The Pennsylvania State University

The Graduate School

College of the Liberal Arts

THE EFFECT OF RELIGIOUS SALIENCE ON ATTEMPTING ONLINE

DATING

A Thesis in

Sociology

by

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Submitted in Partial Fulfillment
of the Requirements
for the Degree of

Master of Arts

May 2014

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ABSTRACT

Online dating has become a viable option for mate selection in recent times. As a result, there has been a growing amount of research regarding online dating in a variety of social contexts (e.g. education, race, gender, sexuality and age). However, little research has explored the relationship between religion and online dating. This paper argues that individuals with high religious saliency are significantly less likely to attempt online dating using 2005 Pew Internet data (n=910 for single Internet users). The analysis tests possible mediating effects through the innovative KHB method. Mistrust of online dating websites partially mediates this relationship, while religious attendance does not. This study contributes to the research on religion and online dating, mate selection processes among religious single adults, and the implementation of new methodological techniques to test mediation in non-linear probability models.

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THE EFFECT OF RELIGIOUS SALIENCE ON ATTEMPTING ONLINE DATING

INTRODUCTION

Since the early 2000s, Internet dating has become a more prominent intermediary of finding a romantic partner, leading to the waning influence of family and friends as social intermediaries (Rosenfeld & Thomas, 2012). A recent study on dating websites reveals that 38 percent of single Internet users who are actively looking for a romantic partner have used a dating website, and 66 percent of those online daters have gone on a date with someone they met over the Internet (Smith & Duggan, 2013). Since 2007, approximately one out of every five newly married couples in the United States met online (Chadwick Martin Bailey, 2010; Harris Interactive, 2009). Studies suggest that this trend will continue to expand as more individuals are exposed to Internet dating through mutual social ties (Sautter, Tippett, & Morgan, 2010).

While scholars have examined online dating in a variety of social contexts, including race (Feliciano, Lee, & Robnett, 2011; Feliciano, Robnett, & Komaie, 2009; Lin & Lundquist 2013; Robnett & Feliciano, 2011; Wilson, McIntosh, & Insana, 2007; Yancey, 2009), gender (Kaufmann, 2012; Kreager et al., 2013), sexuality (Davis et al., 2006; Rosenfeld & Thomas, 2012), education (Skopek, Schulz, & Blossfeld, 2011), and age (Jonson & Silverskog, 2011; McIntosh et al., 2011; Stephure et al., 2009), there has been little research on the relationship between religion and online dating. One study mentions how interreligious couples compared to same religion couples are more likely to meet through the Internet (Rosenfeld & Thomas, 2012). However, most of the

"interreligious" couples consist of Protestant-Catholic relationships, so the measure has limitations. Sautter and colleagues (2010) examined the social demographic correlates of online dating among single Internet users and did not find religious affiliation to predict the choice to visit an online dating website when they controlled for sociodemographic variables. The most recent Pew Internet report on online dating did not even ask any questions pertaining to religion (Smith & Duggan, 2013). Up until this point, the area of religion and online dating has been vastly understudied.

This paper argues that religion indeed plays a vital role in attempting online dating. Specifically, the effect of religious salience is an important factor in determining whether an individual decides to use Internet dating for mate selection. Individuals who describe themselves as religious compared to those who do not are less likely to visit an online dating website. In order to further explain this phenomenon, the following analysis tests whether religious service attendance and mistrust of online dating function as potential mediating effects, also known as intervening or indirect effects. Implications and suggestions for future study are discussed.

BACKGROUND RESEARCH

Highly religious individuals perceive and experience romantic relationships differently from less religious individuals (Carroll et al., 2000). Instead of viewing marriage as a mere social contract between two individuals, highly religious couples view their relationship as a sacred union guided by God, and this perspective spans across diverse religious traditions (Dollahite, Hawkins, & Parr, 2012; Goodman & Dollahite, 2006; Lambert & Dollahite, 2008). This perspective often produces more marital stability

for the highly religious, preventing divorcing and reinforcing relationship commitment (Call & Heaton, 1997; Lambert & Dollahite, 2008; Lehrer & Chiswick; Mahoney et al., 2001; Thomas & Cornwall, 1990. And despite the rise in interfaith marriage in recent times (Williams & Lawler, 2001), they are still preserving endogamy by marrying within their religious faith and opposing interreligious marriage among their offspring (Putnam & Campbell, 2010, p. 158; Sahl & Batson, 2011). Thus, highly religious individuals often are more resistant to changes in romantic relationship norms than less religious individuals.

This leads us to extrapolate on the role of religiousness on adult dating. They have been outliers with regards to divorce and interreligious marriages, but are they resistant to new dating practices, like using dating websites for mate selection? Evidence from a 2006 Pew Internet report suggests that this might be the case. Examining the characteristics of the online dating community, they found that less than 30 percent of online daters identify as religious (Madden & Lenhart, 2006, p. 12). This is somewhat surprising given the existence of religious dating websites like JDate (founded in 1997) and ChristianMingle (founded in 2004), as well as the suggestion by some reporters that eHarmony flourished early on based on advertisements through Focus on the Family products, a nonprofit evangelical organization (Slater, 2013). Unfortunately, the Pew Internet report fails to elaborate on this finding, or explain the processes that precede this descriptive statistic. It is important to understand whether this finding simply reflects the average religious salience among other single Internet users or whether individuals with high levels of religious salience are simply avoiding online dating websites. The

following research seeks to explain this initial finding by testing the following

hypothesis:

Hypothesis #1: The online dating community exhibits low religious saliency
because single Internet users with high religious saliency are less likely to attempt
online dating.

THEORETICAL FRAMEWORK

If the first hypothesis is supported, it is important to empirically test why

individuals with strong religious identities would necessarily avoid online dating. As

noted, they tend to be more resistant to changes in dating and marriage norms (Putnam &

Campbell, 2010, p. 158; Sahl & Batson, 2011), but could their online dating avoidance be

due to peer influence in their congregations? Could the emphasis on marriage as a sacred

union make them more risk-averse in engaging in more "dangerous" forms of dating?

