

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

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Psychological Predictors of Chinese Christians' Church Attendance and Religious Steadfastness:

A Three-Wave Prospective Study

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### **Abstract**

In this research we addressed three questions: (1) In what ways are Christians who do not attend church different from Christians who do? (2) Can we predict which church-attending Christians will later stop going to church? (3) Can we predict which Christians will eventually leave their faith altogether? Large-sample longitudinal research on psychological predictors of religious transition is rare. To fill this gap, a 3-wave prospective study was conducted on 932 Chinese Christians. Compared with church-attending Christians, unchurched Christians scored lower on extroversion and agreeableness. They tended to believe that people's destiny was determined by fate. On the second research question, longitudinal analysis indicated that the church-attending Christians who would later exit the church were less extroverted, less conscientious, and higher on intellect (openness to experience). They endorsed fatalistic beliefs, and placed higher value on power (i.e., social status and dominance over people). Moreover, the churches that they had attended were usually smaller in size than those of the ones who remained in church. On the third research question, we found that a person who had not been attending church, who was a full-time university student, and who scored low on extroversion, and high on the values of self-direction, stimulation, and power was more likely to leave their faith. This study extends previous cross-sectional findings on the relationship of religiosity to personality and personal values, and demonstrates temporal precedence of certain personality, belief, and value constructs over church attendance and steadfastness in faith.

Keywords: church attendance, religious steadfastness, personality, fate control, personal values

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Psychological Predictors of Chinese Christians' Church Attendance and Religious Steadfastness:

### A Three-Wave Prospective Study

Rather than being static, people's involvement in religion is dynamic and evolving (Streib & Klein, 2013). Specifically, in the Chinese culture, where most people do not grow up in families with a Judeo-Christian background, some young people become familiar with the Christian faith only when they go to secondary school. For most Chinese who claim to be a Christian, there was a clear point or period during which they left a pantheistic, animistic, or atheistic outlook of the world and become converted to a Christian worldview. Many of these Christians attend church. Some of them, however, will stop attending and some will leave their faith at a later time. Others may continue in faith, and yet do not settle into a particular church. Three variables deserve our closer attention.

The first is *church attendance*. It is a practice of many but not all Christians. It includes the participation in weekly worship services and/or other small group gatherings. This usually strengthens a self identity of being a member or attendee of a particular congregation. The Christians who attend church regularly are those who "believe and belong", while those who do not attend church (the unchurched Christians) are those who "believe without belonging" — they profess their faith and yet are also alienated from organized religion (Hout & Fischer, 2002). There are two sources of unchurched Christians. One is the group of believers who, after being converted, have never joined a religious community. The number, we believe, is relatively small. The other is the group of converts who have once been church-attending, but for some reasons have become unstable in attendance. That takes us to the second variable.

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*Stability in church attendance vs. church exit* is a dynamic variable. We distinguish those church-attending Christians who are stable in their attendance for a reasonably long period of time from those who later exit church. In the present study, the former is operationally defined as those who continue to attend church at the two subsequent waves the participants are surveyed. The latter, the church-exiters, are those who report subsequently at one of the two follow-up waves that they have not gone to church during the last four weeks. It is possible that in some cases, attendance may stabilize again after, for instance, a sickness or the resumption of a former work or study schedule. For others, the exit is permanent. These individuals will become the unchurched Christians. As participation in worships and other gatherings is regarded as an essential part of religiosity, understanding what predict stability of church attendance is therefore important.

The third variable, *religious steadfastness vs. faith exit*, is also a dynamic one. Religious steadfastness refers to persevering in and being loyal to one's faith. It comprises of a continuation of positive affection towards the divine and belief in the doctrines, as well as a willingness to profess one's own faith. Faith exit is equivalent to religious defection (Wright, 1987; Wuthnow & Mellinger, 1978). It comprises of rejection of religious propositions one once hold onto, and a loss of positive affection and adoration towards the divine. Besides these internal affective and cognitive states, a rather typical behavior is the open admission that one is no longer a Christian. Most faith-exiters also stop attending church, although a few may stay because of other, usually non-religious, reasons.

Although religious steadfastness may overlap somewhat with church attendance, the two should be distinguished from each other. This distinction is especially important in the Chinese setting. Because Christianity did not have a detectable presence in Chinese society until the last

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century (despite its arrival in China in 635AD), most Chinese people do not have a habit of attending church. Relatively few weddings and funerals take place in churches. Church attendance is only common among those who have become converted into Christian faith. Therefore, while not attending church may for some North Americans mean turning away from the "old time religion", it could also mean just being an unchurched Christian (for those who have become believers), or, more probably, remaining a non-believer or an ancestor worshipper (for many Chinese non-Christians).

The objective of this study on Chinese Christian believers is to answer three questions: (1) How are the unchurched Christians different psychologically from Christians who regularly attend church? (2) What psychological characteristics predict which church-attending Christians would continue to be stable in their church attendance, and which would later become unstable in their church attendance? (3) What psychological characteristics predict which Christians would remain religiously steadfast, and which would exit their faith altogether?

### **Gaps in Current Knowledge**

Undoubtedly, each believer who exits their church or the faith does so in a dynamic force field of people, events, and institutions (Rambo, 1995), and has his or her unique reasons. These can include social change, change of personal values, critical life events, childhood socialization (Richter & Francis, 1998), non-involvement in church activities during young adulthood (O'Connor, Hoge, & Alexander, 2002), competing interests and activities, perceived irrelevance of church to own life meaning, having grown up to make one's own decisions (Byrne, 2003; Rainer & Rainer, 2008; Roozen, 1979), having been offended by the religious community, and having questions about the fundamentals of the faith (Jameison, 2002).

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The literature in this area suffers from two limitations. First, there are comparatively few studies on individual difference predictors. Our search in PsycInfo with the terms “personality or values” and “aposta\* or religious disaffiliation or deconversion or religious defection or church dropout or unchurch or religious exit or religious switching or switching religion” yielded very few relevant papers published in the last decade. Individual difference variables have largely been ignored in the social scientific study of conversion and deconversion. Second, studies investigating psychological predictors of church exit or faith exit were typically conducted with small samples using qualitative approaches, and most were also retrospective (Paloutzian, Richardson, & Rambo, 1999). While interviews can provide a deep and broad range of information, there is the possibility that the interviewees might embellish certain parts of the past and leave out other important latent factors, in order to provide a coherent story consistent with their self-image. The present study specifically addressed these two limitations.

### **Personality Characteristics**

There is extensive cross-sectional research on the personality correlates of religious affiliation, religiosity, spirituality, and church attendance (Barton & Vaughan, 1976; Francis, 1997a, 2010; Francis & Johnson, 1999; Hardy, Walker, Rackham, & Olsen, 2012; Hunsberger, 1983; Krause & Hayward, 2012; Village, 2011; Wink, Dillon, & Fay, 2005). Heaven and Ciarrochi (2007) demonstrated that conscientiousness predicted whether religious values would be endorsed two years later. McCullough, Tsang, and Brion (2003) showed that agreeableness and conscientiousness measured during adolescence predicted religiousness in adulthood. Similar findings on institutionalized religion or church-centered religious beliefs and practices have also been reported in a longitudinal study by Wink, Ciciolla, Dillon, and Tracy (2007). On

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the basis of Saroglou's (2010) meta-analysis, which found that religiousness is consistently associated with these traits, we derived the following hypothesis for replication within our study:

H1: At Wave 1, when compared with unchurched Christians, church-attending Christians will score higher on agreeableness and conscientiousness.

Saroglou (2010) noted that agreeableness and conscientiousness seem to temporally precede rather than be influenced by religiousness as assessed with attitudinal or behavioral instruments. Unfortunately, in those studies he reviewed, there were no dynamic measures of stability in church attendance or religious steadfastness over time. In other words, direct empirical evidence is still lacking on how personality might play a role in one's exiting church and losing faith. Streib and Klein (2013) also concluded that the existing data do not allow causal interpretations, after observing some characteristic patterns of atheists' and agnostics' personality and value orientations. Thus they called for more longitudinal studies. Hence, we proposed the following hypothesis to be tested with a longitudinal design.

