preference. The response categories included Protestant, Catholic, Other Religion, and None.

We also included a question that asks if the respondent filled out the field for religion on Facebook (1=yes, 0= no), as one study found that those who are more religious are also more likely to reveal their religious preference in an online social networking site (Bobkowski & Pearce, 2011). Our measure of *network religious homophily* is adapted from the General Social Survey question module that asks respondents how many of the people in their Facebook network they feel hold the same religious preference (Smith, Marsden, Hout, & Kim, General Social Surveys 1972-2010: Cumulative Codebook). Response categories are, “almost all, most, about half, a few, and none”. Finally, our measures tapping into the number of unique groups in one’s Facebook network (NUG) allows respondents to indicate if “people from religious organizations” are part of their network (1=yes, 0=no). We pull this specific measure out of the index to assess its relationship to our key variables of interest.

Analysis of Data

Analyses were conducted using Statistical Package for the Social Sciences (SPSS), version 19. The first step of the analysis involved combining items to create scales representing Facebook Intensity, Social Anxiety, Facebook Anxiety, Role Conflict, and Self-Monitoring, described below. Next, we conducted univariate analyses to provide sample descriptives, including religion and religiosity measures (see Table 1). Our final analytic stage involved hypothesis-testing via correlational analysis on key variables. Our tables present the Pearson's r Correlation Coefficients with standard significance levels (p -values) indicated by asterisks.

The variable *number of unique groups* was created by adding the total number of groups identified by the respondent as part of their network. The average number of unique groups reported was 8.27, with a minimum of 1 and maximum of 13 possible groups.

The *Facebook Intensity* scale combined responses of six questions tapping into use and intensity of engagement with Facebook such as "Facebook has become part of my daily routine" and "I feel out of touch if I haven't logged onto Facebook for a while". Response categories were Likert Scales ranging from "strongly agree" to "strongly disagree". The Cronbach's Alpha measure of internal consistency yielded a score of .853. The average score on the scale was 3.45 with a range of 1.0 to 5.0, indicating a moderate to high level of engagement with Facebook.

Social Anxiety was measured using 23 items tapping into concern with meeting strangers, expressing disagreement to people one doesn't know well, eating in public space, and the like. Respondents indicated how much fear or anxiety they felt engaging in the tasks with four response categories ranging from "none" to "severe". The Cronbach's Alpha score was .899. The average score was 1.88 with a

range of 1.0 to 3.17, suggesting moderate levels of social anxiety among the respondents.

Facebook Anxiety combined seven measures, adapted from the Social Anxiety scale, such as concern with “showing awkward pictures of yourself on Facebook” and “uploading pictures on Facebook that not everyone will like”. Respondents indicated how much fear or anxiety they felt engaging in the tasks with four response categories ranging from “none” to “severe”. The Cronbach’s Alpha score was .756. The average score was 1.65 with a range of 1.0 to 3.29, indicating moderate levels of Facebook anxiety.

Role Conflict consisted of nine items that measured the experience of conflict such as “I do some things on Facebook just to make people happy” and “I feel like I’m supposed to behave a certain way on Facebook”. The response categories were Likert Scale ranging from “strongly agree” to “strongly disagree”. The Cronbach’s Alpha score was .666².

The *Self-Monitoring* scale was comprised of 25 items such as “I may deceive people by being friendly when I really dislike them” and “I’m not always the person I appear to be”. The response categories were dichotomous indicating “true/mostly true” and “false/mostly false”. The Cronbach’s Alpha score was .617³.

Regarding religion, about 24 percent (the modal category) of the respondents report attending church several times per year. Concerning feelings about the Bible, about 60 percent (the modal category) see the Bible as the inspired

² A factor analysis was performed on the Role Conflict scale items. Elimination of items that did not load on the same factor did not improve the overall score, so we retained all items in the scale.