Hypotheses on the social influence of congregations and the mistrust of online dating are

both tested in order to explain the relationship between religious salience and attempting

online dating (see Figure 1 for theoretical model). Both social influence and risk aversion

are important factors in relationship initiation, one of the most crucial stages in romantic

relationships (Tran, Simpson, & Fletcher, 2008), and they may help to explain why the

highly religious are avoiding online dating.

Social Influence

Social ties often influence who and how individuals choose to meet potential

dating partners. Most new romantic couples meet through friends, with online dating

being the second most prevalent mechanism in relationship initiation (Rosenfeld &

Thomas, 2012). The effect of family members on dating choice has recently been

FIGURE 1. GENERAL THEORETICAL MODEL FOR THE EFFECT OF HIGH RELIGIOUS

SALIENCY ON ATTEMPTING ONLINE DATING THROUGH RELIGIOUS ATTENDANCE AND

MISTRUST OF ONLINE DATING
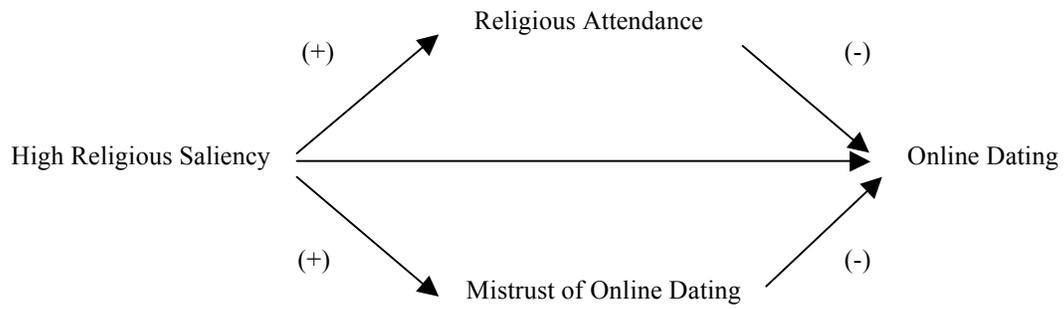
declining in Western cultures (Parks, 2009; Wright & Sinclair, 2012). Based on past

research (Guerrero & Mongeau, 2008; Parks, 2009; Parks & Eggert, 1991; Sautter et al.,

2010), Wright and Sinclair (2012, p. 744) theorize that there are four essential

mechanisms of social influence that affect initiation into dating: offering opinions on

potential partners, arranging introductions, serving as a liason between prospective

partners, and creating social norms through "dating rules." With regard to the last

mechanism (social norms), groups often use collective values and traditions to enforce

relationship endogamy (Surra & Milardo, 1991).

The effect of social influence on online dating has been heavily emphasized

(Finkel et al., 2012). A 2006 Pew Internet report reveals that 31 percent of Americans

know someone who has used an online dating website, and this number increases to 44%

among single and looking Internet users (Madden & Lenhart, 2006, p. 12). Knowing an

online dater is one of the strongest predictors of whether individuals choose to use an

online dating websites themselves (Sautter et al., 2010). This suggests that as more single

Internet users use online dating for mate selection, it will become more prevalent within

their social networks. Indeed, the influence of close intimates affects dating norms and

exposure to new dating methods like online dating.

For religious singles, congregations and their members may exert social influence

on dating practices and dating norms. In general, the opinions and practices of

congregations are often infused with transcendental qualities (Berger, 1967, p. 38),

making them powerful institutions to regulate beliefs and behaviors (Stroope, 2012).

With regard to dating, single religious adults may choose similar dating practices to those

of married couples in their congregation who they believe reflect "healthy" marriages

(Wilcox & Wolfinger, 2008; Wolfinger & Wilcox, 2008). Since online dating is fairly

new, the married couples in the congregation are less likely to have used it to meet one

another. Also, congregations may offer single adults access to "marriage-oriented

events," allowing opportunities to meet and date other single adults in their congregation

(Burdette, 2012, p. 432). Based on the importance of congregations on relationship

initiation, the following hypothesis will be tested:

> Hypothesis #2: Individuals with high religious saliency are less likely to use
> online dating because their congregation exposes them to "tried and true" dating
> practices and alternative opportunities to meet potential dating partners.

This measure will be operationalized through religious attendance since religious

attendance signifies embeddedness in a religious community (Lim & Putnam, 2010;

Stroope, 2012), and it has been used in other studies to tap into the influence of religious

networks on intimate relationships (Wolfinger & Wilcox, 2008).

Risk Aversion

Perceived risk also plays an important factor in relationship initiation. Actors

weigh the potential benefits versus the potential costs of establishing social relationships

based on past rewards, costs, and punishments (Molm & Cook, 1995; Macy, 1993). The

formation and maintenance of relationships entail the willingness to assess risk and foster

trust (Molm, 1994, 1997). Trust becomes a prominent factor in relationship initiation if

the particular decision is risky, incorporating aspects of affect that go beyond rational

choice theory (Lawler, 2001; Molm, 2009). Moreover, romantic relationships with higher

perceived costs and lower relationship satisfaction are particularly likely to result in

relationship dissolution (Sprecher, 2001; White & Booth, 1991). The emphasis on risk in relationships will be an essential aspect for the analysis of this study.

The literature on Internet dating often emphasizes the benefits more than the risks of using this new technology. Members of dating websites often message other members who they believe could offer them rewards, such as physical attractiveness or higher income (Hitsch, 2010a, 2010b; Shtatfeld & Barak, 2009), and the desired rewards will vary by cultural context (Kale & Spence, 2009). However, some research suggests that perceived risk may play a factor as to why some individuals choose not to attempt online dating. Donn and Sherman (2002) found that college students associated several costs with online dating. Specifically, they worried that meeting romantic contacts online was dangerous, and potential partners on dating websites may not be trustworthy. With this understanding, perceived costs play a vital role for those deciding to try online dating for the first time, and perceived rewards play a significant part once they visit online dating websites.

