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The attitudinal dimension of religiosity: an  
empirical study among 13- to 15-year-old students

by

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A thesis submitted in partial fulfillment of the requirements for  
the degree of Doctor of Philosophy in Education

University of Warwick, Centre for Education Studies

October 2014

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## ACKNOWLEDGMENTS

I would like to thank special friends and colleagues at the Warwick Religions and Education Research Unit, particularly to my supervisors Leslie J Francis and Tania ap Sion for providing the inspiration, encouragement and resources that made this piece of research (and many others) possible.

I would also like to thank my incredible friends at the St Mary's Research Centre for guiding me through every step of this process, especially to Gareth Longden, Mandy Robbins, Owen Edwards, Emma Eccles and Margaret West. Without you all I could never have finished this piece of work and for that I am truly grateful.

To my precious family, I will never be able to thank you enough for everything you have taught me and for the love and support you have shown me in helping to achieve this dream, particularly to Stephen, Kimberley, Hannah, David, James, and Margaret and John. I would most especially like to thank my amazing Mum, for teaching me that dreams are always possible, for never failing to believe in me when at times I have doubted myself and for always being there whenever I needed you.

To my best friends, Sara Carr and Zoe Viney – you are my inspiration. Thank you for all that you have shared with me on this challenging journey, for your excellent advice, listening ears and for never letting me give up on something so worthwhile.

To Chris and Hamish – you are my world. I have only been able to achieve this much because you have been at my side for every second of every day of this process; all of this belongs to you. Thank you for everything that you have put into getting me through this course, for every penny spent in love and support, for helping me to write clearly and develop my thinking with new ideas, and for always understanding how much this has meant to me. Now that the final chapter of this thesis is written I look forward to our next big adventure.

# DECLARATIONS

## Declaration

This work has not been previously accepted in substance for any degree and is not being concurrently submitted in candidature for any degree.

Signed.....(candidate)

Date.....

## Statement 1

This thesis is the result of my own investigations, except where otherwise stated. Other sources are acknowledged giving explicit references. A bibliography is appended.

Signed.....(candidate)

Date.....

## Statement 2

I hereby give consent for my thesis, if accepted, to be available for photocopying and for inter-library loan, and for the title and summary to be made available to outside organisations.

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## SUMMARY

This thesis adds a new contribution to the tradition of empirical theology, concerned with individual differences in young people's attitudes toward religion and values. This thesis explores the correlates of attitude toward Christianity (assessed by the Francis Scale of Attitude toward Christianity) among 5,199 13- to 15-year-old students in England and Wales who participated in the Young People's Values Survey during 2002 to 2010. The Young People's Values Survey was designed to draw together two independent strands of research within the tradition of empirical theology, the first concerned with charting the correlates of individual differences in attitude toward religion (operationalised originally by the Francis Scale of Attitude toward Christianity), and the second concerned with individual differences in young people's religion and values (operationalised originally by the Teenage Religion and Values Survey). This thesis reports on findings generated from the Young People's Values Survey, the first study within the Teenage Religion and Values Survey series to include the Francis Scale of Attitude toward Christianity. This thesis comprises main two parts.

Part one locates this study within the tradition of empirical theology by collating, reviewing and assessing the two bodies of knowledge (or strands of research) on which it builds. Part two presents new empirical analyses exploring the correlates of young people's attitudes toward Christianity during the first decade of the twenty-first century. These analyses explore first, the psychometric properties of the short-form Francis Scale of Attitude toward Christianity and second, the relationship between attitude toward Christianity and: sex differences, purpose in life, suicidal ideation, immortality beliefs (belief in life after death), and implicit religion (attachment to Christian rites of passage). This thesis concludes by discussing how the findings of this study may shape future empirical research within the tradition of empirical theology concerned with assessing young people's attitudes toward religion and values.



**CHAPTER ONE**  
**INTRODUCTION**

**Summary**

**Introduction**

**Research context**

**Correlates of attitude toward Christianity**

**Teenage religion and values**

**Young people's religion and values**

**Methodological approach**

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**Part one – Scoping the field**

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**Sex differences**

**Purpose in life**

**Suicidal ideation**

**Immortality beliefs**

**Implicit religion**

## **Introduction**

The aim of this thesis is to explore the correlates of attitude toward Christianity (assessed by the Francis Scale of Attitude toward Christianity) among 5,199 13- to 15-year-old students who participated in the Young People's Values Survey conducted during the years of 2002 to 2010 across England and Wales. This study is designed to add a new contribution to the tradition of empirical theology developed by Francis and colleagues concerned with individual differences in young people's attitudes toward religion and values. The Young People's Values Survey was designed to draw together two strands of research within this tradition of empirical theology, the first concerned with charting the correlates, antecedents and consequences of individual differences in attitude toward religion (operationalised originally by the Francis Scale of Attitude toward Christianity and the family of instruments developed from this scale), and the second concerned with assessing individual differences in young people's religion and values (operationalised originally by the Teenage Religion and Values Survey and the family of instruments developed for this series). This thesis reports on findings generated from the Young People's Values Survey, the first study within the Teenage Religion and Values Survey series to include the Francis Scale of Attitude toward Christianity.

The aim of this chapter is to provide an overview of the present study. The first part of this chapter considers the research context informing this study. The second part of this chapter considers the methodological approach adopted by this study. The third part of this chapter outlines the chapter structure of this thesis.

## **Research context**

### **Correlates of attitude toward Christianity**

The first strand of research on which this thesis builds was developed by Francis (1976, 1978a) in the mid-seventies whose early review of research exploring young people's religiosity (shaped within a Christian context in the UK) found that considerably less was known about attitudes toward Christianity than was expected. It was recognised that the main cause for this was the lack of integration between existing empirical studies. On this basis, Francis (1978a) proposed that, if a number of independent studies could agree on employing the same scale of attitude toward Christianity, then these studies could be pieced together in a 'jigsaw puzzle' which would provide a fuller understanding of: the changing pattern of attitude toward Christianity; the causes or precursors of attitude toward Christianity; and the correlates and consequences of attitude toward Christianity. Accepting a multi-dimensional model of religion, Francis (2009a, 2009b) maintains that the attitudinal dimension forms the most secure basis for comparative empirical research in religion. The attitudinal dimension of religiosity is concerned with how an individual feels about religion. As an affective construct, the attitudinal dimension is able to get closer to the heart of what religion really means in the lives of individuals than either the cognitive dimension of religiosity (concerned with religious beliefs) or the behavioural dimension of religiosity (concerned with religious practices). Against this background, the Francis Scale of Attitude toward Christianity (1976, 1978b) was designed to provide a scientifically secure basis from which it is possible to explore the personal and social correlates of attitude toward religion.

The original research question set out by Francis in the late-seventies sought to establish how attitude toward religion changes during the years of childhood to

adolescence by identifying the correlates, antecedents and consequences of attitudes toward Christianity assessed by the Francis Scale of Attitude toward Christianity. In the late-eighties this research question was extended to include adults with the development of an adult version of the scale (Francis & Stubbs, 1987). In the late-nineties work began on extending this research question to include young people and adults from other cultural contexts with translation of the scale into a number of different languages (including Arabic, Chinese, Czech, Dutch, Estonian, French, German, Greek, Italian, Norwegian, Portugese, Spanish, Romanian, Serbian, Slovenian, Swedish and Welsh). At the beginning of the twenty-first century this research question was extended further to include young people and adults from alternative faith traditions with the development of the Sahin-Francis Scale of Attitude toward Islam (Sahin & Francis, 2002), the Katz-Francis Scale of Attitude toward Judaism (Francis & Katz, 2007), the Santosh-Francis Scale of Attitude toward Hinduism (Francis, Santosh, Robbins, & Vij, 2008), the Williams Scale of Attitude toward Paganism (Williams, Francis, & Billington, 2010), and most recently, the Astley-Francis Scale of Attitude toward Theistic Faith (Astley, Francis, & Robbins, 2012).

This research question has guided a course of empirical research which, over the last forty-years, has employed the Francis Scale of Attitude toward Christianity and the family of instruments developed from this scale, in over 250 independent studies exploring the correlates, antecedents and consequences of attitude toward religion among children, young people and adults in a variety of cultural contexts. This thesis adds to this strand of empirical research by adding a new piece to the jigsaw puzzle began by Francis (1978a) in examination of the correlates of attitudes toward Christianity among 13- to 15-year-old students living in England and Wales

during the first decade of the twenty-first century assessed by the Francis Scale of Attitude toward Christianity.

### **Teenage religion and values**

The second strand of research on which this thesis builds began in the 1980s by Francis and colleagues who developed a series of comparative empirical studies exploring the place of religion and values in the lives of young people (Francis, 1982a; Francis, 1984). Studies belonging to this tradition employ the same research model guided by the individual differences tradition of empirically-based social psychology and take the form of large-scale cross-sectional quantitative surveys. The Teenage Religion and Values Survey represents the largest study within this series. The first phase of this survey was conducted during the late-eighties early-nineties among 13,000 13- to 15-year-old students in England and Wales (Francis & Kay, 1995). The second phase of this survey was conducted during the 1990s among 33,982 13- to 15-year-old students in England and Wales (Francis, 2001a).

The Teenage Religion and Values Survey was designed to enable empirical examination of the associations between a broad range of individual differences and young people's values. The different forms of measurement utilised by the questionnaire (nominal indices, dichotomous scales, 5-point Likert scales) allows this research question to be realised through sophisticated statistical models. The Teenage Religion and Values Survey comprises three parts. Part-one gathers background information standard to the social science empirical traditions (e.g., age, sex, parental employment background). Part-two includes the short-form of the Junior Eysenck Personality Questionnaire (JEPQ-S: Francis & Pearson, 1988a) assessing Eysenck's (Eysenck & Eysenck, 1991) dimensional model of personality. Part-three contains a number of items designed to assess attitudes toward fifteen

value domains, including: personal well-being, worries, counseling, school, work, politics, social concerns, sexual morality, substance use, right and wrong, leisure, local area, religious belief, church and society, and the supernatural. The Teenage Religion and Values Survey assesses the complex nature of religion by measuring five dimensions of traditional religiosity, including: self-assigned religious affiliation, attendance to places of religious worship, personal prayer and reported reading of scriptures, religious belief, and God images. With each new phase of the Teenage Religion and Values Survey the questionnaire is revised so as to reflect adequately the personal and social worldviews of young people at different points in time (particularly in terms of language use and value domains). Findings generated from the Teenage Religion and Values Survey have created a comprehensive map of empirical literature detailing the changing place and role of religion and values in the lives of young people over a thirty year period (see, Francis & Robbins, 2010, for review). This thesis adds to this strand of empirical research by reporting on findings of the latest study to join the Teenage Religion and Values Survey.

### **Young people's religion and values**

At the beginning of the twenty-first century it was recognised that a new study was required within the Teenage Religion and Values Survey series that was capable of assessing young people's religion and values in a modern context. At the same time, there was a recognised need to update and develop empirical literature concerned with the correlates of attitude toward Christianity. The Young People's Values Survey was designed to draw together these two separate strands of research within the tradition of empirical theology. This new study aimed to collect around 5,000 questionnaire responses from 13- to 15-year-old students attending secondary schools across England and Wales during the years of 2002 to 2010.

A new questionnaire was developed based on the main quantitative design of the Teenage Religion and Values Survey. The Young People's Values Survey comprises three parts. Part one gathers background information from participants. Part two comprises the abbreviated form of the Revised Junior Personality Questionnaire (JEPQR-A: Francis, 1996). Part three contains a number of items representing a new values map, generated to reflect the worldviews of young people living within the first decade of the twenty-first century. The new values map includes thirteen value domains, reflecting: core values (community, individual), aims in life, family, friends, (relationship with, communication with), area, worries, concerns and fears (fears, self-esteem), school, stereotyping and discrimination (young people, racism), media, spirituality, and religion. Assessment of religiosity in the Young People's Values Survey is synonymous with that of the Teenage Religion and Values Survey with the addition of one new measure, the short-form Francis Scale of Attitude toward Christianity (Francis, 1992a).

The inclusion of this instrument within the Young People's Values Survey allows the research question concerned with charting the correlates of attitude toward Christianity to have conversation with the broader research question regarding young people's values developed by the Teenage Religion and Values Survey. This presents an opportunity to explore a wider range of personal and social correlates of attitude toward Christianity relevant to the experiences of young people living within the context of the twenty-first century, as made available by the new values map operationalised in part three of the questionnaire. This also provides an opportunity to explore the interaction between attitude toward religion and other dimensions of religiosity routinely included within the Teenage Religion and Values Survey (e.g., self-assigned religious affiliation, attendance to places of religious

worship, personal prayer, reported reading of scriptures, religious belief). For the first time within the context of the Teenage Religion and Values Survey, it becomes possible to test Francis' (2009a, 2009b) theory that the attitudinal dimension represents the most secure basis for empirical research in religion because it accesses the heart of what religion really means to individuals. The Young People's Values Survey allows, in statistical analyses, different measures of religion to be placed side by side and to test their relative strengths in predicting individual differences in young people's values. As such, the Young People's Values Survey represents a valuable resource that is capable of providing an accurate view of the ways in which young people's religion and values are changing in the context of the twenty-first century.

### **Methodological approach**

This thesis is designed to explore the correlates of young people's attitudes toward Christianity in statistical analysis of the quantitative dataset generated by the Young People's Values Survey. While a number of exploratory analyses conducted on an interim dataset have recently been published (Francis & Robbins, 2009; Francis, Williams, & Robbins, 2009; Robbins & Francis, 2009) there are currently no empirical studies that have utilised the completed dataset of 5,199 cases. This thesis recognises that the full potential of the Young People's Values Survey has not yet been realised. From a methodological perspective, analysis of this dataset within the context of the present study is beneficial for a number of reasons. The large sample included within the Young People's Values Survey allows the findings of this study to be held with confidence and authority in terms of reliability and generalisability (Kay & Francis, 1996; Cohen, Manion, & Morrison, 2007; Hartas, 2010). The reliability of findings generated by this study are enhanced further by the



use of established empirical instruments designed to assess individual differences in young people's attitudes toward religion and values (e.g., the Francis Scale of Attitude toward Christianity, the JEPQR-A). The use of established empirical instruments allows this study legitimately to add to the research tradition of empirical theology, but also enables the findings to provide a new and independent contribution to advancing knowledge about young people, religion and values. This study advances empirical research in the scientific study of religion in three main ways.

First, this study addresses a need within the comparative tradition of empirical theology developed by Francis and colleagues to keep literature regarding the correlates of attitude toward Christianity up-to-date (Francis, 2009a). Within this study there is an opportunity to re-examine the correlates of attitude toward Christianity established by previous empirical research, and to test whether these relationships remain consistent among young people living in a modern context. Within this study there is also an opportunity to update empirical literature concerned with the psychometric properties of the Francis Scale of Attitude toward Christianity. This will determine the instrument's suitability to assess attitudes toward religion among 13- to 15-year-old students living within the UK in the twenty-first century, and will ensure the scale's use within future empirical studies.

Second, this study utilises the values map operationalised in part three of the Young People's Values Survey to identify new areas of research which, at the beginning of the twenty-first century, are shown to occupy prominent positions in the personal and social worldviews of young people. Within this study there is an opportunity to examine new correlates of attitude toward Christianity.

Third, this study tests Francis' (2009a, 2009b) argument that the attitudinal dimension of religiosity represents the most secure basis for comparative empirical research in religion among young people living within the first decade of the twenty-first century. Within this study there is an opportunity to examine the role that affective religiosity plays in predicting young people's values compared with that of other dimensions of religiosity assessed by the Young People's Values Survey (such as church attendance and personal prayer).

### **Thesis structure**

#### **Part one – Scoping the field**

The first half of this thesis is designed to locate the present study, exploring the correlates of young people's attitudes toward Christianity among the 13- to 15-year-old students of the Young People's Values Survey, within the broader research tradition of empirical theology by collating, reviewing and assessing the bodies of knowledge on which it builds.

#### *The attitudinal dimension of religiosity*

Chapter two considers the first strand of research on which this thesis builds, concerned with the measurement of individual differences in the attitudinal dimension of religiosity operationalised by the Francis Scale of Attitude toward Christianity. This chapter examines: the scientific assessment and multi-dimensional model of religion accepted by this research tradition, conceptualisation of the affective dimension of religiosity, development of the Francis Scale of Attitude toward Christianity and the family of scales created from this original instrument, and two examples of how the attitudinal dimension has been practically applied to address research questions in the psychology of religion.

#### *The Teenage Religion and Values Survey*

Chapter three considers the second strand of research on which this thesis builds, concerned with the measurement of individual differences in young people's religion and values operationalised by the Teenage Religion and Values Survey. This chapter examines: the design, methodology, and theoretical frameworks shaping the Teenage Religion and Values Survey, and the body of empirical literature that was generated from the largest study in this series conducted among 33,982 13- to 15-year-old students across England and Wales throughout the 1990s.

#### *The Young People's Values Survey*

Chapter four introduces the Young People's Values Survey. This study was designed to draw together these two different strands of research within the field of empirical theology so as to allow effective assessment of individual differences in young people's attitudes toward religion and values in the context of the twenty-first century. The first part of this chapter examines: the design, methodology, and empirical literature that has emerged from the interim Young People's Values Survey dataset. The second part of this chapter examines the values profile of the 5,199 students included within the completed dataset. The final part of this chapter utilises the values profile to identify domains that form the central focus of this thesis in discussion of attitudes toward Christianity. These domains are identified as relating to: sex differences in religiosity, purpose in life, suicidal ideation, immortality beliefs (belief in life after death), and implicit religion (attachment to Christian rites of passage).

#### **Part two – New empirical evidence**

The second half of this thesis presents new empirical analyses exploring the correlates of young people's attitudes toward Christianity assessed by the Francis Scale of Attitude toward Christianity. Six chapters are presented, each designed to

reflect one of six independent analyses conducted on the Young People's Values Survey dataset. The first of these chapters reports on the psychometric properties of the Francis Scale of Attitude toward Christianity. Five chapters are then dedicated to exploring (through bivariate and multivariate analyses) the relationship between scores recorded on the Francis Scale of Attitude toward Christianity and constructs that were highlighted as significant areas of interest within the values profile drawn in chapter four. In each of these five chapters the roles of personal variables (age and sex), psychological variables (Eysenck's dimensional model of personality) and religious variables (church attendance and personal prayer) in shaping the relationship between attitude toward Christianity and the chosen construct are considered.

The first three of these five chapters (relating to sex differences, purpose in life, and suicidal ideation) aim to provide a new contribution to established empirical research concerned with constructs that have occupied a central place in the tradition of empirical theology developed by Francis and colleagues exploring the correlates of attitude toward Christianity during the past forty-years, and which, according to the values profile drawn in chapter four, are shown to form an integral part of the personal and social worldviews of young people living in the twenty-first century. The remaining two chapters (relating to immortality beliefs and implicit religion) aim to provide a new contribution to empirical research concerned with constructs that represent emerging fields of interest in the tradition of empirical theology, in the broader context of the psychology of religion, and in the lives of young people living in the twenty-first century.

Chapters comprising part two of this thesis are written in the style of journal articles. This is to aid transition of the new knowledge generated by this study into

the public research domain and to allow each independent analysis to make a meaningful contribution to the established research area that it develops.

#### *Psychometric properties of the Francis Scale*

Chapter five considers the psychometric properties of the Francis Scale of Attitude toward Christianity. The first part of this chapter examines the body of empirical literature which has reported on the functionality of this instrument. The second part of this chapter reports on the findings of statistical analyses which demonstrate the unidimensionality, internal consistency reliability, and construct validity of the 7-item short form of the Francis Scale of Attitude toward Christianity among the students of the Young People's Values Survey dataset. This recommends the scale for use within the context of this study.

#### *Sex differences*

Chapter six considers the relationship between young people's attitudes toward Christianity and sex differences. The first part of this chapter examines the different theoretical approaches that have been put forward to account for the well-established finding in the psychology of religion that within Christian (or post-Christian) contexts, females are regularly found to be more religious than males (Argyle & Beit-Hallahmi, 1975; Francis, 1997a; Francis & Penny, 2013), including: sociologically-grounded theories and psychologically-grounded theories. Working within the context of personality-based psychologically-grounded theories, the second part of this chapter reports on the findings of statistical analyses designed to test whether sex differences in young people's attitudes toward Christianity persist after individual differences in Eysenck's dimensional model of personality have been taken into account, building on the recent study by Penny, Francis, and Robbins (under review).

### *Purpose in life*

Chapter seven considers the relationship between young people's attitudes toward Christianity and purpose in life. The first part of this chapter examines empirical literature which has demonstrated the ability of purpose in life to predict a range of individual differences across a number of domains (e.g., psychopathology, positive psychology, social attitudes, and religiosity). The second part of this chapter reports on the findings of statistical analyses designed to test the association between affective religiosity and purpose in life (assessed by the single-item 'I feel that my life has a sense of purpose') after the influence of personal variables (age and sex) and psychological variables (Eysenck's dimensional model of personality) have been taken into account. This analysis also tests the strength of other dimensions of religiosity (church attendance and frequency of prayer) to predict levels of purpose in life after controlling for the influence of attitude toward religion.

### *Suicidal ideation*

Chapter eight considers the relationship between young people's attitudes toward Christianity and suicidal ideation. The first part of this chapter examines empirical literature which has focused on establishing the psycho-social correlates of suicidal ideation (itself a predictor of individual differences in vulnerability to suicidal behavior). This review focuses on two traditions of research within this literature, exploring: the connection between suicidal ideation and religiosity (generally regarded as an inhibitor of suicidal thoughts), and the connection between suicidal ideation and personality. The second part of this chapter reports on the findings of statistical analyses designed to test the role of Eysenck's dimensional model of personality in shaping the association between affective religiosity and suicidal ideation (assessed by the single-item measure 'I have sometimes considered

taking my own life’) after the influence of personal variables (age and sex) have been taken into account. This analysis also tests the strength of other dimensions of religiosity (church attendance and frequency of prayer) to predict levels of suicidal ideation after controlling for the influence of attitude toward religion.

### *Immortality beliefs*

Chapter nine considers the relationship between young people’s attitudes toward Christianity and beliefs about immortality. The first part of this chapter examines recent empirical literature which has concerned itself with mapping the psychological correlates of afterlife beliefs. The second part of this chapter reports on the findings of statistical analyses designed to test the association between affective religiosity and afterlife beliefs (assessed by the single-item ‘I believe in life after death’) after the influence of personal variables (age and sex) and psychological variables (Eysenck’s dimensional model of personality) have been taken into account. This analysis also tests the strength of other dimensions of religiosity (church attendance and frequency of prayer) to predict levels of afterlife belief after controlling for the influence of attitude toward religion.

### *Implicit religion*

Chapter ten considers the relationship between young people’s attitudes toward Christianity and implicit religion. The first part of this chapter examines recent empirical literature which has employed Bailey’s (1998) concept of implicit religion to examine the persistence of Christian believing in the UK, exploring: the implicit religion of those who believe that you do not need to go to church to be a Christian, and the implicit religion of individuals committed to Christian rites of passage. The second part of this chapter reports on the findings of statistical analyses designed to test the relative impact of explicit religiosity (defined as frequency of

church attendance) and implicit religiosity (defined as attachment to Christian rites of passage) on young people's attitudes toward Christianity, following the analytical model proposed by Francis (2013a, 2013b) and Penny and Francis (under review).

### *Conclusion*

Chapter eleven draws together the conclusions highlighted by the literature review in part one of this thesis and the findings of the new empirical evidence in part two of this thesis, to make an assessment on what this study is able to say about attitudes toward religion among young people living within the first decade of the twenty-first century in England and Wales. This thesis concludes by discussing how the findings of this study may shape future empirical research within the tradition of empirical theology.



## **CHAPTER TWO**

### **THE ATTITUDINAL DIMENSION OF RELIGIOSITY**

**Summary**

**Introduction**

**Research context**

**Scientific assessment of religion**

**The attitudinal dimension of religiosity**

**The Francis Scale of Attitude toward Christianity**

**Research across linguistic divides**

**Research across religious traditions**

**Critical appraisal**

**Attitude as a concept**

**Measuring attitude toward religion**

**Methodological approach**

**Research applications**

**Religion and psychological health**

**Religion and well-being**

**Conclusion**

## Summary

Chapter two considers the first strand of research within the tradition of empirical theology on which this thesis builds, concerned with the measurement of individual differences in the attitudinal dimension of religiosity operationalised by the Francis Scale of Attitude toward Christianity. This chapter examines: the scientific assessment and multi-dimensional model of religion accepted by this research tradition, conceptualisation of the affective dimension of religiosity, development of the Francis Scale of Attitude toward Christianity and the family of instruments created from this scale, and two examples of how the attitudinal dimension has been practically applied to address research questions in the psychology of religion. This thesis, built on analyses of the short-form Francis Scale of Attitude toward Christianity included within the Young People's Values Survey, represents a new piece of the jigsaw puzzle began by Francis (1978a) exploring the correlates, antecedents and consequences of individual differences in attitude toward Christianity.

## **Introduction**

The aim of this chapter is to consider the first strand of research within the tradition of empirical theology developed by Francis and colleagues on which this thesis builds, concerned with charting the correlates, antecedents and consequences of individual differences in attitude toward religion. Empirical studies within this tradition accept a multi-dimensional model of religion in which the attitudinal dimension is identified as primary in predicting a range of individual differences in personal and social attitudes and values. As such, studies belonging to this approach are connected by a common understanding of the affective dimension of religion (based on one conceptualisation of attitude) and the consistent employment of an instrument (the Francis Scale of Attitude toward Christianity and the family of measures developed from this scale) capable of operationalising this construct across a variety of languages, age ranges and major faith traditions.

The first part of this chapter considers the theoretical frameworks which shape this tradition's approach to the scientific study of religion. The second part of this chapter considers the scientific assessment of religion which proposes the attitudinal dimension as the most secure basis from which to build a series of comparative empirical studies exploring the correlates of religion. The third part of this chapter considers the particular strand of attitude theory employed by Francis (1976, 1978b) as a basis for exploring the attitudinal dimension of religiosity. The fourth part of this chapter considers the development of the Francis Scale of Attitude toward Christianity. The fifth part of this chapter considers the development of the family of measures created from the Francis Scale of Attitude toward Christianity designed to assess the attitudinal dimension of religiosity within the context of alternative faith traditions (e.g., Islam, Hinduism, Judaism, Paganism, and theistic

faiths in general). The sixth part of this chapter considers two practical examples of how studies exploring the correlates of religiosity through the attitudinal dimension have contributed to important issues within the psychology of religion.

### **Research context**

The approach to the scientific study of religion adopted by the tradition of empirical theology developed by Francis and colleagues is informed by the theoretical context of objectivity. Objectivity in the social sciences is often attributed to the principle of measurement which assumes that the information gained in measurement is publically testable. This tradition of empirical theology is also guided by an individual differences approach to empirically-based psychology. This maintains that there are patterns to human behaviour which can be distinguished, that there are discernable factors which are central to organising and predicting individual differences, and that deeper more covert factors can be accessed and measured by appropriately tailored psychometric instruments (Francis, 2009a). Psychometrics is the field of study in psychology concerned with the definition and measurement of specific aspects of the human psyche (e.g., abilities, attitudes and personality) (Francis, 1989a). A primary research aim of psychometrics involves the construction of instruments designed to measure precise features of the human mind reliably and validly.

Francis (2009a) maintains that effective empirical research in religion is built on the basis of recognising the multidimensional nature of religion. A social scientific assessment of religion is capable of identifying that different measures of religiosity may be tapping somewhat different psychological constructs and highlights the need to distinguish between dimensions (Kay & Francis, 1996). This promotes empirical feasibility by providing the opportunity to measure each

dimension of religiosity independently on appropriately designed instruments, and to explore the interaction between each aspect of religiosity individually (Francis, 2009b; Francis & Kay, 1984). Within this approach to the measurement of individual differences in religiosity, then, the central research question concerns the ways in which there is empirical evidence for religion being associated with a variety of individual differences central to human personal and social functioning (Francis, 2009a).

### **Scientific assessment of religion**

A social scientific analysis of religion, as relevant to an individual differences perspective, distinguishes between at least four different dimensions of religion including: religious affiliation, belief, practice, and attitude. Consideration of each dimension demonstrates the complexity of each aspect of religion and highlights the need to assess each domain independently in the scientific study of religion (Francis & Robbins, 2010).

The first dimension of religion is identified as religious affiliation. Self-assigned religious affiliation is recognised as a measure of belonging and self-identification with a religious tradition. Empirical research in the social scientific traditions considers religious affiliation as an aspect of individual identity alongside sex, age and ethnicity (Francis, 2009a). The importance of this position has been put forward by Fane (1999) who, drawing on the work of Bouma (1992) and Bibby (1987), argues that self-assigned religious affiliation is a key component of social identity and functions as a coherent and socially significant indicator. However, as Francis (2009b) highlights, affiliation to a religious tradition does not form a secure basis for predicting an individual's religious belief or religious practice. This raises an important research question for both empirical theologians and social scientists.

From the perspective of empirical theology, the question concerns the significance of religious affiliation (minus belief and practice) in assessment of the changing place of religion. From a social scientific perspective, the question concerns the importance of exploring the power of self-assigned religious affiliation independent of belief and practice to predict individual differences of social significance.

The second dimension is identified as religious belief representing the cognitive component of religion. Francis (2009a) indicates that the way in which religious belief is defined and measured varies significantly between the social sciences and theological traditions. This can present a problem for the empirical study of religion which recognises that individual differences in conceptualisations of religious belief may depend on different levels of theological knowledge and training. This makes the measurement of religious belief one of conceptual complexity and demonstrates the need for psychometric instruments that can function reliably and validly among different levels of theological understanding.

However, previous empirical studies exploring the impact of religious belief have not always achieved this aim. As Francis (2009a) highlights, traditionally social scientists have attempted to measure conservative Christian beliefs. Instruments designed to do such provide an accurate picture of conservative Christians who, naturally, score high on the measures, but do not provide a clear picture of agnostics or liberal Christians who often score low on the measures. A further problem with the measurement of religious belief is presented when the content of a belief is confused with the manner in which it is held. For example, both conservative Christian belief and liberal Christian belief may be held in either a dogmatic or non-dogmatic manner (Francis, 2009a).

Religious practice represents the third dimension of religion and is a measure of the behavioural constituent of religion. In the scientific study of religion it is important to distinguish between differences in public religious practice (e.g., church attendance) and private religious practice (e.g., personal prayer). These different dimensions of religious behaviour may be associated with different correlates that impact on the views of those who carry them out. As with religious belief, the way in which religious practice is defined by the theological traditions and operationalised by the social scientific traditions differs significantly (Francis, 2009a). For example, in the past the social sciences have focused on measuring the frequency of prayer, whereas the theological traditions may have a fuller understanding of the complex and in-depth nature of different types of prayer.

Attitude toward religion is the fourth dimension of religion. Measurement of attitude toward religion assesses the affective component of religion. It is primarily concerned with how an individual feels toward religion in terms of positivity or negativity. In the past social scientists have focused on providing measures of attitude toward religion that mainly assessed the external features of religiosity (Francis, 2009a). In contrast, Francis' development of empirical theology recognises the need to widen the scope of empirical research concerning the implicit and more spiritually salient aspects of religious traditions by getting to the heart of individual religiosity through the affective dimension. This approach takes the attitudinal dimension of religion as secure basis for comparative empirical research in religion. The following section considers this argument.

### **The attitudinal dimension of religiosity**

Francis (2009a) maintains that, as an affective construct, the measurement of attitude toward religion assesses how an individual feels about religion. It is possible

through the empirical investigation of attitudes to create a picture of what religion really means in the lives of individuals. From the perspective of individual differences and in light of the scientific question of empirical feasibility, the measurement of attitude has a number of advantages over measurement of the other dimensions of religion.

First, there are limitations associated with the measurement of religious affiliation. Measurement of an individual's religious affiliation according to the social science traditions can only provide nominal information. Individuals may, for example, belong either to the Buddhist faith tradition or the Christian faith tradition. The type of measurement employed only determines simple discrete categories. Furthermore, affiliation categories take on significantly different meanings within different denominational groups (Francis, 2009b).

Second, religious practice appears relatively simple to conceptualise and measure. For example, it may be possible to measure the frequency of an individual's participation in various types of religious practice such as church attendance or reading of scripture. These activities can be measured on ordinal or interval scales. However, the meaning attributed to an individual's participation in religious practice is open to many influencing factors. Religious practices also take on different meanings within different denominational groups (Francis, 2009b).

Third, the measurement and development of instruments capable of effectively assessing religious belief is conceptually complex. Measures of religious belief need to be capable of adequately accounting for denominational differences and varying degrees of theological knowledge. Whilst Francis (2009a) identifies the scientific study of religious belief as valuable to both psychology and theology, a focus on this dimension of religion does not lend itself to an individual differences



approach to comparative empirical research attempting to explore the correlates of religiosity across and within different religious groups.

Francis (2009a, 2009b) argues that the attitudinal dimension of religiosity forms the most secure basis for comparative empirical research in religion as informed by an individual differences approach. This argument rests first, on the definition of the psychological construct of attitude associated with the research tradition and second, on how the measurement of this construct is empirically more adequate than the measurement of religious affiliation, practice or belief.

The definition of attitude put forward by Francis and Kay (1984) identifies attitudes as unidimensional psychological constructs made up of affective components. The affective components of attitudes collectively represent an individual's evaluation of certain beliefs or objects. As an affective construct, attitudes are emotionally communicated in terms of a positive or negative response. Attitudes are distinguished from opinions in that they are conceived as being deep-seated underlying dispositions and are much less likely to change from day-to-day (Kay & Francis, 1996). This notion of attitude, when applied to the scientific study of religion, identifies attitude toward religion as:

A relatively permanent and enduring evaluative predisposition to a positive or negative response of an affective nature which is based upon and reflects, to some extent, evaluative concepts or beliefs learned about the characteristics of a referent group or groups of referents which come within a definition of the religious. (Francis, 1976)

The psychometric measurement of attitude in the domain of social psychology has been well developed particularly in the work of Thurstone (1928), Guttman (1944), Osgood, Suci, and Tannenbaum (1957), and Edwards (1957).

Collectively these approaches maintain that attitudes can be inferred from the opinions an individual holds. Measurement of attitudes typically take place on a sophisticated attitude scale which proposes a mathematical model for assessing underlying attitudes on the basis of more surface or ephemeral opinions (Francis, 1989b).

The advantage of measuring attitude toward religion (defined as a unidimensional affective construct) is that it is conceptually non-complex. Within this research tradition of empirical theology, this position is favoured in contrast to an alternative school of thought in attitude theory, represented by Krech, Crutchfield, and Ballackey (1962), whose theory maintains that attitudes are three-dimensional constructs composed of affective, cognitive and behavioural dimensions. Francis developed the unidimensional definition of attitude in agreement with Fishbein's (1967) influential work which maintains that multi-dimensional constructs are difficult to employ in theory, and create serious problems when theory is translated into the design of instruments intended for use in empirical research. This is because, as Kay and Francis (1996) highlight, correlations between the constructs of multi-dimensional models of attitude are unbalanced and therefore unstable. A definition of attitude that is continuous with only affective components is simpler to operationalise and more amenable to unambiguous assessment. Attitudes conceptualised in this manner are believed to be more empirically feasible than multi-dimensional constructs and are more likely to be transferred into reliable and valid attitude scales (Kay & Francis, 1996).

From an individual differences perspective, a sophisticated attitude scale enables differences between groups to be examined and reported with considerable statistical complexity (Francis, 1989a). A well-developed attitude scale is able to

identify individual differences in religiosity across denominational divides and different age groups. Attitude scales are designed to generate measurable and testable variables which form the basis of comparative empirical research according to an individual differences approach. The psychometric model of research associated with the study of attitude allows patterns in attitude toward religion to be expressed mathematically. This permits both precise measurement of attitude toward religion and careful examination of a number of factors which may influence individual differences in attitudes toward religion such as sex, age or social background.

A further advantage of the measurement of a positive or negative attitude toward religion is that findings may be taken as a helpful indicator of religious development. This is because, as Kay and Francis (1996) maintain, attitudes stand as variables which have a personal, psychological dimension and as variables which have a social, collective dimension. In this way it is possible to provide a clear profile of how attitudes toward religion are changing and what factors may be taken as indicators of individual difference at different points in time.

### **The Francis Scale of Attitude toward Christianity**

Based on the identification of the attitudinal dimension as the most secure basis for empirical research in religion, the next step within the tradition of empirical theology was to develop an attitude scale capable of exploring a range of personal and social correlates of religiosity. In order to develop an effective attitude scale, it was recognised that the religious referent should be limited to one tradition (Francis, 1978b). The intention was to develop a scale which would gain equal understanding among children, adolescents and adults. It was considered that children were more likely to have a fuller comprehension of the dominant religion within their own

culture. Therefore, the design of the Francis Scale of Attitude toward Christianity was initially established on the basis of an English-speaking background and common Christian heritage in the UK.

The Francis Scale of Attitude toward Christianity is designed to measure an individual's affective response to the Christian tradition. The scale consists of 24 positively and negatively phrased Likert-type items. The items relate to five visible features of Christianity which transcend denominational differences and gain equal recognition over a range of age groups. The five features are identified as: God, Jesus, the Bible, prayer, and Church. In designing the scale a number of attitude scaling techniques were tested and established by the work of Thurstone (1928), Likert (1932), and Guttman (1944). It was found that the Likert scale functioned most satisfactorily throughout the entire age range for which the instrument's use was intended (Francis, 1980a). The individual items are responded to on a five-point scale which provide the options: agree strongly, agree, not certain, disagree, and disagree strongly. The 24-items derive from an original bank of 110 statements which were developed from a number of interviews with young people, classroom conversations, written work and existing attitude scales (Francis, 1980a). Statistical tests of item analysis reduced the 110-items to 24-items. Since the instrument's development (Francis, 1976, 1978b) the Francis Scale of Attitude toward Christianity has proven to function reliably and validly from the age of eight years through to late adult life in a number of studies conducted within the context of the UK, and across different Christian denominational groups (Francis, 2009a, 2009b).