³ Similar to the Role Conflict scale, a factor analysis was performed. Removal of items not loading on the same factor did not improve the score. Further, this is an established scale with considerable use in the literature on identity management. Thus, we decided to retain all items, despite the relatively low alpha score. Clark and Watson (1995) found that alpha levels between .60 and .70 can be considered acceptable.

word of God and not to be taken literally. On the question of prayer, nearly 22 percent (the modal category) of respondents never pray, but just over 20 percent report praying several times a day and almost 19 percent report praying at least once per day. On the question of religious preference, 30 percent identify as Protestant, 24 percent as Catholic, 24 percent as some other religion, and 20 percent have no religion. Approximately 30 percent of the sample is Protestant, 24 percent Catholic, 24 percent some other religious affiliation, and almost 20 percent report no religion. About 38 percent of respondents reveal that they filled out the field for religion on Facebook. Regarding religious homophily, the majority report at least some similarity within their network on religious preference. Nearly 33 percent report that half of their network share the same religious preference, and just over 31 percent say that most of their network share the same preference. However, just 7 percent report that almost all of their network is religiously homophilous. Finally, just over 53 percent of respondents indicate that people from religious organizations are part of their network of Facebook friends.

Results

General Overview of Hypotheses

See Table 2.

H1: Facebook Intensity is associated with Number of Unique Groups

Facebook Intensity is positively associated with Number of Unique Groups (.305***), such that higher intensity correlated with more unique groups in one's Facebook network.

H2: Facebook Intensity is associated with Role Conflict

Facebook intensity is positively associated with role conflict (.189**), such that higher intensity is correlated with increased role conflict.

H3: Number of Unique Groups is associated with Role Conflict

Number of Unique Groups is positively associated with Role Conflict (.168**), such that more unique groups correlated with more role conflict.

H4a: Facebook Intensity is associated with Facebook-specific Anxiety

Facebook Intensity is not associated with Facebook-specific Anxiety.

H4b: Facebook Intensity is associated with Social Anxiety

Facebook Intensity is not associated with Social Anxiety

H4c: Facebook Intensity is associated with Self-monitoring

Facebook Intensity is not associated with Self-monitoring.

H5a: Role Conflict is associated with Facebook-specific Anxiety

Role Conflict is positively associated with Facebook-specific Anxiety (.216***), such that more role conflict correlated with increased Facebook-specific Anxiety.

H5b: Role Conflict is associated with Social Anxiety

Role Conflict is positively associated with Social Anxiety (.159**), such that more role conflict correlated with increased Social Anxiety.

H5c: Role Conflict is associated with Self-monitoring

Role Conflict is not associated with Self-monitoring.

H6: Social Anxiety is associated with Facebook-specific Anxiety

Social Anxiety is positively associated with Facebook-specific Anxiety (.658***), such that more Social Anxiety correlated with increased Facebook-specific Anxiety.

H7a: Number of Unique Groups is associated with Facebook-specific Anxiety

Number of Unique Groups is not associated with Facebook-specific Anxiety.

H7b: Number of Unique Groups is associated with Social Anxiety

Number of Unique Groups is not associated with Social Anxiety.

H7c: Number of Unique Groups is associated with Self-monitoring

Number of Unique Groups is not associated with Self-monitoring.

H8a: Self-monitoring is associated with Social Anxiety

Self-monitoring is not associated with Social Anxiety.

H8b: Self-monitoring is associated with Facebook-specific Anxiety

Self-monitoring is not associated with Facebook-specific Anxiety

RQ1: What impact does participation in religious activities have on Self-monitoring, Role Conflict, and Facebook-specific and Social Anxiety?

The three religiosity measures for religious activities are Church Attendance, Frequency of Prayer, and Biblical Interpretation.

Church attendance (see Table 3) was not correlated with Social Anxiety, Role Conflict or Self-monitoring. However, it was correlated with Facebook-specific Anxiety (.172**), such that higher Church Attendance correlated with higher Facebook-specific Anxiety.

Frequency of Prayer was not correlated with Social Anxiety, Role Conflict, or Self-monitoring. However, it too was correlated with Facebook-specific Anxiety (-.119*), such that higher Frequency of Prayer is associated with more Facebook-specific Anxiety.