H2: Church-attending Christians who score higher on agreeableness and conscientiousness at Wave 1 will demonstrate more stable church attendance, as indicated in church attendance self-reports made at Wave 2 or Wave 3.

H3: Christians (whether they attend church or not) who score higher on agreeableness and conscientiousness at Wave 1 will demonstrate greater religious steadfastness, as indicated in self-reports of religious affiliation made at Wave 2 or Wave 3.

Although we did not have specific hypotheses for the other Big Five personality factors (emotional stability, extroversion, and intellect), we included them in this study for exploratory purposes.

### **Personal Values**

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There is an association between religiosity and personal values. A meta-analysis by Saroglou, Delpierre, and Dernelle (2004) on data collected from 15 countries demonstrated that religious people tend to score higher than non-religious people on the values of tradition (respect and acceptance of customs and ideas that traditional culture or religion provides), conformity (personal restraint in order not to upset or harm others or violate social expectations), and benevolence (preservation and enhancement of the welfare of people with which one is in frequent contact). The former also tend to score lower on values such as stimulation (excitement, novelty, and challenge in life), hedonism (pleasure and sensuous gratification for oneself), and self-direction (independent thought and action). Along similar lines, student data collected in Turkey, the US, and the Philippines showed a positive association of religiosity with collectivism and conservative values (Cukur, de Guzman, & Carlo, 2004). Therefore, we can reason that certain values are more consistent with religion than are others. Indeed, Zhang et al. (2014) labeled tradition, conformity, benevolence, and universalism (welfare for all people and for nature) as spiritual values. They also called achievement, hedonism, and power (social status and prestige, as well as control over people and resources) the self-enhancement values. On the basis of these previous findings, we hypothesized that:

H4: At Wave 1, when compared with church-attending Christians, unchurched Christians will score lower on spiritual values such as tradition, conformity, benevolence, and universalism, and higher on self-enhancement values such as achievement, hedonism, and power.

Although we are not aware of any longitudinal study that demonstrated causality, we suspected that values that are self-enhancing in nature and incongruent with religiosity could be a major underlying cause for religious exit (see, e.g., Shaffir, 1997). Therefore, we hypothesized that:

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H5: At Wave 1, church-attending Christians who score lower on spiritual values such as tradition, conformity, benevolence, and universalism, and higher on self-enhancement values such as achievement, hedonism, and power, will tend to demonstrate unstable church attendance, as indicated in church attendance self-reports made at Wave 2 or Wave 3.

H6: At Wave 1, Christians (whether they attend church or not) who score lower on spiritual values such as tradition, conformity, benevolence, and universalism, and higher on self-enhancement values such as achievement, hedonism, and power, will tend to demonstrate faith exit, as indicated in self-reports of religious affiliation made at Wave 2 or Wave 3.

### **Social Axiom: Fate Control**

While values describe what a person holds as good and desirable, social axioms describe what a person holds as true about the social world (Leung & Bond, 2008). One social axiom is fate control, which is the belief that life events are predetermined and influenced by some non-human forces, and yet can be altered through certain means. Because of its metaphysical content having much to do with religion, a question arises as to whether fate control fosters or dampens religious commitment?

In many Protestant denominations where the influence of Calvinism has been strong, there is a belief that individual and world events unfold according to the pre-ordained plan of a loving and sovereign God. This, however, is not necessarily a belief in a merciless fate. In fact, the fatalism view of the universe and a reliance on magic in forecasting and influencing one's life outcomes run counter to Christian thinking. Many Christians regard fate and fatalism as pagan (Solomon, 2003), and are less likely than Hindus to believe in things such as destiny or to use divination to cope with difficulties (Young, Morris, Burrus, Krishnan, & Regmi, 2011).

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Aligning oneself with a loving God further strengthens the belief that one is not at the mercy of any heartless cosmic force.

There is some empirical research in support of this distinction between the Christian worldview and fatalism. For example, Jackson and Bergeman (2011) reported a positive correlation between religiosity/spirituality and perceived control. Using data from a national survey in the U.S., Ellison and Burdette (2012) found that one's sense of control (which is the cognitive awareness of a connection between one's own actions and their outcomes) was stronger among people who self-identified as conservative Protestants, had a belief in an afterlife, and attended church frequently. They also found Protestants strongly resisted the fatalistic statement "There's no sense planning a lot—if something good is going to happen, it will." Among university students in three Western countries, Christians scored lower than Muslims on fate control (Safdar, Lewis, Greenglass, & Daneshpour, 2009). As the belief in God's control versus fate control is likely to be transmitted via religious activities, we expected that:

H7: At Wave 1, when compared with church-attending Christians, unchurched Christians will score higher on fate control.

People who persist in an axiomatic belief that contradicts the theology that is taught in church will find it uncomfortable to stay on. Although there is ample empirical data in support of a relationship between control belief and religiosity, there is no strong support for causality. To fill this gap, we used a longitudinal design to test the following causal hypotheses:

H8: At Wave 1, church-attending Christians who score higher on fate control will demonstrate unstable church attendance, as indicated in church attendance self-reports made at Wave 2 or Wave 3.

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H9: At Wave 1, Christians (whether they attend church or not) who score higher on fate control will demonstrate faith exit, as indicated in self-reports of religious affiliation made at Wave 2 or Wave 3.

### **Demographic Predictors**

Previous studies have linked religiosity to demographic characteristics. These include gender (e.g., Collett & Lizardo, 2009; Francis, 1997b), age (e.g., Argue, Johnson, & White, 1999), education (e.g., Uecker, Regnerus, & Vaaler, 2007), and socio-economic status (e.g., Schieman, 2010). Other under-explored religious demographic factors include how long one has been a believer, whether one has been baptized, and characteristics of the religious community one is affiliated to. Although demographic variables are not the focus of the present study, we nevertheless wanted to explore if they are also related to the process of church exit and faith exit.

### **Method**

This study was part of a large, multi-wave, longitudinal online survey. Details of data collection procedure in that research program are reported elsewhere (e.g., Hui, Chan, Lau, Cheung, & Mok, 2012; Hui, Ng, Mok, Lau, & Cheung, 2011; Lau, Hui, Lam, Lau, & Cheung, 2014).

### **Psychological Variables**

**Personality.** The 50-item International Personality Item Pool Big Five Domain scale (Goldberg et al., 2006) was used to measure extroversion, conscientiousness, agreeableness, intellect (openness to experience), and emotional stability. The Chinese translation was done by Hui, Pak, and Cheng (2009), and found to be satisfactory in reliability and validity. Responses were made on a 5-point Likert scale (1=disagree strongly; 5=agree strongly). In the present sample, Cronbach's alphas ranged from .78 to .89.

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**Fate control.** This construct was measured with five items loaded most highly on the fate control subscale of the Social Axiom Survey (SAS-II; Leung & Bond, 2004). Responses were made on a 5-point Likert scale (1=disagree strongly; 5=agree strongly). The total score represents the degree to which the person believes that life events are predetermined, and that there are ways for people to influence their fates. This instrument has been used in many cultures, with good psychometric properties. Its Cronbach's alpha in the present study was .70.

**Values.** The 57-item Schwartz Value Survey (SVS; Schwartz, 1996) was used to measure ten values. Responses were made on a 9-point Likert scale (-1=opposed to my value; 7=supreme importance). This instrument has been used in multinational studies (e.g., Schwartz & Boehnke, 2004). Cronbach's alphas for the ten values (conformity, tradition, benevolence, universalism, self-direction, stimulation, hedonism, achievement, power, and security) in the present study were .77, .43, .85, .85, .73, .60, .57, .81, .76, and .77 respectively. All of the above predictors were measured at Wave 1.