Within the realm of religion, risk may factor into mate selection processes among those with strong religious identities. In general, risk is so prominent in the sociological study of religion that some scholars have suggested that gender differences in religiosity can be better explained by risk-taking behavior than by socialization (Miller & Hoffmann 1995; Miller & Stark 2002; Sherkat & Ellison 1999). In this sense, the highly religious are generally understood to be more risk-averse. This can factor into romantic relationships as well. Since religious individuals often believe in the "sanctity" of marriage and therefore strongly commit to their sacred union (Dollahite, Hawkins, &

Parr, 2012; Goodman & Dollahite, 2006; Lambert & Dollahite, 2008), they may be more

tentative in terms of who and how they date, especially when encountering new

technology that may expose them to "dangerous" partners online (see Donn & Sherman,

2002). Research shows how young religious women place a large importance on

marriage (Ellison, Burdette, & Glenn, 2011), and this importance on marriage may make

the costs of engaging in risky dating practices more salient. Risk aversion among young

religious adults possibly explains the popularity of the "romantic abstinence" movement,

where individuals choose to abstain from dating. This is evident among some campus

ministries (see Wilkins, 2008, pp.117-149), and notably apparent in popular Christian

literature, like the national bestseller *I Kissed Dating Goodbye* (Harris, 1997). Thus, the

risk-averse tendencies of the highly religious individuals may make them less likely to

attempt online dating. For this reason, the following hypothesis will be tested:

> Hypothesis #3: Individuals with high religious saliency are less likely to use
> online dating because they perceive online dating to be "dangerous," and
> therefore too costly.

This measure will be operationalized through an attitudinal measure that expresses online

dating as dangerous.

It is important to note that social influence and risk aversion may simultaneously

play important roles in attempting online dating. Individuals with high religious saliency

may be reluctant to try online dating because their religious networks view them as

dangerous. In this sense, the study's two hypotheses are not necessarily mutually

exclusive. Moreover, these hypotheses do not represent a comprehensive test of social

influence and risk-aversion, meaning that if one or both of the hypotheses fail to be

supported, this does not necessarily mean that there are no other social influences or risk assessment mechanisms that explain the effect of religious salience on attempting online dating. The given measures shed light on some potential mechanisms, but it is very likely that other unmeasured factors play an important role in explaining the effect of religious salience on attempting online dating as well.

METHOD

The data utilized in this analysis are from a late 2005 telephone survey performed by the Pew Internet & American Life Project, a subsection of the Pew Research Center. Princeton Survey Research Associates International, working on behalf of Pew Internet, used random-digit dialing to construct a nationally representative random sample of 3,215 adults, ages 18 and older. This method of selection is preferable to a convenience sample that may suffer from selection bias. Although the response rate was 28 percent for the survey, the dataset includes a weight based on Census data to correct for nonresponse and account for various discrepancies between the sample and the population parameter. For more information, see Madden and Lenhart (2006).

The analytical sample for this study includes respondents who are Internet users and have been single at some point during the last five years, the target population for online daters since the online dating "boom" in 2000. This is the same strategy that other researchers have used in their studies (Rosenfeld & Thomas, 2012; Sautter et al., 2010). It is worth mentioning that Match.com went online in 1995, and therefore one might argue that the target population should include those who have been single in the last ten years, rather than five. There are two main reasons why my definition of the "target population"

is preferable. First, computer use/Internet use in the mid-1990s was significantly lower than in the early 2000s. In 1997, 37 percent of American households had at least one computer, and only 18 percent of Americans had Internet access. By 2003, 62 percent of households had at least one computer, and 55 percent had Internet access (Day, Janus, & Davis, 2005). By expanding the sample, the analysis may falsely include respondents who did not have Internet access during this earlier time period. Second, online dating became a more prominent option for mate selection in the early 2000s. In 1999, only 2 percent of American singles had used some form of online dating. By 2002, around 25 percent of single adults had used online dating (Orr, 2004). This dramatic increase is most likely due to the expansion of Internet use, but it also may be due to a decrease in stigmatization. Therefore, the analytical sample is best fitted to resemble the trends in Internet use and online dating since the early 2000s.

The analytical sample for the study has 910 cases, and list-wise deletion was used to handle missing data. The target population for the study included 1,057 cases, but shrank to 910 cases because of missing data. Although one may worry about potential bias, a preliminary analysis using multiple imputation (MI) produced the same substantive results prior to mediation testing. Since postestimation commands are limited in MI, specifically the KHB method used to test mediation, list-wise deletion was used instead. See the Appendix for the characteristics of the general sample, target population for online dating, analytical sample, and the online dating community.

Dependent Variable: Attempted Online Dating

The dependent variable is a dichotomous measure of whether a respondent has visited a dating website at any point in his/her life. The measure of *Attempted Online Dating* comes from two questions on the survey: "Have you ever gone to an online dating website or other site where you can meet people online?" and "Do you ever...use an online dating website?" An answer of "yes" to either question was coded as 1. Other studies who have used this data define these people as "online daters" (Madden & Lenhart 2006; Sautter et al. 2010), but I prefer to define these respondents as individuals who have attempted online dating since we do not know the extent of their commitment to online dating. The most popular site listed was Match.com (28.6% of online daters). Some respondents also listed the religious dating websites ChristianMingle and Jdate.

Variable of Interest: High Religious Saliency

The variable of interest is a measure of whether the respondent considers himself/herself religious. The question on the survey is stated as follows: "Does this describe you very well, somewhat well, not too well, or not at all: a religious person?" Someone who answers "very well" to this question is considered to have high religious saliency and someone who gives another response other than "very well" is considered to have low religious saliency. The measure was recoded as a dichotomous variable, with the answer "very well" coded as 1 and all other responses coded as 0. An alternate form of coding into "high" "medium" and "low" religious saliency was used, but produced the same substantive results as the following analysis. The decision to dichotomize the variable of interest was based primarily on reasons of interpretability, as well as consistency with past descriptive reports on the same data (see Madden & Lenhart,

2006). Substantively, the higher end of the religiosity spectrum also is strongly associated with various behaviors and attitudes toward dating, marriage, and sex (see Carroll et al., 2000; Edgell, Gerteis, & Hartmann, 2006; Pearce & Denton, 2011), which is pertinent to the focus of this study.