In addition to the full 24-item form of the Francis Scale of Attitude toward Christianity, a short 7-item version was developed by Francis, Greer, and Gibson (1991) specifically for use among children from the age of eight and in studies where

the short 7-item version is considered more applicable. This scale has been developed and tested satisfactorily among primary school students (Francis, 1992a), secondary school students (Francis, Greer, & Gibson, 1991), and adults (Adamson, Shevlin, Lloyd, & Lewis, 2000; Francis, Lewis, Philipchalk, Brown, & Lester, 1995).

In the paper *Measurement re-applied* Francis (1978a) argued that, if a number of independent studies could agree on employing the same scale of attitude toward Christianity, then these studies could be pieced together in a jigsaw puzzle which would provide a fuller understanding of: the changing pattern of attitude toward Christianity; the causes or precursors of attitude toward Christianity; and the correlates and consequences of attitude toward Christianity. By the mid-1990s over one-hundred studies had employed the Francis Scale of Attitude toward Christianity to examine a wide range of correlates associated with religion during childhood, adolescence and adulthood. The findings of these studies were summarised by Kay and Francis (1996) in *Drift from the churches: Attitude toward Christianity during childhood and adolescence*. Collectively these studies provided the first phase of building a comprehensive empirical and conceptual map of how attitudes toward Christianity are changing and which factors may be taken at different points in time as predictors of these differences. Since 1996, the research tradition has continued to develop.

### **Research across linguistic divides**

The initial phase of establishing the affective dimension of religiosity (operationalised by the Francis Scale of Attitude towards Christianity) as a scientifically secure basis for empirical research in examination of the correlates of religion began in English-speaking contexts. The next step broadened the scope of

the research tradition by extending the range of studies outside the UK and into other English-speaking contexts. A range of studies have confirmed the psychometric properties and satisfactory use of the Francis Scale of Attitude toward Christianity in a number of countries. Reliability and validity have been reported among school students in England (Francis, 1987, 1989b), Kenya (Fulljames & Francis, 1987), Nigeria (Francis & McCarron, 1989), Northern Ireland (Francis & Greer, 1990; Greer & Francis, 1991), and Scotland (Gibson, 1989; Gibson & Francis, 1989). Reliability and validity of the scale have been reported among students and adults in Australia and Canada (Francis, Lewis, Philipchalk, Lester, & Brown, 1995), the Republic of Ireland (Maltby, 1994), Northern Ireland (Lewis & Maltby, 1997), and the USA (Lewis & Maltby, 1995a).

The next step in the research tradition was to explore the ability of the Francis Scale of Attitude toward Christianity to assess reliably and validly the attitudinal dimension in translation. Broadening the scale's scope to include other linguistic communities enabled the opportunity to examine whether the correlates, antecedents and consequences of individual differences in attitude toward Christianity in English-speaking contexts were comparable and continuous with those in other linguistic contexts.

This process involved translating the items which comprise the Francis Scale of Attitude toward Christianity into the relevant language and then back-translating the items into the original language (Francis, 2009a). This made it possible to note any discrepancies in translated items and to ensure that the original concepts were adequately matched in the appropriate language. This translation method was employed so as to maintain the effectiveness of the psychometric instrument in assessing its referent. This is based on the patterns of correlation between items.

Francis (2009a) identifies that these patterns may be altered in the mistranslation of even a single word, hence the need to employ back-translation. After translation, factor analyses and reliability analyses were employed to test whether the psychometric properties of the original scale were comparable with the translated form.

A number of studies have identified that the psychometric properties of the Francis Scale of Attitude toward Christianity function satisfactorily when translated into: Arabic (Munayer, 2000), Chinese (Francis, Lewis, & Ng, 2002), Czech (Francis, Quesnell, & Lewis, 2010), Dutch (Francis & Hermans, 2000), Estonian (Elken, Francis, & Robbins, 2010), French (Lewis & Francis, 2003), German (Francis, Ziebertz, & Lewis, 2002), Greek (Youtika, Joseph, & Diduca, 1999), Italian (Crea, Baiocco, Ioverno, Buzzi, & Francis, in press), Norwegian (Francis & Enger, 2002), Portuguese (Ferreira & Neto, 2002), Romanian (Francis, Ispas, Robbins, Ilie, & Iliescu, 2009), Serbian (Flere, Francis, & Robbins, 2011), Slovenian (Flere, Klanjšek, Francis, & Robbins, 2008), Spanish (Campo-Arias, Oviedo, Dtaz, & Cogollo, 2006), Swedish (Eek, 2001), and Welsh (Evans & Francis, 1996).

### **Research across religious traditions**

Studies which employ the Francis Scale of Attitude toward Christianity measure the attitudinal dimension of religiosity within the context of Christianity. This original delimitation of the religious domain consequently meant that it was only possible legitimately to interpret attitude toward religion from the perspective of Christian faith (Francis, 1978b). This made it difficult to integrate findings across alternative faith traditions. Shaped by the question of religious pluralism, the next phase in the research tradition aimed to explore whether similar personal and social correlates of religion are associated with a positive attitude toward religion in

contexts where the dominant religious culture is shaped by alternative faith traditions (Francis & Katz, 2007). Taking the Francis Scale of Attitude toward Christianity as a parent instrument, a number of international studies have continued to develop the attitudinal dimension as an effective empirical measure of religiosity within the traditions of Islam, Judaism, Hinduism, Paganism and across theistic faiths in general.

The first instrument developed was the Sahin-Francis Scale of Attitude toward Islam (Sahin & Francis, 2002). The scale is designed to measure affective response to the Islamic tradition on a 23-item Likert-type instrument. The 23-items are based on a translation of the items and concepts included in the Francis Scale of Attitude toward Christianity into an Islamic context. The items were discussed by several Muslim scholars of Islam until the areas of focus were thought to correspond adequately to those of the Francis Scale of Attitude toward Christianity. The satisfactory psychometric properties of this instrument have been reported by Sahin and Francis (2002) and Francis, Sahin, and Al-Failakawi (2008) in studies conducted among Muslim adolescents.

The second instrument developed was the Katz-Francis Scale of Attitude toward Judaism (Francis & Katz, 2007). The Katz-Francis Scale of Attitude toward Judaism consists of 24-items measuring affective response to the Jewish tradition. A similar process to the design of the Sahin-Francis Scale of Attitude towards Islam was observed. The 24-items of the Francis Scale of Attitude toward Christianity were discussed by a number of theologians and religious educators representing the Jewish tradition from Bar-Ilan University and the Christian tradition from the University of Wales, Bangor. Once discussed the items were, first, developed in English, second, translated into Hebrew, and third, back-translated into English to



confirm the consistency of the translation. The satisfactory psychometric properties of this instrument have been reported by Francis and Katz (2007) and by Yablou, Francis, and Robbins (2013) among Hebrew speaking Jewish students.

The third instrument designed was the Santosh-Francis Scale of Attitude toward Hinduism (Francis, Santosh, Robbins, & Vij, 2008). The Santosh-Francis Scale of Attitude toward Hinduism consists of 19-items measuring affective response to the Hindu tradition. The items of the Francis Scale of Attitude toward Christianity were discussed by a number of Hindu scholars who translated 19-items in accordance to the Hindu tradition. The satisfactory psychometric properties of this instrument have been reported by Francis, Santosh, Robbins, and Vij (2008), Tiliopoulos, Francis, and Slattery (2010), and by Tiliopolous, Francis, and Slattery (2011).

The fourth instrument designed was the Williams Scale of Attitude toward Paganism (Williams, Francis, & Billington, 2010). The Williams Scale of Attitude toward Paganism consists of 21-items measuring affective response to the Pagan tradition. Items comprising the scale were discussed by scholars familiar with contemporary branches of Paganism. The aspects of Paganism taken into account when constructing these items were: belief in the God and Goddess and in the sacred significance of nature, acts of worship and rituals, and specific aspects such as the sacred circle and the sabbats. The satisfactory psychometric properties of this instrument have been reported among members of a Pagan summer camp by Williams, Francis, and Billington (2010).

The most recent scale to be developed within this series, the Astley-Francis Scale of Attitude toward Theistic Faith (Astley, Francis, & Robbins, 2012), was designed to assess the attitudinal dimension of religiosity across the theistic

traditions. This was achieved by modifying seven items of the short form of the Francis Scale of Attitude towards Christianity in order to become more widely inclusive of the theistic traditions in general. In particular, items concerned with Jesus were rephrased to speak of God and items concerned with church were rephrased to speak of places of worship. The satisfactory psychometric properties of this instrument have been reported among students in the UK by Astley, Francis, and Robbins (2012) and by Francis, Brockett, and Village (2013).

Development of these instruments has significantly extended the scope of the research tradition concerned with measurement of individual differences in the attitudinal dimension of religiosity within the context of Hinduism, Judaism, Islam, Paganism and within the context of theistic faiths more generally. Exploration of the correlates, antecedents and consequences of individual differences within the attitudinal dimension of religion began with the development of the Francis Scale of Attitude toward Christianity. Currently over two-hundred-and-fifty studies have been published which employ a version of the scale (either in the original 24-item format, the short 7-item format, the alternative linguistic formats, or the alternative faith tradition formats) in exploration of the correlates of religion. Over a forty-year period research, empirical studies belonging to this tradition, connected by the same conceptual understanding of attitude and the use of a family of instruments designed to operationalize this construct, have been able to develop a comprehensive picture of the changing place of religion in the lives of children, young people and adults.

### **Critical appraisal**

This approach to the scientific study of religion concerned with modeling the personal and contextual correlates of attitude towards Christianity, however, has been subject to critical appraisal. Critics have drawn attention to three key points

concerned with: the conceptualisation of attitude, the measurement of attitude toward religion, and the overall methodological approach.

### **Attitude as a concept**

Regarding the conceptualisation of attitude, Greer (1983) draws attention to the psychological literature which highlights two different ways that attitude may be conceptualised and favours the multidimensional model (see, Krech, Crutchfield, & Ballackey, 1962) over the unidimensional model of attitude as an affective construct (see, Fishbein, 1967) adopted by the tradition of empirical theology. Greer (1983) takes the view that feelings and beliefs are linked and so ought to be measured together:

Theoretically it may be possible to define attitude to religion as related to the affective dimension. In practice however it is difficult to see how a person's attitude to particular religious concepts, persons or objects can be divorced from his/her belief about these referents. For example, if a persons' overall attitude toward religion reflects predisposition to respond to God, Jesus and Bible, belief about these concepts must surely play an important part. (p. 22)

Responding to this point Francis and Kay (1984) maintain that the choice to define attitude toward religion as a unidimensional affective construct is based on the question of empirical feasibility. While it is clear that beliefs and feelings are often linked, the precise nature of this linkage is something that can only be specified accurately from an empirical point of view after the two concepts have been distinguished and operationalised separately (Francis & Kay, 1984). This is necessary because it may be possible for an individual to hold traditional beliefs about God, but at the same time hold an unfavourable attitude toward God. Such an individual may say, for example, 'I believe in God', but at the same time may feel

hostile towards God. Greer's confusion between attitude and belief, as Francis and Kay (1984) demonstrate, is also illustrated in an earlier paper by Greer (1982) that compared the Francis Scale of Attitude toward Christianity with Turner's (1970) attitude toward religion scale. Thus, while the two scales were found to be correlated they in fact measure different things. Turner's scale is concerned with the measurement of doctrinal beliefs, while Francis' scale is concerned with the evaluative predisposition to a positive or negative response of an affective nature.

### **Measuring attitude toward religion**

Regarding the measurement of attitude toward religion, critics have questioned the validity of the Francis Scale of Attitude toward Christianity, that is, whether the scale measures what it was actually designed to measure. On the one hand, Levitt (1995) takes the view that the scale fails to reach the satisfactory criteria of validity because when the individual items of the scale are viewed separately, it is impossible to determine what each individual implied or understood by the way in which he or she responded to the precise wording of the items. For example, taking the first item of the scale 'I find it boring to listen to the Bible' she writes:

...young people could disagree with that statement because they have never listened to the Bible being read or because they do not find it boring, among other possible reasons, but it would not be possible to distinguish between them. (p. 102)

On the other hand, Greer (1983) takes the view that the Francis Scale of Attitude toward Christianity does function as a valid instrument for measuring attitude toward religion, but only with respect to one particular concept of religion.

Responding to Levitt's (1995) point, Francis (1995) maintains that this criticism fails to engage with the theoretical literature on professional attitude scaling

on which the measure is built. This literature recognises a distinction between attitudes (covert and enduring) and opinions (open to dispute and variation), and allows attitudes through statistical procedures to be inferred from the way in which opinions cluster in a stable fashion. Therefore, while it is not possible to place confidence in each individual item of the scale, there are grounds for asserting confidence in the underlying cumulative attitudinal continuum on which they cluster. This is supported by the considerable body of empirical literature which has reported the reliability and validity (content and construct) of the scale across a wide age range and in a variety of contexts during the past-forty years (see, chapter four within the present thesis for detailed discussion).

Responding to Greer's (1983) point, Francis and Kay (1984) maintain that the fact that the scale is valid for use only within the context of the Christian tradition is the instrument's key strength, namely that it begins with one careful definition of the construct religion and then sets out to operationalise a measure of that construct. This does not detract from the usefulness of the scale within its own terms of reference. Writing in 1984, Francis argued that what is required to measure a range of meanings of religion is not one different or better scale but a whole battery of instruments. Within the present context, this aim has been realised through the development of the family of attitude scales accessing the affective dimension of religiosity (e.g., Sahin-Francis Scale of Attitude toward Islam, Katz-Francis Scale of Attitude toward Judaism, Santosh-Francis Scale of Attitude toward Hinduism, Williams Scale of Attitude toward Paganism, Astley-Francis Scale of Attitude toward Theistic Faith), but also through the development of a range of different measures of religiosity (e.g., religious orientation assessed by the Revised Religious Life Inventory proposed by Hills, Francis, and Robbins, 2005; mystical orientation

assessed by the Francis-Louden Mystical Orientation Scale proposed by Francis and Loudon, 2000) as well as alternative belief systems (e.g., paranormal beliefs assessed by the Williams Revised Index of Paranormal Belief and the Modified Paranormal Belief Scale proposed by Williams, Francis, and Lewis, 2009).

### **Methodology**

Regarding the overall methodological approach, Levitt (1995) questions the use of attitude scales within the context of cross-sectional quantitative surveys to assess young peoples' personal and social realities. In particular Levitt draws attention to a series of studies, reported by Francis (1986a), which explored the impact of different types of schooling (Anglican aided, Roman Catholic aided, and non-denominational state-maintained) on young people's attitudes toward religion (using the Francis Scale of Attitude toward Christianity) conducted among year five and year six students attending the same set of thirty schools in East Anglia during 1974, 1978 and 1982. Levitt (1995) argues that the quantitative methods employed by Francis ought to be complemented by qualitative methods of empirical research (particularly longitudinal studies) which are better suited to this research topic as they work to understand the young person within their environment and are able to gain an in-depth view of the reasons as to why a young person may hold a certain attitude toward religion.

Responding to this point, Francis (1995) comments that while there is every value to qualitative methods of empirical research (which permit a detailed and in-depth investigation of attitudes toward religion) the aim of building a series of studies each employing the same measure of affective religiosity (the Francis Scale of Attitude toward Christianity) was to aid empirical comparability between the correlates of attitude toward Christianity associated with different groups at different

points in time. This is supported by the use of large sample sizes within the independent studies, which enables the findings to be held with confidence and allows them to be generalised to wider populations (Francis & Robbins, 2010). Such features are typically not available to qualitative studies which often include smaller samples, as Levitt (1995) herself also identifies. Francis (1995) also comments that mixed-method studies employing both quantitative and qualitative techniques may not mix easily, and may detract from the success of either method.

Regarding the methods of statistical analysis employed by studies belonging to this tradition of empirical theology to explore the personal and social correlates of attitudes toward religion (e.g., cross-tabulation, correlation, regression, path analysis), Greer (1983) argues that conclusions drawn from the findings of such studies must be treated with caution on the basis of two points, causality and contaminating variables. On the point of causality, Greer refers to the limited extent to which it is possible to establish causal links in cross-sectional or correlational analysis. He emphasises that even sophisticated correlational techniques, like path analysis, represent levels of prediction rather than the power of causal explanation. On the point of contaminating variables, Greer refers to the extent to which the real causal influences in a statistical model may be factors which have not been taken into account in the construction of that model. For example, Greer draws attention to a study reported by Francis (1979) which employed path analysis to explore the influence of different syllabi in Religious Education departments on 9- to 11-year-old children's attitudes toward religion (assessed by the Francis Scale of Attitude toward Christianity) within different types of school. Greer suggests that attitudes toward religion, within the context of this study, may have also been influenced by other contaminating variables (such as daily assembly, carol services or harvest

thanksgiving) which were not included within the model. On this basis Greer argues that conclusions based on such partial representations of reality need to be interpreted with care.

Responding to Greer's point regarding causality, Francis and Kay (1984) maintain that while caution is needed in the careful interpretation of associations between attitude toward religion scores and other variables, correlational studies do present a powerful way of empirically testing on real data the strength of hypothesised causal relationships. Sophisticated analysis techniques (such as multiple-regression, path analysis, and more recently, multi-level modeling) provide a method whereby assumed causal connections may be tested for consistency with the observed relationships between variables (Francis & Kay, 1984). Following on from this, and in response to Greer's point regarding contaminating variables, Francis and Kay (1984) maintain that, in reducing any complex social situation into a mathematical model, it is inevitable that a number of important and unimportant factors will not be taken into account:

The very problems of measurement do not permit the total and exact replication of a social reality in a mathematical model... While I concede that, theoretically speaking, this may seem less than satisfactory, practically it enables a realistic measurement model to be constructed. (p. 49)

Conclusively, then, it is the contention of researchers working within this tradition of empirical theology that, while it is the case that partial representations of reality need to be treated with caution, it is more profitable to demonstrate what may be the case, given the acceptability of certain theories, hypotheses and assumptions, than to continue to work without any real knowledge of what may or may not be the case (Francis & Kay, 1984).



## **Research applications**

The first half of this chapter has considered the definition, development and operationalisation of the attitudinal dimension of religiosity in the empirical study of religion through use of the Francis Scale of Attitude toward Christianity and the family of instruments developed from this original scale. The second half of this chapter will examine two practical examples of how studies exploring the correlates of religiosity through the attitudinal dimension have contributed to important issues in the broader context of the psychology of religion. These examples of comparative empirical research in religion are identified as relating to: the relationship between religion and psychological health (assessed via personality psychology) and the relationship between religion and well-being (representing the field of positive psychology).

### **Religion and psychological health**

The first practical example of comparative empirical research demonstrates how studies among young people and adults in the attitudinal dimension of religiosity have developed understanding of the relationship between religion and psychological health. Over a forty-year period of research, Eysenck's personality scales have routinely been included in empirical studies conducted within the tradition of empirical theology to explore the connection between religiosity and individual differences in personality. A series of studies within this tradition have proposed adopting Eysenck's dimensional model of personality (Eysenck & Eysenck, 1991) as an economical and elegant indicator of psychological health. This research agenda has provided a significant contribution to the psychology of religion where the history of empirical research in this area has been divided between the

view that religion is associated with either higher (see, Jung, 1938; Allport, 1950) or lower levels of psychological health (see, Freud, 1950).

Eysenck's dimensional model of personality, as operationalised through the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975), the Revised Eysenck Personality Questionnaire (Eysenck, Eysenck, & Barrett, 1985), and the Eysenck Personality Scales (Eysenck & Eysenck, 1991), maintains that abnormal personality (poor functional psychological health) is not discrete from, but continuous with, normal personality (good functional psychological health). Accordingly, neurotic disorders lie at one extreme of a dimension of normal personality, ranging from emotional stability, through emotional lability, to neurotic disorder. Similarly, psychotic disorders lie at one extreme of another dimension of normal personality, ranging from tendermindedness, through toughmindedness, to psychotic disorder. Eysenck's model also maintains that the two dimensions of neuroticism and psychoticism are orthogonal and independent of each other. Alongside the measures of neuroticism and psychoticism, Eysenck's model adds a third dimension of personality which is not itself concerned with psychological disorder. This third dimension ranges from introversion, through ambiversion, to extraversion. Eysenck's questionnaires, designed to measure these three dimensions of personality, also routinely include a lie scale. Three conclusions consistently emerge concerning the association between attitude toward Christianity and psychological health (assessed in terms of neuroticism and psychoticism scores within Eysenck's dimensional model).

The first conclusion established by research in this area concerns the relationship between attitude toward Christianity and neuroticism scores. Individuals who score highly on Eysenck and Eysenck's (1975, 1991) neuroticism scale are

defined as: anxious, worrying, moody, and frequently depressed individuals who are likely to sleep badly and to suffer from various psychosomatic disorders. Highly neurotic individuals often worry about things which are likely to go wrong, are believed to react over emotionally to all kinds of stimuli and as a consequence experience high levels of anxiety in reaction to these thoughts (Francis, 2009a, 2009b). A number of studies conducted among young people reported by Francis, Pearson, Carter, and Kay (1981a), Francis, Pearson, and Kay (1983a), and Francis and Pearson (1991) have examined the relationship between the Francis Scale of Attitude toward Christianity and Eysenck's neuroticism scale. In these studies, the influence of sex differences were controlled for on the basis of previous empirical research which consistently demonstrates that females tend to score more highly than males on both scales of religiosity and scales of neuroticism (Francis & Pearson, 1991). These key studies reported that neuroticism scores and positive attitude toward Christianity are unrelated, highlighting that there is no evidence to suggest a connection between poorer levels of psychological health (in terms of high neuroticism scores) and higher levels of religiosity.

The second conclusion concerns the relationship between attitude toward Christianity and psychoticism scores. Individuals who score highly on Eysenck and Eysenck's (1976, 1991) psychoticism scale are defined as: cold, impersonal, hostile, lacking in sympathy, unfriendly, untrustful, odd, unemotional, unhelpful, lacking in insight, and strange with paranoid ideas that people are against them. Individuals with high psychoticism scores often lack emotions such as guilt and empathy, they may also be egocentric, self-centred, inhumane and insensitive. A number of studies among young people reported by Francis and Pearson (1985a), Kay (1981a), and Francis (1992b) have examined the relationship between attitude toward Christianity

and psychoticism. These key studies reported a negative relationship between psychoticism scores and a positive attitude toward Christianity. This suggests that higher levels of psychological health (in terms of low psychoticism scores) are associated with higher levels of religiosity.

The third conclusion is identified as a subsidiary finding relating to the dimension of extraversion (Francis, 2009a, 2009b). This finding, however, provides no further understanding of the relationship between attitude toward Christianity and psychological health. Eysenck and Eysenck's (Eysenck & Eysenck, 1963) earlier definition of extraversion maintained that individuals who scored highly on the extraversion scale were considered as sociable, outgoing, impulsive, carefree and optimistic. A number of studies utilising this definition of extraversion found that introverts held a more positive attitude toward Christianity than extraverts. However, later editions of the extraversion scale do not include the notion of impulsivity, this characteristic is now more closely related to the dimension of psychoticism (Francis, 1992b). A number of studies among young people reported by Francis, Pearson, Carter, and Kay (1981b), Francis, Pearson, and Kay (1983b), Francis and Pearson (1985b), and Williams, Robbins, and Francis (2005) have employed the later definition of extraversion and found no significant relationship between extraversion scores and attitude toward Christianity.

These conclusions have been supported by a number of studies among students attending primary and secondary schools in the UK. Studies employing the Francis Scale of Attitude toward Christianity alongside Eysenck's measures of personality demonstrate these findings over a wide range of age groups including: Robbins, Francis, and Gibbs' (1995) study among 8- to 11-year-old students, Francis, Lankshear, and Pearson's (1989) study among 11-year-old students, Francis

and Montgomery's (1992) study among 12- to 16-year-old students, Francis and Pearson's (1988b) study among 15- to 16-year-old young people, Wilcox and Francis (1997a), and Francis and Fearn's (1991) studies among 16- to 18-year-old students. Francis and Kwiran's (1999) study among secondary school students in Germany also replicate these findings.

A further group of studies employing the Francis Scale of Attitude toward Christianity alongside Eysenck's personality measures confirm that attitude toward Christianity is negatively correlated with psychoticism and unrelated to the personality dimensions of neuroticism and extraversion among undergraduates and adults within a variety of contexts, including the UK (Francis, 1991a, 1993a, 1999a; Francis & Bennett, 1992; Carter, Kay, & Francis, 1996; Bourke & Francis, 2000; Shuter-Dyson, 2000), Australia and Canada (Francis, Lewis, Brown, Philipchalk, & Lester, 1995), Northern Ireland (Lewis & Joseph, 1994; Lewis, 1999, 2000), the Republic of Ireland (Maltby, 1997a; Maltby & Lewis, 1997), the USA (Lewis & Maltby, 1995b; Roman & Lester, 1999), France (Lewis & Francis, 2000), Greece (Youtika, Joseph, & Diduca, 1999), Hong Kong (Francis, Lewis, & Ng, 2003), and South Africa (Francis & Kerr, 2003).

A number of recent studies have also supported these findings among young people within the context of the Jewish and Hindu faiths. A first study (Francis, Katz, Yablon, & Robbins, 2004) employed the Katz-Francis Scale of Attitude toward Judaism alongside the Eysenck personality scales. A second study utilised the Santosh-Francis Scale of Attitude toward Hinduism alongside the Eysenck personality scales (Francis, Robbins, Santosh, & Bhanot, 2008). These studies present a foundation from which it is possible to develop research concerning the

relationship between attitude toward religion and psychological health within alternative faith traditions.

Studies which have employed the Francis Scale of Attitude toward Christianity alongside the Eysenck measures of personality add to the growing body of conceptual and empirical research concerned with examining the correlates, consequences and antecedents of individual differences in the attitudinal dimension of religion. However, as Francis (2009a) recognises, these studies are purely cross-sectional and, as such, are unable to determine the direction of the relationship reported between religion and psychological health. What these findings do report is that: there is a strong negative association between attitude toward religion and psychoticism, that psychoticism is the dimension of personality fundamental to religiosity, and that attitude toward Christianity is unrelated to neuroticism and extraversion. This has developed research in the psychology of religion by providing a scientifically secure basis from which to explore the associations between religion and psychological health. Collectively, the findings of these studies also highlight that empirical research seeking to provide an accurate picture of the relationship between religion and other variables must consider and account for the influence of personality.

### **Religion and well-being**

The second practical example of comparative empirical research demonstrates how studies among young people and adults in the attitudinal dimension of religiosity have developed understanding of the relationship between religion and well-being. This research question is concerned with exploring the association between religion and positive life-enhancing consequences. In the social sciences this represents a contribution to the domain of positive psychology, which,

in consideration of this issue, examines the relationship between religion and positive psychological affect.

Within the tradition of empirical theology, research in this area maintains that the expression of positive psychological affect is continuous with constructs such as happiness and satisfaction in life. Initial evaluation of previous empirical research exploring the relationship between religion and happiness found no common consensus in the findings (Robbins & Francis, 1996; Francis & Lester, 1997). For example, some studies reported a positive association between religion and happiness, other studies reported a negative association, and a number of other studies reported no association between religion and happiness. Francis and colleagues concluded that the problem behind the inconsistency of these findings was that the independent studies did not employ a consistent measure of happiness. Against this background, the research group aimed to establish a secure measure of happiness on which a series of integrated studies could be built exploring reliably and validly the relationship between religion and well-being.

The construct of happiness utilised by this research tradition is defined and operationalised by the 29-item Oxford Happiness Inventory developed by Argyle, Martin, and Crossland (1989). This suggests that happiness can be measured according to three empirical indicators: frequency and degree of positive affect or joy, life satisfaction, and absence of negative feelings such as anxiety or depression. The reliability and validity of this instrument has been demonstrated in studies reported by Hills and Argyle (1998a, 1998b) and Chan & Joseph (2000).

A series of six recent studies have employed the Oxford Happiness Inventory alongside the Francis Scale of Attitude toward Christianity in examination of the relationship between attitude toward religion and happiness among young people,

undergraduates and adults, as reported by Robbins and Francis (1996), Francis and Lester (1997), French and Joseph (1999), Francis, Jones, and Wilcox (2000), Francis and Robbins (2000) and by Francis, Robbins, and White (2003). Data and analysis from each of these studies displayed a significant positive relationship between attitude toward Christianity and happiness. This suggests that a positive attitude toward Christianity is correlated with well-being when the construct of well-being is assessed by the concept of happiness operationalised by the Oxford Happiness Inventory.

Examination of the relationship between the attitudinal dimension of religiosity and happiness began in a Christian context shaped by the English language. The scope of this research question has now been extended across a range of age groups, a number of faith traditions and a variety of linguistic contexts. For example, studies reported by Francis and Katz (2002) and Francis, Katz, Yablon, and Robbins (2004) conducted among undergraduate students employed the Katz-Francis Scale of Attitude toward Judaism alongside the Hebrew translation of the Oxford Happiness Inventory. Data and analysis from these studies demonstrated a small but statistically significant positive association between happiness and positive attitude toward Judaism.

Research which has employed the Francis Scale of Attitude toward Christianity alongside the Oxford Happiness Inventory adds a significant contribution to empirical research examining the correlates of religiosity among a range of age groups, linguistic contexts and most recently alternative of faith traditions (with use of the Katz-Francis Scale of Attitude toward Judaism). Within the tradition of empirical theology, empirical research in the area of religion and well-being is relatively recent. Francis (2009a) recognises that this area of research



has the potential to be extended in the replication of previous studies and including other faith traditions such as Islam, Hinduism, Paganism or across the theistic faiths in general. Through continuous use of reliable and valid instrumentation, a scientifically secure basis for empirical research is created upon which a number of independent studies may be able to compare findings relating to the relationship between religion and well-being.

### **Conclusion**

This chapter set out to consider the first strand of research within the tradition of empirical theology on which this thesis builds, concerned with charting the correlates, antecedents and consequences of individual differences in attitude toward religion. The first half of this chapter has considered the definition, development and operationalisation of the attitudinal dimension of religiosity in the scientific study of religion through use of the Francis Scale of Attitude toward Christianity and family of instruments developed from this scale. The second half of this chapter has examined two practical examples of how the attitudinal dimension has been practically applied to research questions within the broader context of the psychology of religion. Two conclusions emerge from consideration of this approach to empirical research in religion.

First, a scientific assessment which recognises the multiple dimensions of religion is beneficial to empirical research seeking to provide an accurate picture of how the complex nature of religion is experienced and interpreted. A social scientific assessment of religion, as relevant to the individual differences approach, which distinguishes between the various features of religiosity is able to assess each dimension through appropriately designed measures. This promotes empirical

feasibility as the correlates of each dimension may be explored both independently and comparatively with other features of religion.

Second, the efficacy of the approach to the scientific study of religion promoted by Francis and colleagues, built on the measurement of individual differences in the attitudinal dimension of religiosity and operationalised by the Francis Scale of Attitude toward Christianity, is demonstrated by the extensive body of empirical literature established through use of this scale in a series of independent studies over a forty-year period. During this time the Francis Scale of Attitude toward Christianity has been employed in over two-hundred-and-fifty studies, chapters and dissertations each exploring the correlates, antecedents and consequences of individual differences in religiosity. The consistent reliability of this measure has allowed research examining the relationship between religion and a number of personal and social correlates to include a range of age groups, languages and alternative faith traditions (with the development of the Sahin-Francis Scale of Attitude toward Islam, the Katz-Francis Scale of Attitude toward Judaism, the Santosh-Francis Scale of Attitude toward Hinduism, the Williams Scale of Attitude toward Paganism, and the Astley-Francis Scale of Attitude toward Theistic Faith). The two practical examples of comparative empirical research considered also demonstrate how studies employing this family of scales have contributed to important issues in the broader context of the psychology of religion, such as the relationship between religion and psychological health and the relationship between religion and well-being.

While empirical research exploring the correlates of affective religiosity through use of the Francis Scale of Attitude toward Christianity is well established, there is a need to keep this literature up-to-date and to ensure the instrument's use in

future studies. This need is recognised within the present thesis, based on analyses of the short-form Francis Scale of Attitude toward Christianity included within the Young People's Values Survey, designed to explore the correlates of young people's attitudes toward Christianity during the first decade of the twenty-first century. This allows the present thesis to add a new piece to the jigsaw puzzle began by Francis (1976, 1978a) which continues to develop a cumulative picture of the changing nature of attitudes toward Christianity.

## **CHAPTER THREE**

### **THE TEENAGE RELIGION AND VALUES SURVEY**

#### **Summary**

#### **Introduction**

**Design of the survey**

**Individual differences**

**Empirical theology**

**Assessment of religiosity**

#### **The findings**

**The values debate**

**Urban hope and spiritual health**

**Religious and denominational affiliation**

**Belonging without believing**

**Church-leaving**

**Schools of religious character**

**Prayer and purpose**

**Other areas of research**

#### **Conclusion**

## **Summary**

The previous chapter explored the first strand of research within the tradition of empirical theology on which this thesis builds, concerned with the measurement of individual differences in the attitudinal dimension of religiosity operationalised by the Francis Scale of Attitude toward Christianity. Chapter three considers the second strand of research within the tradition of empirical theology on which this thesis builds, concerned with the measurement of individual differences in young people's religion and values operationalised by the Teenage Religion and Values Survey. This chapter examines: the design, methodology and theoretical frameworks shaping the Teenage Religion and Values Survey, and the body of empirical literature that was generated from the largest study in this series conducted among 33,982 13- to 15-year-old students across England and Wales throughout the 1990s. This thesis is built on analyses of the Young People's Values Survey, the third phase of the Teenage Religion and Values Survey designed to assess young people's religion and values within the context of the first decade of the twenty-first century.

## **Introduction**

The aim of this chapter is to consider the second strand of research within the tradition of empirical theology on which this thesis builds, concerned with the measurement of individual differences in young people's religion and values operationalised by the Teenage Religion and Values Survey and the family of instruments developed for use within this series. In the 1980s Francis and colleagues began a series of comparative empirical studies designed to explore the place of religion and values within the lives of young people (Francis, 1982a, 1984). Studies belonging to this tradition employ the same research model guided by the individual differences tradition of empirically-based social psychology and take the form of large-scale cross-sectional quantitative surveys. The Teenage Religion and Values Survey represents the largest study within this series. The first phase of this survey was conducted during the late-eighties early-nineties among 13,000 13- to 15-year-old students in England and Wales (Francis & Kay, 1995). The second phase of this survey was conducted during the 1990s among 33,982 13- to 15-year-old students in England and Wales (Francis, 2001a). The size of this study meant that assessment of religiosity could be inclusive of significant membership numbers from the major world traditions (e.g., Hindus, Jews, Muslims and Sikhs) as well as a number of smaller Christian denominations (e.g., Methodists), and the range of religiosity measures included in the questionnaire allowed comparative analyses between religious and non-religious groups. This provided an opportunity to assess the changing place of religion in the lives of young people during the 1990s.

This chapter will examine the research model employed by empirical studies belonging to the Teenage Religion and Values Survey series. The first part of this chapter considers the design, methodology and theoretical frameworks which shape

the Teenage Religion and Values Survey. The second part of this chapter considers the body of empirical literature that has developed from the findings of the survey run throughout the 1990s.

### **Design of the survey**

The Teenage Religion and Values Survey is located within the theoretical context of quantitative empirical research. The main quantitative design of the questionnaire is built on the experiences of previous research projects exploring young people's religion and values. These include: *Youth in transit* (Francis, 1982a) a study whose initial use of the Centymca Attitudes Inventory profiled the values of 1,085 16- to 25-year-old young adults, and *Teenagers in the Church* (Francis, 1984) a study which employed a revised version of the same inventory to review the values of 13- to 20-year-old churchgoers. The first phase of the Teenage Religion and Values Survey employed a further amended version of the Centymca Attitudes Inventory among 13,000 students in year-nine and year-ten classes across England and Wales during the late-eighties early-nineties. The findings of the first phase were summarized by Francis and Kay (1995) in *Teenage religion and values* who employed the data to examine the relationship between three different conceptualisations of Christianity and values.

The second phase of the Teenage Religion and Values Survey aimed to provide a profile of teenage values during the 1990s through the acquisition of a larger dataset of over 30,000 questionnaire responses. The scale of this quantitative study allowed the research team to place confidence in their findings regarding the reliability and generalisability of the results (Francis & Robbins, 2005). Establishing a quantitative data range of this size also meant that assessment of religiosity could be inclusive of significant membership numbers from the major world traditions

(e.g., Hindus, Jews, Muslims and Sikhs), as well as a number of smaller Christian denominations (e.g., Methodists) and minority groups (e.g., Jehovah's Witnesses).

Revisions were made to the questionnaire employed in the first phase of the survey so as to reflect adequately the personal and social worldviews of young people living in the 1990s. Whilst the Teenage Religion and Values Survey belongs to the tradition of quantitative empirical research, a qualitative influence (permitting an in-depth and detailed view of young people's values) was realised in the re-design process. A number of focus groups were held with young people who were tasked with identifying relevant value areas and providing feedback on new items intended for use within the questionnaire. This allowed the quantitative design of the survey to be grounded in the voices of young people living within the 1990s. The Teenage Religion and Values Survey is designed to profile young people's attitudes toward fifteen value areas as well as gain factual information from participants. The questionnaire comprises three parts.

The first part of the questionnaire is comprised of a number of pre-coded forced-choice questions that gather information standard to the social science empirical traditions such as age and sex. For example, sex is indicated by the choice of one or two categories: *male* or *female*. Responses to questions in this section are measured on nominal scales. For example, students are asked to provide information on parental occupations. To the item 'Does your mum/dad have a job?' responses to the following options are measured on a nominal scale: yes full-time, yes part-time, no, retired, don't know. A space is then provided to record the type of parental occupation. In data analyses, parental occupations were categorised according to the classification proposed by the Office of Population Censuses and Surveys (1980). Responses to these questions provide an indication of the social economic



background of the young people included in the sample. This part of the questionnaire also asks students to provide information on a broader range of issues, including questions regarding: career expectations, type of area they live in, religious affiliation and practice, leisure activities, and frequency of television watching. The pre-coded forced-choice questions in part one of the questionnaire allowed for the quantification of distinct categories of information. This enabled a profile of the young people in the sample to be drawn.