### Religious Variables

**Church-attending Christians vs. unchurched Christians.** Participants who at Wave 1 provided positive responses to the question "Did you in the past four weeks attend church?" were classified as church-attending Christians. Those who gave a negative answer were classified as unchurched Christians. With this operational definition, people who had to occasionally miss church due to travel or shift work would not be classified as unchurched Christians. Nevertheless, this latter category may include a few who cannot attend church due to old age or ill health, although we did not consider this confound serious, given that most participants in our study were young adults.

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**Stable church attendance vs. church exit.** Those who were initially classified as church-attending Christians (Wave 1) and repeatedly gave positive responses to the question “Did you in the past four weeks attend church?” at both Waves 2 and 3 would be coded “1” on stable church attendance. A negative answer at either Wave 2 or Wave 3 or both would be coded “0”, indicating an exit from church during the year after Wave 1.

**Religious steadfastness vs. faith exit.** Participants who self-identified as Christian at all three waves were classified as religiously steadfast. Those who had claimed to be Christian at Wave 1 but did not do so at either or both of the subsequent waves were classified as faith-exiters.

### Demographic Variables

As church attendance and religious steadfastness may be affected by characteristics such as the length of time one has become a believer, whether one has been baptized, and whether one had been attending church before religious conversion (i.e., becoming a believer), we included them as covariates in our analyses. Other demographics included for control were gender, age, full-time student status, family income, marital status, and church size. All demographic variables were measured at Wave 1.

### Sample

The sample in the online survey (Wave 1) consisted of 8,233 individuals. This was made up of 6,207 individuals in the main sample (collected in Fall, 2009) and 2,026 individuals in a supplementary sample (collected in Fall, 2010). From this combined set we extracted for our present study 2,706 Christian believers, operationally defined as those who checked the box marked “Christian” in the Wave 1 questionnaire. (Note that in Chinese language, “Christian” refers to a believer in the Protestant tradition. We did not include the few who checked the box

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“Roman Catholic”.) We excluded 326 respondents who did not complete the items required for this study, 13 because they were 15 years of age or below, and 36 because they did not report their age. The remaining sample consisted of 2,331 Christian believers (708 males; 1,617 females; 6 unknown), at a mean age of 28.93 years ( $SD = 9.84$ ; range = 16-67).

Of these respondents, 1,264 completed a follow-up survey (Wave 2) about four months after Wave 1, and 932 completed the Wave 3 survey about a year after Wave 1. Of this final sample, 92.2% resided in Hong Kong, with the rest in Macau and other countries. Attrition rates were 45.77% and 26.27% for Wave 2 and Wave 3, respectively, which are comparable with other online longitudinal research (Hiskey & Troop, 2002). The attrition may be due to the web-based nature of the study and the length of the questionnaire.

### **Analyses and Results**

#### **Attrition Analysis**

The relatively high attrition rate between Waves 1 and 2 prompted us to conduct a series of t-test and chi-square analyses. Table 1 indicates that those who dropped out from Wave 2 were similar to those who did not in terms of gender, full-time student status, family income, marital status, and church attendance. However, those who dropped out were younger than those who did not by 1.25 years, and had been Christians for 1.00 year less. In terms of personality, those who dropped out scored lower than those who stayed in Wave 2 on conscientiousness, agreeableness, and emotional stability. The two were similar on extroversion and intellect. The two groups were also similar on fate control and values, with some observed differences on benevolence, universalism, and power. Table 2, on the other hand, indicates that those who dropped out from Wave 3 were similar to those who did not in terms of gender, full-time student status, baptismal status, family income, marital status, and age. Again, those who dropped out of

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the study had shorter conversion length than those who stayed in Wave 3. They were also more likely to skip church at Wave 1 compared to those who stayed in Wave 3. In terms of personality, those who dropped out from Wave 3 scored higher on extroversion, but lower on emotional stability. Both groups scored similarly on conscientiousness, agreeableness, and intellect. Those who dropped out scored lower than those stayed in Wave 3 on tradition, benevolence, universalism, but scored higher on power and security. We need to bear these limitations in mind when interpreting our findings. Table 3 presents descriptive statistics for the 932 Christians who completed all three waves of our survey.

[Insert Tables 1, 2, and 3 about here]

### **Differences Between Church-Attending Christians and Unchurched Christians**

There were 805 participants who reported church attendance at Wave 1, while 127 reported not attending church at Wave 1. The most obvious difference between the two groups is that about 70.0% of the church-attending Christians and only 13.4% of the unchurched Christians were already baptized,  $\chi^2(1)=149.23, p < .001$ . A chi-square test further indicated that 44.3% of the church-attending Christians had been attending church before conversion, versus only 27.4% of the unchurched Christians who did,  $\chi^2(1)=10.79, p < .01$ . A multivariate analysis of covariance that compared the two groups of respondents on the psychological as well as religious demographic variables, after controlling for gender, family income, age, marital status, and student/employment status, showed a significant difference, Pillai's  $s=.10, F(16,662)=4.78, p < .001, \eta^2=.15$ . Compared to the church-attending Christians ( $M=2.79, SD=.68$ ), the unchurched Christians scored higher on fate control ( $M=3.19, SD=.61, F(1,677)=18.59, p < .01, \eta^2=.03$ ). Unchurched Christians also scored higher on the values of self-direction ( $M=.39, SD=.54, F(1,677)=4.35, p < .05, \eta^2=.01$ ), hedonism ( $M=.10, SD=1.14, F(1,677)=30.34, p < .001, \eta^2=.04$ ,

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and power ( $M=-.80$ ,  $SD=.93$ ),  $F(1,677)=9.33$ ,  $p<.01$ ,  $\eta^2=.01$ , than church-attending Christians (self-direction:  $M=.20$ ,  $SD=.59$ ; hedonism:  $M=-.83$ ,  $SD=1.24$ ; power:  $M=-1.15$ ,  $SD=.82$ ).

Unchurched Christians, on the other hand, scored lower on extroversion ( $M=2.93$ ,  $SD=.68$ ),  $F(1,677)=5.14$ ,  $p<.01$ ,  $\eta^2=.01$ , agreeableness ( $M=3.72$ ,  $SD=.49$ ),  $F(1,677)=5.14$ ,  $p<.05$ ,  $\eta^2=.01$ , emotional stability ( $M=2.87$ ,  $SD=.76$ ),  $F(1,677)=9.35$ ,  $p<.01$ ,  $\eta^2=.02$ , and the values of conformity ( $M=-.11$ ,  $SD=.82$ ),  $F(1,677)=11.97$ ,  $p<.001$ ,  $\eta^2=.02$ , tradition ( $M=-.63$ ,  $SD=.99$ ),  $F(1,677)=32.46$ ,  $p<.001$ ,  $\eta^2=.05$ , and benevolence ( $M=.51$ ,  $SD=.55$ ),  $F(1,677)=19.23$ ,  $p<.001$ ,  $\eta^2=.03$ , than church-attending Christians (extroversion:  $M=3.13$ ,  $SD=.67$ ; agreeableness:  $M=3.84$ ,  $SD=.42$ ; emotional stability:  $M=3.25$ ,  $SD=.79$ ; conformity:  $M=.29$ ,  $SD=.73$ ; tradition:  $M=-.02$ ,  $SD=.88$ ; benevolence:  $M=.87$ ,  $SD=.59$ ). In sum, H4 and H7 received strong support, and H1 received partial support. Although the  $\eta^2$  attributable to each individual difference variable was small, together, these variables accounted for 15% of the total variance.