Biblical Interpretation was not correlated with Role Conflict or Self-monitoring. However, it was correlated with Facebook-specific Anxiety (-.111*) and Social Anxiety (-.121*), such that more literal interpretations of the Bible are correlated with higher anxiety levels.

RQ2: What impact does Network Religious Homophily have on Self-monitoring, Role Conflict, and Facebook-specific and Social Anxiety?

The two religiosity measures for Religious Homophily are 1) presence of Facebook friends who are from religious organizations (FBreligorg) and Perception of similarity of Religious Preference among their Facebook friends (Homphil). We also include a measure indicating whether they reveal their religious preference on Facebook (FBrelig).

RELORG is not correlated with Social Anxiety (see Table 4). However, it is correlated with Role Conflict (.113*), Self-monitoring (-.112*), and Facebook-specific Anxiety (.142**), such that those who have Facebook friends from religious organizations tend to experience more role conflict, less self-monitoring, and more Facebook-specific Anxiety.

RELREF was not correlated with Facebook-specific Anxiety, Social Anxiety, or Role Conflict. It was, however, correlated with Self-monitoring (.158**), such that those with less homophily tend to have more self-monitoring.

RQ3: What impact does Religious Affiliation have on Self-monitoring, Role Conflict, and Facebook-specific and Social Anxiety?

There were two items related to Religious Affiliation. They were religious preference (Protestant, Catholic, Other, None) and Religious Identification (revelation of religious views on Facebook).

Being Protestant was not correlated with Social Anxiety, Role Conflict or Self-monitoring (See Table 5). However, it is correlated with Facebook-specific Anxiety (.141*), such that identifying as Protestant compared to other affiliations increases Facebook-specific Anxiety.

Being Catholic is not associated with Facebook-specific Anxiety, Role Conflict, or Self-monitoring. However, it is associated with Social Anxiety (-.113*), such that Catholics, in this study, had lower Social Anxiety.

Other Religious Preferences (including None/No Preference) show no correlations with any other variables.

Religious Identification was related to Self-monitoring (-.128*), such that those who reveal are less likely to monitor their Facebook behaviors. Interestingly, Protestants are more likely to reveal (.328***) and the non-religious are less likely to reveal (-.359***).

Discussion and Conclusions

General Discussion

In general, college students who are more involved with Facebook tend to have more unique groups and experience more role conflict. Further, those who experience role conflict are more likely to experience Social and Facebook-specific Anxiety.

Though Social and Facebook-specific Anxiety was not associated with Self-monitoring, Self-monitoring was related to participants who operate in heterogeneous networks. Those with homophilous networks tend to have lower Self-monitoring. Additionally, those with friends from religious organizations tend to have higher role conflict and more Facebook-specific Anxiety.

In general, those who are more religious experience more Facebook-specific Anxiety across the board, and more Social Anxiety for those who have a conservative interpretation of the Bible.

Discussion of Social Network Variables

Though Facebook Intensity initially centered on benefits to the network ego in terms of social capital (Ellison, et al, 2007), our study applied the Intensity measure to other variables associated with social well-being. Further, while previous scholarship found generally positive social consequences of Facebook Intensity (Ellison, et al; Lenhart & Madden, 2007), our results indicate a mix of positive and negative associations for college students with regard to Facebook Intensity. If nothing else, the associated social consequences of Facebook Intensity are nuanced and warrant further research.

Our results, in general, support past scholarship on the number of unique groups and role conflicts (see especially Krackhardt, 1999; Rizzo, et al, 1970). More groups, in general, create more role conflict. This appears to be the case for our sample of college students.

Discussion of Social-psychological Variables

Of all the variables, role conflict appears to be at the heart of this study in terms of Facebook activity and the two types of anxiety. These connections support past studies that also showed a negative impact of role conflicts on social wellbeing (Caplan & Jones, 1975; Friedlander, et al, 1986; Krackhardt, 1999; Rizzo et al., 1970).

It is interesting that, though number of unique groups was correlated with role conflict, it was not associated with either type of anxiety. This seemed to be a

likely connection, and it is possible that some Facebookers – perhaps through Facebook’s privacy controls – are able to keep the unique groups from creating anxiety.