Part two of the questionnaire comprises the short-form Junior Eysenck Personality Questionnaire (JEPQ-S: Francis & Pearson, 1988a). Responses to these questions are measured on a dichotomous scale: *yes* or *no*.

Items listed in part three are carefully constructed to profile respondent's attitudes toward fifteen value areas. These items are assessed according to Likert's five-point scale (Likert, 1932) that allows evaluation of each statement on the basis of the following responses: agree strongly, agree, not certain, disagree and disagree strongly. Each of the fifteen value areas are operationalised by a number of variable items in each domain. The value areas are identified as: personal well-being, worries, counseling, school, work, politics, social concerns, sexual morality, substance use, right and wrong, leisure, local area, religious belief, church and society, and the supernatural. Whilst it was recognised that representation of these issues over a number of variable items in each domain provides only a thin assessment of each value area, the aim was to profile a broad range of values and not make the questionnaire too long (Francis & Robbins, 2010).

The use of Likert scaling (Likert, 1932) had a number of benefits in terms of the ensuing data analyses. For example, the five-point scale meant that a middle position of 'uncertain' could be utilised. This, Francis (2001a) argues, was an

essential feature in a survey investigating the attitudes of young people who may not have fully developed opinions on some important issues included in the questionnaire. Use of the Likert-type scale meant that responses to the items in part three of the questionnaire could be utilised in a variety of ways. For example, in data analyses responses to individual items could be represented in terms of percentage according to the relevant option (e.g., agree strongly or agree), options could be combined to represent both categories (e.g., equalling a yes or no response), responses could be used to calculate mean scores (e.g., between 1 and 5) or to produce cumulative scale scores (Francis & Robbins, 2010). The different forms of measurement included within the Teenage Religion and Values Survey allows for the use of sophisticated data analysis techniques, such as multiple regression, path models and multilevel modelling. This approach to the measurement of young people's religion and values is a reflection of the project's broader theoretical framework which speaks of the individual differences tradition of empirically-based social psychology and empirical theology.

### **Individual differences**

The empirical nature of the Teenage Religion and Values Survey is shaped by the individual differences tradition within the field of social psychology. At a basic level this approach maintains that human behaviour is not entirely random but patterned in discernable ways (Francis, 2009a). Individual differences represent the multiple dimensions shared by all individuals but yet also demonstrate how each individual differs. It is the discernable features of human behaviour that allow for the prediction of individual differences (e.g., age, sex, socio-economic background). Within the scope of the Teenage Religion and Values Survey the research group aimed to examine a cumulative range of individual differences that may have had the

ability to predict the values held by young people (Francis, 2001a; Francis & Robbins, 2010).

The empirical study of individual difference is often characterised by comparative analyses between different groups of information highlighting significant (positive or negative) relationships that may be found to exist between them. The significance of these relationships can be used to show how certain factors may be taken as indicators of individual difference. Against this background, the Teenage Religion and Values Survey was designed to explore associations between a variety of information types. For example, Francis (2001a) demonstrates how age can be shown to be an indicator of individual difference in the area of religious belief where clear differences can be seen to exist in response to the item 'I believe in God' to which 43% of students in year-nine agreed compared with 40% of students in year-ten. However, on the question of religiosity and individual differences, Francis and Robbins (2010) underline the value of examining independently the influence of individual differences such as sex and age before their association with religion is considered. This, they argue, is because individual differences in religiosity may in fact be influenced by individual differences at a more basic level.

As well as exploring the impact of individual differences considered standard in the empirical social sciences (e.g., age, sex, social class), the Teenage Religion and Values Survey included in its list of individual difference personality. The branch of personality theory employed in the study is based on the model provided by Hans Eysenck as outlined by Eysenck and Eysenck (1991). The short form of the junior tests included in part two of the survey was specially developed by the research group based on previous research (see, Francis & Pearson, 1988a). This scale assesses the basis of individual difference in personality through three

orthogonal high order dimensions known as extraversion, neuroticism and psychoticism. These major personality dimensions are independent of each other and provide a link between normal and abnormal personality. Most importantly they represent deep-seated individual differences that have their roots in our biological nature (Francis & Robbins, 2010).

Inclusion of the short form of the Junior Eysenck Personality Questionnaire (JEPQ-S: Francis & Pearson, 1988a) in the Teenage Religion and Values Survey allows assessment to be made of the individual differences in personality that may be considered as predictors of certain values. Thus, informed by the individual differences perspective, the Teenage Religion and Values Survey was designed to enable exploration of the personal and social correlates of religion through the voices of young people.

### **Empirical theology**

The Teenage Religion and Values Survey represents a significant contribution to the field of empirical theology. Within this theoretical framework, built primarily on Van der Ven's ideal of practical theology, Francis (2003) advocates an inter-disciplinary approach between the empirical features of the social sciences and practical theology. Underpinning this notion are two key points: that the tools of the social sciences are justifiably capable of assessing the questions of practical theology, and that consequently, they can be integrated into the investigations of theological reflection. This aids the development of empirical theology in two ways: the instruments employed in the realm of empirical theology can be accessed and tested by social scientists, and, in turn, practical theologians can learn from the theoretical and methodological debates belonging normally to the realm of the social sciences. In this way, reflexive dialogue between the two

disciplines creates detailed interpretative frameworks that can be applied to the questions of both empirical theology and the social sciences.

This approach is embodied in the Teenage Religion and Values Survey. Within the scope of individual differences, the project enables empirical examination of the relationships between religion and a range of personal and social attitudes. Attitudes, it is argued, are deep-seated underlying evaluative predispositions that may be reflected in a variety of behaviours (Francis, 2008a). Francis (2008a) maintains that consistent patterns of relationship between personal and social correlates of religiosity may be used to review and assess the place of religion in a context of cultural diversity. If these attitudes can be shown to form an essential aspect of young people's personal and social identity in a modern age, there is considerable ground for arguing that the secularisation thesis is premature (Francis, 2008a). This would demonstrate that, in fact, religion still has a hand in shaping both the public and personal domains. Therefore, such a study is capable of aiding theological questioning by painting an accurate picture of the place of religiosity within the lives of young people from both a personal and societal perspective.

Francis and Robbins (2005) argue that whilst individual differences have been studied mainly by the social sciences, they are also evident in the doctrine of creation (Genesis 1:27) in which the God of the Christian tradition is conceived as embracing differences. A theology of individual differences, Francis (2009a) maintains, begins with the affirmation of both male and female being created in the image of God. The existence of sex difference, it is argued, puts forward a range of other diverse individual differences such as ethnicity and personality. Therefore, it becomes the task of theological questioning to explore individual difference as a way of understanding humankind's created existence in the image of God. This is the

type of theological enquiry made possible by the Teenage Religion and Values Survey. Its use of empirical research methods seeks to examine the rich diversity and stable patterns of human individuality that make assessment of religiosity possible within the context of modern youth (Francis & Robbins, 2005).

### **Assessment of religiosity**

The Teenage Religion and Values Survey assesses the complex nature of religion by measuring what Francis and Robbins (2010) identify as the five major features of traditional religiosity. The advantage of this approach is that it allows the individual aspects of religiosity to be considered independently but also leaves open the possibility to explore relationships between the different dimensions.

The first feature of religiosity is identified as self-assigned religious affiliation. In England and Wales 2001 the national census included for the first time a question assessing religious affiliation, distinguishing between the six major world faith traditions (Buddhism, Christianity, Hinduism, Islam, Judaism and Sikhism) as well as a number of Christian denominations in Scotland. Based on this important distinction, these categories are included in the Teenage Religion and Values Survey along with a series of questions that recognise the significance of denominational differences within Christianity (e.g., Baptist, Church of England, Methodist, Pentecostal, Roman Catholic, Salvation Army, URC/Presbyterian).

The second feature of religiosity is identified as self-reported attendance to places of public worship. The questionnaire asks how often respondents attend a place of religious worship such as a church, temple or synagogue. Respondents are given the options of: nearly every week, at least once a month, six times a year, at least once or twice a year and never. Francis and Robbins (2010) recognise that

attendance at public places of worship represents an external religious behaviour and so classify this measure as assessing an extrinsic feature of religiosity.

The third dimension of religiosity included in the questionnaire is personal prayer and reported reading of the scriptures. Responses to the items ‘do you pray by yourself’ and ‘do you read the scriptures by yourself’ are measured according to frequency: nearly every day, at least once a week, at least once a month, occasionally and never. Francis and Robbins (2010) recognise that personal prayer and reading of scriptures represents an internal personal religious practice and so classify this as assessing intrinsic features of religiosity

A fourth measure is defined as religious belief representing the cognitive aspect of religiosity. Francis and Robbins (2010) argue that as a measure belief in God can exist independent of self-assigned religious affiliation and of public and personal religious practice.

The fifth dimension of religiosity identified in the study is recognised as God images. This feature explores the kind of God that young people believe in alongside belief in God.

The final dimension represents a number of alternative spiritualities such as belief in horoscopes, belief in the possibility of contacting the dead, belief in fortune-tellers, belief in the Devil and black magic. Inclusion of these issues enabled the project to assess aspects of the transcendent or supernatural whose presence in the attitudes of young people may be indicative of unconventional paranormal belief. One example of research utilising data from this feature of the Teenage Religion and Values Survey has explored individual differences in the relationships between personality and two contrasting beliefs: belief in ability to contact the dead and black

magic (unconventional paranormal belief) and conventional Christian belief (Francis, Williams, & Robbins, 2010).

### **The sample and data collection**

The research team believed that in aiming to assemble a database of around 34,000 responses, an even representation of young people and smaller religious groups across England and Wales would be included in the findings. The participants were 13- to 15-year-old students attending schools across the country, the typical year groups are recognised as year-nine and year-ten. The research group recruited in total 163 schools from Pembrokeshire to Norfolk, and from Cornwall to Northumberland. Schools were recruited by a snowball sampling technique.

Within this demographic there existed an even mix of rural and urban areas. The sample included a proper mix of independent and state-maintained schools. Within the state-maintained sector a good balance between Roman Catholic voluntary schools, Anglican voluntary schools and non-denominational schools was developed. The same procedure was administered in participating schools. Questionnaires were given to all year-nine and year-ten classes throughout the school and were completed under exam conditions. Students were assured of anonymity and confidentiality and participants were asked not to write their names on the questionnaires. Respondents were given the option not to participate. However, as Francis and Robbins (2010) clarify, few chose not help with the study. This process generated a database of 33,982 completed questionnaires from which it was possible to analyse the following findings.

### **The findings**

The Teenage Religion and Values Survey generated a large number of publications across a broad range of topics. Consideration of the main literary pieces



developed from this study will demonstrate the efficacy of a quantitative survey of this type. This is achieved by drawing attention to the different types of analyses generated from the dataset which have aided the development of a comprehensive body of material documenting individual differences in young people's religiosity and values. Eight areas of work identified as the key findings by Francis and Robbins (2010) will be considered, including: *The values debate* (Francis, 2001a), *Urban hope and spiritual health* (Francis & Robbins, 2005), a summary of the papers written concerning religious and denominational affiliation, followed by Francis and Robbins' (2004) work on belonging without believing, church leaving, schools of religious character, personal prayer, and a number of other issues examined by the research group.

### **The values debate**

*The values debate* (Francis, 2001a), the first publication to result from the survey, presented a range of findings from the database. The aim of the publication was first to provide a broad profile of the values of 13- to 15-year-old young people from the 33,982 responses. Chapter one groups together the responses of the 13- to 15-year-old students included in the sample to provide an overview of the responses to the fifteen value areas each considered in turn.

For example, Francis (2001a) draws a profile of well-being from the entire sample by assessing the group response to six items belonging to the value area personal well-being. This showed a reasonably positive attitude to well-being although often characterised by moments of depression: 56% of young people felt their life had a sense of purpose, 69% of young people found life really worth living, 52% of young people often felt depressed, 27% of young people had entertained

thoughts of suicidal ideation, and 13% of young people felt they had little worth as a person.

In the second half of the book Francis (2001a) focussed on factors that may act as predictors of individual difference in the values held by young people. Chapters 3-8 examine the impact of age, sex, social-class, experience of divorce or parental separation, church attendance and television watching, on the issues explored by the fifteen value areas. Cross-tabulation was employed to explore the relationships between each factor and the different value areas. It is recognised that an outcome of this is that causative factors could not be deduced from the findings (Francis, 2001a). Cross-tabulation also does not account for other factors which may have been associated with young people's attitudes toward the different value areas. However, this technique allowed relationships between issues to be clearly displayed.

The findings suggest that each factor functioned as a significant predictor of individual difference in the values held by young people in the 1990s. For example, in the area of religiosity, decline of belief in God was associated with age differences where 43% of year-nine students agreed with the statement 'I believe in God' in comparison with 40% of year-ten students.

In the area of sex differences, female students were found to be more likely to believe in God (45%) than male students (38%).

In the area of social class background, students from a higher social class were found to be more likely to believe in God (47%) than students from a lower social class (38%).

In the area of parental divorce or separation, students from broken homes were less likely to believe in God (36%) than students whose parents are still together (43%).

In the area of church attendance, students who attended church weekly were more likely to believe in God (82%) than students who never attend (21%).

In the area of television watching, students who watched more than four hours of television per day were less likely to believe in God (38%) compared with students who watched less than four hours of television a day (42%).

### **Spiritual health**

The second book to utilise the database *Urban hope and spiritual health* (Francis & Robbins, 2005) assessed the spiritual health of young people living in urban areas. Francis and Robbins (2005) drew on the model of spiritual health proposed by John Fisher (Fisher, 2000) which claims that spiritual health is maintained according to the good quality of relationships across four areas of life characterised as: the personal domain (relationships with self), the communal domain (relationships with other people), the environmental domain (relationships with the local and global physical environment), and the transcendent domain (relationships with objective realities outside the physical realm.) These inter-related domains when equally enhanced lead to good spiritual health.

Within this theoretical framework Francis and Robbins (2005) employed cross-tabulation to examine indicators of spiritual health across the four domains alongside a range of factors (e.g., age, sex, religious self-affiliation, family background, attendance to faith schools) which could be used to predict individual differences in the spiritual health of urban young people.

For example, findings demonstrated that young people who self-affiliate with the Christian traditions show a good level of spiritual health across all four domains. In the personal domain, Christian affiliates were found to have a higher sense of purpose in life (60%) than those with no religious affiliation (50%). In the communal domain, affiliated Christians found it more helpful to talk through problems with close friends (66%) than their non-affiliated counterparts (61%). In the environmental domain, Christian affiliates were found to express more concern about pollution to the environment (67%) than those with no religious affiliation (60%). In the transcendental domain, Christian affiliates were found to have higher levels of belief in God (56%) than their non-affiliated counterparts (24%).

### **Religious and denominational affiliation**

In a series of papers, drawing on the Teenage Religion and Values Survey dataset, Francis (2001b, 2001c, 2008b, 2008c) has argued that self-assigned religious affiliation functions as a socially significant indicator of religiosity. Findings from these papers suggest, in agreement with Fane (1999), Bouma (1992), and Bibby (1987) that, self-assigned religious affiliation is a key component of social identity capable of influencing attitudes and behaviours. Taken together, these four papers demonstrate the ability of self-assigned religious affiliation to predict individual differences in young people's values over a wide range of issues. These differences are especially evident when distinctions between faith-groups and Christian denominations are identified.

For example, Francis (2001b) examined the relationship between self-assigned religious affiliation and three value areas relating to personal, family and social domains. Distinctions between faith-groups in the 29,124 respondents found significantly different attitudes toward values.

In the personal domain, findings demonstrated that 50% of non-religious affiliates agreed that their life had a sense of purpose compared with 61% of Christians, 63% of Hindus, 64% of Jews, 68% of Muslims and 51% of Sikhs. In the Christian denominational groups these differences are especially clear, where 59% of Anglicans agreed that their life has a sense of purpose, compared with 65% of Catholics, 63% of Protestants and 76% of sects.

In the family domain, findings demonstrated that 17% of non-religious affiliates agreed with the statement divorce is wrong compared with 20% of Christians, 20% of Hindus, 21% of Jews, 42% of Muslims and 28% of Sikhs.

In the social domain, findings demonstrated that 63% of non-religious affiliates agreed that they were concerned about the risk of pollution to the environment compared with 70% of Christians, 69% of Hindus, 75% of Jews, 62% of Muslims and 61% of Sikhs.

Francis (2001c) examined the relationship between self-assigned religious affiliation and eleven value areas, including: life satisfaction, anxiety, counseling, school, sexual morality, drugs, law and order, social concern, politics, work and leisure. In the value area relating to school, findings demonstrated that 25% of non-religious affiliates agreed with the statement 'I am worried about being bullied at school' compared with 30% of Christians, 39% of Hindus, 32% of Jews, 31% of Muslims and 34% Sikhs. In the Christian denominational groups, findings demonstrated that 29% of Anglicans were worried about being bullied at school, compared with 30% of Catholics, 33% of Protestants and 28% of sects.

The papers reported by Francis (2008b, 2008c) include a larger range of Christian denominational groups and also examine the relationship between self-assigned religious affiliation and a range of value areas. For example, Francis

(2008b) demonstrates significant differences between non-religious affiliates and Christian denominational groups in the domain of social concern, where 60% of the non-religious affiliates agreed with the statement 'I am concerned about the poverty of the Third World' compared with 71% of Anglicans, 77% of Roman Catholics, 73% of Methodists, 75% Baptists, 75% of Pentecostals, 79% of Presbyterians, and 74% of Jehovah's Witnesses.

These findings add to a growing body of literature which recognises self-assigned religious affiliation as a powerful social indicator of individual differences, independent of other aspects of religiosity such as belief and practice.

### **Belonging without believing**

Francis and Robbins (2004) drew on the sample of 33,982 young people to investigate the view that belonging (self-identified religious affiliation) without believing (belief in God) is a considerable indicator of individual differences and functions as an important marker of socially significant correlates of religiosity. This analysis of the dataset examined differing relationships between a range of values and two comparative groups: those who do not believe in God and do not self-identify with any religious group, and those who do not believe in God but identify themselves as Anglicans.

Findings demonstrated that the relationship between self-assigned religious affiliation and values is influenced by belief in God. For example, in the value area relating to church and society 72% of non-believing Anglicans agreed that they would like to get married in church compared with 57% of non-believing non-affiliates.

## **Church-leaving**

Robbins (2000) employed data from the church attendance question of the Teenage Religion and Values Survey to investigate the impact of previous churchgoing on the worldview of adolescent church-leavers. This study examined differences across twelve value areas associated with four groups, identified as: *attenders* those who attended church at least once a month, *partial leavers* those who used to attend church regularly but now only attend once or twice a year, *total leavers* those who never go to church but used to attend regularly, and *non-attenders* those who never go to church nor have ever attended church.

Findings demonstrated significant differences in attitude across all twelve value areas and between all four groups. This is most clearly seen in the differences between young church-leavers and those who have no contact with churches. For example, in the value area substance use *total leavers* (68%) were more likely to believe that it is wrong to smoke cannabis (hash, pot or marijuana) than *non-attenders* (46%). Robbins (2000) concluded that the existence of significant attitudinal differences over a wide range of issues suggests that contact with church at an early age continues to influence positively the views of young church-leavers in adolescence.

## **Schools with a religious character**

Lankshear (2005) employed the data to examine the impact of Anglican secondary schooling on the personal, moral and religious values of young people by comparing the values profile of six groups of students: Anglicans in Church of England schools and Anglicans in community schools, non-affiliates in Church of England schools and non-affiliates in community schools, and members of other Christian denominations in Church of England schools and members of other

Christian denominations in community schools. Three 9-item scales were created measuring attitudes toward the three value areas of personal dissatisfaction, moral values and religious values. In data analysis mean scores of each value scale were calculated to highlight the different relationships between male and female students according to school type and religious affiliation. Two-way analysis of variance was then employed to assess the relationship between sex, school type and the three value scales.

Findings demonstrated that Anglicans attending Anglican schools recorded higher levels of personal dissatisfaction ( $F = 14.0, p < .001$ ), higher levels of religious values ( $F = 8.6, p < .01$ ), and similar levels of moral values ( $F = 0.0, NS$ ) in comparison with Anglicans attending community schools. Non-affiliates attending Anglican schools recorded higher levels of personal dissatisfaction ( $F = 8.9, p < .01$ ), lower levels of moral values ( $F = 28.2, p < .001$ ), and similar levels of religious values ( $F = 0.3, NS$ ) in comparison with non-affiliates attending community schools.

Francis (2002a) employed a similar model to Lankshear (2005) to explore the impact of Catholic schooling on religious and moral values. This analysis utilised two of Lankshear's (2005) 9-item scales to compare the moral and religious values of students attending Catholic secondary schools within the state-maintained sector (a total of 1,269 boys and 1,203 girls) and students attending non-denominational state-maintained schools (12,669 boys and 12,469 girls). A distinction was also drawn between four types of students attending Catholic schools: *practising Catholics* who attended church every Sunday, *sliding Catholics* who attended church some Sundays, *lapsed Catholics* who never went to church on Sunday and *non-Catholics* who were not baptised as Catholic and were not affiliated to other religious faiths.



Findings of two-way analysis of variance in relation to the moral values scale demonstrated significant differences attributed to sex ( $F = 19.2, p < .001$ ) and to religious status ( $F = 29.4, p < .001$ ). Girls and practising Catholics were found to have more conservative moral values. Findings of two-way analysis of variance in relation to the religious values scale demonstrated significant differences attributed to sex ( $F = 21.8, p < .001$ ) and religious status ( $F = 283.5, p < .001$ ). Girls and practising Catholics were also found to have a more positive attitude toward religious values. Overall comparisons between students in Catholic schools and students in non-denominational schools demonstrated that there was a higher level of commitment to religious values and moral values within Catholic schools.

Francis (2005a) examined the impact of independent Christian schooling on the attitudes of male students across ten value areas. This analysis drew on male students from 19 independent Christian schools and compared them with the attitudinal profiles of male students from 114 non-denominational state-maintained schools. Findings from the study led to the conclusion that the values profile of 13- to 15-year-old students attending independent Christian schools is significantly different from that of those attending non-denominational state-maintained schools. The data demonstrated, for example, that male students attending independent Christian schools were more likely to: be committed to belief in God and inerrancy of scripture, hold a positive view of the church, support religious education in school, reject superstitious beliefs, hold conservative attitudes toward alcohol, tobacco and sex, feel good about life and themselves, respect their teachers, and were less likely to be troubled by bullying.

A more recent series of three studies have continued to work with the Teenage Religion and Values Survey dataset to explore the impact of schools of a

religious character on student's personal, social and religious values utilising a more complex form of statistical analyses. These studies have employed multilevel modeling to identify the contribution made by schools of a religious character to eleven dependent variables assessing young people's values, after taking into account personal, psychological and contextual differences within the students themselves. The eleven dependent variables include measures of: self-esteem, rejection of drug use, endorsement of illegal behaviours, racism, positive attitude toward school, conservative Christian belief, and sexual morality (abortion, contraception, divorce, homosexuality and sex outside marriage). Each study followed that same analytic model controlling for three groups of variables: *personal factors* sex and age, *contextual factors* father in full-time employment, mother in full-time employment, academic expectations (going to university or not going to university), location of home (rural or not rural), parental social class, and *psychological factors* Eysenck's three major dimensions of personality (extraversion, neuroticism, and psychoticism). The models also took into account religious predictor variables since, as Village and Francis (in press) explain, differences between types of schools may have been due to schools of a religious character having a higher number of religious students. These religious variables included: self-assigned religious affiliation, public religious practice (church attendance), personal religious practice (personal prayer), and religious belief (belief in God). Differences between school types that remained after controlling for these three groups of variables and student religiosity were interpreted as the effects of faith schools on student's values.

The study exploring the impact of Anglican schooling, reported by Francis, Lankshear, Robbins, Village, and ap Siôn (in press), compared the personal, social

and religious worldviews of 1,097 students from four Anglican schools with those of 20,348 students from 93 schools without a religious foundation, and demonstrated that of the eleven dependent variables tested, only one, self-esteem showed significant differences. Students attending Anglican schools recorded a significantly lower level of self-esteem than students attending schools without a religious foundation. No significant school effects were identified with regards to rejection of drug use, endorsing illegal behaviours, racism, attitude toward school, conservative Christian belief or views on sexual morality (abortion, contraception, divorce, homosexuality, and sex outside marriage).

The study exploring the impact of Catholic schooling, reported by Village and Francis (in press), compared the personal, social and religious worldviews of 1,948 students from ten Catholic schools with the same 20,348 students from 93 schools without a religious foundation, and demonstrated significant differences with regard to five of the eleven dependent variables tested. Students in Catholic schools were less likely to oppose drug use, more likely to support illegal behaviours, had a poorer attitude toward school, and were more likely to oppose abortion and contraception than students attending schools without a religious foundation.

The study exploring the impact of independent Christian schooling, reported by Francis, ap Siôn, and Village (in press), compared the personal, social and religious worldviews of 271 students from eleven independent Christian schools with those of the same 20,348 students from 93 schools without a religious foundation, and demonstrated significant differences with regard to seven of the eleven dependent variables tested. Students attending an independent Christian school were more likely to report higher levels of self-esteem, higher levels of conservative Christian belief, greater rejection of drug use, were less likely to endorse illegal

behaviours and racism, and held more conservative views on sexual morality (abortion, contraception, divorce, homosexuality, and sex outside marriage) than students attending schools without a religious foundation.

Taken together, these six papers utilising the Teenage Religion and Values Survey dataset suggest that students who attend schools with a religious character are likely to have a significantly different worldview in terms of values than those who attend schools without a religious character.

### **Prayer and purpose**

Francis (2005b) drew on the Teenage Religions and Values database to investigate the relationship between personal prayer and purpose in life, the latter considered as a psychologically beneficial construct. Purpose in life was measured according to the item 'I feel my life has a sense of purpose' alongside measures of church attendance, frequency of personal prayer, religious affiliation and personality. Comparisons were drawn between two samples: those who never attended church (7,083 males and 5,634 females) and those who attended church nearly every week (1,738 males and 2,006 females.) The use of two independent samples in this study was an attempt to minimise the contaminating effect of church attendance on the relationship between personal prayer and perceived sense of purpose.

On both samples multiple regression analysis was employed to control for the potentially contaminating influences of age, sex and personality. Findings demonstrated a significant positive relationship between frequency of prayer and purpose in life among both churchgoers ( $F = 0.25, p < .001$ ) and non-churchgoers ( $F = 0.11, p < .001$ ).

Francis and Robbins (2006) employed data from 12,717 non-church attending respondents to investigate four hypotheses: that personal prayer is a

significant predictor of purpose in life, that purpose in life is a predictor of social attitudes, that personal prayer is a significant predictor of social attitudes, and that the predictive influence of personal prayer on social attitudes is wholly mediated through purpose in life. Attitudes toward social values were measured according to three 6-item scales assessing the value areas of school, law and order, and substance use. In recognition of the potentially contaminating effect of public and social religious activities (church attendance) on frequency of personal prayer, analyses were performed on responses from students who reported that they never attended church.

Findings of multiple regression analysis, controlling for sex, age and personality, demonstrated that purpose in life was positively associated with higher pro-social attitudes. Findings also demonstrated that when the influence of purpose in life was taken into account alongside age, sex and personality, higher frequencies of prayer were associated with higher pro-social attitudes. The data showed a small (.04) but statistically significant ( $p < .001$ ) relationship between personal prayer and purpose in life. This led to conclusion that some of the influence of personal prayer on pro-social attitudes is mediated through purpose in life.

### **Other areas of research**

Data provided from the Teenage Religion and Values Survey has allowed the research group to examine a range of other diverse issues, including papers exploring the relationship between religion and attitudes toward: abortion (Francis, 2004), suicidal ideation (Kay & Francis, 2006), smoking (Robbins, 2005), science and religion (Astley, 2005), religious assemblies and religious education (Kay & Francis, 2001). Multivariate analyses have been employed to show the influence of bible reading on attitudes towards drug use and purpose in life (Francis, 2000a, 2000b,

2002b), and to explore the relationship between God images and levels of personal well-being and moral values (Francis, 2001d).

### **Conclusion**

This chapter set out to consider the second strand of research within the tradition of empirical theology on which this thesis builds, concerned with the measurement of individual differences in young people's religion and values operationalised by the Teenage Religion and Values Survey and the family of instruments developed for use in this series. Consideration of the research model consistently employed by studies belonging to this series highlights two main conclusions.

First, a review of the design, methodology and findings of the Teenage Religion and Values Survey demonstrates the efficacy of the research model utilised by this approach to empirical research exploring young people's religion and values. The benefits of a large scale quantitative survey of this size highlight how the findings can be held with confidence and generalised effectively to the wider population. This has provided a clear and accurate account of what young people really had to say about religion at the end of the twentieth-century. The benefits of an individual differences approach to empirical research in religion is that it is able to account for many of the personal and social factors in young people's lives which may have a hand in shaping attitudes toward religion and values. Literature from the Teenage Religion and Values Survey has developed significant research concerning a wide range of such factors. These include, for example, the impact of age, sex, religious affiliation, church attendance, personal prayer, and attendance at faith schools. The approach to empirical research adopted by this tradition allows the impact of these factors to be accurately explored through sophisticated statistical

models. The benefit of a studies belonging to the Teenage Religion and Values Survey series is that the findings from each consecutive phase can be employed comparatively to create a comprehensive map of the changing place and role of religion in the lives of young people at different points in time. Each new study in this series is able to make a legitimate contribution to the research tradition of which it is a part, but is also able to provide a new and independent contribution to advancing knowledge about young people, religion and values.

Second, during the past ten years a considerable amount of effort has been put into effective analysis of the Teenage Religion and Values Survey database so as to provide a clear picture of young people's religiosity in the 1990s. However, as Halsall (2005) highlighted, the dataset is now aging and at the beginning of the twenty-first century it was recognised that a new study was required within the Teenage Religion and Values Survey series that was capable of assessing individual differences in young people's religion and values within the first decade of the twenty-first century. At the same time, there was a recognised need to update and develop empirical literature concerned with charting the correlates, antecedents and consequences of individual differences in attitude toward religion (operationalised originally by the Francis Scale of Attitude toward Christianity). The Young People's Values Survey was designed to draw together these two separate strands of research within the tradition of empirical theology. The next chapter considers the development of this new survey.

## **CHAPTER FOUR**

### **THE YOUNG PEOPLE'S VALUES SURVEY**

**Summary**

**Introduction**

**Design of the survey**

**Assessment of religion**

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**Religious beliefs**

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**Conclusion**



## Summary

The previous chapters explored the two strands of research within the tradition of empirical theology on which this thesis builds, the first concerned with the measurement of individual differences in the attitudinal dimension of religiosity and the second, concerned with the measurement of individual differences in teenage religion and values. Chapter four introduces the Young People's Values Survey. The Young People's Values Survey was designed to draw together these two separate strands of research in the tradition of empirical theology by including the Francis Scale of Attitude toward Christianity within the latest phase of the Teenage Religion and Values Survey series. The first part of this chapter examines: the design, methodology and empirical literature that has emerged from the interim Young People's Values Survey dataset. The second part of this chapter examines the values profile of the 5,199 13- to 15-year-old students included within the completed dataset, and uses this as a platform to identify domains that form the central focus of this thesis in the discussion of attitudes toward Christianity.

## **Introduction**

The aim of this chapter is to introduce the Young People's Values Survey. This study was designed to draw together two different strands of research within the field of empirical theology (concerned with the correlates of attitude toward religion and concerned with young people's religion and values) so as to allow effective assessment of individual differences in young people's attitudes toward religion and values in the context of the twenty-first century. The Young People's Values Survey represents the latest (and third) phase of the Teenage Religion and Values Survey. It is the first study within this series to include the Francis Scale of Attitude toward Christianity. The inclusion of this instrument within the Young People's Values Survey allows the research question concerned with charting the correlates of attitude toward Christianity to have conversation with the broader research question regarding young people's values. During the years of 2002 to 2010 the Young People's Values Survey aimed to collect around 5,000 questionnaire responses from students aged between of 13 and 15 attending secondary schools across England and Wales. This thesis, exploring the correlates of young people's attitudes toward religion (assessed by the Francis Scale of Attitude toward Christianity), is built on analysis of the 5,199 responses comprising the Young People's Values Survey dataset.

The first part of this chapter considers the design, methodology and empirical literature that has emerged from the Young People's Values Survey interim datasets. The second part of this chapter examines the values profile of the 5,199 students included within the completed dataset. The final part of this chapter utilises the values profile to identify domains that form the central focus of this thesis in discussion of attitudes toward Christianity. These domains are identified as relating

to: sex differences in religiosity, purpose in life, suicidal ideation, immortality beliefs (belief in life after death), and implicit religion (attachment to Christian rites of passage).

### **Design of the survey**

The Young People's Values Survey represents the third phase of the Teenage Religion and Values Survey. This study aimed to provide an accurate picture of the changing place of religion and values among young people living within the first decade of the twenty-first century. However, Halsall's (2005) PhD dissertation '*You don't know what we're really like: A profile of young peoples' values*' identified some issues with the questionnaire employed by the second phase of the Teenage Religion and Values Survey. First, the main design of the questionnaire was based on a literature review and focus groups conducted among young people in the early 1990s. This meant that some of the language and value areas utilised by the questionnaire may not have been relevant to young people living within the twenty-first century. Second, the text in the questionnaire was too small and may have made some questions inaccessible to young people of lower academic ability. These issues were resolved in the design of a new questionnaire, the Young People's Values Survey.

In designing the Young People's Values Survey, Francis and Halsall (2005) recognised the value of both qualitative and quantitative methods of research. A number of focus groups were held with young people aged between 13 and 15 attending six secondary schools in North Wales and North West England. These focus groups served as a basis for constructing a new values map relevant to young people of the twenty-first century, and also assisted with the use of language to be

employed within the questionnaire. This qualitative influence, grounded in the voices of young people themselves, informed the design of the quantitative questionnaire.

The main design of the questionnaire is based on the instrument employed within the Teenage Religion and Values Survey throughout the 1990s. The Young People's Values Survey comprises three parts. The first part contains a number of questions measured on nominal indices which ask students to provide information about themselves and their background, including: sex, age, academic expectations, the type of area they live in, leisure activities, internet activity, television watching, use of computer games, who they live with, parental employment background, religious practice (attendance at a place of worship and personal prayer), and religious affiliation. The presence of a number of these questions in the survey highlight how the new questionnaire reflects the personal and social environments of young people living in the twenty-first century (e.g., internet activity and mobile phone use). Responses to questions in part one of the questionnaire can be used to draw a profile of the young people who took part in the survey.

The second part of the questionnaire includes the abbreviated form of the Revised Junior Personality Questionnaire (JEPQR-A: Francis, 1996) measured on a dichotomous scale. This consists of four scales of six-items each and is developed from the short-form Revised Junior Eysenck Personality Questionnaire (JEPQR-S: Corulla, 1990). Three of the six-item scales are designed to measure the major personality dimensions recognised by Eysenck and Eysenck (1991) including extraversion, neuroticism and psychoticism. A six-item lie scale is also included in this part of the questionnaire. The 24-item JEPQR-A is designed for use where it may be inappropriate to employ the longer 48-item JEPQR-S. This helps to make the Young People's Values Survey aesthetically manageable and accessible to a range of

participants. The reliability and validity of the JEPQR-A was originally confirmed among 1,597 13- to 15-year-old young people in Wales (Francis, 1996). These findings demonstrate the suitability of the scale's use within the Young People's Values Survey. Inclusion of the JEPQR-A within the questionnaire allows assessment to be made of the individual differences in personality that may be considered as predictors of certain values.

Part three of the Young People's Values Survey is designed to measure attitudinal responses to a wide range of issues. It comprises a number of statements which relate to the new values map drawn from the focus groups. The values map recognises thirteen value domains, including: core values (community, individual), aims in life, family, friends (relationship with, communication with), area, worries, concerns and fears (fears, self-esteem), school, stereotyping and discrimination (young people, racism), media, spirituality and religion, political issues (attitudes to politics, war and terrorism), social issues, and substance use. Statements are assessed on a 5-point Likert-type scale. Each statement can be responded to according to the following categories: agree strongly, agree, not certain, disagree and disagree strongly. As with the Teenage Religion and Values Survey, use of the 5-point Likert-type scale determines a sophisticated form of measurement which, consequently, allows a more complex form of statistical data analysis.

The Young People's Values Survey was formulated based on a pilot of the questionnaire with a small group of young people and through discussion with other researchers (Halsall, 2005). Items for part three were designed by listing the features related to each value domain identified in the values map. The items were then refined and adapted according to the recommendations of the researchers and young people in the pilot group. Items in part three are designed to be short and

straightforward so as to make the Young People's Values Survey accessible to as wide a range of academic abilities as possible.

### **Assessment of religion**

Assessment of religiosity within the Young People's Values Survey is synonymous with the measures employed within the Teenage Religion and Values Survey with the addition of one new measure, the short-form Francis Scale of Attitude toward Christianity (Francis, Greer, & Gibson, 1991). The inclusion of this instrument within the Young People's Values Survey allows the research question concerned with charting the correlates of attitude toward Christianity to have conversation with the broader research question regarding young people's values developed by the Teenage Religion and Values Survey. This presents an opportunity to explore a wider range of personal and social correlates of attitude toward Christianity as relevant to the experiences of young people living within the context of the twenty-first century (made available by the new values map operationalised in part three of the questionnaire). This also provides an opportunity to explore the interaction between attitude toward religion and other dimensions of religiosity routinely included within the Teenage Religion and Values Survey.