### **Who Will Continue Church Attendance and Who Will be Unstable in Church Attendance?**

Of all church-attending Christians in Wave 1, 722 continued attending church at Wave 2 and Wave 3, while 56 (7.20% of those who reported church attendance at Wave 1) reported non-attendance at either or both follow-up surveys. These two categories of people were fairly different from each other on demographics, personality, social axiom (fate control), and values (two right-most columns, Table 4). A series of hierarchical binary logistic regression analyses was conducted. In Model 1, we included as predictors all demographic variables as used in the previous analysis as well as the size of the church attended during Wave 1. In Model 2, the psychological variables measured at Wave 1 were added, followed by backward elimination while retaining all demographic variables. As shown under Model 2 in Table 4, size of the church attended was a predictor. That is, congregants of large churches were more likely than

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congregants of smaller churches to stay. Personality and social axiom predictors were high extroversion, high conscientiousness, low intellect, and low fate control. Furthermore, a low personal value in power and hedonism also predicted church attendance stability. In summary, H2 and H5 received partial support, and H8 received full support.

[Insert Table 4 about here]

### **Who Will Remain Religiously Steadfast and Who Will Exit the Faith?**

The final set of hierarchical binary logistic regression analyses was performed on all 932 participants, regardless of their church attendance status. In fact, we included church attendance as a predictor in the models. A total of 880 (94.4%) continued to self-identify as Christians at Wave 2 and again at Wave 3. They were the religiously steadfast. Another 52 (5.6%) were labeled faith-exiters, as their self-reported religious affiliation changed from “Christianity” to some other categories in either Wave 2 or Wave 3. Regression coefficients are shown in Table 5. After backward elimination (Model 2), the variables that remained as determinants of religious steadfastness vs. faith exit were: being not a full-time student, attending church at Wave 1, and being high on the tradition value. As one component of the definition of the tradition value is following religious norms, to avoid circularity in the evidence, we repeat the regression analysis after removing this value from the predictor list. This supplementary analysis showed that after backward elimination (Model 3), the variables that predicted religious steadfastness vs. faith exit were: being not a full-time student ( $b=1.99$ ,  $OR=7.12$ ), attending church at Wave 1 ( $b=2.23$ ,  $OR=9.34$ ), extroversion ( $b=.71$ ,  $OR=2.04$ ), low self-direction value ( $b=-1.07$ ,  $OR=.34$ ), low stimulation value ( $b=-.66$ ,  $OR=.54$ ), and low power value ( $b=-.71$ ,  $OR=.49$ ). Note that self-direction and stimulation values are opposed to tradition, according to Schwartz’s conceptual framework. H6 (on personal values) received partial support, while H3 and H9 did not.

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[Insert Tables 5 and 6 about here]

### **Discussion**

The unique strength of the present study lies in the variety of predictor variables and the relatively large sample drawn primarily from Chinese Christians living in Hong Kong. A large sample gives the statistical tests high power and the estimates small standard error. Consequently, small effects can have a good chance to be detected and reliably estimated (and so we are also confident that they are indeed small). It is therefore important to evaluate the detected effects on whether they make theoretical sense. With this in mind, we shall describe what we have learned about the difference in personality, social axiom, and values between the church-attending Christians and the unchurched, between those who will remain as regular church attenders and those who will become unstable, as well as between those who will be religiously steadfast and those who will exit their faith. Table 6 contains a summary of findings related to the research hypotheses.

### **Personality**

There was partial support for H1, H2, and H3, in which we predicted that agreeableness and conscientiousness would be different for the church-attending Christians and the unchurched Christians, and that these two personality traits would play a role in the believers' church attendance stability and religious steadfastness. While agreeableness can be enhanced by church attendance, this personality trait does not "cause" one to stay in church, nor would it keep one in faith. The other trait, conscientiousness, enables people to keep up with the practice of regular church-attendance, probably because this personality characteristic is associated with being industrious, disciplined, and responsible. However, conscientious individuals are not any more likely than others to stay religiously steadfast. Neither would church attendance make people

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more conscientious. In short, church attendance is maintained by conscientiousness, and would strengthen agreeableness.

Although not hypothesized, extroversion emerged in all three analyses. The church-attending Christians scored slightly higher than the unchurched Christians on this personality trait. Furthermore, there is evidence that individuals of high extroversion are less likely to quit church or to quit faith during the following year. The cross-sectional and longitudinal findings regarding extroversion are consistent with the notion that extroverts are more at ease than introverts with social interactions, those within a religious community included. As compared with Buddhism and Taoism, Christianity is very social. Indeed, Longo and Kim-Spoon (2014) found that adolescents who kept their Christian religion scored higher in social competence than adolescents who left their religion. Although extroverts tend to be assertive and hence more competitive in their dealing with other people (Wood & Bell, 2008), they are warm, cheerful, and approachable. A meta-analysis showed a small correlation between extroversion and forgiveness (Riek & Mania, 2012). For instance, Brose, Rye, Lutz-Zois, and Ross (2005) found that forgiveness is related to the warmth and positive emotionality facets of extroversion. All of these contribute to their mingling with people at church, as well as building a strong social network and support. These are essential to staying in the religious community, which would provide further opportunities for religious socialization that strengthens faith.

Furthermore, whereas in their interviews Streib, Hood, Keller, Csöff, and Silver (2009) found that openness to experience was higher among the "de-converts" than those who stayed in the faith, we found this personality trait predicts unstable church attendance, although not faith exit. Not attending church does not elevate the believers' level of intellect, but those high on intellect may be more liberal in their thinking and are more ready to try out new social groups.

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Their conformity to the norms of the religious institutions is less than what those institutions are prepared to accommodate. Perceiving their churches as being too fundamentalist, conservative, and closed to new ideas may have prompted these individuals to leave.

Similar to Saroglou's (2002) meta-analytic findings, the size of effects revealed in the present study is small. While our small effect size could be attributed partially to the longitudinal nature of the present study, another possible explanation is a substantive one: that much of religious perseverance (whether in form of continuing to attend church or continuing in the faith) could be the result of some external, contextual factors, which are beyond the scope of this paper, and which future research should examine.

### **Personal Values**

Our longitudinal study clearly agrees with and extends previous cross-sectional studies on personal values and religiosity, such as those reviewed in Saroglou, Delpierre, and Dernelle's (2004) meta-analysis. Standings on a range of personal values (e.g., self-direction, hedonism, power, conformity, tradition, benevolence) were different for church-attending Christians and the unchurched Christians. From our longitudinal analyses, hedonism and power emerged as statistically significant predictors of unstable church attendance. For faith exit, the predictors are self-direction, stimulation, and power.

That there were not more values shown in the logistic regression analysis to be predictive can be explained in two ways. First, some of the SVS subscales do not have a high Cronbach alpha, partly due to the heavy cognitive demand on respondents. This level of reliability is not rare in previous research (e.g., Eyal, Sagristano, Trope, Liberman, & Chaiken, 2009; Haslam, Whelan, & Bastian, 2009; Perrinjaquet, Furrer, Usunier, Cestre, & Valette-Florence, 2007). Even so, the SVS has been found to correlate meaningfully with important constructs such as food-

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related lifestyles (Brunsø, Scholderer, & Grunert, 2004). Second, and more importantly, the theory behind Schwartz's model is that values are not orthogonal to each other. For example, tradition is positively correlated with conformity and benevolence, and negatively to self-direction and hedonism. This circumplex conceptualization has been empirically demonstrated, in both Schwartz's earlier studies (1992, 1996) as well as our own data. (Please contact the corresponding author for a correlation table.) Consequently, in the regression analysis, when the variance in the outcome variable could be accounted for by one value predictor, the other values correlated with the first one became partially redundant, and hence might not appear in the final regression model.