Sociodemographic Control Variables

The analyses include the following types of sociodemographic variables in order to control for spuriousness: gender, race, age, education, income, community type, religious affiliation, student status (part-time or full time), and divorced. *Female* is a dichotomized measure. Race is dummy-coded into *Black* and *Other* with the reference group being *White. Age* is a continuous variable, ranging from 18 to 95.[1] Education is dummy-coded into "less than a high school education" (*Less than HS*), "some college" (*Some College*), and "Bachelor of Arts/Science or higher" (*BA/BS+*), with the reference group being "high school education" (*HS*). Income is dummy-coded into "less than $30,000" (*<$30,000*), "more than $75,000" (*$75,000+*), and "missing income" (*Missing*), with the reference group being "$30,000 to $75,000" (*$30K-75K*). A dummy-coded variable for missing values on income was created in order to preserve a large number of cases within the analysis. Since the topic of income is somewhat sensitive for many respondents, it is sometimes not disclosed in surveys (Penn, 2007). Community type is dummy-coded into *Suburban* and *Urban,* with the reference group being *Rural*. Religious affiliation is dummy-coded into "Mainline Protestant" (*Mainline Prot.*), "Catholic" (*Catholic*), "other religion" (*Other*), and "no religion" (*None*),[2] with the reference group being "Evangelical Protestant" (*Evangelical Prot.*). The measure for

Evangelical Protestants is created from two measures: answering "Protestant" for his/her

religious affiliation and answering "yes" to the question, "Would you describe yourself as

a born-again or Evangelical Christian, or not?" The measure for Mainline Protestants is

derived from answering "Protestant" to religious affiliation, and answering "no" to being

a "born-again or Evangelical Christian." *Student* is a dichotomized measure, coded "1" if

the respondent is a part-time or full-time student. Lastly, *Divorced* is a dichotomized

measure, coded "1" if the respondent answered "divorced" for his/her marital status.

Additional Control: Knows Online Dater

An additional control measure is added to the analysis to approximate the effect

of social networks in a non-religious setting. *Knows Online Dater* is a dichotomized

variable that measures whether the respondent personally knows anyone who has ever

used a dating website. It functions as an egocentric network measure. The purpose of

including this measure is to examine how resilient the religious salience measure is when

controlling for one of the strongest predictors of attempting online dating. The measure is

not tested for mediation in the full model because it failed to meet one of the assumptions

of mediation in preliminary analyses: the independent variable predicts the mediator

variable (see Baron & Kenny, 1986).

Mediating Variables: Religious Attendance and Mistrust of Online Dating

An important component to the following study is the testing of mediating effects,

also known as intervening or indirect effects. Mediating variables are defined as

"generative mechanisms" through which an independent variable is able to affect the

dependent variable (Baron & Kenny, 1986, p. 1173). In this way, they are important to

statistical analyses because they help to explain why and how a relationship exists, instead of just where a relationship exists (moderator variables), or how strong the relationship is (e.g. robust dependence approach; see Goldthorpe, 2001). Often, there are many mechanisms at play that connect the effect of the independent variable to the dependent variable, so mediation techniques help to highlight some of the processes based on the available measures but not all. In the context of the study, the research goal is to discover potential mechanisms influencing the effect of religious salience on attempting online dating.

Two measures are tested for mediation in the following analyses: how often one goes to religious services (*Religious Attendance*) and whether the respondent views online dating websites as dangerous (*Mistrust of Online Dating*). *Religious Attendance* is an ascending ordinal measure with the following response categories: 1) Don't go to worship services; 2) Several times a year; 3) About once a month; 4) About once a week; and 5) Daily. This measure taps into the influence of congregational networks on one's propensity to use an online dating website. Typically, a variable measuring how many ties the respondent has in one's church would be a better measure of social embeddedness in a religious network, but due to the limitations of the survey, church attendance is the best measure to approximate the effect of one's religious network. *Mistrust of Online Dating* is a dichotomous measure, coded "1" if the respondent answers "agree" to the following survey statement: "Online dating is dangerous because it puts your personal information on the Internet." This variable represents a measure of perceived risk, interpreting the answer "agree" as a perceived cost to interacting with others online.

Analytical Strategy

The study employs sequential binary logistic regressions to test the effect of religious salience on the odds of using a dating website. The first model includes just the sociodemographic control variables. The second model adds the religious salience measure and examines this variable of interest when controlling for sociodemographic characteristics. In order to examine the strength of the variable of interest, a measure for knowing an online dater is added to the third model. Lastly, the two mediator variables are added to the fourth and final model, and the KHB method estimates their mediating effects. This innovative technique is necessary to calculate mediating effects because testing mediation in logistic regression is inherently difficult due to the "rescaling problem" (see Long, 1997; Winship & Mare, 1984). It also allows for testing multiple mediators, partitioning of mediating effects, and significance tests, which play key roles in understanding the level of mediation in the following analyses. For more methodological details, see Karlson, Holm, and Breen (2012) and Kohler, Karlson, and Holm (2011). All analyses are performed in Stata/SE 12.1.