For example, the Young People's Values Survey includes measures of: *self-assigned religious affiliation* (responses to the question 'What is your religion' are given as none, Baptist, Anglican [Church of England, Church in Wales], Jehovah's Witness, Methodist, Pentecostal, Roman Catholic, Salvation Army, Quaker [Society of Friends], URC/Presbyterian, Buddhist, Hindu, Jewish, Muslim, Sikh, Other [please specify]), *church attendance* assessed according to frequency (e.g., nearly every day, at least once a week, at least once a month, occasionally, never), *personal prayer* assessed according to frequency, *private scripture reading* (assessed

according to frequency), *belief in God* assessed by the item ‘I believe in God’ (rated on a 5-point Likert-type scale), and *alternative spiritualities* including belief in horoscopes, belief in the possibility of contacting the dead, belief in fortune-tellers, belief in the Devil and black magic, belief in vampires (assessed by single-items rated on a 5-point Likert-type scale). The third part of the questionnaire also includes the item ‘I am a spiritual person’ (rated on a 5-point Likert-type scale) designed to reflect increasing interest in the area of spirituality as demonstrated by both the young people who participated within the focus groups and by the broader study of the psychology of religion during the past ten years (see, Heelas & Woodhead, 2005)

The inclusion of the short-form Francis Scale of Attitude toward Christianity within the Young People’s Values Survey alongside other measures of religiosity continues to represent Francis’ scientific assessment of the multiple dimensions of religiosity and serves to aid empirical comparability between the different phases of the survey. For the first time within the context of the Teenage Religion and Values Survey series, it becomes possible to test the Francis’ (2009a, 2009b) theory that the attitudinal dimension represents the most secure basis for empirical research in religion because it accesses the heart of what religion really means in the lives of individuals. The Young People’s Values Survey allows, in statistical analyses, different measures of religion to be placed side by side and to test their relative strengths in predicting individual differences in young people’s values.

### **Data collection**

The research team aimed to assemble a database of around 5,000 responses to be collected from 13- to 15-year-old students attending secondary schools throughout England and Wales. This figure would be large enough to give authority to the findings and allow evaluation of the Young People’s Values Survey in its

initial use. The same methodology as the Teenage Religion and Values Survey was employed. Schools were recruited via a snowball sampling technique. Once schools had received the questionnaires students were asked to complete them in exam conditions in the classroom. This process was administered by the pupils' teachers. Students were asked not to write their names on the front of the questionnaire and were assured that their teachers would not be reading their answers. This ensured anonymity and confidentiality. Once questionnaires were completed they were returned to the research team and computer coded. Parental occupations were then classified according to the Standard Occupational Classification 2000 (Office for National Statistics, 2000) to provide an indication of the social-economic group of the young people included in the sample.

### **Sample**

The Young People's Values Survey generated a dataset of 5,199 responses. Within this sample there is a good balance between boys (47%) and girls (53%), as well as between year-nine students (13- to 14-year-olds) and year-ten students (14- to 15-year-olds) (52% and 48% respectively). In total twenty-seven schools participated in the survey. The schools included in the sample represent a good geographical coverage of England and Wales as demonstrated by table 4.1. The sample includes five different types of school: non denominational state-maintained, Church of England (voluntary-controlled and voluntary-aided) and Roman Catholic (voluntary-aided), non-denominational independent, and independent Christian schools as demonstrated by table 4.2.

Information from the question regarding young people's religious affiliation, demonstrated by table 4.3, reveals that the largest group of young people in the sample describe themselves as having no religion (46.5%) and the second largest



group describe themselves as affiliated with the Christian tradition (44.2% denominations combined). Alternative faith traditions are represented by much smaller proportions of young people (Buddhist, 0.6%, Hindu, 1.0%, Jew, 0.5%, Muslim, 2.6%, and Sikh, 0.6%). This highlights that one option for the future of this survey may be to run a second data collection phase which focuses on building numbers of participants to alternative faith traditions to achieve a better balance in terms of religious affiliation.

### **Findings**

At present, only three analyses completed on interim datasets from the Young People's Values Survey have been published exploring young people's religion and values. In the first of these papers Francis, Williams, and Robbins (2009) employed a dataset of 2,950 students aged between 13 and 15 to explore whether belief in the paranormal occupies the same personality space as traditional religiosity. The analysis employed the short-form Francis Scale of Attitude toward Christianity to measure traditional religiosity, the Williams Revised Index of Paranormal Belief to measure paranormal belief, and the abbreviated-form Revised Junior Eysenck Personality Questionnaire (Francis, 1996) to measure personality. Findings demonstrated that attitude toward Christianity is negatively correlated with psychoticism and positively correlated with the lie scale, while paranormal belief is positively correlated with psychoticism and is independent of lie-scale scores. This highlights that paranormal beliefs occupy a different psychological space, as defined by Eysenck's personality theory, to that occupied by traditional religiosity. Francis, Williams, and Robbins (2009) concluded, this suggests that paranormal belief is not merely filling the vacuum left in the lives of young people by the erosion of traditional religiosity.

The second paper developed from the Young People's Values Survey, reported by Robbins and Francis (2009), explored the relationship between suicidal ideation and both traditional religiosity and paranormal belief. This analysis utilised the same measures as Francis, Williams, and Robbins (2009) and employed a dataset of 3,095 students. Suicidal ideation was measured by the single-item 'I have sometimes considered taking my life'. After controlling for individual differences in sex, age and personality (extraversion, neuroticism and psychoticism) the data demonstrated that while attitude toward Christianity (a measure of traditional religiosity) is slightly associated with lower levels of suicidal ideation, paranormal beliefs are strongly associated with higher levels of suicidal ideation. This suggests that paranormal beliefs do not serve the same function as traditional religiosity in the lives of young people. While traditional religiosity may serve to inhibit suicidal ideation acting as a protective force against negative psychological experiences, paranormal beliefs may enhance levels of suicidal ideation. Robbins and Francis (2009) concluded that this draws attention to the way in which beliefs young people's hold about the transcendent are far from irrelevant in shaping key aspects of their lives.

In a third paper Francis and Robbins (2009) employed a dataset of 2,563 responses to explore the relationship between frequency of prayer, purpose in life and attitude towards substances. After controlling for individual differences in sex, age and personality findings demonstrated that higher levels of purpose in life are associated with greater prayer frequency, and that more proscriptive attitudes toward substances are associated with both higher levels of purpose in life and greater prayer frequency. These findings support the model proposed by Francis and Robbins (2009) which suggests that prayer frequency promotes a more negative

view of substances both directly and indirectly through cultivating a greater sense of purpose in life.

Whilst the three studies, reported by Francis, Williams, and Robbins (2009), Robbins and Francis (2009), and Francis and Robbins (2009), provide a significant contribution to empirical research concerned with young people's religiosity, alternative spiritual beliefs and values there are currently no empirical studies that have utilised the completed dataset of 5,199 cases. Given the broad range of issues included within the questionnaire (in terms of value domains) and the size of the completed dataset, it is clear that the full potential of the Young People's Values Survey has not yet been realised. This thesis is designed to advance empirical research in the scientific study of religion by unlocking the potential of the Young People's Values Survey dataset in three main ways.

First, in analysis of responses to the Francis Scale of Attitude toward Christianity this study provides the opportunity to re-examine correlates of attitude toward Christianity established by previous empirical research and to test whether these relationships remain consistent among young people living within the first decade of the twenty-first century. Within this study there is also an opportunity to update empirical literature concerned with the psychometric properties of the scale, ensuring the instruments use within future empirical studies.

Second, in analysis of responses to items representing the different values domains (operationalised in part three of the Young People's Values Survey) this study provides the opportunity to identify new areas of research, which at the beginning of the twenty-first century may be shown to occupy prominent positions in the personal and social worldviews of young people. This study will examine the values profile of the 5,199 students included within the Young People's Values

Survey dataset and employ this values profile as a foundation from which it is possible to explore new correlates of attitude toward Christianity.

Third, in analysis of responses to the different religious measures included within the Young People's Values Survey (e.g., religious affiliation, worship attendance, personal prayer, attitude toward Christianity) this study provides the opportunity to test Francis' (2009a, 2009b) argument that the attitudinal dimension of religiosity represents the most secure basis for comparative empirical research in religion. This study will examine the place of religion among young people living within the first decade of the twenty-first century and test the role that affective religiosity places in shaping values compared with that of other dimensions of religiosity.

### **Young people's values**

The first half of this chapter considered the design, methodology and current findings of the Young People's Values Survey. The second half of this chapter introduces the wider context of the present study by exploring the values profile of students included within the Young People's Values Survey dataset. This will serve to identify potential domains in which attitudes may be discussed within the proceeding chapters of this thesis.

### **Analysis**

The values profile of the total group of students (5,199 cases) within the dataset is drawn from responses to items included in part three of the Young People's Values Survey. Five items each were employed to assess attitudes toward ten value domains, identified as: religious beliefs, church religion and society, non-traditional beliefs, personal aims in life, personal well-being, school, sexual morality, substances, political and social concerns, and environmental issues. Each item was

assessed on a five-point Likert-type scale. In the present analysis scores recorded on the scale were collapsed into three categories: combining the *agree strongly* and *agree* responses, maintaining the middle category of *uncertain*, and combining the *disagree strongly* and *disagree* responses. The data were analysed by means of SPSS employing the frequencies function.

### **Religious beliefs**

Table 4.4 presents a profile of young people's religious beliefs according to five indicators, addressing: belief in God, belief in Jesus Christ, belief in a God shaped by literalist scripture, belief in an afterlife, and belief in the contemporary relevance of the Bible.

The first indicator demonstrates that the majority of young people are either atheists or agnostics: just under half (46%) claim that they do not believe in God and one in four (25%) claim that they are uncertain whether they believe in God, theists are represented by just under a third of young people, 29% of whom affirm belief in God.

The second indicator demonstrates that young people are even less clear on the existence of Jesus Christ than they are about that of God: over half (52%) claim that they do not believe in Jesus, almost a third (27%) are uncertain as to whether they believe in Jesus, while only one in five (21%) affirm belief in Jesus.

The third indicator demonstrates that while around a third of young people believe in God, a much smaller number accept an image of God shaped by literalist scripture: only 13% claim they believe that God made the world in six days and rested on the seventh, while the majority of young people either reject this view (59%) or remain uncertain (28%).

The fourth indicator demonstrates that afterlife beliefs are more prevalent among young people than belief in God: two in every five (39%) believe in life after death, 35% remain unsure on the matter, and a quarter (26%) of young people reject belief in life after death.

The fifth indicator demonstrates that the majority of young people express no view on the contemporary relevance of the Bible: four in every ten (41%) are unsure as to whether the Bible is out of date, yet, a higher proportion of young people believe the Bible is not out of date (36%) than agree that it is (23%).

### **Church, religion and society**

Table 4.5 presents a profile of young people's attitudes toward church, religion and society according to five indicators, addressing: the place of religious education in school, the quest for infant baptism, the desire to be married in a church, the treatment of men and women within religious institutions, and the role of religion in contemporary society.

The first indicator demonstrates that young people question the place of religious education within their school: 41% think that RE should not be taught in schools compared with 34% who feel that it should, and a quarter of young people (25%) remain undecided on this issue.

The second and third indicators highlight that many young people envisage the church as playing a central role in their lives through important rites of passage. The second indicator demonstrates that: two out of five (42%) young people would like to have their children christened, baptized or dedicated in a church, the proportions of young people who are undecided (28%) on this issue or who have ruled out the notion of infant baptism entirely (30%) are roughly equal.

Similarly, the third indicator demonstrates that: significant proportions of young people (39%) would like to get married in a church, a slightly smaller proportion of young people remain open minded about whether they would like to get married in a church (38%), and one in five reject this option entirely (23%).

The fourth indicator demonstrates that the majority of young people affirm equal rights between the sexes within religious institutions: six out of ten (63%) believe that men and women should be treated equally by the Church and religious institutions, just under a third remain unclear on this issue (28%), while only a tenth oppose this view (9%).

The fifth indicator demonstrates that many young people remain unclear on the role religion plays within contemporary societies: almost half (47%) are uncertain whether religion is mainly a force for good in the world today, while a larger proportion of young people (33%) reject the view that religion is a force for good than defend it (20%).

### **Non-traditional beliefs**

Table 4.6 presents a profile of young people's non-traditional beliefs according to five indicators, addressing: belief in horoscopes, belief in fate, belief in ghosts, belief in the possibility of contacting spirits of the dead, and belief in tarot cards.

The first indicator demonstrates that the level of belief in horoscopes among this group of young people is almost on a par with the level of belief in God (29%): 28% of young people affirm belief in horoscopes, a third (30%) remain agnostic on this issue, and two in every five (42%) reject belief in horoscopes.

The second and third indicators highlight that young people are more likely to believe in fate and the existence of ghosts than believe in God. The second

indicator demonstrates that: 43% of young people believe in fate, a third (36%) seem to be open to persuasion either way, and one in five reject belief in fate (21%).

The third indicator demonstrates that belief in ghosts is less common than belief in fate but still higher than belief in God: the proportion of young people who accept belief in ghosts (37%) is almost equally balanced by the proportion of young people who reject belief in ghosts (38%), and a quarter remain unconvinced on this issue (25%).

The fourth and fifth indicators highlight that, overall, young people are less convinced about tarot cards and contact with spirits of the dead than they are about fate, ghosts and horoscopes. The fourth indicator demonstrates that: half (50%) of young people reject the view that it is possible to contact spirits of the dead, equal proportions of young people either affirm this believe (25%) or remain unsure that this is possible (25%).

The fifth indicator demonstrates that young people are least likely to believe in the abilities of tarot cards: six in every ten (59%) reject the view that tarot cards can tell the future, a third remain undecided on this issue (29%), while only 12% affirm belief in the predictive power of tarot cards.

### **Personal aims in life**

Table 4.7 presents a profile of young people's personal aims in life according to five indicators, addressing: future career success, home-ownership, marriage, family, and ability to positively impact the global environment.

The first indicator demonstrates that of most importance to young people, within this value domain, is the prospect of a bright employment future: over nine out of ten (94%) young people would like to have a successful career, much smaller



proportions remain uncertain on this issue (4%) or disagree with the view that a successful career is for them (2%).

The second indicator demonstrates that of second most importance to young people, within this value domain, is home-ownership: nine out of ten (90%) would like to own their own home, much smaller proportions of young people remain uncertain on this issue (7%) or disagree with the view that home-ownership is important to them (3%).

The third and fourth indicators highlight the central position traditional family values occupy within the lives of young people. The third indicator demonstrates that: four out of five (81%) young people would like to get married, under a fifth of young people are either undecided about this prospect (15%) or reject it entirely (4%).

The fourth indicator demonstrates the importance young people place on having a family: 80% of young people claim they would like to have children, much smaller proportions of young people have not made up their mind on this issue yet (15%) or reject the idea of having children entirely (5%).

The fifth indicator demonstrates that, while the achievement of individual goals (careers, houses, marriage, family) is highly valued among this group of young people, the majority would also like to make a positive contribution to the global environment: 58% of young people would like to make a difference to the world, a third (30%) remain unsure of this prospect, and one in ten reject it entirely (12%).

### **Personal well-being**

Table 4.8 presents a profile of young people's well-being according to five indicators, addressing: happiness, perceived purpose in life, depression, self-harm, and suicidal ideation.

The first indicator demonstrates that happiness is a key motivator within the personal lives of young people: eight out of ten (78%) claim that the most important thing to them is to be happy, this is compared with 13% who remain undecided on this issue and 9% who reject happiness as the most important aspect of their lives.

The second indicator demonstrates that levels of personal well-being among young people in terms of perceived purpose in life are moderate: while just over half (56%) feel that their life has a sense of purpose, four out of every ten (44%) are not clear whether this is the case. Within this number, for instance, 14% of young people are completely without a sense of purpose and a third (30%) are drifting.

The third, fourth and fifth indicators provide a profile of people's personal well-being in terms of negative affect. While it appears that, in the majority of cases, young people value the presence of happiness and perceive purpose within their lives, these three indicators highlight that there is a significant proportion of young people who experience depression, and who entertain thoughts of self-harm and suicide.

The third indicator demonstrates that: over a third of young people (35%) often feel depressed, two out of ten (18%) do not deny that this is true for them, leaving 47% who are clear they do not often experience feelings of depression.

The fourth indicator demonstrates a worrying level of young people who have entertained ideas of self-harm: over a quarter of young people (26%) have sometimes considered deliberately hurting themselves, a further 16% are not confident that they could deny this claim, this leaves 58% who are certain they do not experience thoughts of self-harm.

The fifth indicator demonstrates that a significant number of young people have also considered suicide: one in five (23%) have sometimes considered taking

their life; and 14% do not deny that this is true for them. On the other hand, almost two thirds of young people (63%) are clear that they do not experience thoughts of suicide.

## **School**

Table 4.9 provides a profile of young people's attitudes toward school according to five indicators, addressing: the relevance of school education to future life experience, the relevance of school education to future career prospects, the ability of education providers, concerns about exams, and concerns about being bullied.

The first indicator demonstrates that most young people believe their schooling is relevant to future life experiences: three quarters of young people (75%) feel their school is helping to prepare them for life, compared with a quarter of young people who remain either unsure (15%) or reject their schooling as irrelevant to future life experience entirely (10%).

The second indicator demonstrates that young people are unsure that their education will lead to a promising career: six out of ten (59%) are not certain that what they learn in school will help to get them a good job, 3% reject their education as irrelevant to future career paths, leaving 38% who believe that what they learn in school will help them to get a good job.

The third indicator demonstrates that despite concerns regarding the relevance of their education to future job opportunities most young people are content with the way they are taught: over half (54%) think that teachers do a good job, 28% remain undecided on this issue, and 18% do not think that their teachers do a good job.

The fourth and fifth indicators represent areas of concern regarding the school environment of young people. These indicators highlight that significant numbers of young people are worried about their exams and feel threatened by the risk of bullying. The fourth indicator demonstrates that: over three quarters of young people (76%) are concerned about their exams in school, 13% do not deny that this is true for them, and just one in ten (11%) are not worried about exams.

The fifth indicator demonstrates that: a third of young people (31%) are concerned about being bullied, one in four (25%) are not confident they could deny this claim, leaving 44% who do not feel threatened by the risk of bullying at school.

### **Sexual morality**

Table 4.10 presents a profile of young people's attitudes toward sexual morality according to five indicators, addressing: divorce, abortion, lesbian sexuality, gay sexuality, and under-age sex.

The first indicator demonstrates that most young people judge that divorce is acceptable: only 15% accept that divorce is wrong compared with over four times that number (60%) who do not, a quarter (25%) of young people have not yet formed a view on this aspect of sexual morality.

The second indicator concerning attitudes toward abortion divides the young people into three groups of roughly similar proportions: 34% judge abortion to be wrong, conversely 34% judge abortion to be acceptable, and 32% remain open-minded on this issue.

The third and fourth indicators provide a view of young people's attitudes toward homosexuality. These indicators demonstrate that young people hold more liberal attitudes toward lesbian women than they do towards gay men. The third indicator demonstrates that: six out of ten young people (60%) reject the view that it

is wrong for a woman to have sex with a woman, almost a quarter (24%) have not yet formed a view of this aspect of sexual morality, while only 16% judge this to be wrong.

Comparatively, the fourth indicator demonstrates that: over a third of young people (32%) judge that it is wrong for a man to have sex with a man, one out of five (21%) remain open-minded on this issue, and 47% judge that is acceptable for a man to have sex with a man.

The fifth indicator demonstrates that the majority of young people hold liberal attitudes toward under-age sex: over half of young people (52%) reject the view that it is wrong to have sex before you are 16, equal proportions of young people maintain the traditional ethic of believing that it is wrong to have under-age sex (24%) or have not yet found their view on this aspect of sexual morality (24%).

### **Substances**

Table 4.11 presents a profile of young people's attitudes toward substances according to five indicators, addressing: inebriation, tobacco use, cannabis use, ecstasy use, and heroin use.

The first indicator demonstrates that the majority of young people have relaxed attitudes towards alcohol consumption: three quarters (75%) think that it is acceptable to get drunk, while only one in ten (10%) think that it is wrong, and 15% have not yet made up their minds about inebriation.

The second and third indicators demonstrate that young people have a less permissive attitude toward tobacco and cannabis than they do towards alcohol. The second indicator demonstrates that: over half (52%) of young people think it is wrong to smoke cigarettes, compared with under three in ten (29%) who find it acceptable, and 20% remain uncertain on this issue.

The third indicator demonstrates a similar pattern of results with regards to cannabis use: over half (52%) of young people think it is wrong to use cannabis, compared with under three in ten (28%) who find it acceptable, and 19% have not yet made up their minds.

The fourth and fifth indicators demonstrate that the majority of young people hold much more conservative attitudes toward 'hard' drug (Class A) use than they do towards the use of legal substances (e.g., alcohol and cigarettes) and Class C drugs (e.g., cannabis).

The fourth indicator demonstrates that: three out of every five (64%) young people think that it is wrong to use ecstasy, while only 16% find it acceptable, and 20% remain uncertain on this issue.

The fifth indicator demonstrates that young people are more wary of the dangers of heroin than they are of those associated with ecstasy: seven out of every ten (70%) think it is wrong to use heroin, compared with 14% who find it acceptable, leaving 16% who are unsure.

### **Political and social concerns**

Table 4.12 presents a profile of young people's attitudes toward political and social issues according to five indicators, addressing: government welfare responsibilities, poverty, terrorism, chemical warfare, and individual responsibility (in light of such issues).

The first indicator demonstrates that the majority of young people think that government has a responsibility to provide care for the elderly: six out of ten (59%) think that people should be looked after by the government when they are old, just under a third (28%) have not yet decided on this issue, while 13% disagree that caring for the elderly is a government responsibility.

The second, third and fourth indicators provide a view of young people's political and social concerns at a global level. These indicators demonstrate that young people show a greater level of concern over poverty in the developing world than they do about the risk of terrorism or chemical and biological warfare. The second indicator demonstrates that: over three times as many young people (52%) express concern about the poverty of the Developing World (e.g., Africa) as deny such concern (16%). Nonetheless, a third of (32%) young people have failed to come to a decision on this issue.

The third indicator concerning the threat of terrorism divides the young people into three groups of roughly similar proportions: 36% feel threatened by the risk of terrorism, conversely 32% do not, and 32% are unsure.

The fourth indicator demonstrates similar levels of concern among young people about the risk of chemical warfare as that about terrorism: 36% feel threatened by the risk of chemical and biological war, conversely 32% do not, and 32% remain uncertain.

The fifth indicator demonstrates that while young people express concern over global issues (poverty, terrorism, chemical warfare) a significant proportion feel helpless to do anything about them: four out of ten (40%) think that there is nothing they can do to help solve the world's problems, just under a third (28%) do not deny that this is true for them, leaving 32% who feel empowered to help solve the world's problems.

### **Environmental issues**

Table 4.13 presents a profile of young people's attitudes toward environmental issues according to five indicators, addressing: exhaustion of the world's natural resources, extinction of plants and animals, environmental pollution,

individual responsibility in energy saving, and individual responsibility in pollution control.

The first three indicators demonstrate that the majority of young people express high levels of concern regarding over-use of the world's resources, environmental pollution, and the future extinction of animals and plants. The first indicator demonstrates that the greatest source of worry is exhaustion of the world's natural resources: over half (53%) are concerned that we use too much of the world's resources, compared with just 16% who are not concerned about this, leaving three in every ten (31%) who are unsure whether we over-use the world's resources.

Of equal concern to young people are the issues of environmental pollution and the potential extinction of plants and animals. The second indicator demonstrates that: 47% of young people are concerned about plants and animals becoming extinct, compared with 25% who are not worried about this, and just under a third (28%) are undecided on this issue.

Similarly, the third indicator demonstrates that: 47% of young people are also concerned about the risk of pollution to the environment, compared with 22% who are not worried about this, and a third (31%) remain undecided.

The fourth and fifth indicators demonstrate that while young people report a high level of concern over environmental issues (over use of world resources, extinction of plants and animals, pollution) they are less interested in actively combating them. While 52% of young people are concerned that we use too much of the world's resources, the fourth indicator demonstrates that: only 36% make a special effort to help save the world's energy (e.g., turning off lights when not in a room), conversely 34% are certain that they do not make any special attempts at



energy saving, leaving a third (30%) who are undecided on their energy-saving abilities.

While 47% of young people are concerned about pollution to the environment, the fifth indicator demonstrates that: only 32% make a special effort to recycle, and a larger number (39%) are certain that they do not make any special attempt to recycle, leaving 29% who are uncertain of their recycling abilities.

### **Conclusion**

This chapter set out to introduce the wider context of the present study, concerned with charting the correlates of attitudes toward Christianity, by exploring the design, methodology and current findings of the Young People's Values Survey, and by exploring the values profile of young people included within the dataset. Consideration of these issues highlights two main conclusions.

First, the values profile of young people included within the dataset reveals a complex picture of the personal and social worldviews of 13- to 15-year-old students living within England and Wales during the first decade of the twenty-first century. Taking the key findings of each of the ten value domains in turn, in terms of *religious beliefs*, these data demonstrate that the majority of young people within this group are either atheist or agnostic. These young people are more likely to affirm the existence of an afterlife than they are to affirm belief in God, Jesus Christ, literalist interpretations of God, or belief in the Bible as relevant to life today.

In terms of *church, religion and society*, these data demonstrate that while this group of young people question the place of religion in society and education, the church continues to play an important role in their lives through commitment to rites of passage central to the Christian tradition (e.g., infant baptism and church weddings).

In terms of *non-traditional beliefs*, these data demonstrate that among this group of young people belief in ghosts, fate and horoscopes is more prevalent than traditional Christian beliefs (e.g., the existence of God and Jesus Christ).

In terms of *personal aims in life*, these data reveal a motivated group of young people who are driven by the prospect of a successful career and all the rewards that come with it, such as owning their own homes, being able to get married and having a family. However, this group of young people show more commitment to achieving their own personal goals than they do towards making a difference in the world.

In terms of *personal well-being*, these data demonstrate that while the majority of young people in this group are able to derive a sense of meaning and purpose from their lives, a worrying number have experienced depression, and have entertained thoughts of self-harm and suicide.

In terms of *school*, these data demonstrate that while this group of young people are happy with the way they are taught and are clear on the relevance of their education to future life experiences, they have serious concerns about being bullied, their exams and the relevance of their education to future employment opportunities.

In terms of *sexual morality*, these data reveal a group of young people who are more liberal in their attitudes toward under-age sex and divorce than they are in their attitudes toward homosexuality. The issue of abortion continues to be a source of debate among this group of young people.

In terms of *substances*, these data reveal a group of young people who are cautious of the dangers of illegal drugs and smoking cigarettes, but who have relaxed attitudes toward alcohol and inebriation.

In terms of *political and social concerns*, these data demonstrate a group of young people who are aware of contemporary social issues on a local and global level, who express concerns about such issues (including poverty, terrorism, chemical warfare), but who often feel that they are powerless to help solve these problems.

In terms of *environmental issues*, these data demonstrate a group of young people who have serious concerns about over-use of the world's resources, pollution and the extinction of certain species, but who show lower levels of commitment in combating these issues.

While this values profile offers an insightful overview of young people's attitudes toward religion and values during the first decade of the twenty-first century, it is recognised that representation of these issues over five items in each domain provides only a thin assessment of each value area. However, the aim of this chapter was to introduce the wider context in which the present study is located by demonstrating a range of issues included within the Young People's Values Survey, and to highlight potential domains in which the question of individual differences in the attitudinal dimension of religiosity could be explored more fully. The advantage of a dataset this size containing such a diverse range of issues is that there is considerable scope for future empirical studies to explore the descriptive profile of young people within this dataset more extensively.

Second, consideration of the values profile generated from the Young People's Values Survey dataset has identified a number of domains which will serve as the foundation for the following six chapters of the present thesis concerned with exploring the correlates of young people's attitudes toward Christianity assessed by the Francis Scale of Attitude toward Christianity. The first of these chapters will

report on the psychometric properties of the short-form Francis Scale of Attitude toward Christianity within the Young People's Values Survey dataset. The second of these six chapters recognises the importance of understanding how individual differences in young people's attitudes toward Christianity may be influenced by sex differences (see, Francis, 1997a; Francis & Penny, 2013) before moving on to explore the association between affective religiosity and other constructs. The following two chapters aim to provide a new contribution to established empirical research concerned with constructs that have occupied a central place within the tradition of empirical theology exploring the correlates of attitude toward Christianity over the past forty-years. The values profile generated from the Young People's Values Survey dataset demonstrates that these constructs continue to form an integral part of the personal and social worldviews of 13- to 15-year-old young people living within the twenty-first century. The third and fourth of these chapter's draw on two indicators of the values domain *personal well-being*. The third chapter explores the association between young people's attitudes toward Christianity and perceived purpose in life. The fourth chapter explores the association between young people's attitudes toward Christianity and suicidal ideation. These represent valuable areas of investigation since previous empirical research has demonstrated that religiosity (variously defined) functions as a significant indicator of both purpose in life (Francis, 2005b; Robbins & Francis, 2005) and suicidal ideation (Kay & Francis, 2006; Robbins & Francis, 2009).

The fifth and sixth chapter's aim to provide a contribution to empirical research concerned with constructs that represent emerging fields of interest within the tradition of empirical theology, within the broader context of the psychology of religion, and within the lives of young people living in the twenty-first century. The

fifth chapter draws on one indicator of the values domain *religious beliefs* to explore the association between young people's attitudes toward Christianity and immortality beliefs (e.g., belief in the afterlife). This represents an interesting area of investigation since among the students of the Young People's Values Survey belief in life after death is recorded as higher than belief in God or Jesus. Recognising that beliefs about immortality may have the ability to influence attitudes and behaviours, a growing body of recent empirical research has sought to explore the correlates of afterlife beliefs. Within this literature a number of studies have demonstrated that religiosity (variously defined) functions as a significant predictor of immortality beliefs (Ochsmann, 1984; Klenow & Bolin, 1989; Cohen & Hall, 2009; Dezutter et al., 2009). The fifth chapter adds to this literature by providing a view of the relationship between affective religiosity and belief in life after death.

The sixth chapter draws on two indicators of the values domain *church, religion and society* to explore the association between young people's attitudes toward Christianity and commitment to rites of passage central to the Christian tradition (e.g., infant baptism and marriage in a church). This represents an interesting area of investigation since among the students of the Young People's Values Survey levels of attachment to Christian rites of passage are higher than levels of belief in God, Jesus or relevance of the Bible to life today. This finding is explored within the context of Bailey's (1997) notion of implicit religion which, within the psychology of religion, is increasingly employed to examine the persistence of religion in secular societies. This chapter adds to the growing body of empirical research which has utilised this concept to examine the persistence of Christian believing in the UK by: exploring the prevalence of implicit religion (defined by attachment to Christian rites of passage) building on the work of Walker,

Francis, and Robbins (2010) and Walker (2013), and by exploring the psychological functions served by implicit religion and explicit religion (defined as church attendance) in respect of attitudes toward Christianity building on the work of Francis (2013a, 2013b) and Penny and Francis (under review). Taken together, these final two chapters provide a valuable insight into the ways in which young people's religiosity is changing and the continuity that this may or may not share with traditional Christian belief systems.

However, before analyses may proceed regarding the correlates of attitude toward Christianity it is important to ensure that the instrument at the heart of the present study, the Francis Scale of Attitude toward Christianity, functions with satisfactory psychometric properties. The next chapter examines the reliability and validity of the scale within the Young People's Values Survey dataset.

## **CHAPTER FIVE**

### **RELIABILITY AND VALIDITY OF THE FRANCIS SCALE OF ATTITUDE TOWARD CHRISTIANITY**

#### **Summary**

#### **Introduction**

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## Summary

The first part of this thesis provided a context for the present study by collating, reviewing and assessing the two strands of research within the tradition of empirical theology on which it builds (concerned with the correlates of attitude toward religion and concerned with teenage religion and values), and by introducing the Young People's Values Survey. The second part of this thesis presents new empirical analyses exploring the correlates of attitude toward Christianity among 13- to 15-year-old students living in England and Wales during the first decade of the twenty-first century. Chapter five examines the psychometric properties of the Francis Scale of Attitude toward Christianity, the instrument at the heart of the present study. The first part of this chapter reviews the body of empirical literature which has reported on the functionality of this instrument. The second part of this chapter reports on the findings of statistical analyses that demonstrate the unidimensionality, internal consistency reliability and construct validity of the 7-item short form of the Francis Scale of Attitude toward Christianity among the students of the Young People's Values Survey dataset.



## **Introduction**

The aim of this chapter is to explore the psychometric properties of the Francis Scale of Attitude toward Christianity. This instrument has formed a basis for comparative empirical research in religion concerned with monitoring the changes and establishing the correlates of religion in the lives of children, young people and adults over a forty-year period. By employing common instrumentation in a series of interrelated studies Francis (1978a) aimed to establish empirical comparability between the correlates of religion associated with different groups, in different contexts, at different points in time. The key methodological condition underlying such a practice is the requirement that the measuring instrument should be shown to retain the same fundamental psychometric properties of reliability, validity and consistent internal structure within different groups (Francis & Greer, 1990).

The first part of this chapter will consider the principles of reliability and validity according to the study of psychometrics. The second part of this chapter will consider the findings of empirical studies that have reported the scale properties of the Francis Scale of Attitude toward Christianity and family of instruments developed from this scale. The third part of this chapter discusses the findings of statistical analyses testing the unidimensionality, internal consistency reliability and construct validity of the 7-item short-form Francis Scale of Attitude toward Christianity among the 13- to 15-year old students living in England and Wales during 2002 to 2010 who participated in the Young People's Values Survey. This will determine whether the instrument can be recommended for use within the present study.

## **Reliability**

The first functional property that a psychometric test must possess is reliability. Reliable tests are tests that measure consistently over time. The reliability of a test demonstrates how much the test can be relied upon to produce the same results on different occasions (Francis, 2005c). There are a number of ways to establish the reliability of psychometric tests. The modes of assessment discussed below are those which have been consistently employed to test the reliability of the Francis Scale of Attitude toward Christianity.

As Loewenthal (1996) highlights, all forms of reliability assessment involve two or more sets of scores generated from the same instrument by the same group of people. One way of measuring reliability is to administer a test on two separate occasions to the same group of individuals. A correlation coefficient ( $r$ ) is then calculated. This provides a numerical (or statistical) measure of the association between the two sets of scores. This is known as *test-retest reliability*. A correlation coefficient provides an indication of how the two sets of scores co-vary. Correlation coefficients range from 1.0 through 0 down to -1.0. A perfect positive relationship between two sets of scores is expressed by the statistic 1.0. This demonstrates, for example, that high scores on one occasion of the test being completed are associated with high scores on another occasion of the test being completed. A high negative correlation, expressed by the statistic -1.0, demonstrates that high scores on one occasion of the test being completed are associated with low scores on another occasion of the test being completed. If the correlation coefficient is 0 this demonstrates no association between the two sets of scores. Reliability is typically attributed to scales that have a high positive correlation coefficient (Loewenthal, 1996; Francis, 2005c). For example, test-retest reliability has been employed by four

studies which demonstrate the temporal stability of the Francis Scale of Attitude toward Christianity over a one week (Lewis, Cruise, & McGuckin, 2005), five week (McGuckin, Cruise, & Lewis, 2006), six week (Lewis, Cruise, McGuckin, & Francis, 2006), and fifteen week testing period (Lewis, Cruise, & Lattimer, 2007) where scores in all three studies were found to be highly correlated (one week  $r = .92$ , five week  $r = .95$ , six week  $r = .74$ , fifteen week =  $.79$ ).

As Francis (2005c) highlights, there are two main issues with the test-retest model of reliability assessment. If the time between the two test administrations is too short, then respondents may remember their answers to the first test and repeat earlier answers. If the time between the two test administrations is too long, then respondents may have had experiences that could alter how they respond to some of the questions on the test. One way of responding to these issues is to employ a different form of reliability assessment, for example *split-half reliability*. After a test has been administered half of the items of the test are selected and a total score for that half of the test is calculated. A total score for the items comprising the other half of the scale is calculated and both totals are then correlated.

Another more commonly employed method of reliability assessment is designed to examine the internal performance of the items that make up a test (Loewenthal, 1996; Francis, 2005c). This is known as *internal consistency reliability*. The internal consistency reliability of a test is based on calculating the correlations between the scores of each item on the test and the sum of all other items on the test (Loewenthal, 1996). This yields as many correlations as there are items on the test (item rest of test correlation coefficients). This provides a clear measure of the extent to which each item and the rest of the scale co-vary. Unlike

test-retest reliability the internal consistency reliability of a test can be calculated without administering a test more than once.

The statistic generally quoted to express the internal consistency reliability of a test is *Cronbach's alpha* ( $\alpha$ ). Cronbach's alpha (1951) is a measure of the average correlation between all possible combinations of half the items with the other half (or the average of all possible split half coefficients) (Kline, 1986; Kay & Francis, 1996). Cronbach's alpha coefficient takes into account all the inter-associations between all items on the scale, and provides a view of the homogeneity of the whole set of items (Kay & Francis, 1996; Francis, 2005c).

There has been some debate as to what constitutes the lowest acceptable figure for the alpha coefficient of reliability (Loewenthal, 1996). An alpha coefficient of .70 or above indicates statistical reliability according to Kline (1993), while DeVellis (2003) suggests that an alpha coefficient of .65 or above is acceptable. However, as Francis (2005c) highlights, psychological tests can never be completely accurate. The concepts they measure are less tangible and less stable than physical properties such as height or weight. The alpha coefficient has been developed as an objective numerical measure of reliability against which individual tests may be assessed. Therefore, tests which consistently achieve an alpha coefficient of .70 (Kline, 1993) or .65 (DeVellis, 2003) are considered to be reliable.