A closer and holistic examination of the results would still suggest that church attendance stability as well as religious steadfastness are more likely found among those holding spiritual values than those holding self-enhancement values. In particular, a low emphasis on power appears as a mark of those who remain stable in church attendance and steadfast in faith. Furthermore, comparing the means, the same pattern of value differences can be found between those who remain in church and those who later withdraw from church (two right-most columns, Table 4), as between the religiously steadfast and those who later leave their faith (two right-most columns, Table 5). Compared to those who later become unstable in church attendance and wavering in their faith, those who are stable in church and steadfast in faith are higher on conformity, tradition, and benevolence. They are also lower on self-direction, stimulation, and hedonism. Values constitute an antecedent of church exit and faith exit. This is not difficult to understand, given that most religious communities greatly cherish humility, servanthood, submissiveness, and self-sacrifice, which under most circumstances are incompatible with the pursuit of status and power. A community that teaches and practices rest and contentment with

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life does not have strong appeal to people deeply concerned about maximizing their influence on others.

However, it is also worth pointing out that the value antecedents of the two outcome variables are not entirely identical. This implies that the processes of church exit and faith exit are separate. The priorities that interfere with a Christian's stable church attendance are pursuit of pleasure (hedonism) as well as desire for recognition and status (power). On the other hand, the priorities that eventuate in some Christians' dropping out of their faith are power, autonomy (self-direction), as well as excitement and challenge in life (stimulation). According to Schwartz and Boehnke (2004), these latter two together forms a higher-order value type called "openness to change", which is related to people's readiness to try out new things, to react against constraints and restrictions, and to come up with their own answers to life's problems. The stimulation and self-direction values invite the "free-thinkers" to question more of the beliefs they are currently holding. People of the opposite higher-order value type, which combines security, conformity, and tradition, prefer fewer changes in their lives, and therefore are more likely to stay in their faith as well.

In brief, the value types of "openness to change" and "self-enhancement" are less compatible with church attendance and religious steadfastness, than are the value types of "conservation" and "self-transcendence". This extends Saroglou et al.'s (2004) findings, and provides important evidence that these values are not only associated with religiosity, but also subsequently affect one's intention to remain in church and in the faith. The fact that these effects of values remained in a regression model that already included personality indicates that church attendance and religious steadfastness reflect individual differences that are not fully captured by the five-factor model of personality. As society becomes secularized, emphasizing pleasure,

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autonomy, and status rather than self-restraint, collectivity, and servanthood, more Christians may internalize the self-enhancement and openness to change values, which may in turn lead to more exit from church and faith.

### **Social Axiom: Fate Control**

Compared to the unchurched believers, church-attending Christians scored lower on fate control, rejecting the notion that our future is controlled by some mysterious force and yet can be altered with some magical means. Furthermore, the church-attending Christians who had a lower score on this social axiom would later be somewhat more likely to stop going to church than would those who had a higher score. Although this social axiom does not directly influence faith exit in the short term, it provides the individuals with an alternative theological framework to collect and interpret information pertaining to faith and related matters. Indeed, there is evidence that fate control belief correlated negatively with traditional Christian beliefs, but positively with beliefs in pre-cognition and other “new age” spirituality (Singelis, et al., 2003). In other words, holding fate control belief would affect the Christians’ perception and evaluation of fellow believers and practices in the religious community, and may render the creeds taught in church less credulous. The Christian faith is not something that anything religious or metaphysical can be blended into. Holding a belief that is incongruent with the basic tenets of Christianity, however religious in content that belief may be, would lay a stumbling block to the person's continuation of church attendance and possibly other religious practices.

### **Demographics**

Compared to the unchurched Christians, the church-attending Christians are more likely to have been baptized, and have been attending church for some time before conversion.

However, in our longitudinal analyses, these two religious demographics and how long one has

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been converted do not predict withdrawal from church. Neither would they predict likelihood of exit from the faith, apart from the effect already manifested in the non-attendance of church activities. However, two findings not hypothesized earlier deserve some discussion, as they point to the important role of contextual factors.

First, believers who currently attend large churches are more stable in their religious attendance than those who belong to smaller congregations. Despite the interpersonal alienation resulting from the size, a phenomenon that Cheung, Hui, Lau, Cheung, and Mok (2014) observed, the present study shows that large churches are still better than smaller ones in retaining their members. This can probably be explained in terms of the more extensive religious programming, the larger number of people to whom one can be linked to when needs arise, and the room to remain anonymous which many desire at least some of the times, all of which are more possible in a large than a small congregation.

Second, being a full-time student in the university is another factor of faith exit. In our sample, about 11% of Christian students declared a year later that they were no longer Christians. This finding is inconsistent with Uecker et al.'s (2007) prediction that college experience may slow down religious decline, but is in line with the observation that college life brings religious struggles (Astin, Astin, & Lindholm, 2010) and makes students less religious (Hill, 2011; Zuckerman, 2012). Young people are exposed to new friends and professors who present worldviews and values which potentially compete with those they have earlier acquired from their church community. Many of these new acquaintances may hold values other than tradition and benevolence. Especially for those who have not been attending church, and thus without a faith-supporting community, leaving their faith could come very easily. Notably, there were too few Christian non-students aged under 25 in our sample to allow us to determine if it was

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university education or simply the young age that accounted for the high rate of faith exit. We nevertheless conducted a supplementary analysis on Christian non-students who already had a university degree. Within this group, 1.60% left the faith one year later, compared with 2.63% of the Christian non-students without a university degree. Although this finding has to be taken with a grain of salt due to the small number of faith-exiters in this sub-sample, it is still telling that perhaps once a person is over the college years, the likelihood of faith exit declines again. It is during the college days when a person is most likely to leave the faith.

### **Extending Previous Research**

There have been theoretical and empirical work on the correlates of religiousness vs. non-religiousness; however, researchers have not made a distinction between leaving the church and leaving the faith when theorizing about the antecedents and correlates. Thus, we began this study with the assumption that the same set of psychological characteristics might influence the decision to stop going to church and the decision to leave the faith. The fact is, the answers to our three research questions overlap with each other partially but not completely. Consequently, the following two theoretical implications can be advanced.

First, even within a religious population, those individual difference factors that researchers believe may distinguish between the religious and the non-religious may also account for whether believers would hold strongly on to their faith community and faith, or to forego them altogether. These dispositional variables are not to be ignored in the theoretical analysis of conversion and deconversion.

Second, the socio-psychological processes that lead a religious person to stop regular church attendance are not identical to those which underlie the decision to leave the faith altogether; however, the two outcomes are related to each other. Remaining in a faith community

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(which prizes conformity and mutual support rather than achievement and competition) is more likely among those individuals who do not have a strong desire to lead and to influence others, and those who are sociable and dependable. On the contrary, people who do not have the above characteristics, who do not share the faith community's rejection of fate control, or who like new ideas and experiences will probably find members of the community difficult to get along with. Withdrawal from church therefore becomes probable. As for leaving one's faith, this can often be foretold from the person's prior non-attendance of church services. A rejection of tradition values as well as an acceptance of self-direction, stimulation, and power values intensify spiritual doubts and crowd out religious practices. The lack of social support and religious socialization as well as the ubiquity of intellectual, social, and emotional challenges on a university campus further accelerate the person's transition out of faith. In short, individual difference factors predispose a person to exit church, which, if unchecked, is subsequently followed by departure from faith.

### **Words of Caution and Directions for Future Research**

This study is the first to use a large sample and longitudinal approach to search for the causes of church exit and faith exit. However, there is still much room for improvement in future research.

First, our use of participants' self-report on their church attendance during the past four weeks may have inadvertently classified those who had to miss church involuntarily (e.g., due to work schedule, ill health, or old age) in that period as unstable church-attenders or unchurched Christians. Fortunately, there would not be too many (given our predominantly young adult sample) who fell ill on all four weeks to be misclassified as the unchurched. That said, although

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this does not seem to be a serious problem in the present study and would only make our search for the predictors err on the conservative side, it should be avoided in future studies.