RESULTS

To begin, descriptive statistics will gauge the overall rates of online dating usage and attitudinal discrepancies between respondents with high religious saliency and low religious saliency in the sample. In Table 1, 13 percent of highly religious adults and 22 percent of less religious adults have visited an online dating website (p-value<.01). This gives some initial support for the first hypothesis. In terms of attitudes toward online dating, the belief that online dating is "dangerous" differs significantly based on the

Table 1. *Comparison of Means: Online Dating Usage and Attitudes Toward Online Dating (High vs. Low Religious Saliency)*

	High Religious Saliency	Low Religious Saliency
Attempted Online Dating**	13%	22%
Attitudes in Sample (All)		
Online dating is dangerous[a]***	79%	61%
Online dating is a good way to meet people***	47%	60%
Online dating is easier/efficient (vs. other ways)	34%	41%
Online dating allows for a better match	52%	59%
Online daters are desperate	32%	29%
Attitudes in Sample (Excluding Online Daters)		
Online dating is dangerous***	83%	66%
Online dating is a good way to meet people**	41%	54%
Online dating is easier/efficient (vs. other ways)	31%	38%
Online dating allows for a better match	49%	57%
Online daters are desperate	34%	31%
Attitudes in Sample (Only Online Daters)		
Online dating is dangerous	51%	41%
Online dating is a good way to meet people	80%	82%
Online dating is easier/efficient (vs. other ways)	54%	54%
Online dating allows for a better match	73%	67%
Online daters are desperate	19%	19%

Source: Pew Internet & American Life Project: Online Dating, 2005, weighted
[a]Labeled as "Mistrust of Online Dating" in analyses
Note: *n*=910 (Target population: single in the last five years, Internet users)
*p<.05. **p<.01. ***p<.001.

religious salience of the respondent (79 percent for high religious saliency vs. 61 percent for low religious saliency; p-value<.001). Even when removing online daters from the sample, the difference in mistrust of online dating between religious salience groups remains apparent (83% versus 66%; p-value<.001). There are also significant discrepancies based on the perception that online dating is a "good way of meeting people," but since the question is not too helpful in explaining the potential relationship between religious salience and online dating, it was not tested for mediation. Moreover, the stigma placed on online dating ("online daters are desperate") does not significantly religious salience of the respondent (79 percent for high religious saliency vs. 61 percent for low religious saliency; p-value<.001). Even when removing online daters from the sample, the difference in mistrust of online dating between religious salience groups remains apparent (83% versus 66%; p-value<.001). There are also significant discrepancies based on the perception that online dating is a "good way of meeting people," but since the question is not too helpful in explaining the potential relationship between religious salience and online dating, it was not tested for mediation. Moreover, the stigma placed on online dating ("online daters are desperate") does not significantly differ between those with high religious saliency and those with low religious saliency. Perception of risk rather than perception of desperation appears to separate the attitudes of those with strong religious identities from those with weak ones.

The mistrust of online dating could be limited to specific social locations, but Table 2 indicates that significant differences between religious salience groups pervade most sociodemographic groups in the sample. For example, men and women with high religious saliency both report more mistrust of online dating, clearly evident in the 24

Table 2. *Comparison of Means: Mistrust of Online Dating by Social Location (High vs. Low Religious Saliency*

Online dating is dangerous[a]	High Religious Saliency	Low Religious Saliency
Gender		
Female***	85%	61%
Male*	72%	60%
Race		
White***	76%	59%
Black**	88%	64%
Other	83%	66%
Age		
18-29***	83%	58%
30-49*	69%	58%
50-64**	89%	71%
65+	91%	77%
Education		
Less than HS*	91%	70%
HS**	81%	63%
Some College*	79%	67%
BA/BS+ ***	72%	49%
Income		
<$30,000**	86%	70%
$30K-75K***	81%	56%
$75,000+	58%	54%
Community Type		
Urban***	81%	57%
Suburban***	78%	61%
Rural	79%	67%
Religion		
Evangelical Prot.	80%	67%
Mainline Prot.**	80%	58%
Catholic*	81%	65%
Other	78%	62%

Source: Pew Internet & American Life Project: Online Dating, 2005, weighted
[a]Labeled as "Mistrust of Online Dating" in analyses
Note: *n*=910 (Target population: single in the last five years, Internet users)
*p<.05. **p<.01. ***p<.001.

percentage-point differential between women with high religious saliency and those with low religious saliency (p-value<.001). Typically, younger respondents and highly educated respondents tend to have more positive views towards online dating, but in this instance, respondents ages 18 through 29 as well as respondents with at least a college degree appear starkly divided on the mistrust of online dating depending on religious salience (both differences significant at .001 confidence level). For this reason, there is good reason to test whether the mistrust of online dating mediates the relationship between religious salience and the odds of using an online dating website.

The first three models of multivariate logistic regressions show the predictors of attempting online dating prior to the inclusion of the mediator variables (see Table 3). Model 1 only shows the sociodemographic predictors of online dating prior to adding the variable of interest. Other than the age, Catholic and the divorced indicators, there are little significant differences among control variables, mostly due to higher standard errors. The significance of the age and Catholic predictors differ from the findings of Sautter and colleagues (2010) because of differences in specification. Sautter and colleagues included a quadratic term for age, which if included in Model 1 with the linear term would also result in insignificant findings. The Catholic predictor is significant with relation to Evangelical Protestants, suggesting that Catholics are less likely to try online dating compared to Evangelicals. Sautter and colleagues had *Other* as the reference group and did not divide the Protestant group into Evangelical and Mainline Protestants. If the reference group were either *Other* or *None*, the Catholic predictor would not be significant. The relationship between Catholics and attempting online dating should be examined more in future research.

Table 3. *Models 1-3: Logistic Regression Odds Ratios & Betas of Independent Variables on Attempted Online Dating*

Dependent Variable: Attempted Online Dating	Model 1 OR (Beta)	Model 2 OR (Beta)	Model 3 OR (Beta)
Control Variables:			
Female	.88 (-.03)	.88 (-.04)	.77 (-.06)
Race			
Black	.99 (-.00)	1.14 (.02)	1.57 (.08)
Other	.86 (-.03)	.84 (-.03)	.96 (-.01)
Age	.98 (-.14)*	.99 (-.12)	.99 (-.08)
Education			
Less than HS	1.24 (.03)	1.24 (.03)	1.16 (.02)
Some College	1.05 (.01)	1.07 (.02)	.90 (-.02)
BA/BS+	1.22 (.05)	1.24 (.05)	.94 (-.01)
Income			
<$30,000	.71 (-.09)	.71 (-.09)	.81 (-.05)
$75,000+	1.07 (.02)	1.06 (.01)	.95 (-.01)
Missing	.64 (-.08)	.72 (-.06)	.81 (-.03)
Community Type			
Urban	1.57 (.12)	1.48 (.10)	1.35 (.07)
Suburban	1.55 (.12)	1.49 (.10)	1.48 (.10)
Student	.92 (-.02)	.96 (-.01)	1.03 (.01)
Divorced	1.88 (.13)**	1.91 (.13)**	1.71 (.01)*
Religion			
Mainline Prot.	.97 (-.01)	.78 (-.06)	.73 (-.07)
Catholic	.50 (-.14)*	.44 (-.18)*	.46 (-.16)*
Other	.82 (-.03)	.71 (-.05)	.60 (-.07)
None	.85 (-.03)	.60 (-.09)	.57 (-.09)
Knows Online Dater	———	———	4.94 (.39)***
Variable of Interest:			
High Religious Saliency	———	.49 (-.18)**	.50 (-.16)**
AIC	2.42	2.39	2.20
df	18	19	20