Another interesting result is that Self-monitoring was not correlated with any of the SN or SP variables. It was expected that those who experience higher levels of anxiety would, at least, engage in more self-monitoring, ostensibly to reduce said anxiety. However, Self-monitoring did appear when Religiosity variables were introduced. In general, however, our results supported past work that also found no such relationships with self-monitoring (Goglinski, 2010; Rosenberg, 2009).

Discussion of Religiosity Variables

Facebookers (college students, in our sample) who operate in heterophilous social networks tend to monitor their Facebook behaviors more so than those with homophilous networks. We believe this is because the presence of multiple religious perspectives creates the need to at least be aware of public behaviors. In terms of symbolic interaction, this monitoring (and perhaps also adjusting) would be an effort to reduce negative reactions from one’s audience/social network (Goffman, 1969).

For the most part, religious behaviors were tied to increased Facebook-specific Anxiety. This finding supports past research that indicated a negative impact of religiosity on anxiety (Leonardi & Gialamas, 2009; Toburen & Meier, 2010). Higher levels of church attendance, prayer, and more literal interpretations of the bible are related to higher levels of Facebook anxiety. It is possible that individuals who are more religious in behavior and belief may feel they risk

negative sentiment from their religious communities depending upon what they reveal about themselves on Facebook. If this is the case, it seems plausible that the more religious would experience more anxiety. Furthermore, those who have friends in their networks from religious organizations experience more role conflict and more Facebook-specific anxiety. It may be that these individuals, despite the presence of some presumably like-minded religious individuals, feel they are operating in a context that is dominated by those who do not hold the same religious views. In this case, they may feel they have to negotiate these competing worldviews, contributing to their anxiety. Indeed, Hayward and Elliot (2013) argue that being religious in a context in which most are not, can be harmful.

The same results of this study, however, do not support a sizeable set of scholarship that espouses the positive social outcomes of religiosity (Abdel-Khalek, 2011; Harris, Schoneman, and Carrera, 2002; Hughes et al., 2004; Jansen, Motley, and Hovey, 2010; Obst, 2009). Clearly, the impact of religiosity is nuanced. It is likely that there are some settings (Facebook, perhaps) that tend toward a negative social outcome of religiosity while other settings (offline, in one's local community, perhaps) have a more positive outcome from religiosity.

Limitations and Future Research

Our sample was a convenience sample of college students. It was largely female, white, and filled with 20-25-year-olds. Facebook has, of course, largely saturated the college demographic, so our sample in many ways represents a sizeable subset within the Facebook world. However, it is not, of course, representative of the entirety of Facebook. Specifically, future research might focus on populations outside college students to assess differences in anxiety levels,

Facebook Intensity, Role Conflict, or any other of our variables. It might be that college students have more Role Conflict than the general Facebook population due to their location on college campuses, which are populated by more social subgroups than the average non-college Facebooker would likely encounter.

Another area that needs further testing and assessment is the application of traditional offline measures to the online world. Several measures in our study were adjusted or applied versions of measures developed for offline social life. It should be noted, however, that many of the measures in question (NUG, Role Conflict, Religious Homophily) are focused on an individual's *perception* of her network rather than purely online *interactions*. Perceptions about an online network of friends, we would argue, are not so different from perceptions about an offline network of friends. The measure that is in most need of continued study is Facebook-specific anxiety, which we developed from a general measure of social anxiety. Future research is needed simply because of the newness of the measure.

Our study cannot establish *causal relationships* or *time-order*. Thus, we cannot move beyond correlations with this study. As this body of research continues to grow, future research would be wise to start shifting methods toward those that can achieve such lofty goals.

Though our measurement of religion was taken from commonly used instruments, future research should also look at levels of genuine religious *involvement* or *engagement*. That is, one's religious engagement might be more telling in terms of anxiety because mere physical activity such as church attendance may not tell the whole story about one's actual religious life. Additionally, future

study should focus on religious engagement in online-specific environments such as Facebook rather than taking on general religious engagement.