Second, because we did not use a random method to sample the church-attending and the unchurched Christians, it cannot be assumed that the data fully represent the broader religious population. Moreover, any generalizations from the above findings to other cultures and religions must be made with caution. Nevertheless, given the demographic, psychological, social, and spiritual diversities of our participants, this unique longitudinal dataset is useful for addressing our three research questions. The group comparison and regression analyses reported above have been further strengthened by the inclusion of multivariate controls for demographic variations.

Third, although the present research informs us about some demographic and psychological factors (i.e., personality, social axiom, and personal values) as well as contextual factors that allow us to make predictions, every story of leaving church or faith is unique. Hadaway (1989) identified, through cluster analysis, five different types of apostates, each with a unique set of characteristics. We should therefore not regard all church-exiters or faith-exiters as having the same reasons for their transition. Instead, in view of the proportion of variance not yet accounted for by our regression models, we should acknowledge the presence of different reasons underlying each person's journey.

Fourth, the small effect sizes represented by the low Cox-Snell R-square in our regression models are telling. Besides the point made in the preceding paragraph, there are several other possible explanations: (a) The measuring instruments are not sufficiently reliable; (b) we have not yet captured all the important predictors of church exit and faith exit; and (c) the effect may be stronger for a particular time interval than for the one we have imposed in our study. Notwithstanding, the predictive effects reported above, however small in size, are still useful in

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corroborating and extending previous correlational findings that suggested but never proved a causal relationship.

That said, all of the possible explanations listed above should guide future research. For instance, researchers should continue to review and improve instruments for measuring the key variables. Furthermore, acknowledging Kinnaman's (2011, p. 91) postulation that there may not be one primary reason for exit, but many mundane ones, we should adopt the same multi-wave methodology to investigate other factors such as theological disputes, current church experience, and relationship conflicts (Hoge, Johnson, & Luidens, 1993). These are the social-interactional factors that have not been included in the present study. Moreover, since the effects of certain predictors may be diluted over time, while the effects of other antecedents may accumulate to a detectable extent only when given enough time, to obtain a fuller picture, we should extend the investigation by examining the predictors in a longer, say 10-year, timeframe, and measuring the outcome variables at different times. Knowing when the effect of a factor is weak and when it will be strong will enable us to make important theoretical advancement on the subject.

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## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 1  
*Demographic and Psychological Characteristics between Individuals Who Dropped Out From Wave 2 and Those Who Stayed in Wave 2*

	Dropped out from Wave 2 (n = 1067)	Stayed in Wave 2 (n = 1264)		
	% / Mean (SD)	% / Mean (SD)	Significance tests	Effect size
<b>Gender</b>				
Male	31.42%	29.64%	$\chi^2(1) = .87$	.02
Female	68.58%	70.36%		
<b>Occupation</b>				
Full-time students	41.90%	40.49%	$\chi^2(1) = .47$	.01
Non-students	58.10%	59.51%		
<b>Baptismal status</b>				
Not Yet	42.14%	37.92%	$\chi^2(1) = 4.30^*$	.04
Yes	57.86%	62.08%		
<b>Household income (in HK\$)</b>				
<10,000	17.78%	17.37%	$\chi^2(5) = 8.82$	.09
10,000 – 19,999	27.24%	30.44%		
20,000 – 29,999	19.32%	15.31%		
30,000 – 39,999	12.23%	11.70%		
40,000 – 49,999	8.22%	7.74%		
≥50,000	15.21%	17.45%		
<b>Marital status</b>				
Single	76.9%	76.5%	$\chi^2(1) = .06$	.01
Married/Widowed/ Separated/Divorced	23.1%	23.5%		
<b>Age</b>	28.25 (9.16)	29.50 (10.36)	$t(2252) = -3.26^{***}$	.13
<b>Conversion length (in years)</b>	9.38 (7.89)	10.38 (8.51)	$t(2329) = -3.08^{**}$	.15
<b>Church attendance at Wave 1</b>				
No			$\chi^2(1) = 3.77$	.04
Yes	18.28%	15.27%		
	81.72%	84.73%		
<b>Personality</b>				
Extroversion	3.17 (.70)	3.14 (.69)	$t(2323) = 1.00$	.04
Conscientiousness	3.38 (.59)	3.47 (.60)	$t(2320) = -3.76^{***}$	.15
Agreeableness	3.78 (.48)	3.84 (.45)	$t(2323) = -3.03^{**}$	.13
Intellect	3.32 (.57)	3.36 (.58)	$t(2321) = -1.56$	.07
Emotional stability	3.05 (.80)	3.16 (.79)	$t(2321) = -3.31^{**}$	.14

(continued)

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 1  
*Demographic and Psychological Characteristics between Individuals Who Dropped Out From Wave 2 and Those Who Stayed in Wave 2 (continued)*

	Dropped out from Wave 2 (n = 1067) % / Mean (SD)	Stayed in Wave 2 (n = 1264) % / Mean (SD)	Significance tests	Effect size
<b>Values</b>				
Conformity	.19 (.79)	.23 (.76)	$t(1940) = -.96$	.04
Tradition	-.15 (.89)	-.13 (.92)	$t(1940) = -.65$	.02
Benevolence	.71 (.61)	.80 (.61)	$t(1940) = -3.16^{**}$	.15
Universalism	.42 (.52)	.48 (.53)	$t(1940) = -2.63^{**}$	.11
Self-direction	.23 (.59)	.23 (.59)	$t(1940) = -.23$	0
Stimulation	-1.12 (1.10)	-1.12 (1.09)	$t(1940) = .08$	0
Hedonism	-.60 (1.16)	-.66 (1.27)	$t(1940) = 1.13$	.05
Achievement	-.06 (.84)	-.11 (.79)	$t(1940) = 1.40$	.06
Power	-.97 (.83)	-1.11 (.85)	$t(1940) = 3.59^{***}$	.17
Security	.00 (.66)	-.05 (.65)	$t(1940) = 1.80$	.08
<b>Social Axiom</b>				
Fate Control	2.89 (.72)	2.85 (.70)	$t(1959) = 1.34$	.06

Note. HK\$7.8 = US\$1; Cohen's *d*s reported for the effect size of t-test; Cramer's *V*s reported for the effect size of chi-square test.

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

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 2  
*Demographic and Psychological Characteristics between Individuals Who Dropped Out From Wave 3 and Those Who Stayed in Wave 3*

	Dropped out from Wave 3 (n = 1224)	Stayed in Wave 3 (n = 1107)		
	% / Mean (SD)	% / Mean (SD)	Significance tests	Effect size
<b>Gender</b>				
Male	31.3%	29.5%	$\chi^2(1) = .90$	.02
Female	68.7%	70.5%		
<b>Occupation</b>				
Full-time students	41.9%	40.3%	$\chi^2(1) = .57$	.02
Non-students	58.1%	59.7%		
<b>Baptismal status</b>				
Not Yet	41.5%	38.1%	$\chi^2(1) = 2.76$	.03
Yes	58.5%	61.9%		
<b>Household income (in HK\$)</b>				
<10,000	17.9%	17.2%	$\chi^2(5) = 7.05$	.08
10,000 – 19,999	27.8%	30.2%		
20,000 – 29,999	18.7%	15.4%		
30,000 – 39,999	11.4%	12.6%		
40,000 – 49,999	7.3%	8.7%		
≥50,000	16.9%	15.9%		
<b>Marital status</b>				
Single	76.5%	77.0%	$\chi^2(1) = .08$	.01
Married/Widowed/ Separated/Divorced	23.5%	23.0%		
<b>Age</b>	28.59 (9.66)	29.29 (10.03)	$t(2329) = -1.71$	.07
<b>Conversion length (in years)</b>	9.35 (8.00)	10.42 (8.39)	$t(2252) = -3.09^{***}$	.13
<b>Church attendance at Wave 1</b>				
No	19.0%	14.0%	$\chi^2(1) = 10.62^{**}$	.07
Yes	81.0%	86.0%		
<b>Personality</b>				
Extroversion	3.19 (.69)	3.11 (.69)	$t(2323) = 2.94^{**}$	.12
Conscientiousness	3.41 (.60)	3.46 (.60)	$t(2320) = -1.95$	.08
Agreeableness	3.80 (.47)	3.83 (.46)	$t(2323) = -1.76$	.06
Intellect	3.34 (.56)	3.35 (.59)	$t(2321) = -.49$	.02
Emotional stability	3.06 (.81)	3.17 (.78)	$t(2321) = -3.52^{***}$	.14