Source: Pew Internet & American Life Project Survey: Online Dating, 2005
Note: *n*=910 (Target population: single in the last five years, Internet users)
Reference Groups: white, high school education, $30k-$75k income, rural, Evangelical
OR=Odds ratio
*p<.05. **p<.01. ***p<.001.

In Model 2, the addition of the religious salience measure to the regression allows us to test the first hypothesis: Those with high religious saliency in the target population are less likely to attempt online dating. Results indicate that even when controlling for conventional sociodemographic variables, those with high religious saliency are significantly less likely to use an online dating website compared to those with low religious saliency. Specifically, they have half the odds of using an online dating website compared to those who place little emphasis on their religion (OR=.49; p<.01). Moreover, it is the strongest predictor of attempting online dating in the model, even stronger than age and divorced status (Beta=-.18). Based on the predicted probabilities calculated from Model 2, those with high religious saliency have a 13 percent predicted probability of online dating compared to 23 percent for those with low religious saliency. Evangelicals with high religious saliency have a 16 percent predicted probability of attempting online dating compared with 28 percent of those with low religious saliency. This discrepancy also exists between Mainline Protestants (14 percent versus 24 percent) and Catholics (nine percent versus 16 percent). Clearly, religious salience has a strong effect across religious groups in determining whether one chooses to visit an online dating website.

But is this relationship affected by whether the respondent knows an online dater? Model 3 introduces the egocentric network measure in order to test the resilience of the religious salience measure against one of the strongest predictors of online dating. Analyses show little change in the coefficients for the variable of interest (OR=.50; Beta=.16), and the substantive results remain the same (p<.01). Even when controlling

for whether the respondent knows an online dater, the effect of religious salience on online dating holds strong.

Testing the Mediating Variables

Finally, hypotheses two and three are tested using the KHB method in the fourth and final regression model. Table 4 shows the coefficients for the mediators and their subsequent mediating effects estimated through the KHB method. What is noteworthy is how weak the religious attendance predictor is within the model (Beta=-.01). Moreover, the insignificance of the measure does not appear to be related to its standard error, which is one of the lowest in the model (SE=.095). In stark contrast, the mistrust of online dating significantly predicts online dating at the .001 confidence level. Those who view online dating as "dangerous" are significantly less likely to ever go to an online dating website. The total mediating effect of both mediators accounts for 23 percent of the total effect of religious salience on online dating. However, religious attendance only accounts for 3 percent of the total effect and is not a significant mediator. In contrast, mistrust of online dating accounts for one fifth of the total effect of religious salience on the dependent variable and is a significant mediator (p< .01). Substantively, mistrust of online dating partially mediates the effect of religious salience on using a dating website, whereas religious attendance does not.

How Religious Salience Affects the Composition of Online Daters

Knowing that religious salience affects the odds of using a dating website, how does this phenomenon affect the religious composition of online daters? Tables 5 and 6 highlight how the religious differences between online daters and other groups (e.g., vs.

Table 4. *Model 4: Logistic Regression Odds Ratios & Betas of Independent Variables on Internet Dating & KHB Test of Multiple Mediating Effects*

Dependent Variable: Attempted Online Dating				
	Model 4			
	OR	(Beta)		
Control Variables:				
Female	.80	(-.05)		
Race				
Black	1.88	(.10)		
Other	1.10	(.01)		
Age	.99	(-.04)		
Education				
Less than HS	1.21	(.03)		
Some College	.89	(-.03)		
BA/BS+	.80	(-.05)		
Income				
<$30,000	.92	(-.02)		
$75,000+	.91	(-.02)		
Missing	.85	(-.02)		
Community Type				
Urban	1.24	(.05)		
Suburban	1.49	(.09)		
Student	1.06	(.01)		
Divorced	1.73	(.10)*		
Religion				
Mainline Prot.	.68	(-.09)		
Catholic	.47	(-.14)*		
Other	.61	(-.07)		
None	.52	(-.10)		
Knows Online Dater	4.76	(.37)***		
Variable of Interest:				
High Religious Saliency	.58	(-.12)*		
			KHB Method:	
			Contribution of Mediator	Overall Mediating %
Mediating Variables:				
Religious Attendance	.98	(-.01)	14%	3%
Mistrust Online Dating	.32	(-.25)***	86%	20%**
AIC	2.11			
df	22			
			Total Mediating Effect	23%

Source: Pew Internet & American Life Project Survey: Online Dating, 2005
Note: *n*=910 (Target population: single in the last five years, Internet users)
Reference Groups: white, high school education, $30k-$75k income, rural, Evangelical
OR=Odds ratio
*p<.05. **p<.01. ***p<.001.

Table 5. *Religious Affiliation: Online Daters Compared to Other Groups*

	Online Daters (OD) *n*=168	Target Pop.[a] (TP) *n*=910	General Pop. (GP) *N*=3,114	OD vs. TP	OD vs. GP
Religious Affil.					
Evangelical	27%	25%	30%	———	———
Mainline Prot.	34%	32%	29%	———	———
Catholic	16%	21%	23%	———	———
Other	10%	9%	8%	———	———
None	13%	13%	9%	———	———

Source: Pew Internet & American Life Project Survey: Online Dating, 2005, weighted
[a]Target population = single in the last five years, Internet users
*p<.05. **p<.01. ***p<.001.