The homogeneity of an attitude scale's items may also be assessed by *principle component analysis*. This is a statistical procedure which can be used to see whether the items of a scale hang together in a coherent or unidimensional whole (Kay & Francis, 1996). Principle component analysis provides an indication of how well each item of a scale contributes to the overall score by demonstrating how each item loads on the first factor. As Kay and Francis (1996) highlight, with attitude

scales it is expected that the majority of items that comprise a scale should load on the same factor. Factor loadings range from +1.0 through 0 down to -1.0. The lower the factor loading of each item the less well the item contributes to the overall scale score. Studies which examine the homogeneity of a scale according to the findings of principle component analysis report the individual loadings of each item of the scale on the first factor of the unrotated solution. Principle component analysis looks for factors which explain as much variance as possible. Therefore, alongside the factor loadings of each item that comprise a scale the percentage of variance explained by the first factor is also reported. This provides an indication of the homogeneity and unidimensionality of a scale's items.

### **Validity**

The second functional property that a psychometric test must possess is validity. A valid test is a one that measures what it is supposed to measure (Loewenthal, 1996). As Francis (2005c) highlights, a reliable test may not necessarily be a valid one. If, for example, a scale is designed to measure weight but actually measures height the scale may have the functional property of reliability but will not be valid. The preferred method of validity assessment consistently applied to the Francis Scale of Attitude toward Christianity is *construct validity*. This is in recognition of the view that while reliability statistics are relatively easy to calculate for attitude scales (Livingston, 1988; Domino & Domino, 2006; Reynolds, Livingston, & Willson, 2010) the question of assessing validity is more problematic (Ebel, 1961; Zeller, 1988; Wilson, 2005; Reynolds, Livingston, & Willson, 2010). For example, attitude scales are open to external validation as they may be expected to correlate with certain behaviours.

Construct validity is dependent on a network of variables which are often related to each other by a single theory (Kay & Francis, 1996; Loewenthal, 1996). Construct validity is established by proposing hypotheses about how the construct being measured may be expected to function in relationship to other constructs. The construct validity of the Francis Scale of Attitude toward Christianity can be examined by assessing the extent to which certain predictions about the theoretical variations in attitude scores are reflected empirically (Cronbach & Meehl, 1955; Orton, 1987; Francis, 1989b). The Francis Scale of Attitude toward Christianity was formulated within the context of attitude theory. Therefore, attitude theory can be used to predict the scale's association with other constructs. For example, a number of studies exploring the reliability and validity of the Francis Scale of Attitude toward Christianity have demonstrated that the scale consistently correlates with a number of key constructs.

First, attitude toward Christianity is correlated with age. The finding that attitudes toward Christianity decline during the years of compulsory schooling is well-established (Kay & Francis, 1996). This age-related linear decline in attitude toward Christianity occurs at a steady rate between the ages of eight to sixteen years of age and applies to both boys and girls (Francis, 1976, 1988, 1989b), attending different types of schools (Francis, 1987; Gibson & Francis, 1989; Greer & Francis, 1991) in a variety of geographical locations (Kay, 1981b; Gibson, 1989; Francis & Greer, 1990). In adults this trend is reversed where favourable attitudes toward Christianity are found to increase with age (Francis, 1992c, 1993b).

Second, attitude toward Christianity is correlated with sex. The finding that females tend to score more highly than males on the Francis Scale of Attitude toward Christianity is also well established (Francis, 2009a). This finding has been reported

by empirical studies conducted children, adolescents (Francis, 1987, 1988; Fulljames & Francis, 1987; Gibson, 1989; Francis & Greer, 1990) and adults in a variety of cultural contexts (Francis & Stubbs, 1987; Francis, 1992c, 1993b; Maltby & Lewis, 1997). This is consistent with Argyle and Beit-Hallahmi's (1975) conclusion that the finding that women are more religious than men is one of the most secure empirical findings within the psychology of religion.

Third, attitude toward Christianity is correlated with other religious variables. As Francis and Katz (2007) highlight, whilst attitudes alone may not be simple or direct predictors of behaviour (Ajzen, 1988; Eiser & van der Pligt, 1988), there is substantial evidence to suggest a fairly close relationship between attitude toward religion and religious behaviour. The construct validity of the Francis Scale of Attitude toward Christianity has generally been established by correlating attitude scores with two indices of religious behaviour, namely, personal prayer and church attendance. The finding that higher correlations have routinely been found with personal prayer than with church attendance is consistent with the view that personal prayer (a private Christian practice) is subject to less contextual influences and constraints than church attendance (a public Christian practice), as demonstrated by Francis and Greer (1990) and Greer and Francis (1991). It has also been shown that, while attitude toward Christianity is conceptually and empirically distinct from other dimensions of religiosity, a positive relationship exists between attitude toward Christianity and both personal church attendance (Francis, 1976) and parental church attendance (Greer, 1971; Gibson, 1989), bible reading (Francis & Stubbs, 1987; Fulljames & Francis, 1987), religious belief (Greer, 1982), religious affiliation (Francis, 1980a, 1986b; Francis & Greer, 1999a; Francis & Gibson, 2001), religious experience (Francis & Greer, 1993, 1999a), strength of personal religious feeling

(Lewis & Maltby, 1995a; Maltby, 1994), and intrinsic religiosity (Joseph & Lewis, 1997) within the model of religious orientation originally proposed by Allport and Ross (1967).

This first part of this chapter has considered the types of psychometric assessment consistently employed to test the scale properties of the Francis Scale of Attitude toward Christianity. The second part of this chapter examines the findings empirical studies that have reported on the reliability and validity of the Francis Scale of Attitude toward Christianity.

### **Junior-form Francis Scale of Attitude toward Christianity (24-item and 7-item)**

The Francis Scale of Attitude toward Christianity (Francis, 1976, 1978b) was originally developed for use among 8- to 16-year-old children and young people in examination of the changing pattern of attitude toward Christianity during childhood and adolescence. Possible scores to the 24-item Likert-type scale, which measures an individual's affective response to the Christian tradition, can range from 24 to 120. Higher scores indicate a more positive attitude toward Christianity. Foundation studies reporting on the psychometric properties of the original instrument, developed for use in English-speaking contexts, have supported the unidimensionality, internal consistency reliability and construct validity of the scale among school-aged samples in a variety of geographical locations.

For example, in England Francis (1987) administered the scale to a sample of 3,114 12- to 18-year-old students attending Roman Catholic state-maintained secondary schools. Findings supported the internal consistency reliability of the scale across the entire age range where alpha coefficients ranged between .93 to .96, and the item rest-of-test correlations for the individual items comprising the scale ranged between .32 and .95. The unidimensionality of the scale was supported by the



findings of principle component analyses where the proportion of variance accounted for by the first factor of the unrotated solution ranged between 42% and 53%, while factor loadings for the individual items comprising the scale ranged between .32 and .87. Replicating this study, Francis (1989b) also confirmed the reliability and validity of the scale among secondary-school students in England.

In Scotland, Gibson (1989) administered the scale to 4,405 11- to 16-year-old students attending non-denominational secondary schools. Findings provided evidence to support the internal consistency reliability ( $\alpha$  ranging between .96 and .97) and construct validity (correlations with church attendance,  $r = .54$  to  $.64$ ,  $p < .001$ ; parental church attendance,  $r = .55$  to  $.66$ ,  $p < .001$ ) of the scale across the entire age range.

In Northern Ireland, Francis and Greer (1990) administered the scale to 1,189 11- to 16-year-old students attending Protestant secondary schools. Findings provided evidence to support the internal consistency reliability ( $\alpha$  ranging between .96 and .97) and construct validity (church attendance,  $r = .53$ ,  $p < .001$ ; personal prayer,  $r = .69$ ,  $p < .001$ ) of the scale among young people in Northern Ireland. Replicating this study, Greer and Francis (1991) also confirmed the reliability and validity of the scale among secondary school-students in Northern Ireland.

In Kenya, Fulljames and Francis (1987) administered the scale to two groups of secondary-school students aged between 11 and 20 years ( $n = 694$ ) and aged between 16 and 24 years ( $n = 624$ ). Findings provided evidence to support the internal consistency reliability (group 1,  $\alpha = .90$ ; group 2,  $\alpha = .94$ ) and construct validity (both groups: church attendance,  $r = .38$ ,  $p < .001$ ; personal prayer,  $r = .44$ ,  $p < .001$ ; bible reading,  $r = .35$ ,  $p < .001$ ) of the scale among both groups.

In Nigeria, Francis and McCarron (1989) administered the scale to 104 students aged between 11 and 23 years and found further evidence to support the internal consistency reliability ( $\alpha = .86$ ) and unidimensionality of the scale, where the proportion of variance accounted for by the first factor of the unrotated solution proposed by principle component analysis was established as 30%.

Reliability and validity of a short 7-item junior form of the Francis Scale of Attitude toward Christianity has also been reported by empirical studies conducted among children aged between 9 and 11 in England (Francis, 1992a; Robbins, Francis, & Williams, 2003), Northern Ireland and Scotland (Francis, Greer, & Gibson, 1991), and South Africa (Lewis, Francis, & Kerr, 2003; Francis, Kerr, & Lewis, 2005).

#### **Adult-form Francis Scale of Attitude toward Christianity (24-item and 7-item)**

In order to extend the range of studies concerned with establishing the correlates of attitude toward Christianity into the post-adolescent years Francis and Stubbs (1987) developed an adult form of the 24-item Francis Scale of Attitude toward Christianity. This involved a modification of two items of the 24-item junior form of the scale. In the junior form the items refer to religion within the context of school. The item 'I like school lessons about God very much' was modified to read 'I like to learn about God very much' and the item 'I think saying prayers in school does no good' was modified to read 'I think saying prayers does no good'. This would make it possible to chart the correlates of attitude toward Christianity throughout the years of childhood, adolescence and adulthood with common instrumentation (Francis, 1992c). Empirical studies reporting on the psychometric properties of the 24-item adult form have supported the unidimensionality, internal

consistency reliability and construct validity of the scale among adult samples in a variety of geographical locations.

For example, in England Francis and Stubbs (1987) administered the scale to 85 adults aged between 18 and 64. Findings supported the internal consistency reliability of the scale where the alpha coefficient was established as .96, and the item rest of test correlations for the individual items comprising the scale ranged between .32 and .95. The unidimensionality of the scale was supported by the findings of principle component analyses where the proportion of variance accounted for by the first factor of the unrotated solution was established as 60%, while factor loadings for the individual items comprising the scale ranged between .41 and .92. The construct validity of the scale was supported by correlations with other religious measures (church attendance,  $r = .52, p < .001$ ; personal prayer,  $r = .73, p < .001$ ; bible reading,  $r = .63, p < .001$ ). Replicating this study among adults in the UK, Francis (1992c) provided further evidence to support the reliability and validity of the scale.

In the Republic of Ireland, Maltby (1994) administered the scale to 164 adults aged between 19 and 54 years. Findings provided evidence to support the internal consistency reliability ( $\alpha = .96$ ) and construct validity (church attendance,  $r = .44, p < .001$ ; personal prayer,  $r = .58, p < .001$ ; strength of personal religious feeling,  $r = .63, p < .001$ ) of the scale among the sample.

In the USA, Lewis and Maltby (1995a) administered the scale to two samples aged between 17 and 73 years ( $n = 327$ ) and aged between 19 and 33 years ( $n = 136$ ). Findings provided evidence to support the internal consistency reliability (sample 1,  $\alpha = .98$ ; sample 2,  $\alpha = .97$ ) and construct validity (church attendance, sample 1  $r = .32, p < .001$ , sample 2  $r = .55, p < .001$ ; personal prayer, sample 1  $r =$

.86,  $p < .001$ , sample 2  $r = .87$ ,  $p < .001$ ; strength of personal religious feeling, sample 1  $r = .47$ ,  $p < .001$ , sample 2  $r = .71$ ,  $p < .001$ ) of the scale among both samples.

In the UK, USA, Australia, and Canada, Francis, Lewis, Philipchalk, Brown, and Lester (1995) administered the scale to four samples of undergraduate students: 378 in the UK, 212 in the USA, 255 in Australia, and 231 in Canada. Findings provided evidence to support the internal consistency reliability ( $\alpha$  ranging between .96 and .97) and construct validity (church attendance, UK,  $r = .67$ ,  $p < .001$ ; USA,  $r = .54$ ,  $p < .001$ ; Australia,  $r = .73$ ,  $p < .001$ ; Canada,  $r = .64$ ,  $p < .001$ ; personal prayer, UK,  $r = .73$ ,  $p < .001$ ; USA,  $r = .69$ ,  $p < .001$ ; Australia,  $r = .83$ ,  $p < .001$ ; Canada,  $r = .80$ ,  $p < .001$ ) of the scale across all four samples.

In Northern Ireland, Lewis and Maltby (1997) administered the scale to a sample of undergraduate students aged between 18 and 31 (239 males and 459 females). Findings provided evidence to support the internal consistency reliability (male group  $\alpha = .98$ ; female group  $\alpha = .97$ ) and construct validity (church attendance, males  $r = .26$ ,  $p < .001$ , females  $r = .43$ ,  $p < .001$ ; personal prayer, males  $r = .75$ ,  $p < .001$ , females  $r = .78$ ,  $p < .001$ ) of the scale within both groups.

Reliability and validity of a short 7-item form of the adult Francis Scale of Attitude toward Christianity has also been reported among adults in the UK (Francis, 1993b), in the UK, the USA, Australia, and Canada (Francis, Lewis, Philipchalk, Lester, & Brown, 1995), and in England, the USA, the Republic of Ireland, and Northern Ireland (Maltby & Lewis, 1997).

Empirical studies exploring the psychometric properties of the 24-item and 7-item junior and adult forms of the Francis Scale of Attitude toward Christianity demonstrate that the scale functions with a high level of reliability and validity from

the age of eight-years through to late-adult-life in a variety of English-speaking contexts. This has enabled empirical comparability between the correlates of attitude toward Christianity associated with children, adolescents and adults in different geographical locations at different points in time.

### **Scale translations**

In order to extend the programme of studies employing the Francis Scale of Attitude toward Christianity beyond English-speaking contexts, a series of translations has been undertaken. Empirical studies reporting on the psychometric properties of these editions have supported the internal consistency reliability and construct validity of the scale within the context of seventeen different languages, including: Arabic, Chinese, Czech, Dutch, Estonian, French, German, Greek, Italian, Norwegian, Portugese, Spanish, Romanian, Serbian, Slovenian, Swedish, and Welsh.

For example, reporting on the psychometric properties of the Arabic edition Munayer (2000) confirmed the internal consistency reliability ( $\alpha = .92$ ) of the scale among 160 Palestinian Arab Christians aged between 14 and 20 living in Israel.

Reporting on the psychometric properties of the Chinese edition Francis, Lewis, and Ng (2002) confirmed the internal consistency reliability ( $\alpha = .97$ ) and construct validity (church attendance,  $r = .51, p < .001$ ; personal prayer  $r = .48, p < .001$ ) of the scale among 598 Chinese speaking adolescents aged between 13 and 18 years.

Reporting on the psychometric properties of the Czech edition Francis, Quesnell, and Lewis (2010) confirmed the internal consistency reliability ( $\alpha = .96$ ) and construct validity of the scale (church attendance,  $r = .55, p < .001$ ; personal prayer  $r = .61, p < .001$ ) among 3,432 adolescents aged between 14 and 16 years in the Czech Republic.

Reporting on the psychometric properties of the Dutch edition Francis and Hermans (2000) confirmed the internal consistency reliability ( $\alpha = .96$ ) and construct validity of the scale (church attendance,  $r = .53, p < .001$ ; personal prayer  $r = .58, p < .001$ ) among 1,021 students aged between 11 and 16 living in the Netherlands.

Reporting on the psychometric properties of the French edition Lewis and Francis (2004) confirmed the internal consistency reliability ( $\alpha = .97$ ) and construct validity (church attendance,  $r = .48, p < .001$ ) of the scale among 462 undergraduate students in France.

Reporting on the psychometric properties of the German edition Francis, Ziebertz, and Lewis (2002) confirmed the internal consistency reliability ( $\alpha = .96$ ) and construct validity (church attendance,  $r = .64, p < .001$ ; personal prayer  $r = .72, p < .001$ ) of the scale among 331 undergraduate students in Germany.

Reporting on the psychometric properties of the Norwegian edition Francis and Enger (2002) confirmed the internal consistency reliability ( $\alpha = .98$ ) and construct validity (church attendance,  $r = .64, p < .001$ ; personal prayer  $r = .75, p < .001$ ) of the scale among 479 secondary school students aged between 11 and 18 years in Norway.

Reporting on the psychometric properties of the Portuguese edition Ferreira and Neto (2002) confirmed the internal consistency reliability ( $\alpha = .96$ ) of the scale among 323 university students in Portugal.

Reporting on the psychometric properties of the Serbian edition Flere, Francis, and Robbins (2011) confirmed the internal consistency reliability ( $\alpha = .95$ ) and construct validity (church attendance,  $r = .56, p < .001$ ; prayer and meditation  $r = .61, p < .001$ ) of the scale among 222 Eastern Orthodox university students.

Reporting on the psychometric properties of the Spanish edition Campo-Arias, Oviedo, Dtaz, and Cogollo (2006) confirmed the internal consistency reliability ( $\alpha = .80$ ) of the scale among 405 secondary school students aged between 13 and 17 in Colombia.

Reporting on the psychometric properties of the Romanian edition Francis, Ispas, Robbins, Ilie, and Iliescu (2009) confirmed the internal consistency reliability ( $\alpha = .97$ ) and construct validity (church attendance,  $r = .49, p < .001$ ; personal prayer  $r = .62, p < .001$ ) of the scale among 158 university students in Romania.

Reporting on the psychometric properties of the Slovenian edition Flere, Klanjšek, Francis, and Robbins (2008) confirmed the internal consistency reliability ( $\alpha = .96$ ) and construct validity (church attendance,  $r = .58, p < .001$ ; personal prayer  $r = .66, p < .001$ ) of the scale among 808 undergraduate students in Slovenia.

Reporting on the psychometric properties of the Swedish edition Eek (2001) confirmed the internal consistency reliability ( $\alpha = .96$ ) and construct validity (church attendance,  $r = .64, p < .001$ ; personal religiosity  $r = .79, p < .001$ ) among 245 adults attending Taize in Sweden.

Reporting on the psychometric properties of the Welsh edition Evans and Francis (1996) confirmed the internal consistency reliability ( $\alpha = .95$ ) and construct validity (church attendance,  $r = .46, p < .001$ ; personal prayer,  $r = .48, p < .001$ ) of the scale among 258 students aged between 13 and 15 years attending Welsh-medium secondary schools in Wales. The satisfactory psychometric properties of the Welsh edition have also been reported by Francis and Thomas (2003).

Further to this, Youtika, Joseph, and Diduca (1990) claim to have confirmed the satisfactory psychometric properties of the Francis Scale of Attitude toward

Christianity when translated into Greek among 163 Greek-speaking undergraduate students, although they report none of the relevant statistics.

Empirical studies have also established the reliability and validity of the short-form Chinese edition (Lewis, Francis, & Ng, 2003), short-form Dutch edition (Lewis & Hermans, 2003), short-form French edition (Lewis & Francis, 2004), short-form Norwegian edition (Lewis, Francis, & Enger, 2003), and short-form Welsh edition of the scale (Lewis & Francis, 2002).

Empirical studies exploring the psychometric properties of the translated editions of the Francis Scale of Attitude toward Christianity have demonstrated that the scale functions with a high level of reliability and validity in a variety of linguistic contexts. This enables empirical comparability between the correlates of attitude toward Christianity established in cross-cultural contexts among children, young people and adults, but also between the correlates of attitude toward Christianity established by earlier research conducted among children, young people and adults in English-speaking contexts.

### **Alternative faith traditions**

At the beginning of the twenty-first century a number of instruments were developed from the Francis Scale of Attitude toward Christianity designed to facilitate the integration of cross-cultural studies concerned with exploring the correlates of attitude toward religion within the context of other faith traditions. The Sahin-Francis Scale of Attitude toward Islam (Sahin & Francis, 2002), the Katz-Francis Scale of Attitude toward Judaism (Francis & Katz, 2007), the Santosh-Francis Scale of Attitude toward Hinduism (Francis, Santosh, Robbins, & Vij, 2008), the Williams Scale of Attitude toward Paganism (Williams, Francis, & Billington, 2010), and the Astley-Francis Scale of Attitude toward Theistic Faith (Astley,



Francis, & Robbins, 2012) were designed to reflect a similar psychological construct to that accessed by the parent scale of attitude toward Christianity. Empirical studies reporting on the psychometric properties of these editions have supported the internal consistency reliability and construct validity of the scale within the context of the Islamic, Jewish, Hindu, and Pagan faith traditions, as well as across the theistic faith traditions in general.

For example, reporting on the psychometric properties of the Sahin-Francis Scale of Attitude toward Islam, Sahin and Francis (2002) confirmed the internal consistency reliability ( $\alpha = .90$ ) and construct validity (personal prayer,  $r = .24, p < .001$ ) of the scale among 381 Muslim adolescents attending sixth-form colleges in the UK aged between 16 and 20 years. The reliability and validity of this edition of the scale has also been reported by Francis, Sahin, and Al-Failakawi (2008).

Reporting on the psychometric properties of the Katz-Francis Scale of Attitude toward Judaism, Francis and Katz (2007) confirmed the internal consistency reliability of the scale among 415 female and 203 male Hebrew-speaking undergraduate students in Israel (females,  $\alpha = .97$ ; males,  $\alpha = .97$ ). The construct validity of the scale was supported by correlations between attitude scores and personal prayer (females  $r = .51, p < .001$ ; male  $r = .79, p < .001$ ) and synagogue attendance, where stronger correlations between attitude scores and synagogue attendance was observed among men than among women (male  $r = .72, p < .001$ ; female  $r = .34, p < .01$ ), reflecting the nature of synagogue attendance within the Jewish tradition. The reliability and validity of this edition of the scale has also been reported by Yablon, Francis, and Robbins (2013).

Reporting on the psychometric properties of the Santosh-Francis Scale of Attitude toward Hinduism Francis, Santosh, Robbins, and Vij (2008) confirmed the

internal consistency reliability ( $\alpha = .89$ ) and construct validity of the scale (personal prayer,  $r = .36, p < .001$ ; attendance to a place of worship,  $r = .37, p < .001$ ) among 330 participants of the Hindu Youth Festival in London 2001 aged between 12 and 35. The reliability and validity of this edition of the scale has also been reported by Francis, Robbins, Santosh, and Bhanot (2008), Tiliopoulos, Francis, and Slattery (2010), and by Tiliopolous, Francis, and Slattery (2011).

Reporting on the psychometric properties of the Williams Scale of Attitude toward Paganism, Williams, Francis, and Billington (2010) confirmed the internal consistency reliability ( $\alpha = .93$ ) and construct validity (public religious practice and rituals,  $r = .35, p < .05$ ; private religious practice and rituals,  $r = .23, p < .05$ ) of the scale among 75 members of a Pagan summer camp.

Reporting on the psychometric properties of the Astley-Francis Scale of Attitude toward Theistic Faith, a scale designed to be inclusive of theistic traditions in general, Astley, Francis, and Robbins (2012) confirmed the internal consistency reliability ( $\alpha = .95$ ) and construct validity (personal prayer,  $r = .81, p < .001$ ; attendance to a place of worship,  $r = .69, p < .001$ ) of the scale among 284 sixth-form students aged between 16 and 18. The internal consistency reliability of this edition of the scale has also been reported by Francis, Brockett, and Village (2013).

### **Correlates of attitude toward Christianity**

Empirical studies exploring the psychometric properties of the Francis Scale of Attitude toward Christianity demonstrate that the scale consistently functions reliably and validly from the age of eight-years to through to late-adult-life, among different groups, in different contexts, and at different points in time. On this basis, Francis and colleagues began to use the scale as a basis for comparative empirical research in a series of independent but inter-related cross-sectional surveys exploring

the correlates of attitude toward Christianity during childhood, adolescence and adulthood. By the mid-1990s, over 100 independent studies had employed the scale to examine a wide range of correlates of religiosity, as summarised by Kay and Francis (1996). Since the 1990s, the scale has been employed in further studies exploring the correlates of attitude toward religion, including: abortion attitudes (Fawcett, Andrews, & Lester, 2000), alcohol attitudes (Francis, Fearn, & Lewis, 2005), altruism (Eckert & Lester, 1997), attendance at church schools (O’Keeffe, 1996; Francis & Gibson, 2001; Flynn & Mok, 2002), conservatism (Lewis & Maltby, 2000), creationism and evolutionary theory (Francis & Greer, 1999b), cultural stereotype of the effects of religion on mental health (Lewis, 2001), denominational differences (Francis & Greer, 1999c), dissociation (Dorahy & Lewis, 2001), dogmatism (Francis, 2001e; Francis & Robbins, 2003), extraversion, neuroticism and psychoticism (Francis & Fearn, 1991; Carter, Kay, & Francis, 1996; Maltby, 1997a; Wilcox & Francis, 1997a; Francis, 1999a; Francis & Kwiran, 1999; Youtika, Joseph, & Diduca, 1999; Bourke & Francis, 2000; Francis & Kerr, 2003; Francis & Thomas, 2004; Williams, Robbins, & Francis, 2005), gender orientation (Francis & Wilcox, 1996a, 1998; Francis, 2005d), general health (Francis, Robbins, Lewis, Quigley, & Wheeler, 2004), happiness (Robbins & Francis, 1996; Francis & Lester, 1997; Lewis, Lanigan, Joseph, & de Fockert, 1997; French & Joseph, 1999; Francis, Jones, & Wilcox, 2000; Francis & Robbins, 2000; Lewis, Maltby, & Burkinshaw, 2000; Francis, Robbins, & White, 2003), intelligence (Francis, 1998), just world beliefs (Crozier & Joseph, 1997), life satisfaction (Lewis, Joseph, & Noble, 1996; Lewis, 1998), mental health values (Tjeltveit, Fiordalisi, & Smith, 1996), motivation to study religion (Francis, Fearn, Astley, & Wilcox, 1999), obsessiveness (Lewis, 1996; Maltby, 1997b), operational thinking (Kay, Francis, &

Gibson, 1996), paranormal belief (Williams, Francis, & Robbins, 2006), premarital sex (Francis, 2006), prosocial values (Schludermann, Schludermann, & Huynh, 2000), psychological adjustment (Schludermann, Schludermann, Needham, & Mulenga, 2001); psychological distress (O'Connor, Cobb, & O'Connor, 2003), psychological health (Francis, Lewis, & Ng, 2003; Francis & Burton, 2007), psychological type (Jones & Francis, 1999; Fearn, Francis, & Wilcox, 2001; Francis et al., 2003; Francis, Jones, & Craig, 2004), psychological well-being (Francis, Jones, & Wilcox, 1997), purpose in life (French & Joseph, 1999), religious experience (Francis & Greer, 1999a; Francis, ap Siôn, Lewis, Robbins, & Barnes, 2006), religious orientation (Maltby & Lewis, 1996; Joseph & Lewis, 1997; Francis & Orchard, 1999; Maltby, 2001; Hills & Francis, 2003), schizotypal traits (Diduca & Joseph, 1997; Joseph & Diduca, 2001), science attitudes (Francis & Greer, 2001), self-esteem (Jones & Francis, 1996), social desirability (Gillings & Joseph, 1996; Lewis, 1999, 2000), substances attitudes (Francis, 1997b, 2002b; Francis & Robbins, 2009), suicidal ideation (Lester & Francis, 1993; Hills & Francis, 2005; Kay & Francis, 2006), and studying social science (Francis, Astley, Fearn, & Wilcox, 1999).

This research programme has also been extended to include other religious traditions in order to test whether the correlates, antecedents and consequences of attitudes toward religion (established in a Christian context) also hold true in alternative faith contexts. For example, empirical studies have employed the Katz-Francis Scale of Attitude toward Judaism to explore the connection between attitude toward Judaism and happiness (Francis & Katz, 2002; Francis, Katz, Yablon, & Robbins, 2004). Similarly the Santosh-Francis Scale of Attitude toward Hinduism has been employed by empirical studies exploring the connection between attitude

toward Hinduism and mental health (Francis, Robbins, Santosh, & Bhanot, 2008), and attitude toward Hinduism and happiness (Tiliopoulos, Francis, & Slattery, 2011). The Astley-Francis Scale of Attitude toward Theistic Faith has been employed by empirical studies exploring the connection between attitude toward theistic faith and paranormal beliefs (Williams, Francis, Astley, & Robbins, 2009), scientism and creationism (Astley & Francis, 2010), personality and religious identity (Village, Francis, & Brockett, 2011), outgroup prejudice (Village, 2011), and psychological health (Penny, in press).

### **Aims**

The aim of this chapter is to explore the psychometric properties of the 7-item short-form of the Francis Scale of Attitude toward Christianity among the 13- to 15-year-old students of the Young People's Values Survey dataset. The analyses will test the internal consistency reliability, homogeneity and construct validity of the scale. This will determine whether the scale can be recommended for use within the present study, and future studies concerned with the correlates of attitude toward religion among young people in the UK.

### **Method**

#### **Sample**

A sample of 5,199 students aged between 13 and 15 attending secondary schools in England and Wales completed the Young People's Values Survey which included the short-form Francis Scale of Attitude toward Christianity, alongside measures of personal prayer and church attendance. The sample comprised 2,449 males (47%), and 2,750 females (53%). Within this sample, 2,725 were year-nine students (52%) and 2,474 were year-ten students (48%). Within this sample, 3,793 were attending community schools (73%), 655 were attending voluntary Anglican

schools (13%), 426 were attending voluntary Catholic schools (8%), and 325 were attending independent schools (6%).

### **Procedure**

Participating schools were asked to follow a standard procedure. The questionnaires were administered in normal class groups to all year-nine and year-ten students throughout the school. Students were asked not to write their name on the booklet and to complete the inventory under examination-like conditions. They were assured of confidentiality and anonymity. They were informed that their responses would not be read by anyone in the school, and that the questionnaires would be dispatched to the research centre for analysis. Although students were given the choice not to participate very few decided not to take part in the survey.

### **Measures**

In addition to basic information about sex and school year, the present analysis draws on the following measures included in the questionnaire.

*Short-form Francis Scale of Attitude toward Christianity* (Francis, Greer, & Gibson, 1991). This is a 7-item Likert-type instrument employing a five-point response scale: agree strongly, agree, not certain, disagree, and disagree strongly. The individual items assess the respondents' affective response to five key components of the Christian faith including: God, Jesus, Bible, church, and prayer.

*Personal prayer* was assessed by the item, 'Do you pray by yourself?' rated on a 5-point scale: never, occasionally, at least once a month, at least once a week, and nearly every day.

*Church attendance* was assessed by the item, 'How often do you attend a place of religious worship? (e.g., church, mosque, temple)' rated on a 5-point scale:

never, at least once or twice a year, at least six times a year, at least once a month, and nearly every week.

### **Data analysis**

The data were analysed by SPSS statistical package using the reliability, principle component factor analysis, and correlation functions to examine the unidimensionality and internal consistency reliability and of the Francis Scale of Attitude toward Christianity, and to examine the construct validity of the scale by correlating the attitude scores with sex, age and two measures of religious behaviour (personal prayer and church attendance).

### **Results**

Table 5.1 presents the frequency of personal prayer reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 6.5% of students report that they pray by themselves nearly every day, 3.1% of students report that they pray by themselves at least once a week, 1.8% of students report that they pray by themselves at least once a month, 20.6% of students report that they pray by themselves occasionally, and 68.0% of students report that they never pray by themselves.

Table 5.2 presents the frequency of church attendance reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 4.0% of students report that they attend a place of religious worship nearly every week, 5.5% of students report that they attend a place of religious worship at least once a month, 4.5% of students report that they attend a place of religious worship at least six times a year, 29.8% of students report that they attend a place of religious worship at least once or twice a year, and 56.2% of students report that they never attend a place of religious worship.

Table 5.3 presents the item rest-of-test correlations and the factor loadings on the unrotated solution proposed by principle component analysis for the 7-items of the Francis Scale of Attitude toward Christianity. Both sets of statistics support the conclusion that the scale is characterised by homogeneity, unidimensionality, and internal consistency reliability within the sample. The alpha coefficient is established as .91, while the proportion of variance accounted for by the first factor is established as 66%.

The construct validity of the Francis Scale of Attitude toward Christianity has generally been demonstrated by examining the association between attitude scores and two measures of religious behaviour. Table 5.4 presents the correlation coefficients between attitude scores and personal prayer and church attendance as well as sex and age. These data demonstrate a significant positive correlation between attitude toward Christianity and frequency of personal prayer ( $r = .58, p < .001$ ) and attitude toward Christianity and church attendance ( $r = .52, p < .001$ ). These statistics support the construct validity of the attitude scale among the sample of students included within the Young People's Values Survey dataset. Correlations between attitude scores, age and sex provide further evidence to support the construct validity of the scale among this group of students, where the patterns of relationship remain consistent with previous research findings: females record higher scores on the attitude toward Christianity scale than males, and year-nine students record higher scores on the attitude toward Christianity scale than year-ten students.

### **Discussion**

This chapter set out to examine the psychometric properties of the 7-item short form of the Francis Scale of Attitude toward Christianity among a sample of 13- to 15-year-old young people living in England and Wales within the first decade



of the twenty-first century. The findings of this chapter build on the substantial body of empirical literature which demonstrates that, over a forty-year period of research, the Francis Scale of Attitude toward Christianity has continued to function reliably and validly among children, young people and adults in a variety of contexts, forming a secure basis for comparative empirical research exploring the correlates of changing attitudes toward religion. Two main conclusions emerge from these data.

First, these data provide evidence to support the unidimensionality and internal consistency reliability of the attitude toward Christianity scale among the young people included within the Young People's Values Survey dataset. This finding is supported by empirical studies which have also confirmed the coherent internal structure of the 7-item short-form of the scale among young people living in the UK (Francis, 1992b; Francis, Greer, & Gibson, 1991; Robbins, Francis, & Williams, 2003) and elsewhere (Francis, Greer, & Gibson, 1991; Lewis, Francis, & Kerr, 2003; Francis, Kerr, & Lewis, 2005).

Second, these data provide evidence to support the construct validity of the scale among the young people included within the Young People's Values Survey dataset. This is indicated by three key findings. First, higher scores on the scale of attitude toward Christianity are recorded by teenage girls than by teenage boys in this study. This is supported by previous empirical research which demonstrates that females consistently record higher scores on the attitude scale than males (Kay & Francis, 1996). Second, higher scores on the scale of attitude toward Christianity are recorded by year-nine students than by year-ten students in this study. This is supported by previous empirical research which demonstrates that positive attitudes toward Christianity decline over the years of secondary-schooling (Kay & Francis, 1996). Third, higher scores on the scale of attitude toward Christianity are associated with

higher levels of personal prayer and church attendance among the young people in this study. This is supported by previous empirical research which demonstrates that affective religiosity (assessed by the Francis Scale of Attitude toward Christianity), while conceptually and empirically distinct from other dimensions of religion, is positively correlated with measures of religious behaviour, including church attendance and personal prayer (Francis, 1978b, 1989b; Gibson, 1989; Francis & Greer, 1990). Moreover, the finding of the present study that personal prayer shares a closer connection with attitude toward Christianity than church attendance is supported by previous empirical research which demonstrates that attitude toward Christianity scores are stronger predictors of personal Christian convictions and private Christian practices than public Christian practices. It is worth noting, however, that the difference in size between the correlations with attitude toward Christianity, personal prayer ( $r = .52$ ) and church attendance ( $r = .58$ ) is smaller than what is generally reported to be the case by previous empirical studies (Francis & Greer, 1990; Greer & Francis, 1991).

### **Conclusion**

This chapter has examined the scale properties of the 7-item short-form of the Francis Scale of Attitude toward Christianity among the 13- to 15-year-old students included within the Young People's Values Survey dataset. The data have demonstrated that the scale functions with satisfactory unidimensionality, internal consistency reliability and construct validity among this group of young people. This recommends the instrument for use within the present study designed to build upon the comparative empirical research tradition established by Francis (1978a) and colleagues exploring the correlates, antecedents and consequences of changing attitudes toward Christianity.

Having established the functionality of this instrument, the following five chapters of the present thesis will employ the Francis Scale of Attitude toward Christianity in five separate analyses exploring the correlates of young people's attitudes toward religion within the context of the first decade of the twenty-first century. The first three of these analyses will provide a new contribution to established empirical research concerned with certain correlates of attitude toward Christianity which have occupied a central place within the tradition of empirical theology during the past forty-years (see, for example, *Correlates of attitude toward Christianity* within the present chapter). These analyses will explore: the relationship between attitude toward Christianity and sex differences, the relationship between attitude toward Christianity and purpose in life, and the relationship between attitude toward Christianity and suicidal ideation. The fifth and sixth analyses will explore the relationship between attitude toward Christianity and correlates which represent emerging fields of interest within the tradition of empirical theology, within the broader context of the psychology of religion, and within the lives of young people living in the twenty-first century, including: the relationship between attitude toward Christianity and immortality beliefs (belief in life after death) and the relationship between attitude toward Christianity and implicit religion (attachment to Christian rites of passage).

## **CHAPTER SIX**

### **SEX DIFFERENCES AND ATTITUDE TOWARD CHRISTIANITY**

**Summary**

**Introduction**

**Sociologically-grounded theories**

**Gender role socialisation theories**

**Structural location theories**

**Risk-aversion theories**

**Power-control theories**

**Psychologically-grounded theories**

**Gender-orientation theories**

**Personality-based theories**

**Aims**

**Method**

**Sample**

**Procedure**

**Measures**

**Data analysis**

**Results**

**Findings**

**Conclusion**

## Summary

The previous chapter reported on the satisfactory psychometric properties of the short-form Francis Scale of Attitude toward Christianity within the Young People's Values Survey dataset. Chapter six examines the relationship between sex differences and attitudes toward Christianity. The first part of this chapter reviews the different theoretical approaches that have been put forward to account for the well-established finding in the psychology of religion that within Christian (or post-Christian) contexts, females are regularly found to be more religious than males (Argyle & Beit-Hallahmi, 1975; Francis, 1997a; Francis & Penny, 2013), including: sociologically-grounded theories and psychologically-grounded theories. Working within the context of personality-based psychologically-grounded theories, the second part of this chapter reports on the findings of statistical analyses designed to test whether sex differences in young people's attitudes toward Christianity persist after individual differences in Eysenck's dimensional model of personality have been taken into account, building on the recent study by Penny, Francis, and Robbins (under review).