(continued)

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 2

*Demographic and Psychological Characteristics between Individuals Who Dropped Out From Wave 3 and Those Who Stayed in Wave 3(continued)*

	Dropped out from Wave 3 (n = 1224)	Stayed in Wave 3 (n = 1107)	Significance tests	Effect size
	% / Mean (SD)	% / Mean (SD)		
<b>Values</b>				
Conformity	.19 (.80)	.23 (.75)	$t(1940) = -1.17$	.05
Tradition	-.18 (.91)	-.09 (.91)	$t(1940) = -2.20^*$	.10
Benevolence	.72 (.63)	.81 (.59)	$t(1940) = -3.48^{**}$	.15
Universalism	.41 (.52)	.50 (.54)	$t(1940) = -3.75^{***}$	.17
Self-direction	.23 (.58)	.22 (.59)	$t(1940) = .34$	.02
Stimulation	-1.09 (1.12)	-1.15 (1.06)	$t(1940) = 1.36$	.06
Hedonism	-.59 (1.18)	-.67 (1.27)	$t(1940) = 1.39$	.07
Achievement	-.06 (.83)	-.12 (.79)	$t(1940) = 1.74$	.07
Power	-.97 (.83)	-1.14 (.85)	$t(1940) = 4.37^{***}$	.20
Security	.00 (.65)	-.06 (.66)	$t(1940) = 2.10^*$	.09
<b>Social Axiom</b>				
Fate Control	2.87 (.72)	2.87 (.70)	$t(1959) = -.21$	0

*Note.* HK\$7.8 = US\$1; Cohen's  $d$  is reported for the effect size of t-test; Cramer's  $V$  is reported for the effect size of chi-square test.

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

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 3  
*Demographics Profile of Study Sample (n = 932)*

	% / Mean (SD)
<b>Gender</b>	
Male	29.6%
Female	70.4%
<b>Occupation</b>	
Full-time students	40.0%
Non-students	60.0%
<b>Baptismal status</b>	
Not yet	37.8%
Yes	62.2%
<b>Household income (in HK\$)</b>	
<10,000	17.2%
10,000 – 19,999	30.6%
20,000 – 29,999	15.4%
30,000 – 39,999	12.1%
40,000 – 49,999	8.5%
≥50,000	16.2%
<b>Marital status</b>	
Single/ Widowed/Separated/Divorced	80.2%
Married	19.8%
<b>Church attendance before conversion</b>	
Had attended for a while	42.0%
Did not attend or rarely attended	58.0%
<b>Duration of church attendance before conversion</b> (among 322 responses)	
Mean (in years)	3.51 (4.51)
<b>Age (in years)</b>	
Mean	29.41 (10.10)
Range	16 – 67
<b>Conversion length (in years)</b>	
Mean	10.64 (8.56)
Range	0.1 – 47
<b>Church size<sup>#</sup></b>	
200 people or less	25.5%
201 - 500 people	24.7%
201 - 1000 people	12.9%
1001 or above	36.9%
<b>Church attendance</b>	
Attended church at all three time points	77.5%
Did not attend church at least once at any time point(s)	22.5%

*Note.* Percentages were computed using cases with complete data on the respective items.

<sup>#</sup> Based on 805 respondents who at Wave 1 reported size of church they were attending; a full correlation table can be obtained from the corresponding author.

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 4

*Hierarchical Binary Logistic Regression of Church Attendance Stability on Demographic and Psychological Predictors (n = 778)*

	Model 1		Model 2		% / Mean (SD)	% / Mean (SD)
	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Stable church attendance (Wave 2 and 3; n = 722)	Unstable church attendance (Wave 2 and 3; n = 56)
<b>Gender</b> (1 = Male #; 2 = Female)	-.16	.85	-.51	.60	Male = 30.1%	Male = 32.1%
<b>Occupation</b> (1=Full-time students #; 2= Non-students)	.62	1.85	.81	2.23	Students = 32.6%	Students = 55.4%
<b>Marital status</b> (1=Single/Widowed/Divorce/Separated#; 2= Married)	-.29	.75	-.54	.58	Married = 23.4%	Married = 12.5%
<b>Age</b>	-.01	.99	-.03	.97	30.84 (10.21)	27.21 (10.57)
<b>Conversion length (in years)</b>	-.03	.98	-.02	.99	11.11 (8.75)	10.38 (9.13)
<b>Income (in HK\$)</b> (1 = <10,000 #; 2 = 10,000 – 19,999; 3 = 20,000 – 29,999; 4 = 30,000 – 39,999; 5 = 40,000 – 49,999; 6 = ≥50,000)	<i>p</i> = n.s. -- -.48 .98 -.06 -.99 -.07	-- -- .62 2.67 .94 .37 .93	<i>p</i> = n.s. -- -.68 1.28 -.10 -1.29 -.21	-- -- .51 3.59 .90 .28 .81	15.2% 29.9% 15.8% 12.8% 9.0% 17.4%	21.6% 39.2% 7.8% 7.8% 11.8% 11.8%
<b>Baptized</b> (1 = Not yet #; 2 = Yes)	1.15*	3.17	1.06	2.89	Not yet = 27.4%	Not yet = 55.4%
<b>Church attendance before conversion</b> (1 = Did not attend or rarely attended #; 2=Had attended for a while)	.15	1.16	.21	1.23	Had attended for a while = 45.0%	Had attended for a while = 37.5%

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

(continued)

Table 4

*Hierarchical Binary Logistic Regression of Church Attendance Stability on Demographic and Psychological Predictors (n = 778) (continued)*

	Model 1		Model 2		% / Mean (SD)	% / Mean (SD)
	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Stable church attendance (Wave 2 and 3; n = 722)	Unstable church attendance (Wave 2 and 3; n = 56)
<b>Church size attended at Wave 1</b>	<i>p</i> < .05	--	<i>p</i> < .05	--		
(1 = ≤200#;	--	--	--	--	24.3%	41.1%
2 = 201-500;	.62	1.86	1.00*	2.73	23.7%	33.9%
3 = 501-1000;	1.40*	4.02	1.51*	4.51	12.7%	14.3%
4 = ≥1001)	1.55**	4.72	1.65**	5.52	39.3%	10.7%
<b>Personality</b>						
Extroversion	--	--	.76*	2.14	3.15 (.68)	2.99 (.67)
Conscientiousness	--	--	.78*	2.19	3.49 (.60)	3.34 (.62)
Agreeableness	--	--	--	--	3.85 (.43)	3.85 (.51)
Intellect	--	--	-.92*	.40	3.33 (.58)	3.48 (.64)
Emotional stability	--	--	--	--	3.26 (.77)	3.07 (.85)

(continued)

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 4

*Hierarchical Binary Logistic Regression of Church Attendance Stability on Demographic and Psychological Predictors (n = 778) (continued)*