Table 6. *Percentage Reporting High Religious Saliency: Online Daters Compared to Other Groups*

	Online Daters (OD) *n*=168	Target Pop.[a] (TP) *n*=910	General Pop. (GP) *N*=3,074	OD vs. TP	OD vs. GP
% High Rel. Sal.					
Evangelical	48%	65%	73%	*	**
Mainline Prot.	23%	32%	39%	————	**
Catholic	27%	34%	40%	————	————
Other	12%	35%	40%	————	————
None	2%	4%	7%	————	————
Entire Group	27%	37%	46%	**	***

Source: Pew Internet & American Life Project Survey: Online Dating, 2005, weighted
Note: Catholic and "Other" mean differences are not significant due to small number of cases. Avoid "Type 1" error in inferences.
[a]Target population = single in the last five years, Internet users
*p<.05. **p<.01. ***p<.001.

single Internet users; vs. general population) are less related to religious affiliation and more related to religious salience. In Table 5, it is noteworthy that the religious composition of online daters compared to other samples is not significantly different. However, the percentage of respondents with strong religious identities clearly differs across groups in Table 6. Less than half of Evangelical online daters report high religious saliency, a clear discrepancy from the two-thirds among single Internet users and the three-fourths in the general population. Mainline Protestant online daters also have lower reports of religious salience compared to the general population. Collectively, only 27 percent of online daters report high religious saliency, a significant difference between the single Internet users and the general population.

DISCUSSION AND CONCLUSION

These findings have some strong implications for what we know about online dating. Since the odds of using online dating does not appear to strongly differ across religious traditions, one may initially believe that religion does not affect whether one chooses to date online. This is not true. The most important religious factor in determining if one will use an online dating website is whether the individual exhibits a strong religious identity. Analyses indicate that the mistrust of online dating partially drives away those with high religious saliency. As a result, individuals with low religious saliency make up 73 percent of online daters. In this sense, religion does play a significant role in attempting online dating, but in a more subtle way that goes beyond religious affiliation.

The theoretical implications on relationship initiation are perhaps most noteworthy. The risk-averse tendencies of religious adults have been studied with regards to gender differences in religiosity (see Miller & Hoffmann 1995; Miller & Stark 2002; Sherkat & Ellison 1999), but they have not been elaborated in research on dating and marriage. As theorized earlier, the belief in the sanctity of marriage may make the costs of engaging in more "dangerous" forms of dating more salient since their selection of a mate has eternal implications. These individuals could view the casual nature of online dating as an indicator that those who attempt online dating may not have the same emphasis on marriage and faith as they do, and therefore they are not trustworthy as potential mates. The perceived threat is not just with regards to physical safety but to religious worldview and values. If the end result is holy matrimony and maintaining their faith, religious adults must constantly be wary of who and how they date. This sheds further light on the distinct perceptions and behaviors of the highly religious adults already found in the marriage literature (see Dollahite, Hawkins, & Parr, 2012; Goodman & Dollahite, 2006; Lambert & Dollahite, 2008; Lehrer & Chiswick, 1993; Putnam & Campbell, 2010, p. 158; Sahl & Batson, 2011), while also providing new evidence that they exhibit risk-averse tendencies with regards to new forms of dating, like dating websites.

One of the greatest paradoxes of the study is the case of Evangelical Protestants in online dating. As a group, their odds of attempting online dating do not significantly differ from other religious groups, except for Catholics, who actually attempt online dating *less* than Evangelicals. This is somewhat paradoxical given the main substantive finding that those with high religious saliency are less likely to ever use an online dating

website, since Evangelicals are the religious group most likely to exhibit a strong

religious identity (see Table 6). The study suggests that the effect of religious salience on

attempting online dating is a very strong dividing factor among Evangelicals, as

evidenced by the predicted probabilities and the percentage reporting high religious

saliency across sample groups. Evangelicals with low religious saliency have the highest

predicted probabilities of trying online dating across religious groups, but those with high

religious saliency have fairly low predicted probabilities. This phenomenon should be

investigated more in future research.

Also, it may come as a surprise that the worship attendance did not negatively

predict the odds of using an online dating website, and therefore did not mediate the

relationship between religious salience and online dating. At first, this is a

counterintuitive finding, given that one would expect that worship attendance would

allow for alternative opportunities to date and therefore be the most probable explanation

for why those with strong religious identities are less likely to engage in Internet dating.

However, past research on church attendance among young adults as well as research on

where modern individuals find romantic partners might illuminate this finding. In

general, religious attendance for young adults is low (Wuthnow, 2007), and the strongest

predictors of worship attendance are age and whether one is married (Stolzenberg et al.,

1995). Since the sample of Internet users who have been single in the last five years is

much younger than the general sample, and most of them are unmarried, it should not

come as a surprise that the respondents in the analytic sample on average report low

levels of religious attendance (see Appendix). Because young adults tend not to attend

religious services often, few romantic couples today meet through religious institutions

(Hogan, Dutton, & Li, 2011; Rosenfeld & Thomas, 2012). Despite this, research indicates that many young people who do not go to religious services often still report high levels of religious salience (Uecker, Regnerus, & Vaaler, 2007). The assumption that all people who report a strong religious identity would go to worship services often is known as the "religious congruence" fallacy (Chaves, 2010), since identity and behavior do not always align perfectly. In this way, the relationship between attendance and online dating may be more inconsistent than that of religious salience and online dating.