## Introduction

This chapter presents the first of five separate analyses conducted on the Young People's Values Survey dataset designed to explore the correlates, antecedents and consequences of young people's attitudes toward Christianity during the first decade of the twenty-first century. This chapter focuses specifically on the connection between young people's attitudes toward Christianity and sex differences. Within the psychology of religion the conclusion that women are more religious than men is one of the best attested empirical findings (Argyle & Beit-Hallahmi, 1975). Recently reviewing the body of empirical research concerned with sex differences in religion, Francis and Penny (2013) confirmed this assessment, but also cautioned against unguarded generalisation beyond the Christian and post-Christian contexts. However, as Francis and Penny (2013) highlight, debate and controversy remains concerning a satisfactory theoretical framework which can account for these observed differences. Broadly speaking, this debate has been shaped by two main groups of theories: sociologically-grounded theories and psychologically-grounded theories. While uncertainty concerning the theoretical underpinnings of sex differences in religiosity remains, it is unlikely that sex differences will be managed effectively by empirical studies exploring the correlation between religiosity and other variables. It is important, then, to gain a clearer understanding of how individual differences in young people's attitudes toward Christianity may be influenced by sex differences before moving on to explore the association between attitude toward Christianity and other constructs.

The present chapter adds to this debate in four ways. The first part of this chapter considers the strength of sociologically-grounded theories put forward to account for the greater religiosity of females. The second part of this chapter

considers the strength of psychologically-grounded theories put forward to account for the greater religiosity of females. The third part of this chapter discusses the findings of statistical analyses which test the strength of personality-based psychologically-grounded theories to account for observed sex differences in young people's attitudes toward Christianity. The fourth part of this chapter concludes by considering the implications of these findings for future empirical research regarding sex differences in religiosity.

### **Sociologically-grounded theories**

Sociologically-grounded theories which attempt to account for the well-established sex differences in religiosity may be divided into two categories: classic sociological theories, styled by Francis (1997a) as gender role socialisation theories and structural location theories; and new sociological theories, styled by Francis and Penny (2013) as risk-aversion theories and power-control theories.

#### *Classic sociological theories*

*Gender role socialisation theories* maintain that sex difference in religiosity can be attributed to different experiences of socialisation among males and females. According to this theory, males are socialised in terms of accomplishment and aggressiveness, which are ideals congruent with secular culture. By contrast, females are socialised in terms of conflict resolution, submission, gentleness and nurturance, which are ideals congruent with religious emphases. This position was supported by Nelsen and Potvin (1981), who maintained that both gender role socialisation and parent-child interaction generally place more weight on religiousness and conformity for girls than for boys. In a similar vein, Mol (1985) maintained that males in modernised Western society are socialised into thinking that drive, aggression, accomplishment, and the playing of rough conflict games are positive orientations.

*Structural location theories* argue that greater religiosity among women can be attributed to their position in society. There are two main forms of structural location theories. The first form advances the perspective that the child-rearing role of women leads to greater religiousness. Arguments in favour of this view have suggested that women, as the prime caregivers and socialisers of children, participate in religious activities to encourage religious behaviours and moral development in their children (Martin, 1967; Nelsen & Nelsen, 1975), or that sex differences in religion can be explained by the division of labour in the home (Azzi & Ehrenberg, 1975; Iannaccone, 1990). Empirical research testing this form of structural location theory have found ambiguous results. In support of this theory some empirical studies have demonstrated that mothers engage in higher levels of church attendance (De Vaus, 1982; Tilley, 2003). Against this theory, other empirical studies have demonstrated similar levels of church attendance among mothers and fathers (Ploch & Hastings, 1998), or higher levels of church attendance among fathers but not mothers (Becker & Hofmeister, 2002).

The second form of structural location theory advances the perspective that greater religiosity among women can be attributed to the different place of women in the workforce. Arguments in favour of this view have suggested that because women are less likely to work outside-the-home, they are less likely to be influenced by secularisation (Luckman, 1967), more likely to seek social support from religion (Yinger, 1970), and are more likely to have time for religious involvement (Glock, Ringer, & Babbie, 1967). This would suggest that employment decreases religiosity among women, and narrows sex differences in religiosity between men and women (De Vaus, 1984). Empirical research testing this form of structural location theory have also found ambiguous results. In support of this theory some empirical studies



have shown that full-time employment decreases religious activity among both men and women (Cotter & Song, 2009). Against this theory, other empirical studies have shown that full-time employment has no significant impact on church attendance among both men and women (Gee, 1991), or that full-time employment has no impact on female church attendance but increases male church attendance (Cotter & Song, 2009). De Vaus (1984) found that even when the influence of full-time employment is held constant, women were still more likely to attend church than men.

Evaluating the relevance of gender role socialisation theories and structural location theories towards the end of the twentieth century, Francis (1997a) concluded that their plausibility was beginning to diminish. He argued that the strength of gender role socialisation theories to account for sex differences in religiosity was being eroded by societal trends which may encourage treating boys and girls in similar ways. Similarly, he argued that the strength of structural location theories to account for sex differences in religiosity was being eroded by social trends which may encourage providing similar opportunities for men and for women. Adding to this assessment, Francis and Penny (2013) have more recently argued that structural location theories account of sex differences in religiosity may be more applicable to societies which continue to uphold traditional gendered roles. This is supported, for example, by the findings of empirical research which suggests that living in advanced industrial economies may increase individualism among women and decrease willingness to assume traditionally gendered roles historically been associated with religiosity (Becker, 2000; Christiano, 2000).

### *New sociological theories*

New sociological theories designed to account for sex differences in religiosity, styled by Francis and Penny (2013) as risk-aversion theories and power-control theories, hold a closer connection with ideas shaped by psychology than classic sociological theories. This has led to controversy and debate concerning the sociological or psychological interpretation of the findings of empirical studies testing the strength of risk-aversion theories and power-control theories ability to account for sex differences in religiosity.

*Risk-aversion theories* maintain that acceptance of religion constitutes a risk-averse strategy. There are two main forms of risk-aversion theories which have attempted to account for sex differences in religiosity. The first form of risk-aversion theory argues that women are socialised to be more risk-averse than men. As such, they are more likely to accept religion because it decreases the risk of eternal damnation in the afterlife (Miller & Hoffmann, 1995). In support of this theory empirical studies have demonstrated that risk preferences attenuate sex differences in religiosity (Miller & Hoffmann, 1995), and function as stronger predictors of individual differences in religiosity in Western societies than in Eastern societies (Miller, 2000).

The second form of risk-aversion theory rejects the view that risk-preferences have a sociological basis and argues, to the contrary, that risk-preferences develop from biological functioning (mainly the central nervous and endocrine systems) (Miller & Stark, 2002; Stark, 2002). On this basis, greater or lesser religiosity among men and women can be attributed to hormonal differences which influence an individual's willingness to risk punishment in the afterlife. In support of this theory empirical studies have demonstrated that sociological variables (traditional sex role

attitudes and traditional sex roles) have no hand in shaping sex differences in religious beliefs or behaviours, while risk-preferences consistently emerge as a significant predictor of sex differences in religiosity in a variety of cultural contexts (Miller & Stark, 2002).

Against this form of risk-aversion theory empirical studies have questioned the biological basis of risk-preferences by highlighting that this would imply that greater religiosity among women is a universal feature. However, findings of empirical studies have shown that within certain religious traditions (particularly Judaism and Islam) men are observed to be more religiously active than women (Loewenthal, MacLeod, & Cinnirella, 2002; Sullins, 2006 ). Empirical studies have also failed to replicate the significant relationship between risk-aversion and sex differences in religiosity reported by Miller (2000) when alternative operationalisations of risk-preference are utilised (Freese, 2004).

Against risk-aversion theories in general, empirical studies have shown that greater religiousness among women cannot simply be explained by an aversion towards hell. For example, Roth and Kroll (2007) found that religious activity is actually higher among women who do not believe in hell, and that the gender gap is larger among those who do not believe in an afterlife. Similarly, Freese and Montgomery (2007) found that sex differences in religiosity are larger among those who believe in both heaven and hell. Other critics of risk-aversion theories have questioned the narrow conceptualisations and inadequate operationalisations of risk-preferences, religiosity and sociological variables in the development and evaluation of risk-aversion theories to account for sex differences in religion (Collett & Lizardo, 2009).

*Power-control theories* accept that risk-aversion accounts for the finding that women are more religious than men, but argue that risk-preferences are shaped by different experiences of the social control structures which exist within a household. For example, Collett and Lizardo (2009) suggest that in patriarchal households sons are encouraged to develop a stronger preference for risky behaviours, whereas daughters will be more constrained in their orientation toward risk-taking due to the high propensity of mothers to attempt to control their daughter's behaviour. By contrast, in more egalitarian households, where the socioeconomic status of mothers and fathers is similar, the difference between risk-preference among sons and daughters should be smaller. This assumes that if risk-averse individuals are more religious, sex differences in religiosity should be larger among those who grow up in patriarchal households, and smaller among those who grow up in more egalitarian households. In support of this theory empirical studies have shown that sex differences in religiosity are larger among those raised in patriarchal households (Collett & Lizardo, 2009). This study also demonstrates that socioeconomic status narrows the gender gap in religiosity and that socioeconomic status is a significant predictor of religiosity among females in particular. For example, daughters of mothers with low socioeconomic status are shown to be more religious than daughters of mothers with high socioeconomic status. Against this theory, critics have argued that, while findings from empirical studies based on power-control theories do support the explanatory power of sociological accounts of sex differences in religiosity, this formulation relies unnecessarily on concepts of risk-preference (Hoffmann, 2009), the assessment of which is inadequate since it excludes the impact of biological influences (Bradshaw & Ellison, 2009).

Reviewing the relevance of both groups of theories, Francis and Penny (2013) argued that, while it is clear that risk-preferences do have some impact on shaping sex differences in religiosity (Miller & Hoffmann, 1995; Miller & Stark, 2002; Stark, 2002; Collett & Lizardo, 2009), criticisms of new sociological theories highlight that the relationship between religion and gender is too complex to be accounted for by risk-preference alone. They concluded that for this reason new sociologically-grounded theories may prove to be no more enduring than classic sociological theories.

### **Psychologically-grounded theories**

Psychologically-grounded theories which attempt to account for the well-established sex differences in religiosity in terms of the different personality profiles of men and women take two main forms: gender-orientation theories and personality-based theories.

#### *Gender-orientation theories*

Gender-orientation theories focus specifically on the psychological constructs of masculinity and femininity which are considered as stable and enduring aspects of personality among both men and women. Gender-orientation theory has its roots in the conceptualisation and measurement proposed by Bem (1981) through the Bem Sex Role Inventory. According to this conceptualisation, masculinity and femininity are not bipolar descriptions of a unidimensional construct, but two orthogonal personality dimensions. Empirically the Bem Sex Role Inventory demonstrates considerable variations in both femininity and masculinity among both men and women. This theory was brought into the debate on sex differences in religiosity by Thompson (1991), who argued that individual differences in religiosity should be affected more by gender-orientation than by being male or female. According to this

approach, being religious is a consonant experience for *people* with a feminine orientation, while men as well as women can have a feminine orientation. Thompson (1991) formulated two hypotheses concerning the relationship between gender-orientation and individual differences in religiosity between men and women. The first hypothesis was that, if being religious is a gender type attribute related to women's lives in general, then multivariate analyses which control for the personality dimensions of masculinity and femininity should demonstrate that being female continues to have a significant effect in predicting religiosity. The second hypothesis was that, if being religious is a function of gender-orientation, then multivariate analyses which control for the personality dimensions of masculinity and femininity should result in no additional variance being explained by being female. Thompson's analysis of data from a sample of undergraduate students in the USA, who completed the Bem Sex Role Inventory alongside five measures of religiosity supported the hypothesis that being religious is a function of gender-orientation. As Penny, Francis, and Robbins (under review) highlight, it is this crucial finding that begins to render redundant sociological theories concerned with the location and experience of women in society, since the location of women in society is no longer the issue that is immediately connected with the higher levels of religiosity recorded by women.

A series of studies exploring Thompson's hypotheses have employed the Bem Sex Role Inventory alongside the Francis Scale of Attitude toward Christianity. Findings of these studies reported by Francis (2005d) and by Francis and Wilcox (1996a, 1998) have demonstrated that femininity scores predict sex differences in religiosity. Most important, however, is the finding that when these studies employed multiple-regression to control for the impact of gender-orientation on religiosity, sex

had no additional impact on individual differences in religiosity. This demonstrates, in agreement with Thompson's hypotheses, that higher levels of religiosity may be interpreted as a function of gender-orientation rather than as a function of being female. Other empirical studies utilising alternative measures of religiosity alongside the Bem Sex Role Inventory support the conclusion that higher femininity scores are associated with higher levels of religiosity within the context of the Christian faith (Smith, 1990; Mercer & Durham, 1999) and within the context of the Islamic faith (Abu-Ali & Reisen, 1999), although these studies do not proceed to explore whether or not biological sex accounts for further variance in religiosity scores after controlling for femininity scores.

Another strand of research supporting the view that gender-orientation is fundamental to religiosity is concerned with the personality profile of male clergy. For example, Ekhardt and Goldsmith (1984) found that male seminarians scored a feminine profile on the Personality Preference Form (Jackson, 1974). Goldsmith and Ekhardt (1984) found that male seminarians scored higher on the femininity dimension of the Bem Sex Role Inventory. Francis, Jones, Jackson, and Robbins (2001) found that male Anglican clergy in England, Ireland, Scotland and Wales scored lower on the masculinity scale of the Eysenck Personality Profiler (Eysenck, Wilson, & Jackson, 1999).

However, as Wilcox and Francis (1997b) have argued, while gender-orientation is a clear predictor of individual differences in religiosity, the femininity and masculinity constructs operationalised by the Bem Sex Role Inventory (Bem, 1981) were conceptualised in the 1970s and are in need of updating. The incompatibility of these constructs with modern perceptions of femininity and masculinity may be what is being observed with regard to findings of recent studies

which report no connection between gender-orientation and religiosity (Simpson, Cloud, Newman, & Fuqua, 2008), and of recent studies which report changes to the factor structure of the scale (Choi, Fuqua, & Newman, 2008).

### *Personality-based theories*

Personality-based theories propose the existence of a range of stable and enduring psychological constructs that consistently differentiate between men and women. Three personality-based models in particular have been employed within the context of sex differences in religiosity: the *three dimensional model of personality* proposed by Eysenck (Eysenck & Eysenck, 1991) and operationalized through the Eysenck Personality Questionnaire (Eysenck & Eysenck, 1975), and the Eysenck Personality Questionnaire Revised (Eysenck, Eysenck, & Barrett, 1985); the *big five factor model* proposed by Costa and McCrae (1985) and operationalized through a range of instruments; and *the model of psychological type* originally proposed by Jung (1971) and operationalized through the Myers-Briggs Type Indicator (Myers & McCaulley, 1985), the Keirsey Temperament Sorter (Keirsey & Bates, 1978), and the Francis Psychological Type Scales (Francis, 2005c).

The three dimensional model of personality proposed by Eysenck maintains that individual differences can be most adequately and economically summarised in terms of the three higher-order factors defined by the high scoring poles as extraversion, neuroticism and psychoticism. Two of these factors have recorded significant and stable sex differences over time and across cultures. From the early development of the three dimensional model, higher psychoticism scores were associated with being male (Eysenck & Eysenck, 1976), on a continuum from tendermindedness, through toughmindedness, to psychotic disorder. On the other hand, higher neuroticism scores have been associated with being female (see,



Francis, 1993c), on a continuum from emotional stability, through emotional lability, to neurotic disorder.

A series of studies employing Eysenck's dimensional model of personality alongside the Francis Scale of Attitude toward Christianity have demonstrated that psychoticism scores compromise the dimension of personality fundamental to individual differences in religiosity, and that neuroticism scores are unrelated to individual differences in religiosity after controlling for sex differences (Kay, 1981a; Francis & Pearson, 1985a; Francis, 1992b). These findings have been consistently replicated internationally, including in: Australia and Canada (Francis, Lewis, Brown, Philipchalk, & Lester, 1995), Northern Ireland (Lewis & Joseph, 1994; Lewis, 1999, 2000), the Republic of Ireland (Maltby, 1997a), the USA, (Roman & Lester, 1999), France (Lewis & Francis, 2000), Greece (Youtika, Joseph, & Diduca, 1999), Hong Kong (Francis, Lewis, & Ng, 2003), and South Africa (Francis & Kerr, 2003), as well as in the UK (Francis, 1999a). Moreover, recent studies have reported similar results within the context of the Jewish faith (Francis, Katz, Yablon, & Robbins, 2004), and the Hindu faith (Francis, Robbins, Santosh, & Bhanot, 2008). These findings would account for sex differences in religiosity in terms of basic differences between men and women in levels of psychoticism.

Further support for this view, drawing on Eysenck's three dimensional model of personality, is provided by a series of studies exploring the personality profile of male clergy. Routinely these studies have suggested that male clergy display a characteristically feminine profile (see, Francis, 1991b, 1992d; Robbins, Francis, & Rutledge, 1997; Robbins, Francis, Haley, & Kay, 2001).

The model of personality proposed by the big five factor model identifies five higher-order factors defined by the high scoring poles as neuroticism, extraversion,

openness, agreeableness and conscientiousness. Two of these factors have recorded significant and stable sex differences over time and across cultures. Higher neuroticism scores are consistently associated with being female (Costa & McCrae, 1992), where this relationship is particularly shaped by high scores on the anxiety, vulnerability and self-consciousness facets of the neuroticism factor. Higher agreeableness scores are also consistently associated with being female (Costa, Terraciano, & McCrae, 2001; Schmitt, Realo, Voracek, & Allik, 2008), where this relationship is particularly shaped by high scores on the tender-mindedness and trust facets.

A series of studies have found evidence to support the view that agreeableness and conscientiousness are the personality factors fundamental to individual differences in religiosity (Lodi-Smith & Roberts, 2007; Saroglou, 2002, 2010). Relatively few studies employing the big five factor model of personality have been designed to deal specifically with the question of sex differences in religiosity, although Saroglou (2010) argues that low psychoticism, according to the Eysenck model, is comparable to a blend of agreeableness and conscientiousness in the big five factor model (Goldberg & Rosolack, 1992; McCrae & Costa, 2003), and is likely to be related to religiousness in a similar way.

Findings of empirical studies which have included sex in the relationship between the big five factor model and religiosity are somewhat mixed and less definitive than those demonstrated by empirical studies employing Eysenck's model of personality. For example, Saroglou's (2010) meta-analyses across 55 nations demonstrated that sex had no significant impact on the relationship between religiosity, agreeableness and conscientiousness. However, some empirical studies exploring the relationship between religiosity and the big five factor model before

and after taking sex differences into account have demonstrated that sex does have a hand in shaping this relationship (Adamovova & Striženec, 2004; Cramer, Griffin, & Powers, 2008; Galen & Kloet, 2011). These studies, in addition to others, demonstrate that agreeableness emerges as the strongest predictor of religiosity even when sex differences are taken into account (see also, Saroglou & Fiasse, 2003; Robbins, Francis, McIlroy, Clarke, & Pritchard, 2010). This appears to suggest that sex differences in religiosity could be accounted for in terms of basic differences between men and women in levels of agreeableness.

The model of personality proposed by psychological type theory identifies four aspects of psychological functioning that are explored in two contrasting ways: two orientations (introversion or extraversion), two perceiving functions (sensing or intuition), two judging functions (thinking or feeling), and two attitudes (judging or perceiving). One of these aspects of psychological functioning has recorded significant and stable sex differences over time and across cultures. Population studies have demonstrated that men are more likely to prefer thinking and that women are more likely to prefer feeling: in the UK 65% of men prefer thinking and 70% of women prefer feeling (Kendall, 1998), in the USA 56% of men prefer thinking and 76% of women prefer feeling (Myers, McCaulley, Quenk, & Hammer, 2003).

A series of studies, beginning in the UK with Francis, Payne, and Jones (2001), has demonstrated that among male religious professionals, the proportion preferring feeling is much closer to the population norms for women than to the population norms for men. Among clergymen serving in the Church in Wales, Francis, Payne, and Jones (2001) found that 69% preferred feeling. Among clergymen serving in the Church of England, Francis, Craig, Whinney, Tilley, and

Slater (2007) found that 54% preferred feeling, and Francis, Robbins, Duncan, and Whinney (2010) found that 56% preferred feeling. Among Roman Catholic priests Craig, Duncan, and Francis (2006) found that 79% preferred feeling, and among Roman Catholic priests in Australia Francis, Powell, and Robbins (2012) found that 67% preferred feeling. Among male Methodist Ministers, Burton, Francis, and Robbins (2010) found that 65% preferred feeling. Among Presbyterian clergy in the USA, Francis, Robbins, and Wulff (2011) found that 66% preferred feeling. These findings would account for sex differences in religiosity in terms of basic differences between men and women's preferences within the judging process between thinking and feeling.

Reviewing the relevance of these findings, Francis and Penny (2013) concluded that, psychologically-grounded theories were likely to offer the most consistent and powerful explanation of observed sex differences in religiosity. However, although this point had been clearly demonstrated by a series of studies employing gender-orientation theory, there were, at the time of writing, no published studies which had attempted to employ the same analytic model in respect of personality-based theories (Eysenck's three dimensional model, the big five factor model, and the model proposed by psychological type).

Addressing this gap in the literature, Penny, Francis, and Robbins (under review) report on the findings of the first study designed to examine whether sex differences in religiosity persist after individual differences in personality are taken into account by employing Eysenck's dimensional model of personality. The study administered the adult form of the Francis Scale of Attitude toward Christianity (Francis & Stubbs, 1987) alongside the short form of the Eysenck Personality Questionnaire Revised (Eysenck, Eysenck, & Barrett, 1985) to 1,682 undergraduate

students in Wales. Findings from the study confirmed that women recorded higher levels of religiosity and lower levels of psychoticism, and demonstrated that psychoticism is the strongest predictor of individual differences in religiosity. Multiple-regression analyses demonstrated that, when individual differences in personality are taken into account, biological sex adds no further impact on religiosity. This suggests that higher levels of religiosity among women may be interpreted as a function of basic differences in levels of psychoticism rather than as a function of being female. Penny, Francis, and Robbins (under review) concluded that the implication of this finding is that sociological theories, which draw on the social context of women to explain higher levels of religiosity among women, become redundant, and that the most economic explanation resides in the personality characteristics associated with being female. This initial study, they highlighted, requires wider replication among similar and different samples to test the generalisability and consistency of this finding.

### **Aims**

The aim of this chapter is to replicate the study reported by Penny, Francis, and Robbins (under review) to explore whether sex differences in affective religiosity persist after individual differences in Eysenck's dimensional model of personality have been taken into account among the sample of students included within the Young People's Values Survey dataset. This study looks in closer detail at the specific contribution of the personality dimensions within Eysenck's model that are known to be sex-related to the prediction of sex differences in affective religiosity. For example, women are consistently shown to score more highly than men on neuroticism and extraversion, while men are consistently shown to score more highly than women on psychoticism (Eysenck & Eysenck, 1991). If it is found

to be the case that sex differences in religiosity disappear after individual differences in these three sex-related personality dimensions have been taken into account, further evidence may be added to Penny, Francis, and Robbins' (under review) claim that greater religiosity among females can be adequately explained in terms of basic personality differences which exist between males and females.

The analyses will test three hypotheses. The first hypothesis is that females will record higher scores on the Francis Scale of Attitude toward Christianity than males. The second hypothesis is that there is a significant negative correlation between psychoticism and attitude toward Christianity, and that psychoticism functions as the strongest predictor of attitude toward Christianity. The third hypothesis is sex differences in attitude toward Christianity scores can be accounted for by individual differences in personality.

## **Method**

### **Sample**

A sample of 5,199 students aged between 13 and 15 attending secondary schools in England and Wales completed the Young People's Values Survey which included the short form of the Francis Scale of Attitude toward Christianity and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). The sample comprised 2,449 males (47%), and 2,750 females (53%). Within this sample, 2,725 were year-nine students (52%) and 2,474 were year-ten students (48%). Within this sample, 3,793 were attending community schools (73%), 655 were attending voluntary Anglican schools (13%), 426 were attending voluntary Catholic schools (8%), and 325 were attending independent schools (6%). Within this sample, 4% claimed they went to church weekly, and 56%

claimed they never went to church, 6% claimed that they prayed daily, and 68% claimed that they never prayed.

### **Procedure**

Participating schools were asked to follow a standard procedure. The questionnaires were administered in normal class groups to all year-nine and year-ten students throughout the school. Students were asked not to write their name on the booklet and to complete the inventory under examination-like conditions. They were assured of confidentiality and anonymity. They were informed that their responses would not be read by anyone in the school, and that the questionnaires would be dispatched to the research centre for analysis. Although students were given the choice not to participate very few decided not to take part in the survey.

### **Measures**

In addition to basic information about sex, the present analysis draws on the following measures included in the questionnaire.

*Religiosity* was assessed by the short form of the Francis Scale of Attitude toward Christianity (Francis, Greer, & Gibson, 1991). This is a 7-item Likert-type instrument employing a five-point response scale: agree strongly, agree, not certain, disagree, and disagree strongly. The individual items assess the respondents' affective response to five key components of the Christian faith including: God, Jesus, Bible, church and prayer.

*Personality* was assessed by the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). This is a 24-item instrument which proposes four six-item measures of extraversion, neuroticism, psychoticism and a lie scale. In the present analysis only responses to the scales measuring the three known sex-related personality dimensions were utilised: the

neuroticism scale, the psychoticism scale and the extraversion scale. Each item is assessed on a dichotomous scale: yes and no.

### **Data analysis**

The data were analysed by SPSS statistical package using the reliability, correlation, independent t-test and multiple-regression functions. Stepwise multiple-regression was employed to control for individual differences in psychoticism, extraversion and neuroticism before testing for the influence of sex on scores of attitude toward Christianity.

### **Results**

Table 6.1 presents the mean scale scores for males and females separately together with the alpha coefficients (Cronbach, 1951). These data demonstrate that the attitude toward Christianity scale, extraversion scale and neuroticism scale all function with satisfactory levels of internal consistency reliability well above the threshold recommended by DeVellis (2003) of 0.65. While the psychoticism scale displays an alpha coefficient of .60, this is high given the historic difficulties typically encountered by the psychoticism scales (Francis, Philipchalk, & Brown, 1991). Sex differences in the mean scale scores are also consistent with previous research findings. Females record higher scores than males in terms of attitude toward Christianity (Kay & Francis, 1996). Females record higher scores than males in terms of extraversion and neuroticism, while males record higher scores than females in terms of psychoticism (Eysenck & Eysenck, 1991).

Table 6.2 presents the correlation coefficients between attitude toward Christianity, psychoticism, extraversion and neuroticism. Given the size of the sample, the probability level has been set at 1%. Two main features of this correlation matrix require comment. First, these data demonstrate that there is a



significant negative correlation between attitude toward Christianity and psychoticism, and a significant negative correlation between attitude toward Christianity and extraversion. Second, these data demonstrate that there is a significant positive correlation between attitude toward Christianity and neuroticism, and a significant positive correlation attitude toward Christianity and sex.

Table 6.3 presents the partial correlation coefficients between attitude toward Christianity, psychoticism, extraversion and neuroticism controlling for sex. These data demonstrate that controlling for sex differences does not change the basic pattern of correlations identified in table 6.2.

Table 6.4 presents statistics of the stepwise multiple-regression model which proposes attitude toward Christianity as the dependent variable and examines the cumulative predictive power of psychoticism, extraversion, neuroticism and sex entered in that fixed-order. These data demonstrate that psychoticism functions as the key predictor of attitude toward Christianity, followed by neuroticism and extraversion which both have a smaller but statistically significant influence. These data also demonstrate that, after controlling for all sex-related personality dimensions, biological sex contributes no additional predictive power to affective religiosity.

### **Discussion**

This chapter set out to examine and to clarify the connection between young people's attitudes toward Christianity and sex differences by exploring the role of biological sex and personality in predicting individual differences in affective religiosity among a sample of 13- to 15-year-old students. The findings of this chapter build on the recent study by Penny, Francis, and Robbins (under review) which was the first to examine whether sex differences in affective religiosity persist

after individual differences in Eysenck's dimensional model of personality have been taken into account among a sample of undergraduate students. Three main conclusions emerge from these data.

The first conclusion concerns sex as a significant predictor of attitude toward Christianity. These data support the first hypotheses of this study that teenage girls record higher scores on the Francis Scale of Attitude toward Christianity than teenage boys. This finding is in line with previous empirical studies that have employed the Francis Scale of Attitude toward Christianity among adults (Kay & Francis, 1996) and reflects wider empirical research within the psychology of religion (Argyle & Beit-Hallahmi, 1975).

The second conclusion concerns personality as a significant predictor of individual differences in religiosity. These data support the second hypotheses of this study that psychoticism functions as the strongest predictor of attitude toward Christianity. Within Eysenck's dimensional model of personality, lower scores on psychoticism are associated with higher scores on attitude toward Christianity among the young people included within this study. This is supported by empirical studies which consistently report a negative correlation between psychoticism and religiosity among samples of young people and adults (Kay, 1981a; Francis & Pearson, 1985a; Francis, 1992b).

The third conclusion concerns the role of sex differences in predicting individual differences in affective religiosity. These data support the third hypotheses of this study that sex differences in attitude toward Christianity can be accounted for by individual differences in personality. These data demonstrate that when individual differences in the three-sex related dimensions of Eysenck's

personality model are controlled for, biological sex has no additional impact on attitude toward Christianity scores.

Moreover, the multivariate analysis demonstrates that while sex differences in affective religiosity can be accounted for by the collective impact of the three sex-related personality variables (psychoticism, neuroticism, extraversion), both the  $r^2$  increase and the beta weights confirm that psychoticism makes the strongest contribution to predicting individual differences in attitude toward Christianity scores. This highlights that the greater religiosity observed among teenage females in this study can be largely attributed to basic differences between males and females in levels of psychoticism. This echoes the findings of the original study reported by Penny, Francis, and Robbins (under review) on which this chapter builds, that utilised the same analytical model to explore the role of Eysenck's personality model in shaping sex differences in religiosity.

Within Eysenck's dimensional model, masculinity and femininity are conceived of as comprising one of the seven constituent components of psychoticism (Eysenck, Barrett, Wilson, & Jackson, 1992), where low psychoticism is linked with femininity and high psychoticism is linked with masculinity. On this basis, the personality profile which shapes greater religiosity is one of psychological femininity. This is supported by previous empirical studies testing the strength of gender-orientation theories which demonstrate that femininity is the key predictor of individual differences in religiosity, and that higher levels of religiosity are a function of gender-orientation rather than a function of being female (Francis & Wilcox, 1996a, 1998; Francis, 2005d).

Taken together, findings from these two studies provide firm evidence to support the view that that sex differences in religiosity may be most adequately

conceptualised in terms of personality differences. The implications of this finding highlights that future empirical research exploring the correlation between religiosity and other variables must, first, be aware of the potentially contaminating influence of sex differences in religiosity, and, second, manage this influence effectively by including reliable measures of personality.

Two further conclusions emerge from these data regarding the wider pattern of relationships between Eysenck's measures of personality and attitude toward Christianity which are worthy of comment. First, these data demonstrate that there is a significant positive correlation between attitude toward Christianity and neuroticism, and that neuroticism, after psychoticism, has a small but significant impact on the prediction of religiosity scores. This finding is not in line with the consenses of wider empirical research employing Eysenck's personality measures alongside the Francis Scale of Attitude toward Christianity which consistently demonstrates that neuroticism scores are unrelated to religiosity after sex differences have been taken into account (Francis, Pearson, Carter, & Kay, 1981a; Francis, Pearson, & Kay, 1983a; Francis & Pearson, 1991). The finding of the present study that higher neuroticism scores are related to higher religiosity scores (even after controlling for the influence of expected sex differences) represents a deviation from this general pattern of relationship and requires further exploration.

Second, these data demonstrate that there is a significant negative correlation between attitude toward Christianity and extraversion. Empirical studies employing Eysenck's earlier measures of extraversion (including an impulsivity component) alongside the Francis Scale of Attitude toward Christianity demonstrated that introverts emerge as holding a more positive attitude toward Christianity (Francis, Pearson, Carter, & Kay 1981b; Francis, Pearson, & Kay, 1983b). However, later

measures of extraversion (which include no impulsivity component, now a function of psychoticism) have consistently demonstrated no association between extraversion scores and attitude toward Christianity (Francis & Pearson, 1985b; Williams, Robbins, & Francis, 2005). The finding of the present study that lower extraversion scores are related to higher religiosity scores represents a deviation from this general pattern of relationship and requires further exploration.

### **Conclusion**

This chapter has examined the role of biological sex and Eysenck's dimensional model of personality in predicting sex differences in young people's attitudes toward Christianity. The data have demonstrated that both sex and personality function as significant predictors of attitude toward Christianity among 13- to 15-year-old students. Moreover, the data have also indicated that biological sex makes no significant contribution to the prediction of attitude toward Christianity scores after individual differences in personality have been taken into account. This suggests that sex differences in religiosity can be understood in terms of basic personality differences.

Replication studies are required to extend this analysis among similar samples of young people and adults to explore whether this pattern of relationship remains consistent. Future empirical research would benefit from addressing three significant methodological limitations within the present study. The first limitation concerns the employment of one specific model of personality, the dimensional model proposed by Eysenck (Eysenck & Eysenck, 1991). Future empirical research may benefit from including measures of other personality models, such as the big five factor model or Jung's model of psychological type, to examine whether this pattern of relationship exists within the context of different personality-based

psychologically-grounded theories. The second limitation concerns how the present study is grounded within the Christian tradition. Future empirical research may benefit from including measures of alternative faith-traditions (e.g., the Sahin-Francis Scale of Attitude toward Islam, the Katz-Francis Scale of Attitude toward Judaism, the Santosh-Francis Scale of Attitude toward Hinduism, the Williams Scale of Attitude toward Paganism and the Astley-Francis Scale of Attitude toward Theistic Faith) to examine whether this pattern of relationship exists within different religious contexts. The third limitation concerns how the present study is grounded within the context of the UK. Future empirical research may benefit from replicating this study in a variety of other cultural contexts. This is necessary because as Francis and Penny (2013) highlight, recent empirical studies exploring sex differences in the big five factor model across different cultures have observed changes to the personality characteristics typically associated with men and women (Schmitt, Realo, Voracek, & Allik, 2008). If it is the case that personality characteristics can vary according to cultural context, this may have an impact on which personality characteristics predict the relationship between sex and religiosity.

## **CHAPTER SEVEN**

### **ATTITUDE TOWARD CHRISTIANITY AND PURPOSE IN LIFE**

**Summary**

**Introduction**

**Individual differences and purpose in life**

**Religion and purpose in life**

**Young people, religion and purpose in life**

**Effects of personality, sex, age and religious variables**

**Aims**

**Method**

**Sample**

**Procedure**

**Measures**

**Data analysis**

**Results**

**Findings**

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## Summary

The previous chapter considered the role that sex differences play in shaping attitudes toward Christianity. Chapter seven examines the relationship between young people's attitudes toward Christianity and purpose in life. The first part of this chapter reviews empirical literature that has demonstrated the ability of purpose in life to predict a range of individual differences across a number of domains (e.g., psychopathology, positive psychology, social attitudes and religiosity). The second part of this chapter reports on the findings of statistical analyses designed to test the association between affective religiosity and purpose in life (assessed by the single-item 'I feel that my life has a sense of purpose') after the influence of personal variables (age and sex) and psychological variables (Eysenck's dimensional model of personality) have been taken into account. This analysis also tests the strength of other dimensions of religiosity (church attendance and frequency of prayer) to predict levels of purpose in life after controlling for the influence of attitude toward religion.



## **Introduction**

This chapter presents findings from the second of five separate analyses conducted on the Young People's Values Survey dataset designed to explore the correlates, antecedents and consequences of young people's attitudes toward Christianity during the first decade of the twenty-first century. This chapter focuses specifically on the connection between young people's attitudes toward Christianity and perceived purpose in life. Recognising the construct purpose in life as an important feature of personal and social development during teenage-years, Francis and Burton (1994) and Francis and Evans (1996) began a series of studies which examined the association between purpose in life, assessed by a single-item measure, and different conceptualisations and operationalisations of religiosity among young people. The present chapter builds on this series of studies by examining the relationship between purpose in life, assessed by the same single-item measure, and affective religiosity, assessed by the Francis Scale of Attitude toward Christianity.

The first part of this chapter considers the body of empirical literature which has explored the connection between purpose in life and various psychological constructs within the wider tradition of individual differences. The second part of this chapter considers the body of empirical literature which has explored the connection between purpose in life and religiosity among undergraduate students and adult populations. The third part of this chapter considers in closer detail the series of studies, developed by Francis and Burton (1994) and Francis and Evans (1996), exploring the association between purpose in life and religiosity among samples of young people. The fourth part of this chapter discusses the findings of statistical analyses which examine the relationship between perceived purpose in life among young people and attitude toward Christianity. The fifth part of this chapter

considers the implications of these findings for future empirical research concerned with the association between purpose in life and religiosity.

### **Individual differences and purpose in life**

Within the broad field of individual differences, the construct purpose in life has gained considerable interest. A growing number of studies have explored the psycho-social correlates of purpose in life and its ability to predict a range of key individual differences. Three main strands of empirical research exist within this area. The first strand of research has focussed on the association between purpose in life and psychopathology, as reviewed by Yalom (1980). For example, empirical studies exploring levels of perceived purpose in life across different groups have demonstrated that lower levels of purpose in life are more likely to be observed among drug addicts than among non-drug addicts (Coleman, Kaplan, & Downing, 1986), among alcoholics than among non-alcoholics (Schlesinger, Susman, & Koenigsberg, 1990), and among persons living with HIV (Bechtel, 1994; Lyon & Younger, 2001). Empirical studies exploring the relationship between purpose in life and a range of other psychological constructs have demonstrated that lower levels of purpose in life are significantly associated with higher levels of fear and anxiety (concerning the possibilities of nuclear war) (Newcomb, 1986), higher levels of suicidal ideation (Lester & Badro, 1992; Edwards & Holden, 2001), higher levels of death anxiety (Rappaport, Fossler, Bross, & Gilden, 1993), higher levels of general anxiety and depression (Bigler, Neimeyer, & Brown, 2001), and higher levels of fear of death and death avoidance (Ardelt, 2003, 2008). Other empirical studies within this tradition have demonstrated that: perceived loss of control and meaningless in life mediate the relationship between uncontrollable stress and substance use (Newcomb & Harlow, 1986), and that meaningless in life mediates the relationship

between depression and self-derogation and subsequent drug use among women, and suicidal ideation among men (Harlow, Newcomb, & Bentler, 1986).