	Model 1		Model 2		% / Mean (SD)	% / Mean (SD)
	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Stable church attendance (Wave 2 and 3; n = 722)	Unstable church attendance (Wave 2 and 3; n = 56)
<b>Values</b>						
Conformity	--	--	--	--	.30 (.72)	.07 (.77)
Tradition	--	--	--	--	.03 (.86)	-.37 (.87)
Benevolence	--	--	--	--	.90 (.57)	.56 (.64)
Universalism	--	--	--	--	.53 (.50)	.30 (.64)
Self-direction	--	--	--	--	.20 (.58)	.39 (.56)
Stimulation	--	--	--	--	-1.21 (1.05)	-.99 (1.19)
Hedonism	--	--	-.35*	.70	-.86 (1.23)	-.37 (1.38)
Achievement	--	--	--	--	-.18 (.75)	.01 (.78)
Power	--	--	-.73*	.48	-1.22 (.80)	-.68 (.96)
Security	--	--	--	--	-.06 (.66)	-.07 (.73)
<b>Social Axiom</b>						
Fate control	--	--	-.83**	.44	2.78 (.67)	3.22 (.75)
<b>Cox &amp; Snell R<sup>2</sup></b>	.07		.14			

#Reference groups; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ; n.s. = not significant

Dependent variable = Unstable church attendance (0); Stable church attendance (1)

Valid cases = 509

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 5

*Hierarchical Binary Logistic Regression of Religious Steadfastness versus Exit from Faith on Demographic and Psychological Predictors (n = 932)*

	Model 1		Model 2		Model 3		% / Mean (SD)	% / Mean (SD)
	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Religiously steadfast Christians (Wave 2 and 3; n = 880)	Faith-exiters (Wave 2 and 3; n = 52)
<b>Gender</b> (1 = Male #; 2 = Female)	-.05	1.05	.00	1.00	-.04	.94	Male = 29.9%	Male = 24.5%
<b>Occupation</b> (1=Full-time students #; 2= Non-students)	1.82*	6.20	1.70*	5.45	1.99**	7.12	Students = 37.8%	Students = 79.2%
<b>Marital status</b> (1=Single/Widowed/Divorce/Separated#; 2= Married)	-.54	.59	-.86	.43	-.94	.39	Married = 20.5%	Married = 7.5%
<b>Age</b>	.02	1.02	.04	1.04	.02	1.03	29.77 (10.14)	23.29 (7.10)
<b>Conversion length (in years)</b>	-.02	.98	-.02	.98	-.03	.97	10.86 (8.63)	6.89 (6.34)
<b>Income (in HK\$)</b>	<i>p</i> = n.s.	--	<i>p</i> = n.s.	--	<i>p</i> = n.s.	--		
(1 = <10,000 #;	--	--	--	--	--	--	16.5%	28.6%
2 = 10,000 – 19,999;	.23	1.26	.59	1.80	.06	1.06	30.7%	30.6%
3 = 20,000 – 29,999;	-.06	.94	.01	1.01	-.33	.72	15.1%	20.4%
4 = 30,000 – 39,999;	.38	1.47	.42	1.53	.26	1.30	12.3%	8.2%
5 = 40,000 – 49,999;	.38	1.46	.36	1.44	.40	1.49	8.7%	4.1%
6 = ≥50,000)	-.04	.96	.02	1.02	-.40	.67	16.6%	8.2%
<b>Baptized</b> (1 = Not yet #; 2 = Yes)	.22	1.25	.07	1.07	-.09	.91	Not yet = 35.5%	Not yet = 77.4%

(continued)

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 5

*Hierarchical Binary Logistic Regression of Religious Steadfastness versus Exit from Faith on Demographic and Psychological Predictors (n = 932) (continued)*

	Model 1		Model 2		Model 3		% / Mean (SD)	% / Mean (SD)
	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Religiously steadfast Christians (Wave 2 and 3; n = 880)	Faith-exiters (Wave 2 and 3; n = 52)
<b>Church attendance before conversion</b> (1 = Did not attend or rarely attended #; 2=Had attended for a while)	-.58	.56	-.22	.80	-.42	.66	Had attended for a while = 42.3%	Had attended for a while = 38.1%
<b>Church attendance at Wave 1</b> (1=No #; 2 = Yes)	2.38***	10.83	1.87***	6.51	2.23***	9.34	Yes = 89.1%	Yes = 39.6%
<b>Personality</b>								
Extroversion	--	--	--	--	.71*	2.04	3.12 (.68)	2.89 (.72)
Conscientiousness	--	--	--	--	--	--	3.48 (.60)	3.33 (.59)
Agreeableness	--	--	--	--	--	--	3.84 (.44)	3.75 (.52)
Intellect	--	--	--	--	--	--	3.35 (.60)	3.33 (.60)
Emotional stability	--	--	--	--	--	--	3.21 (.79)	2.84 (.74)

(continued)

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 5

*Hierarchical Binary Logistic Regression of Religious Steadfastness versus Exit from Faith on Demographic and Psychological Predictors (n = 932) (continued)*

	Model 1		Model 2		Model 3		% / Mean (SD)	% / Mean (SD)
	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Regression coefficient	Odds Ratio	Religiously steadfast Christians (Wave 2 and 3; n = 880)	Faith-exiters (Wave 2 and 3; n = 52)
<b>Values</b>								
Conformity	--	--	--	--	--	--	.25 (.73)	-.16 (.90)
Tradition	--	--	1.07***	2.90	excluded	--	-.05 (.88)	-.99 (.98)
Benevolence	--	--	--	--	--	--	.83 (.59)	.62 (.62)
Universalism	--	--	--	--	--	--	.49 (.52)	.43 (.64)
Self-direction	--	--	--	--	-1.07*	.34	.23 (.57)	.49 (.70)
Stimulation	--	--	--	--	-.62**	.54	-1.17(1.05)	-.63 (1.23)
Hedonism	--	--	--	--	--	--	-.72 (1.27)	.08 (1.19)
Achievement	--	--	--	--	--	--	-.15 (.76)	.17 (.97)
Power	--	--	--	--	-.71*	.49	-1.15 (.83)	-.89 (1.09)
Security	--	--	--	--	--	--	-.06 (.65)	-.30 (.70)
<b>Social Axiom</b>								
Fate control	--	--	--	--	--	--	2.86 (.70)	3.14 (.59)
<b>Cox &amp; Snell R<sup>2</sup></b>	.10		.13		.13			

#Reference groups; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$ ; n.s. = not significant

Dependent variable = Faith-exiters (0); Religiously steadfast Christians (1)

Valid cases = 605

## CHURCH ATTENDANCE AND RELIGIOUS STEADFASTNESS

Table 6  
*A Summary of Hypotheses Supported and Not Supported*

	Difference between church-attending Christians and unchurched Christians	Prediction of church-attending Christians' future attendance stability vs. instability	Prediction of Christians' future religious steadfastness vs. faith exit
Agreeableness and Conscientiousness	<b>H1 partially supported. At Wave 1, unchurched Christians scored lower than church-attending Christians on agreeableness.</b> However, at Wave 1, unchurched Christians and church-attending Christians were not different on conscientiousness.	<b>H2 partially supported. Conscientiousness predicted church attendance stability at Wave 2 or Wave 3.</b> However, agreeableness at Wave 1 did not predict church attendance stability at Wave 2 or Wave 3.	H3 not supported. Agreeableness and conscientiousness at Wave 1 did not predict religious steadfastness at Wave 2 or Wave 3.
Spiritual and self-enhancement values	<b>H4 supported. At Wave 1, unchurched Christians scored lower than church-attending Christians on conformity, tradition, and benevolence values, and higher on power, self-direction, and hedonism values.</b>	<b>H5 partially supported. Power and hedonism values at Wave 1 negatively predicted church attendance stability at Wave 2 or Wave 3.</b>	<b>H6 partially supported. Self-direction, stimulation, and power values negatively predicted religious steadfastness at Wave 2 or Wave 3.</b>
Fate control	<b>H7 supported. At Wave 1, unchurched Christians scored higher than church-attending Christians on fate control.</b>	<b>H8 supported. Fate control at Wave 1 negatively predicted church attendance stability at Wave 2 or Wave 3.</b>	H9 not supported. Fate control at Wave 1 did not predict religious steadfastness at Wave 2 or Wave 3.

*Note.* Hypotheses that received support or partial support are in bold type.