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Appendix 1

Facebook-specific Anxiety Scale

Please indicate how much fear / anxiety you feel for each of the tasks below by placing 0-3 in the **first column** (0=none, 1=mild, 2=moderate, 3=severe).

Fear/Anxiety Level (0-3)	
	Posting potentially controversial comments on Facebook (FB)
	Accepting new Facebook friends (FB)
	Showing awkward pictures of yourself and others on Facebook (FB)
	Rejecting friend requests on Facebook (FB)
	Uploading pictures on Facebook that not everyone will like (FB)
	Making comments on another's Facebook pictures (FB)
	Making jokes on Facebook (FB)

Appendix 2

Table 1 Sample Descriptives

<i>n =</i>		
<i>Variable</i>	<i>Percent or Average</i>	<i>Minimum-Maximum</i>
<i>Social Anxiety</i>	<i>1.88</i>	<i>1.0 - 3.17</i>
<i>Facebook Anxiety</i>	<i>1.65</i>	<i>1.0 - 3.29</i>
<i>Facebook Intensity Scale</i>	<i>3.45</i>	<i>1.0 - 5.0</i>
<i>Number of Unique Groups</i>	<i>8.27</i>	<i>1.0 - 13.0</i>
<i>Role Conflict Index</i>	<i>2.91</i>	<i>1.22 - 4.56</i>
<i>Self-Monitoring Index</i>	<i>.48</i>	<i>.28 - .76</i>
<i>Church Attendance*</i>	<i>4.0</i>	<i>1.0 - 9.0</i>
<i>Bible Interpretation *</i>	<i>2.0</i>	<i>1.0 - 3.0</i>
<i>Pray Once per Day or More*</i>	<i>7.0</i>	<i>1.0 - 7.0</i>
<i>Facebook Friends with People from Religious Organizations</i>	<i>53%</i>	
<i>Filled out Field for Religion on Facebook</i>	<i>62%</i>	
<i>Religious Homophily in Facebook Network (Most/Almost All)</i>	<i>38%</i>	
<i>Protestant</i>	<i>30%</i>	
<i>Catholic</i>	<i>24%</i>	
<i>Other Religion</i>	<i>24%</i>	
<i>None</i>	<i>20%</i>	
<i>Male</i>	<i>30%</i>	
<i>White</i>	<i>79%</i>	
<i>Parents Have Bachelor's or More</i>	<i>73%</i>	
<i>Freshmen or Sophomore</i>	<i>68%</i>	
<i>On-Campus Resident</i>	<i>66%</i>	
<i>*Modal category presented</i>		

Table 2 Correlations: Social Networking on Facebook

Variable	FBIntensity	NUG	RoCo	SelfMon	FBAnxiety	SocAnxiety
FBIntensity		.305***	.189**	-.076	.038	.058
NUG			.168**	-.074	.030	-.008
RoCo				-.023	.216***	.159**
SelfMon					-.018	.063
FBAnxiety						.663***
SocAnxiety						
p<.05* p<.01** p<.001***						

Table 3 Correlations: Religious Behavior and Belief on Facebook

Variable	Attend	Pray	Bible	RoCo	SelfMon	FBAnxiety	SocAnxiety
Attend		-.706***	-.477***	.010	.005	.172**	.056
Pray			.480***	-.029	.008	-.119*	-.006
Bible				-.007	.079	-.111*	-.121*
RoCo					-.023	.216***	.159**
SelfMon						-.018	.063
FBAnxiety							.663***
SocAnxiety							
p<.05* p<.01** p<.001***							

Table 4 Correlations: Religious Homophily on Facebook

Variable	FBreligorg	Homphil	FBrelig	RoCo	SelfMon	FBAnxiety	SocAnxiety
FBreligorg		-.272***	.378**	.113*	-.112*	.141*	.168
Homphil			-.282**	.000	.158***	.006	.096
FBrelig				.028	-.128*	.005	-.001
RoCo					-.023	.216***	.159**
SelfMon						-.018	.063
FBAnxiety							.663***
SocAnxiety							
p<.05* p<.01** p<.001***							

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