The second strand of research has focussed on the association between purpose in life and positive psychology. For example, empirical studies have demonstrated that purpose in life acts as a significant predictor of psychological well-being (Zika & Chamberlain, 1987), positive affect and life satisfaction (Chamberlain & Zika, 1988), positive self-image (Shek, 1992), recovery from alcoholism (Carroll, 1993; Waisberg & Porter, 1994), self-esteem, balanced affect, cognitive well-being and better health (Coward, 1996), greater happiness (Lewis, Lanigan, Joseph, & de Fockert, 1997), and both mature defence mechanisms and mature coping strategies (Whitty, 2003). Other empirical studies within this tradition have demonstrated that purpose in life is associated with measures of life satisfaction, happiness, positive affectivity, self-acceptance, existential well-being, self-esteem and environmental mastery (Compton, 2001).

The third strand of research has focussed on the association between purpose in life and social attitudes (Pearson & Sheffield, 1975). Two empirical studies of particular relevance have been conducted among populations of young people. For example, the first study, reported by Shek, Ma, and Cheung (1994), found that perceived purpose in life among young people aged between 11 and 19 is negatively associated with antisocial behaviours, relating to: cognitive and academic performance (such as playing truant), psychosexual activities (such as reading pornographic magazines), antisocial acts in school (such as acts against teachers and schools), antisocial acts in the family (such as disobeying parental commands), antisocial acts in general (such as gambling), and aggression (such as bad language). Purpose in life among young people was found to be positively associated with

prosocial behaviours, relating to: normative acts, such as apologising; and altruistic acts, such as helping behaviours. In a second study Francis and Robbins (2006), similarly found that perceived purpose in life among young people aged between 13 and 15 is a significant predictor of prosocial attitudes. Findings demonstrated that a greater sense of purpose in life was associated with a more positive attitude toward school, a more positive attitude toward law and order, and a more proscriptive attitude toward substance use.

### **Religion and purpose in life**

Within the fields of theology and the psychology of religion, the construct purpose in life has also gained considerable recognition. A growing number of studies have explored the relationship between purpose in life and religiosity. As Francis (2000b) highlights:

Following the pioneering work of Tillich (1952) purpose in life is understood to be central to the very essence of religion. Substantive analyses of religion point to the beliefs, teaching and rituals which explicitly address the fundamental questions concerning the meaning and purpose of life.

Functional analyses of religion point to the meaning-making process as central to the *raison d'être* of religious and para-religious systems. (p. 28)

On this basis, Francis (2000b) maintains that there are clear grounds for hypothesizing a positive relationship between purpose in life and religiosity.

The majority of empirical research concerned with testing the connection between religiosity and purpose in life has been shaped by use of the Purpose in Life Test (PIL: Crumbaugh, 1968; Crumbaugh & Maholick, 1969) alongside a range of different conceptualisations and operationalisations of religiosity. For example, empirical studies which have explored the relationship between purpose in life and religious

orientation have found a positive association between purpose in life and intrinsic religiosity among populations of undergraduate students, as reported by Crandall and Rasmussen (1975), Bolt (1975), Soderstrom and Wright (1977), and among general adult populations, as reported by Paloutzian, Jackson, and Crandall (1978), Chamberlain and Zika (1988), Dezutter, Soenens, and Hutsebaut (2006), Bryd, Hageman, and Isle (2007). Utilising an alternative measure of purpose in life, the Purpose in Life Scale (PILS: Robbins & Francis, 2000), Francis, Jewell, and Robbins (2010) also reported a positive association between purpose in life and intrinsic religiosity among older-adults. The association between higher levels of perceived purpose in life and intrinsic religiosity represents the most consistent finding reported by empirical studies exploring the relationship between purpose in life and religiosity.

A positive association between purpose in life, assessed by the Purpose in Life Test, and religiosity has also been reported by a number of empirical studies employing different conceptualisations of religiosity, including measures of: general religiosity (Gladding, Lewis, & Adkins, 1981), church attendance (Jackson & Coursey, 1988), prayer experience (Richards, 1991), affiliation to religiously orientated groups (Stones & Philbrick, 1980; Stones, 1981), conservative religious belief (Dufton & Perlman, 1986), and attitude toward religion (French & Joseph, 1999; Janssen, Banziger, Dezutter, & Hutsebaut, 2005; Halama, Martos, Adamovova, 2010; Martos, Thege, & Steger, 2010). A positive association between purpose in life, assessed by the Purpose in Life Test, has similarly been reported among a number of empirical studies employing different conceptualisations of spirituality, including measures of: spiritual well-being (Paloutzian & Ellison, 1982), spiritual practices (Carroll, 1993), spiritual satisfaction (Gerwood, LeBlanc, &

Piazza, 1998), spiritual transcendence (Piedmont & Leach, 2002), spiritual involvement and beliefs (Litwinczuk & Groh, 2007), and faith maturity (Dy-Liacco et. al., 2009). Other empirical studies within this tradition have demonstrated that religious commitment moderates the relationship between positive affect and purpose in life (Hicks & King, 2008).

However, some empirical studies exploring the association between purpose in life, assessed by the Purpose in Life Test, and religiosity have reported a different pattern of results. For example, Lewis, Lanigan, Joseph, and de Fockert (1997) found no relationship between purpose in life and attitude toward religion. Similarly, Gerwood, LeBlanc, and Piazza (1998) reported no significant relationship between purpose in life and religious affiliation as either Catholic or Protestant. Bechtel (1994) reported a significant negative relationship between purpose in life and active membership of a religious organisation. Thus, while the majority of empirical studies report a positive association between purpose in life and religiosity, some question may be raised regarding the consistency and generalisability of this finding.

### **Young people, religion and purpose in life**

The majority of empirical research concerned with the connection between religion and purpose in life has been conducted among undergraduate students and adult populations. Less is known, however, about the pattern of relationship among populations of young people. A series of five key studies addressing this issue, starting with Francis and Burton (1994) and Francis and Evans (1996), began to explore the association between purpose in life and religiosity among young people, using a single-item measure of purpose in life. This research tradition has routinely included the item 'I believe my life has a sense of purpose' in a number of independent but interrelated cross-sectional surveys among young people, alongside

various measures of religiosity over a twenty-year research period. The single-item measure is assessed on a five-point Likert-type scale with responses ranging from agree strongly, agree, and not certain, through to disagree, and disagree strongly. The consistent use of this item over the research period as enabled comparative empirical research to develop concerning the association between several different dimensions of religiosity and perceived purpose in life among young people.

At present, the focus of this research tradition has been concerned with the relationship between frequency of personal prayer and perceived purpose in life among young people. In a first study, Francis and Burton (1994) report data from 674 12- to 16-year-old students attending Catholic schools who completed the single-item measure of purpose in life alongside measures of frequency of personal prayer and frequency of church attendance. Findings demonstrated that higher levels of personal prayer were significantly associated with a higher sense of perceived purpose in life among young people ( $r = .20, p < .001$ ). The positive association between purpose in life and personal prayer remained consistent even after controlling for the influence of church attendance. This study also found that personal prayer was a stronger predictor of purpose in life among young people than church attendance. This finding was replicated in a second study reported by Francis and Evans (1996) among two samples of 13- to 15-year-old students who completed the same measures. Recognising the confounding influence church attendance may have had on the relationship between personal prayer and purpose in life, Francis and Evans (1996) analysed two discrete subsets of data. The first comprised 914 males and 726 females who never attended church. The second comprised 232 males and 437 females who attended church most weeks. Findings demonstrated a significant positive association between frequency of prayer and purpose in life both among

students who attended church most weeks ( $r = .31, p < .001$ ) and among students who never attended church ( $r = .16, p < .001$ ).

Replicating these initial studies within the context of Northern Ireland, a third study, reported by Robbins and Francis (2005), explored the relationship between purpose in life and personal prayer among 1,206 students attending Catholic schools and 1,464 students attending Protestant schools aged between 13 and 15. This study, unlike those reported by Francis and Burton (1994) and Francis and Evans (1996), included measures of Eysenck's dimensional model of personality to gain further understanding of how personality may impact on the relationship between personal prayer and purpose in life. Initial analyses demonstrated a positive relationship between personal prayer and purpose in life both among Catholic students ( $r = .15, p < .001$ ) and Protestant students ( $r = .23, p < .001$ ). The data also demonstrated that personality significantly predicts individual differences in purpose in life, where higher levels of perceived purpose in life were associated with higher extraversion scores and both lower neuroticism and psychoticism scores. Further analyses of the data demonstrated that the positive association between purpose in life and personal prayer remained for both groups of young people even after the influence of age, sex, church attendance, and personality had been taken into account.

This finding was replicated in a fourth study, reported by Francis (2005b), among two samples of 13- to 15-year-old students in the UK, the first comprising 7,083 males and 5,634 females who never attended church, and the second comprising 1,738 males and 2,006 females who attended church nearly every week. The data demonstrated a significant positive relationship between frequency of personal prayer and perceived purpose in life among both the churchgoers ( $r = .28, p < .001$ ) and the non-churchgoers ( $r = .11, p < .01$ ). The data also demonstrated a



significant positive correlation between purpose in life and extraversion, and a significant negative correlation between purpose in life and both neuroticism and psychoticism. Further analyses demonstrated, once again, that after the influence of age, sex, church attendance and personality had been taken into account the positive association between purpose in life and personal prayer remained.

Exploring the relationship between a different dimension of religiosity and purpose in life among young people, Francis (2000b) reports on data from a fifth study conducted among 25,888 13- to 15-year-old students which examined the connection between frequency of bible reading and purpose in life. Findings of analyses which controlled for the influence of sex, age, personality, belief in God and church attendance demonstrated that bible reading has a small ( $r^2 = .001$ ) but statistically ( $p < .001$ ) significant impact on predicting greater levels of purpose in life among young people. However, higher levels of perceived purpose in life were more likely to be associated with young people who believe in God, attend church, *and* read the bible. This finding highlights the significant intercorrelation between the three religious variables measured in the study: belief in God, church, attendance and bible reading.

Taken together, the findings of these five key studies provide firm evidence to support the view that religiosity is associated with a higher sense of perceived purpose in life among young people. However, while these studies provide clear insight into the relationship between purpose in life and prayer, in particular, further empirical research is required to gain a clearer understanding of the association between purpose in life and other dimensions of religiosity among young people. Against this background, the aim of this chapter is to present findings from the first empirical study to examine the relationship between affective religiosity (assessed by

the Francis Scale of Attitude toward Christianity) and purpose in life, assessed by the same single-item measure ('I believe my life has a sense of purpose') among the sample of young people included within the Young People's Values Survey dataset.

### **Effects of personality, sex, age and religious variables**

Empirical research which seeks to provide an accurate picture of the relationship between purpose in life and attitude toward religion needs to be aware of the potentially contaminating influence of other variables. This chapter attempts to address this methodological problem by identifying and controlling for factors which may impact on the association between purpose in life and attitude toward Christianity in the statistical analyses to follow. The first factor considered is the potentially contaminating influence of personality. A number of recent studies have demonstrated, for example, that Eysenck's dimensional model of personality (Eysenck & Eysenck, 1991) is a significant predictor of individual differences in religiosity, including studies among school students (Francis & Wilcox, 1994, 1996b; Smith, 1996), undergraduate students (Maltby, 1995; Lewis & Maltby, 1996; Francis, 1997c), school teachers (Francis & Johnson, 1999), senior citizens (Francis & Bolger, 1997), and general adult populations (Kaldor, Francis, & Fisher, 2002). Particularly relevant are the findings of empirical studies which demonstrate that Eysenck's dimensional model of personality is a significant predictor of individual differences in affective religiosity, assessed by the Francis Scale of Attitude toward Christianity, among samples of school-aged students, including 8- to 11-year-old students (Robbins, Francis, & Gibbs, 1995), 11-year-old students (Francis, Lankshear, & Pearson, 1989), 12- to 16-year-old students (Francis & Montgomery, 1992), 15- to 16-year-old students (Francis & Pearson, 1988b), and 16- to 18-year-old students (Wilcox & Francis, 1997a; Francis & Fearn, 1999). Another set of

recent studies have also demonstrated that Eysenck's dimensional model of personality is able to predict individual differences over a range of areas concerned with subjective well-being in general, including happiness (Francis, 1999b; Francis, Brown, Lester, & Philipchalk, 1998; Hills & Argyle, 2001), and with purpose in life in particular (Pearson & Sheffield, 1974, 1989; Addad, 1987; Moomal, 1999; Francis, 2000b; Robbins & Francis, 2000; Francis & Kaldor, 2001; Francis, Jewell, & Robbins, 2010). This chapter addresses this issue by drawing on a database which includes reliable measures of Eysenck's dimensional model of personality. After exploring the relationship between affective religiosity, purpose in life and personality in statistical analyses, the present study will control for the influence of personality on the relationship between purpose in life and affective religiosity.

The second factor considered is the potentially contaminating influence of age. Empirical studies have demonstrated that age is a significant predictor of individual differences in affective religiosity, assessed by the Francis Scale of Attitude toward Christianity, including studies which span an age range from early-childhood through to late-adult-life (Kay & Francis, 1996). Empirical studies concerned with purpose in life in particular have demonstrated that young adults experience higher levels of perceived purpose in life than older adults (Francis, Jewell, & Robbins, 2010). However, the consensus established by empirical studies conducted among young people have demonstrated that age is generally unrelated to purpose in life (Francis & Burton, 1994; Francis, 2000b, 2005b; Robbins & Francis, 2005). This chapter addresses the uncertainty surrounding this issue by controlling for the influence that age may, or may not have on the relationship between purpose in life and affective religiosity.

The third factor considered is the potentially contaminating influence of sex. Empirical research within in the psychology of religion consistently demonstrates that sex is a significant predictor of individual differences in religiosity, with females routinely scoring higher on indices of religion than males in Christian or post-Christian contexts (Francis & Penny, 2013). Females are also consistently shown to record higher scores on the Francis Scale of Attitude toward Christianity than males (Kay & Francis, 1996). Empirical studies concerned with purpose in life in particular have demonstrated that sex functions as a significant predictor of purpose life among adults (Pearson & Sheffield, 1974, 1975; Nygren et al., 2005). Francis, Jewell, & Robbins (2010), for example, found that men experience higher levels of purpose in life than women. The consensus established by studies conducted among young people is that sex is generally unrelated to purpose in life (Francis & Burton, 1994; Francis, 2000b, 2005b; Robbins & Francis, 2005). However, a study reported by Shek (1986) found that sex does function as a significant predictor of purpose in life among school-aged students. While Penny, Francis, & Robbins (under review) and the findings of the previous chapter have demonstrated that sex differences in religiosity can be accounted for by individual differences in personality, these findings are in need of replication to be considered generalisable. This chapter addresses the uncertainty surrounding this issue by controlling for the influence that sex may, or may not have on the relationship between purpose in life and affective religiosity.

One further issue to consider is the role that other religious variables, such as personal prayer and church attendance, may play in the relationship between purpose in life and attitude toward Christianity. For example, empirical studies have demonstrated that frequency of personal prayer, in particular, constitutes a strong

predictor of perceived purpose in life among young people (Francis & Burton, 1994; Francis & Evans, 1996; Francis, 2000b, 2005b; Robbins & Francis, 2005). A study reported by Francis and Kaldor (2001) also found significant positive correlations between purpose in life and three measures of religiosity (personal prayer, belief in God and church attendance). However, these empirical studies exploring the connection between purpose in life and several different dimensions of religiosity did not include measures of affective religiosity. On the basis of a scientific assessment of the multiple-dimensions of religion, Francis (2009a, 2009b) argues that the attitudinal dimension of religiosity forms the most secure basis for comparative empirical research in religion (see, chapter two within the present thesis). As an affective construct, the measurement of attitude toward religion assesses how an individual feels about religion. It is possible, then, through the empirical investigation of attitudes to access the heart of what religion really means in the lives of individuals. Given this position, there are reasonable grounds to predict that attitude toward religion (assessed by the Francis Scale of Attitude toward Christianity) will function as a stronger predictor of perceived purpose in life among young people than other dimensions of religiosity, such as frequency of personal prayer and frequency of church attendance. This chapter will examine the empirical validity of this argument by means of statistical analyses in two steps. The first step will examine the power of attitude toward Christianity to predict purpose in life scores after sex, age and personality have been taken into account. The second step will examine whether personal prayer and church attendance add any additional influence to the prediction of purpose in life scores after sex, age, personality and attitude toward Christianity have been taken into account.

## **Aims**

The aim of this chapter is to explore the relationship between purpose in life and attitude toward Christianity among the sample of students included in the Young People's Values Survey dataset. The analyses will test three hypotheses. The first hypothesis is that there is a positive association between purpose in life and attitude toward Christianity, and that attitude toward Christianity functions as a significant predictor of purpose in life. The second hypothesis is that attitude toward Christianity is a stronger predictor of purpose in life than personal prayer and church attendance. The third hypothesis is that personality functions as a significant predictor of purpose in life.

## **Method**

### **Sample**

A sample of 5,199 students aged between 13 and 15 attending secondary schools in England and Wales completed the Young People's Values Survey which included the Francis Scale of Attitude toward Christianity, a measure of purpose in life, measures of personal prayer and church attendance, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). The sample comprised 2,449 males (47%), and 2,750 females (53%). Within this sample, 2,725 were year-nine students (52%) and 2,474 were year-ten students (48%). Within this sample, 3,793 were attending community schools (73%), 655 were attending voluntary Anglican schools (13%), 426 were attending voluntary Catholic schools (8%), and 325 were attending independent schools (6%).

### **Procedure**

Participating schools were asked to follow a standard procedure. The questionnaires were administered in normal class groups to all year-nine and year-

ten students throughout the school. Students were asked not to write their name on the booklet and to complete the inventory under examination-like conditions. They were assured of confidentiality and anonymity. They were informed that their responses would not be read by anyone in the school, and that the questionnaires would be dispatched to the research centre for analysis. Although students were given the choice not to participate very few decided not to take part in the survey.

### **Measures**

In addition to basic information about sex and school year, the present analysis draws on the following measures included in the questionnaire.

*Religiosity* was assessed by the short form of the Francis Scale of Attitude toward Christianity (Francis, Greer, & Gibson, 1991). This is a 7-item Likert-type instrument employing a five-point response scale: agree strongly, agree, not certain, disagree, and disagree strongly. The individual items assess the respondents' affective response to five key components of the Christian faith including: God, Jesus, Bible, church and prayer.

*Purpose in life* was assessed by the item, 'I feel my life has a sense of purpose' rated on a 5-point Likert-type scale: agree strongly, agree, not certain, disagree, and disagree strongly.

*Personal prayer* was assessed by the item, 'Do you pray by yourself?' rated on a 5-point scale: never, occasionally, at least once a month, at least once a week, and nearly every day.

*Church attendance* was assessed by the item, 'How often do you attend a place of religious worship? (e.g., church, mosque, temple)' rated on a 5-point scale: never, at least once or twice a year, at least six times a year, at least once a month, and nearly every week.

*Personality* was assessed by the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). This is a 24-item instrument which proposes four six-item measures of extraversion, neuroticism, psychoticism and a lie scale. Each item is assessed on a dichotomous scale: yes and no.

### **Data analysis**

The data were analysed by SPSS statistical package using the frequency, reliability, correlation, and multiple-regression functions. Stepwise multiple-regression was employed to control for individual differences in sex, age and personality before testing for the influence of attitude toward Christianity on purpose in life scores. Measures of personal prayer and church attendance were then added to the regression model to explore whether they added any additional influence to the prediction of purpose in life scores after attitude toward Christianity had been taken into account.

### **Results**

Table 7.1 presents the levels of perceived purpose in life reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 17.1% of students agree strongly with the view that their life has a sense of purpose, 39.3% of students agree that their life has a sense of purpose, 30.5% of students are not certain whether their life has a sense of purpose, 7.1% of students disagree that their life has a sense of purpose, and 6.0% disagree strongly with the view that their life has a sense of purpose.

Table 7.2 presents the frequency of personal prayer reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 6.5% of students report that they pray by themselves nearly every day, 3.1% of



students report that they pray by themselves at least once a week, 1.8% of students report that they pray by themselves at least once a month, 20.6% of students report that they pray by themselves occasionally, and 68.0% of students report that they never pray by themselves.

Table 7.3 presents the frequency of church attendance reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 4.0% of students report that they attend a place of religious worship nearly every week, 5.5% of students report that they attend a place of religious worship at least once a month, 4.5% of students report that they attend a place of religious worship at least six times a year, 29.8% of students report that they attend a place of religious worship at least once or twice a year, and 56.2% of students report that they never attend a place of religious worship.

Table 7.4 presents the scale properties of the Francis Scale of Attitude toward Christianity, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire. In terms of the alpha coefficient (Cronbach, 1951) as an index of internal consistency reliability the measures of attitude toward Christianity, extraversion, and neuroticism all exceed DeVellis' (2003) recommended threshold of 0.65. While the psychoticism scale displays an alpha coefficient of .60, this is high given the historic difficulties typically encountered by the psychoticism scales in general (Francis, Philipchalk, & Brown, 1991). The lie scale displays the lowest alpha coefficient of .54, which is in line with previous research findings (Francis, 1996).

Table 7.5 presents the correlation coefficients between purpose in life, sex, age, extraversion, neuroticism, psychoticism, the lie scale, attitude toward Christianity, personal prayer and church attendance. Given the size of the sample,

the probability level has been set at 1%. Five main features of this correlation matrix require comment. First, these data demonstrate that while sex is unrelated to purpose in life, it is a significant predictor of extraversion, neuroticism, psychoticism, lie-scale scores, attitude toward Christianity, personal prayer and church attendance: female's record higher scores on extraversion, neuroticism, the lie scale, attitude toward Christianity, frequency of personal prayer and frequency of church attendance, while males record higher psychoticism scores. Second, these data demonstrate that while age is unrelated to purpose in life, it is a significant predictor of neuroticism, psychoticism, lie-scale scores, attitude toward Christianity, and church attendance: while year-ten students record higher scores on neuroticism and psychoticism, year-nine students record higher scores on the lie scale, attitude toward Christianity, and frequency of church attendance. Third, the pattern of correlations between personality and religiosity demonstrate that all three dimensions of Eysenck's personality model as well as the lie scale are significant predictors of attitude toward Christianity: while a significant positive correlation is observed between attitude toward Christianity, lie-scale scores and neuroticism, a significant negative correlation also exists between attitude toward Christianity and psychoticism and extraversion. Fourth, purpose in life scores are significantly associated with personality scores: higher scores on purpose in life are recorded by extraverts, those who record higher scores on the lie scale, and by those who record lower scores on the psychoticism and neuroticism scales. Fifth, the pattern of correlations between religiosity and purpose in life demonstrate that religiosity functions as a significant predictor of purpose in life: higher scores on the attitude toward Christianity scale, higher levels of personal prayer, and higher levels of church attendance are associated with a higher purpose in life scores.

Table 7.6 presents the partial correlation coefficients between purpose in life, age, extraversion, neuroticism, psychoticism, the lie scale, attitude toward Christianity, personal prayer and church attendance. These data demonstrate that controlling for sex differences does not change the basic pattern of correlations identified in table 7.5, with the exception of the negative association between age and church attendance which emerges as no longer significant.

In view of the complex pattern of relationships between sex, age, personality, attitude toward Christianity, personal prayer and church attendance, table 7.7 presents the multiple regression model in which purpose in life stands as the dependent variable and in which the predictor variables were entered in this fixed order: sex, age, extraversion, neuroticism, psychoticism, lie scale, attitude toward Christianity, personal prayer, and church attendance. These data demonstrate that: after controlling for the influence of age, sex, and personality, attitude toward Christianity emerges as a strong predictor of purpose in life scores, and that after the influence of attitude toward Christianity has been taken into account, neither personal prayer nor church attendance contribute any additional predictive power to purpose in life scores. These data also demonstrate that psychoticism followed by neuroticism and extraversion emerge as strong predictors of purpose in life scores.

### **Discussion**

This chapter set out to examine and to clarify the relationship between purpose in life and attitude toward Christianity among a sample of 13- to 15-year-old young people. The findings of this chapter build on five key studies, reported by Francis and Burton (1994), Francis and Evans (1996), Francis (2000b, 2005b), and Robbins and Francis (2005), which all utilise the same single-item measure of purpose in life alongside different measures of religiosity among samples of young

people. In exploring the relationship between perceived purpose in life and attitude toward Christianity, care has been taken to control for the potentially contaminating influences of sex, age, and individual differences in personality. Four main conclusions emerge from these data.

The first conclusion concerns attitude toward Christianity as a significant predictor of perceived purpose in life among young people. These data support the first hypotheses of this study that there is a positive relationship between purpose in life and attitude toward religion. Young people who record higher scores on the Francis Scale of Attitude toward Christianity report higher levels of perceived purpose in life. This is supported by empirical studies which also report a positive correlation between perceived purpose in life and different measures of religiosity among young people (Francis & Burton, 1994; Francis & Evans, 1996; Francis, 2000b, 2005b; Robbins & Francis, 2005), as well as among adults (Francis & Kaldor, 2001; Francis, Jewell, & Robbins, 2010). If sense of purpose in life is important for satisfactory personal and social development during adolescence (Francis & Evans, 1996), these data would suggest that religion makes a positive rather than a negative contribution to adolescent development.

The second conclusion concerns attitude toward Christianity as a stronger predictor of perceived purpose in life among young people than other dimensions of religiosity. These data support the second hypotheses of this study that attitude toward Christianity functions as a stronger predictor of perceived purpose in life than personal prayer and church attendance. Initial analyses demonstrate a positive correlation between purpose in life and all three measures of religiosity: attitude toward Christianity, personal prayer, and church attendance. However, further analyses, controlling for the impact of attitude toward Christianity scores by means

of multiple-regression, demonstrate that personal prayer and church attendance contribute no further influence to the prediction of perceived purpose in life among young people. This supports Francis' (2009a, 2009b) argument that the affective dimension of religiosity represents the most secure basis for empirical research in religion because it gets closest to the heart of what religion really means in the lives individuals. While previous empirical studies have demonstrated that personal prayer, in particular, functions as a significant predictor of purpose in life among young people (Francis & Burton, 1994; Francis & Evans, 1996, Francis, 2005b; Robbins & Francis, 2005) these studies have not included measures of attitude toward religion. The findings of this chapter recommend that future empirical research exploring the correlation between purpose in life and religiosity include reliable measures of attitude toward religion alongside other measures of religiosity to examine whether this pattern of relationship remains consistent.

The third conclusion concerns personality as a significant predictor of perceived purpose in life. These data support the third hypotheses of this study that personality constitutes a significant predictor of perceived purpose in life among young people. Within Eysenck's dimensional model of personality higher levels of purpose in life are associated with high extraversion and high lie-scale scores (typically interpreted as an indicator of social conformity), as well as low neuroticism and low psychoticism scores. This finding is supported by empirical studies which have explored the patterns of relationship between Eysenck's dimensional model of personality and purpose in life among young people (Francis, 2000b, 2005b; Robbins & Francis, 2005) and adults (Francis, Jewell, & Robbins, 2010). The implications of this finding highlight that future empirical research

exploring the correlation between purpose in life and other variables would be wise to control for the impact of individual differences in personality.

The fourth conclusion concerns the association between purpose in life, age and sex. These data demonstrate that purpose in life is unrelated to age and sex among this group of young people. This is consistent with the findings of previous empirical studies exploring the connection between purpose in life and religiosity among young people (Francis & Burton, 1994; Francis, 2000b, 2005b; Robbins & Francis, 2005). However, some empirical studies have demonstrated that purpose in life is associated with age and sex among older-adult populations (Francis, Jewell, & Robbins, 2010). Other empirical studies have also reported a connection between sex and purpose in life among other age-groups, including studies among the oldest-old (Nygren et al., 2005), mid-life adults (Pearson & Sheffield, 1974, 1975), and secondary-school students (Shek, 1986). The ambiguous nature of results regarding the influence of age and sex on purpose in life highlights that future empirical studies exploring the correlation between purpose in life and other variables would be wise to control for the influence that age and sex may, or may not have on this relationship.

### **Conclusion**

The present chapter has examined the contribution of attitude toward Christianity in predicting purpose in life among 13- to 15-year-old students. The data have demonstrated a clear link between higher attitude toward Christianity scores and higher levels of perceived purpose in life among young people. Moreover, the data have also indicated that attitude toward Christianity makes a very significant contribution to promoting a sense of purpose in life among young people of this age group, while personal prayer and church attendance make no significant contribution

to promoting purpose in life after the influence of attitude toward Christianity has been taken into account.

Replication studies are required to extend this analysis among similar and larger samples of young people, as well as among samples of adults to explore whether this pattern of relationship remains consistent. Future empirical research would also benefit from addressing two significant methodological limitations within the present study. The first limitation concerns the relatively crude way in which purpose in life was measured in the present study by a single item measure. Future empirical research may benefit from including a more sophisticated index of purpose in life such as the Purpose in Life Scale (PILS: Robbins & Francis, 2000). The second limitation highlights how the present study is grounded within the Christian tradition. Future empirical research may benefit from including measures of alternative faith-traditions (e.g., the Sahin-Francis Scale of Attitude toward Islam, the Katz-Francis Scale of Attitude toward Judaism, Santosh-Francis Scale of Attitude toward Hinduism, Williams Scale of Attitude toward Paganism and the Astley-Francis Scale of Attitude toward Theistic Faith) to examine whether this pattern of relationship exists within different religious contexts.

## **CHAPTER EIGHT**

### **ATTITUDE TOWARD CHRISTIANITY AND SUICIDAL IDEATION**

**Summary**

**Introduction**

**Suicidal ideation and religiosity**

**Suicidal ideation and personality**

**Suicidal ideation, religiosity and personality**

**Aims**

**Method**

**Sample**

**Procedure**

**Measures**

**Data analysis**

**Results**

**Findings**

**Conclusion**



## Summary

The previous chapter considered the relationship between attitudes toward Christianity and purpose in life. Chapter eight examines the relationship between young people's attitudes toward Christianity and suicidal ideation. The first part of this chapter reviews empirical literature that has focused on establishing the psychosocial correlates of suicidal ideation, exploring: the connection between suicidal ideation and religiosity (generally regarded as an inhibitor of suicidal thoughts), and the connection between suicidal ideation and personality. The second part of this chapter reports on the findings of statistical analyses designed to test the role of Eysenck's dimensional model of personality in shaping the association between affective religiosity and suicidal ideation (assessed by the single-item measure 'I have sometimes considered taking my own life') after the influence of personal variables (age and sex) have been taken into account. This analysis also tests the strength of other dimensions of religiosity (church attendance and frequency of prayer) to predict levels of suicidal ideation after controlling for the influence of attitude toward religion.

## **Introduction**

This chapter presents findings from the third of five separate analyses conducted on the Young People's Values Survey dataset designed to explore the correlates, antecedents and consequences of young people's attitudes toward Christianity during the first decade of the twenty-first century. This chapter focuses specifically on the connection between young people's attitudes toward Christianity and suicidal ideation. Suicidal behaviours have a very real presence in the lives of young people living in contemporary societies. One research tradition concerned with predicting individual differences in vulnerability to suicidal behaviour has focussed on suicidal ideation. Within this tradition, empirical studies have explored the association between religiosity and suicide ideation. Within this tradition, empirical studies have also explored the association between personality and suicidal ideation. Relatively few studies, however, have explored the role of personality in shaping the association between religiosity and suicide ideation. A series of studies, beginning with Lester and Francis (1993), started to examine the patterns of relationship between suicidal ideation, religiosity and Eysenck's dimensional model of personality among samples of undergraduate students and adults. The present chapter builds on this series of studies by examining the relationship suicide ideation, affective religiosity and personality among young people.

The first part of this chapter considers how empirical studies have conceptualised and measured the prevalence of suicidal ideation within individual lives. The second part of this chapter considers the body of empirical literature which has explored the connection between suicidal ideation and religiosity. The third part of this chapter considers the body of empirical literature which has explored the connection between suicidal ideation and personality. The fourth part of this chapter

considers in closer detail the series of studies, beginning with Lester and Francis (1993), which have explored the association between suicidal ideation, religiosity, and Eysenck's dimensional model of personality. The fifth part of this chapter discusses the findings of statistical analyses which examine the relationship between suicidal ideation, attitude toward Christianity and personality among young people. The sixth part of this chapter considers the implications of these findings for future empirical research concerned with the association between suicidal ideation and religiosity.

### **Assessing suicidal ideation**

Suicidal behaviour represents a continued matter of public concern within contemporary societies. The consultation document, *Preventing suicide in England: A cross-government outcomes strategy to save lives*, produced by the Department of Health (2012, 9-10) began with the following statement:

Suicide is a major issue for society. The number of people who take their own lives in England has reduced in recent years. But still, over 4,200 people took their own life in 2010. In England in 2008-10, the mortality rate from suicide was 12.2 deaths per 100,000 population for males and 3.7 deaths for females.

The last two decades have seen a significant increase in teenage suicides and attempted suicides, particularly among young men (Gunnell et al., 2003). While the upward trend of suicide among young men appears to have stabilised in the past few years, suicide remains one of the leading causes of death among adolescents and young people living in the UK (Gunnell & Ashby, 2004). In Britain, for example, Williams (1997) identified suicide to be the second most common cause of death among young people after motor-accidents. One research tradition which has been

particularly helpful in predicting individual differences in vulnerability to suicidal behaviour has focused on suicidal ideation. Empirical studies exploring the psychosocial correlates of suicidal ideation (or thoughts about suicide) have assessed this construct in a variety of different ways. For example, some empirical studies have employed multi-item measures of suicide ideation such as the Suicidal Ideation Questionnaire (Reynolds, 1988) or the Beck Scale for Suicide ideation (Beck & Steer, 1991). Suicidal ideation has also been measured according to frequency of suicidal thoughts. For example, ‘Have you experienced suicidal thoughts in the last week/month/year?’ (Fairweather, Anstey, Rodgers, & Butterworth, 2006; Yen et al., 2005; Rasic & Kisely, & Langille, 2011; Handley et al., 2012). Other empirical studies have assessed suicidal ideation according to a single-item measured on a Likert-type scale (Chatters, Taylor, Lincoln, Nguyen, & Joe, 2011; Franić et al., 2011; Stratta et al., 2012). The simple and straightforward single-item measure ‘I have sometimes considered taking my own life’ has been routinely included in a number of surveys among young people, as reported by Francis (1982a, 1982b, 1984, 2001a), by Francis and Kay (1995), and by Francis and Robbins (2005). The use of this item in a series of independent but inter-related cross-sectional surveys has helped to build up a clear picture of the prevalence of suicidal ideation in the lives of young people over a thirty-year-period of research. For example, in their study of 23,418 13- to 15-year-old young people living in urban areas, Francis and Robbins (2005) found that 27% of young people had sometimes considered taking their own life. Further analyses exploring levels of suicidal ideation among different groups of young people found significant differences according to: sex (24% males and 31% females), geography (26% in the south of England and 28% in the north), parental employment status (26% employed and 31% unemployed), family structure

(25% intact and 33% broken), type of school (28% non-denominational, 30% Anglican, 26% Catholic and 15% independent Christian), and religious affiliation (28% none, 26% Christian, 30% Muslim, 19% Jewish, 27% Hindu and 29% Sikh).

### **Suicide ideation and religiosity**

As Francis (2013b) highlights, there has been a long-established connection between suicidology and the study of the sociological and psychological functions of religion, informed by the pioneering work of Durkeim (1897). In general religion has been regarded as an inhibitor or antidote against suicidal ideation and suicidal behaviours. Empirical studies supporting this perspective have demonstrated that lower levels of suicidal ideation are associated with higher religiosity, across a number of different conceptualisations and operationalisations of religiosity. For example, a negative association between suicidal ideation and measures of self-rated religiosity has been reported by empirical studies conducted among young people (Ji, Perry, & Clarke-Pine, 2011) and among undergraduates and adults (Abdel-Khalek, & Lester, 2007; Simonson, 2008). A negative association between suicidal ideation and church attendance has been reported by empirical studies conducted among young people (Ali & Maharajh, 2005; Franić et al., 2011; Rasic, Kisely, & Langille, 2011; Nkansah-Amankra et al., 2012) and among undergraduates and adults (Robins & Fiske, 2009; Robinson, Bolton, Rasic, & Sareen, 2012). Some empirical studies have also suggested that religious affiliation functions as a significant predictor of suicidal ideation. For example, lower levels of suicidal ideation are reported among Jews than among Protestants (Loewenthal, MacLeod, Cook, Lee, & Goldblatt, 2003; Lizardi & Gearing, 2010), lower levels are reported among Muslims than among Christians and Hindus (Ineichen, 1998; Abdel-Khalek, 2004), and lower levels are reported among Catholics and Taoists than among Christians and Buddhists (Fang,

Lu, Liu, & Sun, 2011). Other empirical studies demonstrate that individuals religiously affiliated report lower levels of suicidal ideation than individuals of no religious affiliation (Yen et al., 2005). A negative association has also been reported by empirical studies exploring the relationship between suicidal ideation and collaborative-religious-coping among young people (Molock, Puri, Matlin, & Barksdale, 2006) and undergraduates (Marion & Range, 2003). A further group of studies have reported that lower levels of suicidal ideation are associated with higher levels of spirituality among young people (Ng, Ran, & Chan, 2010), and higher levels of spiritual well-being among undergraduates and adults (Taliaferro, Rienzo, Pigg, Miller, & Dodd, 2009).