There are some limitations to the study. First, the data come from a survey conducted in late 2005. The survey was chosen because it is one of three nationally representative surveys on online dating (for the other surveys, see Rosenfeld & Thomas, 2012; Smith & Duggan, 2013), and it is the only one that measures religious salience and mistrust toward online dating. Although the most recent Pew Internet study is a follow-up survey to their 2005 survey, they did not ask any questions pertaining to religion nor the perception that dating websites are "dangerous." It is possible that the recent growth of religious dating websites, like ChristianMingle, indicates that those with strong religious identities are finally trying online dating at rates comparable to those with weak religious identities. However, the growth of ChristianMingle appears to be modest, going from one percent of all online daters in 2005 to two percent in 2013 (see Smith & Duggan, 2013: p. 50). In general, it would be beneficial to explore the effects of religion on online dating with more recent data. Second, the current research examines the odds of attempting online dating in general and does not distinguish between religious dating websites and other dating websites. There are not enough cases in the data to produce generalizable conclusions on websites like ChristianMingle or JDate. As a result, the study is not

suggesting that people on ChristianMingle or JDate have weaker religious identities relative to the target population. Third, the study found no social network effects on the relationship between religious salience and attempting online dating, but it is possible that there are other unmeasured network effects at play, like closeness to parents or ties to religious friends more generally. The study only approximated network effects based on the available measures in the survey. And fourth, since the survey is cross-sectional and not longitudinal, the causal ordering of the mediators relative to the variable of interest is not fully known. Specifically, these analyses assume that religious salience precedes religious attendance, but it is possible that service attendance also affects one's religious salience. However, the null findings on religious attendance and online dating make this empirical limitation less pertinent to the substantive argument.

This study makes several contributions to the literature. First, it provides new research on religion and Internet dating. Prior to this study, there was little sociological research that examined how religion plays a role in signing up for an online dating website. Second, this study contributes to the research on religion and mate selection processes. Most of the research on religion and intimate relationships concerns either dating and sex among adolescents/college students (Bartkowski, Xu, & Fondren, 2011; Brimeyer & Smith, 2012; Burdette et al., 2009; Ellision et al., 2011; Regnerus, 2007), or marital quality/outcomes among adults (Curtis, Taylor, & Ellison, 2002; Heaton & Pratt, 1990; Williams & Lawler, 2001). Little research investigated the dating attitudes/behavior among religious single adults. This study suggests that singles with strong religious identities view the costs of trying online dating as more salient compared to those who exhibit weak religious identities, and they therefore avoid online dating. In

this regard, this research provides novel data on relationship initiation. Third, the study utilizes an innovative technique to test mediating effects in logistic regression. Prior to this method, many scholars either had to learn SEM to test mediation in logistic regression, or speculate on mediating effects without testing them. The KHB method is an accessible technique with sound theoretical justifications for overcoming the problem of "rescaling" in latent variables (see Karlson, Holm, & Breen, 2012; Kohler, Karlson, & Holm, 2011). More research should use this method to test mediation in non-linear probability models.

It is important to remember that the sociological study of online dating is still in its infant stage. Despite the growth of research articles on online dating in a variety of sociological contexts (e.g. education, race, gender, sexuality, and age), there are few articles that produce generalizable findings based on nationally representative data (for exceptions, see Sautter et al., 2010; Rosenfeld & Thomas, 2012). While research continues to examine how individuals make mate selection decisions once they are online, sociological research has perhaps "jumped the gun" with regards to placing less emphasis on why people choose to use dating websites in the first place, or in this case, why people do not choose to use dating websites. This study illuminates a group of individuals who are reluctant to engage in this new dating medium, and as a result, the analyses reveal how the processes that precede the decision to try Internet dating are more nuanced and subtle than scholars may initially realize.

NOTES

1. I tested for an interaction between age and religious salience, and the interaction variable was not significant. I also reran analyses excluding older age groups (e.g., those 51 and older the first time, and those 65 and older the second time). The results remained substantively similar.

2. I also tested an alternate coding of "None" into two categories: those who exhibit no aspects of religiosity (e.g., report low religious saliency and do not ever go to a religious service) and those who are ambiguous in their religiosity (e.g., they report high religious saliency or go to religious services sometimes). The results remained substantively similar.

APPENDIX

Appendix. Comparing Samples

	All Respondents		Single Internet Users		Analytical Sample		Internet Daters (Sample)	
	N	Mean	N	Mean	N	Mean	N	Mean
Sample Size	3,215	—	1,057	—	910	—	168	—
Gender								
Female	3,215	51.7%	1,057	49.8%	910	50.5%	168	46.9%
Race								
Black	3,146	11.8%	1,040	14.1%	910	13.8%	168	14.6%
Other	3,146	9.1%	1,040	10.6%	910	10.5%	168	9.6%
Age	3,107	45.9	1,032	36.4	910	35.9	168	34.7
Education								
Less than HS	3,187	12.9%	1,053	8.6%	910	8.9%	168	9.0%
Some College	3,187	26.7%	1,053	33.9%	910	33.2%	168	32.3%
BA/BS+	3,187	27.0%	1,053	28.5%	910	27.2%	168	30.0%
Income								
< $30,000	3,215	28.2%	1,057	32.3%	910	33.0%	168	27.9%
$75,000+	3,215	20.8%	1,057	18.7%	910	18.6%	168	22.7%
Missing	3,215	19.4%	1,057	13.3%	910	11.8%	168	8.8%
Community Type								
Urban	3,215	31.3%	1,057	38.9%	910	37.4%	168	39.2%
Suburban	3,215	49.6%	1,057	44.6%	910	45.2%	168	47.7%
Religion								
Mainline	3,114	29.4%	1,026	30.8%	910	31.6%	168	34.4%
Catholic	3,114	23.0%	1,026	21.1%	910	21.4%	168	15.7%
Other	3,114	8.1%	1,026	9.1%	910	9.0%	168	9.7%
None	3,114	9.4%	1,026	13.1%	910	13.0%	168	13.3%
Student	3,205	14.0%	1,057	25.7%	910	26.5%	168	26.3%
Divorced	3,185	10.9%	1,056	17.8%	910	17.4%	168	22.7%
Knows Online Dater	3,195	30.9%	1,054	45.8%	910	46.0%	168	75.6%
Religious Attendance	3,168	2.7	1,045	2.5	910	2.5	168	2.3
Mistrust of Online Dating	2,023	72.7%	977	67.3%	910	67.5%	168	43.4%
Attempted Online Dating	2,252	10.5%	1,057	18.1%	910	18.9%	—	—
Variable of Interest								
High Religious Saliency	3,172	46.1%	1,049	37.0%	910	37.4%	168	26.5%

Source: Pew Internet & American Life Project: Online Dating, 2005, weighted

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