This finding is supported by the body of empirical literature which has employed the construct suicidal ideation among clinical studies of individuals or groups subject to suicidal behaviour, such as those who have previously attempted suicide or are depressed by suicidal thoughts. This literature focuses mainly on the correlates of suicidal depression, however where measures of religiosity have been included an inverse relationship between suicidal ideation and religiosity has generally been reported. For example, lower levels of suicidal ideation have been associated with measures of religious affiliation (Schweitzer, Klayich, & MacClean, 1995; Dervic et al., 2004; Chan, Maniam, & Shamsul, 2011; Spencer, Ray, Pirl, & Prigerson, 2012), spirituality (Cooperman & Simoni, 2005), and spiritual well-being (McClain-Jacobson et al., 2004) in clinical studies conducted among adults.

However, other empirical studies exploring the connection between suicidal ideation and religiosity have found a different pattern of results. For example, some empirical studies have reported that higher levels of suicidal ideation are associated with certain measures of religiosity. Using a measure of self-rated religiosity, Lester

(2012) found that higher levels self-rated religiosity are associated with higher levels of suicidal ideation. Similarly, using a measure of general religiosity, Zhang and Jin (1996) found a positive association between religiosity and suicidal ideation among Chinese undergraduates, but a negative association between religiosity and suicidal ideation among American undergraduates. Using a measure of religious orientation, originally proposed by Allport and Ross (1967), Walker and Bishop (2005) found a positive association between intrinsic religiosity and suicidal ideation. Chatters, Taylor, Lincoln, Nguyen, and Joe (2011) found that negative interaction with church members is associated with higher levels of suicidal ideation. Stratta *et al* (2012) found that negative religious coping (expression of conflict, feelings of doubt, guilt and abandonment) is associated with higher levels of suicidal ideation. Other empirical studies have also reported a positive association between spirituality and suicidal ideation (La Fromboise, Medoff, Lee, & Harris, 2007; Lester, 2012).

A smaller number of empirical studies have found no association between suicidal ideation and church affiliation, church attendance and personal prayer (Hills & Francis, 2005), religious orientation (Fife et al., 2011), and religious affiliation (Hovey, 1999). Thus, while the weight of empirical evidence regarding the relationship between suicidal ideation and religiosity suggests a negative association, some question may be raised regarding the consistency and generalisability of this finding. The ambiguous nature of these findings may be linked to the wide range of measures employed to assess both religiosity and suicidal ideation among differing samples.

### **Suicidal ideation and personality**

Personality is an important determinant of suicidal behaviours and suicidal ideation. A recent meta-analysis of ninety empirical studies concerned with the

connection between suicidal behaviours, suicidal ideation and several different models of personality, conducted by Brezo, Paris, and Turecki (2006), revealed that the risk factors associated with both higher levels of suicidal behaviours and suicidal ideation are the personality traits of neuroticism, introversion, anxiety, aggression, impulsivity, suspiciousness, hopelessness, self-criticism, perfectionism, guilt, resentment and irritability. Among the protective factors of both suicide behaviours and suicidal ideation are the personality traits of resilience, hardiness, agreeableness and self-esteem stability.

The meta-analysis draws attention to the fact that the majority of empirical studies concerned with the connection of between suicidal ideation and personality have been shaped by the use of Eysenck's dimensional model of personality (Eysenck & Eysenck, 1991). As Brezo, Paris, and Turecki (2006) highlight, within this model, while neuroticism and psychoticism emerge as strong predictors of suicidal ideation, there is also some evidence to suggest a connection between suicidal ideation and extraversion. For example, higher levels of suicidal ideation have been associated with higher levels of both neuroticism and psychoticism by empirical studies conducted among undergraduates (Stewart, Donahey, Deary, & Ebmeier, 2008) and adults (Batterham & Christensen, 2012). Alongside the reported association between suicidal ideation, neuroticism and psychoticism, some empirical studies have found that higher levels of suicidal ideation are associated with lower levels of extraversion among undergraduates (Lester & Lindsey, 1987; Mehryar, Hekmat, & Khajavi, 1977) and adults (Kumar & Pradham, 2003; Singh & Joshi, 2008; Sarchiapone et al., 2009). This pattern of relationship has similarly been reported by clinical studies conducted among adults suffering from depression and



suicidal behaviours (Lolas, Gomez, & Suarez, 1991; Engstrom et al., 1997; Roy, 1998).

Within Eysenck's dimensional model of personality, there is some evidence to suggest that neuroticism functions as the strongest predictor of suicidal ideation. For example, longitudinal studies have demonstrated that higher levels of neuroticism in adolescence are significantly associated with higher levels of suicidal ideation and suicidal behaviours in early- to mid-adult-life (Fergusson, Woodward, & Horward, 2000; Fergusson, Beautrais, & Horwood, 2003), and that among adults, neuroticism functions as a strong predictor of suicidal ideation over a 12-month period (Handley et al., 2012). Clinical studies conducted among adults suffering from depression have demonstrated that neuroticism emerges as a strong predictor of suicidal ideation even after the influence of depression is taken into account (Farmer, Redman, Harris, Webb, & Mahmood, 2001; Fanous, Prescott, & Kendler, 2004; Heisel & Flett, 2004; Bowen, Baetz, Leuschen, & Kalynchuk, 2011). Other empirical studies, conducted among young people and adults have found an association between higher levels of suicidal ideation and Eysenck's impulsivity scale, most particularly with the sensation-seeking facet (Langhinrichsen-Rohling, Arata, Bowers, O'Brien, & Morgan, 2004; Giannetta et al., 2012).

However, not all empirical studies exploring the connection between suicidal ideation and Eysenck's dimensional model of personality have found significant results. For example, Fairweather, Anstey, Rodgers, and Butterworth (2006) report data from a study conducted among adults in Australia which demonstrated that personality was unrelated to suicidal ideation among those who had previously attempted suicide. Similarly, May, Klonsky, and Klein (2012) found that higher levels of neuroticism and psychoticism are associated with suicidal behaviours but

not suicidal ideation in a clinical study conducted among adults suffering from depression.

Empirical studies exploring the connection between the big five factor model of personality (Costa & McCrae, 1985) and suicidal ideation, have reported that higher levels of suicidal ideation are associated with higher levels of neuroticism, and lower levels of extraversion, agreeableness and conscientiousness among undergraduates (Kerby, 2003; Lam, Bond, Chen, & Wu, 2010) and adults (Cramer et al., 2012). Some empirical studies have also demonstrated that higher levels of suicidal ideation may be associated with lower levels of openness among undergraduates (Chioqueta & Stiles, 2005) and among adults suffering from clinical depression (Duberstein et al., 2000). Velting (1999) reported significant gender differences in the big five factor personality dimensions which predict levels of suicidal ideation among men and women. Suicidal ideation was found to be positively associated with neuroticism among women, and negatively associated with conscientiousness among men.

Empirical studies exploring the connection between Jung's (1971) model of psychological type and suicidal ideation have reported that higher levels of suicidal ideation are associated with the sensing and judging functions among undergraduates (Lester, 1989). Clinical studies conducted among adults suffering from affective disorders have also demonstrated that suicide ideators are more introverted and more perceiving (Janowsky, Morter, & Hong, 2002).

Empirical studies exploring the connection between suicidal ideation and a number of independent personality traits among undergraduate and adult populations have demonstrated that higher levels of suicidal ideation are associated with socially-prescribed perfectionism (Dean, Range, & Goggin, 1996), hopelessness (Hewitt,

Flett, & Weber, 1994), aggression (Miotto et al., 2003), cynicism (Nierenberg et al., 1996), identity-security (Berg, Hem, Lau, Loeb, & Ekeberg, 2003), and alienation (Stewart, Donahey, Deary, & Ebmeier, 2008). Clinical studies, conducted among young people suffering from depression and suicidal behaviours have similarly linked higher levels of suicidal ideation to state-trait anxiety (Goldston et al., 1996), aggression and impulsivity (Hull-Blanks, Kerr, & Kurpius, 2004), and hopelessness (Nock & Kazdin, 2002; Steer, Kumar, & Beck, 1993).

Taken together, the findings of these empirical studies indicate that personality functions as a strong predictor of suicidal ideation. The majority of empirical studies, however, have been conducted among undergraduate or adult populations. As Kirkaldy, Eysenck, and Siefen (2004) highlight, there is a serious lack of empirical research which focuses on the predictors of suicidal ideation among non-clinical samples of young people. Given the clear connection between suicide ideation and personality, and suicide ideation and religiosity, one helpful area of empirical research could be to examine the association between suicidal ideation, religiosity and personality among young people.

### **Suicidal ideation, religiosity and personality**

A series of four key studies, beginning with Lester and Francis (1993), started to explore the association between suicidal ideation, religiosity (conceptualised and operationalised in a variety of ways) and Eysenck's dimensional model of personality (Eysenck & Eysenck, 1991). Two key studies have employed this model among populations of undergraduate students. A first study conducted among 103 undergraduate students, reported by Lester and Francis (1993), explored whether religiosity is associated with prior and current suicidal ideation, and whether religiosity functions as a significant predictor of suicidality after personality has been

taken into account. Participants completed measures of prior and current suicidal ideation alongside the Francis Scale of Attitude toward Christianity, measures of personal prayer and church attendance, and the Eysenck Personality Questionnaire (Eysenck, Eysenck, & Barrett, 1985). Initial analyses, which combined attitude toward Christianity, personal prayer and church attendance to create one general measure of religiosity, demonstrated that religiosity was negatively associated with both prior suicidal ideation ( $r = -.21, p < .001$ ) and current suicidal ideation ( $r = -.18, p < .001$ ). The data also demonstrated that personality significantly predicts individual differences in suicidal ideation, where higher levels of both prior and current suicidal ideation were associated with higher neuroticism scores and lower extraversion scores. However, further analyses controlling for the influence of personality demonstrated that religiosity added no significant influence to the prediction of either prior or current suicidal ideation.

A second study conducted among 501 undergraduate students, reported by Hills and Francis (2005), employed the same personality measure alongside a 9-item scale of suicidal ideation, measures of personal prayer, church attendance, church affiliation and religious orientation assessed by the Revised Religious Life Inventory (RLI-R: Hills, Francis, & Robbins, 2005). Initial analyses explored mean differences in suicidal ideation with respect to personal prayer, church attendance and church affiliation. Results of independent t-tests failed to find any significant differences in suicidal ideation means across all three measures of religiosity. Further analyses, comparing the strength of religious orientation and personality to predict suicidal ideation found that: quest orientation is positively associated with suicidal ideation; quest orientation functions as a significant predictor of suicidal ideation among men, while intrinsic, extrinsic, and quest orientations are unrelated to suicidal ideation

among women; higher levels of suicidal ideation are associated with higher levels of neuroticism and psychoticism; neuroticism functions as the strongest predictor of suicidal ideation; and that personality is a stronger predictor of suicidal ideation than religiosity. Findings from these two studies suggest that religiosity functions as a weak predictor of suicidal ideation among undergraduates, while the connection between suicidal ideation and personality is substantial.

Two key studies have explored the connection between suicidal ideation, religiosity and personality among young people utilising the same single-item measure of suicidal ideation. The item 'I have sometimes considered taking my own life', assessed on a five-point Likert-type scale with responses ranging from agree strongly, agree, and not certain, through to disagree, and disagree strongly, was included in each study alongside measures of Eysenck's dimensional model of personality, and a range of different religiosity measures.

A first study, reported by Kay and Francis (2006), explored the relationship between suicidal ideation, church attendance, participation in team sports and personality among 33,135 13- to 15-year-old young people. The data demonstrated that lower levels of suicidal ideation are associated with higher frequency of church attendance ( $r = -.06, p < .001$ ), and that church attendance functions as a stronger predictor of suicidal ideation than team sport ( $r = -.02, p < .001$ ). This relationship remained constant even after the influence of personality had been taken into account. The data also demonstrated that higher levels suicidal ideation are associated with higher levels of neuroticism and psychoticism among young people. These findings were replicated in further analyses of the data among a subset of students included within the original sample who represented vulnerable young people (those who had been bereaved by the loss of at least one parent).

A second study, reported by Robbins and Francis (2009), explored the relationship between suicidal ideation, conventional religiosity, paranormal beliefs and personality among 3,095 13- to 15-year-old young people. In this study conventional religiosity was assessed by the Francis Scale of Attitude toward Christianity, and paranormal beliefs were assessed by the Williams Revised Index of Paranormal Belief. Initial analyses demonstrated that conventional religiosity is unrelated to suicidal ideation among young people, while paranormal beliefs are associated with higher levels of suicidal ideation among young people. The data also demonstrated that higher levels of suicidal ideation among young people were, again, associated with higher levels of neuroticism and psychoticism. Further analyses, however, which controlled for the influence of sex, age, and personality demonstrated that conventional religiosity emerges as negatively associated with suicidal ideation ( $r = -.05$ ), and has a small ( $F = 7.6$ ) but statistically significant (.001) influence on the prediction of suicidal ideation among young people.

Taken together, the findings of these four studies present a mixed view of the relationship between suicidal ideation, religiosity and personality. On the one hand, there is some evidence to suggest that religiosity is capable of functioning as a significant inhibitor of suicidal ideation even after the influence of personality has been taken into account (Kay & Francis, 2006; Robbins & Francis, 2009). On the other hand, there is evidence to suggest that personality functions as a stronger predictor of suicidal ideation than religiosity, and that once personality has been taken into account religiosity is unrelated to suicidal ideation (Lester & Francis, 1993; Hills & Francis, 2005). This demonstrates that further empirical research is required to gain a clearer and more consistent view of the association between suicidal ideation, religiosity and personality.

Against this background, the present chapter will explore the connection between suicidal ideation, attitude toward Christianity and Eysenck's dimensional model of personality among the young people included within the Young People's Values Survey dataset. Statistical analyses will proceed in five steps. The first step will examine the prevalence of suicidal ideation among young people in the UK within the first decade of the twenty-first century, by utilising responses to the same single-item of suicidal ideation employed by Kay and Francis (2006), and Robbins and Francis (2009). The second step will examine the influence of potential predictors of suicidal ideation among young people, such as age and sex. For example, while higher levels of suicidal behaviour are consistently observed among young men than among young women (Canetto, 1998; Gunnell et al., 2003), higher levels of suicidal ideation are consistently observed among teenage girls than among teenage boys (Wunderlich, Bronisch, Wittchen, & Carter, 2001; Hawton, Rodham, Evans, & Weatherhall, 2002; Kirkaldy & Siefen, 2003; Kirkaldy, Eysenck, & Siefen, 2004; Robbins & Francis, 2009; Ng, Ran, & Chan, 2010; Rasic & Kisely, & Langille, 2011). There is also some evidence to suggest that age is a significant predictor of suicidal ideation during teenage-years, where higher levels of suicidal ideation have been reported during the later years of adolescence (15 to 19 years) than during the early years of adolescence (12 to 14 years) (Guiao & Thompson, 2004; Nkansah-Amankra et al., 2012). Similarly, empirical studies conducted among 13- to 15-year-old young people in particular have demonstrated that 15 year-old students experience higher levels of suicidal ideation than 13 year-old students (Robbins & Francis, 2009; Francis, 2013b). If sex and age are found to function as significant predictors suicidal ideation care will be taken to control for their influence in the proceeding analyses. The third step will examine the connection

between suicidal ideation, religiosity assessed by the Francis Scale of Attitude toward Christianity, and personality assessed by Eysenck's dimensional model of personality. The fourth step will control for the influence of sex, age and personality to examine the relationship between suicidal ideation and attitude toward Christianity. The fifth step will examine the strength of other religious variables, personal prayer and church attendance, to account for suicidal ideation among young people after affective religiosity has been taken into account.

### **Aims**

The aim of this chapter is to explore the relationship between suicidal ideation, attitude toward Christianity, and personality among the sample of students included within the Young People's Values Survey dataset. The analyses will test four hypotheses. The first hypothesis is that there is a negative association between suicidal ideation and attitude toward Christianity, and that attitude toward Christianity functions as a significant predictor of suicidal ideation. The second hypothesis is that attitude toward Christianity is a stronger predictor of suicidal ideation than personal prayer and church attendance. The third hypothesis is that personality functions as a significant predictor of suicidal ideation. The fourth hypothesis is that attitude toward Christianity will continue to function as a significant predictor of suicidal ideation after the influence of personality has been taken into account.

### **Method**

#### **Sample**

A sample of 5,199 students aged between 13 and 15 attending secondary schools in England and Wales completed the Young People's Values Survey which included the Francis Scale of Attitude toward Christianity, a measure of suicidal



ideation, measures of personal prayer and church attendance, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). The sample comprised 2,449 males (47%), and 2,750 females (53%). Within this sample, 2,725 were year-nine students (52%) and 2,474 were year-ten students (48%). Within this sample, 3,793 were attending community schools (73%), 655 were attending voluntary Anglican schools (13%), 426 were attending voluntary Catholic schools (8%), and 325 were attending independent schools (6%).

### **Procedure**

Participating schools were asked to follow a standard procedure. The questionnaires were administered in normal class groups to all year-nine and year-ten students throughout the school. Students were asked not to write their name on the booklet and to complete the inventory under examination-like conditions. They were assured of confidentiality and anonymity. They were informed that their responses would not be read by anyone in the school, and that the questionnaires would be dispatched to the research centre for analysis. Although students were given the choice not to participate very few decided not to take part in the survey.

### **Measures**

In addition to basic information about sex and school year, the present analysis draws on the following measures included in the questionnaire.

*Religiosity* was assessed by the short form of the Francis Scale of Attitude toward Christianity (Francis, Greer, & Gibson, 1991). This is a 7-item Likert-type instrument employing a five-point response scale: agree strongly, agree, not certain, disagree, and disagree strongly. The individual items assess the respondents' affective response to five key components of the Christian faith including: God, Jesus, Bible, church and prayer.

*Suicidal ideation* was assessed by the item, 'I have sometimes considered taking my own life' rated on a 5-point Likert-type scale: agree strongly, agree, not certain, disagree, and disagree strongly.

*Personal prayer* was assessed by the item, 'Do you pray by yourself?' rated on a 5-point scale: never, occasionally, at least once a month, at least once a week, and nearly every day.

*Church attendance* was assessed by the item, 'How often do you attend a place of religious worship? (e.g., church, mosque, temple)' rated on a 5-point scale: never, at least once or twice a year, at least six times a year, at least once a month, and nearly every week.

*Personality* was assessed by the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). This is a 24-item instrument which proposes four six-item measures of extraversion, neuroticism, psychoticism and a lie scale. Each item is assessed on a dichotomous scale: yes and no.

### **Data analysis**

The data were analysed by SPSS statistical package using the frequency, reliability, correlation, and multiple-regression functions. Stepwise multiple-regression was employed to control for individual differences in sex, age and personality before testing for the influence of attitude toward Christianity on suicidal ideation. Measures of personal prayer and church attendance were then added to the regression model to explore whether they added any additional influence to the prediction of suicidal ideation after the influence of attitude toward Christianity had been taken into account.

## Results

Table 8.1 presents the levels of suicidal ideation reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 8.7% of students agree strongly with the view that they have experienced suicidal thoughts, 14.6% of students agree that they have experienced suicidal thoughts, 13.7% of students are not certain whether they have experienced suicidal thoughts, 13.4% of students disagree that they have experienced suicidal thoughts, and 49.6% of students disagree strongly with the view that they have experienced suicidal thoughts.

Table 8.2 presents the frequency of personal prayer reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 6.5% of students report that they pray by themselves nearly every day, 3.1% of students report that they pray by themselves at least once a week, 1.8% of students report that they pray by themselves at least once a month, 20.6% of students report that they pray by themselves occasionally, and 68.0% of students report that they never pray by themselves.

Table 8.3 presents the frequency of church attendance reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 4.0% of students report that they attend a place of religious worship nearly every week, 5.5% of students report that they attend a place of religious worship at least once a month, 4.5% of students report that they attend a place of religious worship at least six times a year, 29.8% of students report that they attend a place of religious worship at least once or twice a year, and 56.2% of students report that they never attend a place of religious worship.

Table 8.4 presents the scale properties of the Francis Scale of Attitude toward Christianity, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire. In terms of the alpha coefficient (Cronbach, 1951) as an index of internal consistency reliability the measures of attitude toward Christianity, extraversion, and neuroticism all exceed DeVellis' (2003) recommended threshold of 0.65. While the psychoticism scale displays an alpha coefficient of .60, this is high given the historic difficulties typically encountered by the psychoticism scales in general (Francis, Philipchalk, & Brown, 1991). The lie scale displays the lowest alpha coefficient of .54, which is in line with the findings of previous research findings (Francis, 1996).

Table 8.5 presents the correlation coefficients between suicidal ideation, sex, age, extraversion, neuroticism, psychoticism, the lie scale, attitude toward Christianity, personal prayer and church attendance. Given the size of the sample, the probability level has been set at 1%. Five main features of this correlation matrix require comment. First, these data demonstrate that sex is a significant predictor of suicidal ideation, extraversion, neuroticism, psychoticism, lie-scale scores, attitude toward Christianity, personal prayer and church attendance: females report higher levels of suicidal ideation and record higher scores on extraversion, neuroticism, the lie scale, attitude toward Christianity, frequency of personal prayer and frequency of church attendance, while males record higher psychoticism scores. Second, these data demonstrate that while age is unrelated to suicidal ideation, it is a significant predictor of neuroticism, psychoticism, lie-scale scores, attitude toward Christianity and church attendance: while year-ten students record higher scores on neuroticism and psychoticism, year-nine students record higher scores on the lie scale, attitude toward Christianity, and frequency of church attendance. Third, the pattern of

correlations between personality and religiosity demonstrate that all three dimensions of Eysenck's personality model as well as the lie scale are significant predictors of attitude toward Christianity: while a significant positive correlation exists between attitude toward Christianity, lie-scale scores and neuroticism, a significant negative correlation is observed between attitude toward Christianity and psychoticism and extraversion. Fourth, suicidal ideation is significantly associated with personality scores: higher levels of suicidal ideation are recorded by introverts and those who record lower scores on the lie scale, and by those who record higher scores on the neuroticism and psychoticism scales. Fifth, the pattern of correlations between religiosity and suicidal ideation demonstrate that religiosity functions as a weak indicator of suicidal thoughts: a small but statistically significant positive relationship exists between personal prayer and suicidal ideation, while attitude toward Christianity and church attendance are unrelated to suicidal ideation.

Table 8.6 presents the partial correlation coefficients between suicidal ideation, age, extraversion, neuroticism, psychoticism, the lie scale, attitude toward Christianity, personal prayer and church attendance controlling for sex. These data demonstrate that controlling for sex differences does not change the basic pattern of correlations identified in table 8.5, with the exception of two cases. The negative association between age and church attendance is no longer significant. Similarly, the positive association between personal prayer and suicidal ideation is also no longer significant.

In view of the complex pattern of relationships between suicidal ideation, sex, age, personality, attitude toward Christianity, personal prayer and church attendance, table 8.7 presents the multiple regression model in which suicidal ideation stands as the dependent variable and in which the predictor variables were

entered in this fixed order: sex, age, extraversion, neuroticism, psychoticism, lie scale, attitude toward Christianity, personal prayer, and church attendance. These data demonstrate that after controlling for the influence of age and sex, the personality dimensions of neuroticism and psychoticism emerge as the only significant predictors of suicidal ideation. After controlling for the influence of age, sex and personality these data also demonstrate that religiosity (attitude toward Christianity, personal prayer and church attendance) adds no further influence to the prediction of levels of suicidal ideation.

### **Discussion**

This chapter set out to examine and to clarify the relationship between suicidal ideation, attitude toward Christianity and personality among a sample of 13- to 15-year-old young people. The findings of this chapter build on four key studies, reported by Lester and Francis (1993), Hills and Francis (2005), Kay and Francis (2006) and Robbins and Francis (2009), which all utilise the same research model to examine the role of personality in shaping the relationship between suicidal ideation and religiosity. In exploring the association between suicidal ideation, attitude toward Christianity and personality, care has been taken to control for the potentially contaminating influences of sex and age. Five main conclusions emerge from these data.

The first conclusion concerns the association between suicidal ideation and attitude toward Christianity among young people. These data do not support the first hypotheses of this study that there is a negative relationship between suicidal ideation and attitude toward Christianity. Among this group of young people higher scores on the Francis Scale of Attitude toward Christianity are unrelated to levels of suicidal ideation. These data also do not support the second hypotheses of this study

that attitude toward Christianity functions as a stronger predictor of suicidal ideation among young people than other dimensions of religion. Neither attitude toward Christianity, church attendance nor personal prayer act as significant predictors of suicidal ideation. Religion among this group of young people does not act as an inhibitor of suicidal ideation. While there is some evidence support the view that suicidal ideation and religiosity are unrelated (Hovey, 1999; Hills & Francis, 2005; Fife et al., 2011), this study has not confirmed the generally found negative relationship between suicidal ideation and religiosity (Loewenthal, MacLeod, Cook, Lee, & Goldblatt, 2003; Ali & Maharajh, 2005; Kay & Francis, 2006; Abdel-Khalek, & Lester, 2007; Robbins & Francis, 2009; Franić et al., 2011; Francis, 2013b) and requires further investigation.

The second conclusion concerns personality as a significant predictor of suicidal ideation among young people. These data support the third hypotheses of this study that personality constitutes a significant predictor of suicidal ideation. Within Eysenck's dimensional model of personality higher levels of suicidal ideation are associated with higher neuroticism, psychoticism and lie-scale scores (typically interpreted as social conformity), and lower extraversion scores. This finding is supported by empirical studies which report the same patterns of relationship between suicidal ideation and the personality dimensions of neuroticism, psychoticism and extraversion within Eysenck's model (see, Brezo, Paris, & Turecki, 2006, for review). Further analyses of the data demonstrate that neuroticism functions as the strongest predictor of suicidal ideation among young people followed by psychoticism. This finding is supported by empirical studies which have reported that neuroticism functions as the strongest predictor of suicidal ideation (Fergusson, Woodward, & Horward, 2000; Fergusson, Beautrais, & Horwood, 2003;

Handley et al., 2012). According to Eysenck's dimensional model, neurotic and psychotic disorders are continuous with normal personality. The findings of this study highlight, then, that young people with poorer levels of psychological health (in terms of higher neuroticism scores and higher psychoticism scores) are more likely to experience suicidal thoughts.

The third conclusion concerns the association between suicidal ideation, religiosity and personality. These data do not support the fourth hypotheses of this study that attitude toward Christianity functions as a significant predictor of suicidal ideation after individual differences in personality have been taken into account. Further analyses, controlling for the influence of sex, age and personality, demonstrate that attitude toward Christianity adds no additional influence to the prediction of suicidal ideation. This is similarly the case for personal prayer and church attendance after the influence of affective religiosity has been taken into account. This demonstrates that among this group of young people the association of religiosity with suicidal ideation is limited and weak, whereas the corresponding associations with personality are substantial. This finding is supported by empirical studies which have reported that personality functions as a stronger predictor of suicidal ideation than religiosity, and that religiosity emerges as unrelated to suicidal ideation after personality has been taken into account (Lester & Francis, 1993; Hills & Francis, 2005). The findings of this chapter recommend that future empirical research exploring the correlation between suicidal ideation and religiosity include reliable measures of personality to examine whether this pattern of relationship remains consistent.

The fourth conclusion concerns sex as a significant predictor of suicidal ideation among young people. These data demonstrate that teenage girls report



higher levels of suicidal ideation than teenage boys. This is consistent with the findings of previous empirical studies which have reported higher levels of suicidal ideation among teenage girls than teenage boys (Wunderlich, Bronisch, Wittchen, & Carter, 2001; Hawton, Rodham, Evans, & Weatherhall, 2002; Kirkaldy, Eysenck, & Siefen, 2004; Kirkaldy & Siefen, 2003; Robbins & Francis, 2009; Ng, Ran, Chan, 2010; Rasic & Kisely, & Langille, 2011). The implications of this finding highlight that future empirical research exploring the correlation between suicidal ideation and other variables during teenage-years would be wise to control for the impact of sex differences.

The fifth conclusion concerns the association between suicidal ideation and age among young people. These data demonstrate that age is unrelated to levels of suicidal ideation among 13- to 15-year-old young people. However, the general consensus established by previous empirical studies demonstrates that age does function as a significant predictor of suicidal ideation among young people during this period of adolescence (Guiao & Thompson, 2004; Robbins & Francis, 2009; Nkansah-Amankra et al., 2012; Francis, 2013b). The finding of the present study that age is unrelated to suicidal ideation requires further investigation.

### **Conclusion**

The present chapter has examined the contribution of attitude toward Christianity in predicting suicidal ideation among 13- to 15-year-old students. These data have demonstrated that religiosity is unrelated to suicidal ideation among the young people included within this study. Neither attitude toward Christianity, personal prayer nor church attendance function as significant predictors of suicidal ideation. However, the data did indicate that the personality dimensions of neuroticism and psychoticism make a very significant contribution to the levels of

suicidal ideation experienced by young people, and that personality emerges as a stronger predictor of suicidal ideation than religiosity.

Replication studies are required to extend this analysis among similar and larger samples of young people, as well as among samples of adults to explore whether this pattern of relationship remains consistent. Future empirical research would also benefit from addressing two significant methodological limitations within the present study. The first limitation concerns the relatively crude way in which suicidal ideation was measured in the present study by a single-item measure. Future empirical research may benefit from including a more sophisticated index of suicidal ideation such as the Suicidal Ideation Questionnaire (Reynolds, 1988) or the Beck Scale for Suicide Ideation (Beck & Steer, 1991). The second limitation highlights how the present study is grounded within the Christian tradition. Future empirical research may benefit from including measures of alternative faith-traditions (e.g., the Sahin-Francis Scale of Attitude toward Islam, the Katz-Francis Scale of Attitude toward Judaism, the Santosh-Francis Scale of Attitude toward Hinduism, the Williams Scale of Attitude toward Paganism and the Astley-Francis Scale of Attitude toward Theistic Faith) to examine whether this pattern of relationship exists within different religious contexts.

## **CHAPTER NINE**

### **ATTITUDE TOWARD CHRISTIANITY AND IMMORTALITY BELIEFS**

**Summary**

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**Assessing immortality beliefs**

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**Intuitive immortality beliefs**

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## Summary

The previous chapter explored the relationship between attitudes toward Christianity and suicidal ideation. Chapter nine examines the relationship between young people's attitudes toward Christianity and beliefs about immortality. The first part of this chapter reviews recent empirical literature which has concerned itself with mapping the psychological correlates of afterlife beliefs. The second part of this chapter reports on the findings of statistical analyses designed to test the association between affective religiosity and afterlife beliefs (assessed by the single-item 'I believe in life after death') after the influence of personal variables (age and sex) and psychological variables (Eysenck's dimensional model of personality) have been taken into account. This analysis also tests the strength of other dimensions of religiosity (church attendance and frequency of prayer) to predict levels of afterlife belief after controlling for the influence of attitude toward religion.

## **Introduction**

This chapter presents findings from the fourth of five separate analyses conducted on the Young People's Values Survey dataset designed to explore the correlates, antecedents, and consequences of young people's attitudes toward Christianity during the first decade of the twenty-first century. This chapter focuses specifically on the connection between young people's attitudes toward Christianity and beliefs about immortality. Recent surveys indicate that immortality beliefs have a central role in the lives of many individuals. General Social Survey findings demonstrate, for example, that between 80% and 95% of Americans believe in an afterlife, and that afterlife beliefs have risen in recent years despite decline in levels of church attendance and public prayer (Greeley & Hout, 1999; Schwadel, 2011). Recognising that immortality beliefs may have a hand in shaping attitudes and behaviours, a growing body of empirical research has concerned itself with establishing the psychological correlates, antecedents and consequences of beliefs about immortality. The present chapter adds to this research tradition by examining the relationship between immortality beliefs and affective religiosity.

The first part of this chapter considers how empirical studies have conceptualised and measured immortality beliefs. The second part of this chapter considers the empirical literature which has explored the psychological underpinnings of immortality beliefs. This literature represents five main perspectives, including research investigating: the basis of intuitive immortality beliefs, predictors of immortality beliefs, the connection between immortality beliefs and other psychological constructs, the connection between immortality beliefs and religiosity, and the content of immortality beliefs. The third part of this chapter discusses the findings of statistical analyses which examine the pattern of

relationships between immortality beliefs and attitude toward Christianity among young people. The fifth part of this chapter considers the implications of these findings for future empirical research concerned with the psycho-social correlates of immortality beliefs.

### **Accessing immortality beliefs**

Empirical studies concerned with establishing the psychological correlates, antecedents and consequences of immortality beliefs have generally conceptualised immortality beliefs in terms of belief in an afterlife. This construct has been operationalised in a variety of different ways. Belief in an afterlife is most commonly accessed according to a single-item measure assessed on a dichotomous scale: yes or no. For example, large scale surveys, such as the General Social Survey (GSS), have routinely included the item ‘Do you believe in life after death’ within a larger battery of items. This item has been utilised by several empirical studies employing GSS data (Klenow & Bolin, 1989; Greeley & Hout, 1999; Flannelly, Ellison, Galek, & Koenig, 2008; Ellison, Burdette, & Hill, 2009), and by a number of independent studies to explore the correlates of afterlife beliefs (Templer, 1972; Alvarado, Templer, Bresler, & Thomas-Dobson, 1995). The World Values Survey (WVS) has routinely included the item ‘Do you believe in heaven or hell?’ within a larger battery of items. This item has also been utilised by empirical studies employing WVS data to explore the correlates of afterlife beliefs (Atkinson & Bouratt, 2011). Other empirical studies have measured belief in an afterlife according to a single-item rated on a Likert-type scale. For example, some empirical studies have employed the item ‘I believe in life after death’ rated on a 9-point Likert-type scale, where responses range from strongly disagree (1) through to agree strongly (9) (Schoenrade, 1989) while others have employed the item ‘I believe in eternal life’

rated on a 4-point Likert-type scale where responses range from disagree strongly (1) through to agree strongly (4) (Ellison, Boardman, Williams, & Jackson, 2001).

Few multi-item measures have been designed specifically to measure belief in an afterlife. The most commonly cited multi-item measure is the Belief-in-Afterlife Scale (BIA) designed by Osarchuk and Tatz (1973). The BIA Scale consists of two sub-scales Form A and Form B which each comprise 10-items assessing various aspects of afterlife beliefs, rated on an 11-point scale where responses range from total disagreement (0) through to total agreement (11). Example items of Form A include ‘earthly existence is the only existence we have’ and ‘there must be an afterlife of some sorts’. Example items of Form B include ‘belief in an afterlife may be useful to some people but I do not believe in one at all’ and ‘death ends all forms of life forever’. A number of empirical studies have employed the BIA scale to explore the correlates of afterlife beliefs (Aday, 1984; Ochsmann, 1984; Cohen et al., 2005; Cohen & Hall, 2009). While empirical research exploring the psycho-social correlates of immortality beliefs represents a relatively recent area of investigation, the findings of previous empirical studies remain disparate and fragmented. This is a reflection of the wide range of measures consistently employed to assess both immortality beliefs and other psychological constructs among differing samples in various contexts. As a consequence, it is difficult to gain a clear and consistent view of how beliefs about immortality may impact on individual attitudes and behaviours.

### **Immortality beliefs and psychological enquiry**

Broadly speaking, five main perspectives may be distinguished within existing empirical literature attempting to establish the psychological underpinnings of immortality beliefs.

## **Intuitive immortality beliefs**

The first perspective, attempting to posit a theoretical basis for the existence of intuitive immortality beliefs, proposes that afterlife beliefs are illusory representations which arise from a range of psychological functions developed during the evolutionary process. Four main positions have been advanced which attempt to account for intuitive immortality beliefs.

The first position has argued from the perspective of simulation constraint theory (Bering, 2002, 2006) that immortality beliefs are the result of an inability to simulate or experience a state of non-existence. Bering (2002, 2006) maintains that this simulation constraint within our psychological functioning provides an impetus to attribute psychological states to the deceased (e.g., knowing, desiring, emotions). This gives rise to afterlife beliefs which take the form of: beliefs about psychological immortality, beliefs about intelligent design of the self, and beliefs about the symbolic interpretation of natural events. A series of empirical studies supporting simulation constraint theory have demonstrated that children and young people intuitively believe that the psychological states of another individual survive the bodily death of that same individual. For example, Bering and Bjorklund (2004) report data from a study conducted among children aged between four and twelve years-old that presented a scenario to participants in which a character attributed with certain biological and psychological states dies at the end. The participants were then asked ‘now that subject S is dead, can subject S still do activity X?’ Findings of the study demonstrated that children were significantly more likely to claim that psychological states exist after bodily death. This finding has also been reported by several replication studies conducted among children aged between four and twelve years-old, even after controlling for the influence of religious education (Bering,



Blasi, & Bjorklund, 2005), children aged between seven and eleven years-old (Harris & Giménez, 2005), children and young people aged between eight and seventeen years-old, young adults and older-adults aged between nineteen and seventy-one years-old (Astuti & Harris, 2008), and children and young people aged between five and sixteen years-old (Harris, Koepke, Jackson, Borisova, & Giménez, 2010). Critics of simulation constraint theory, however, have argued that the findings of these studies do not demonstrate why the simulation constraint allows us to imagine the immortality of others but not of ourselves (Hodge, 2011).

The second position has argued from the perspective of imaginative obstacle theory (Nichols, 2007) that intuitive immortality beliefs are facilitated by an ‘imaginative block’ in our psychological functioning which means that it is impossible for us to believe that we cannot exist. Drawing on the single code hypothesis, based on psychological processing models, Nichols (2007) argues that imagination relies on the same single-processing code as beliefs. The result of this is that, because we cannot *believe* there is a present in which we do not exist, there is an obstacle in *imagining* that there is a present in which we do not exist. This imaginative obstacle facilitates the development of afterlife beliefs. Critics of imaginative obstacle theory, however, have argued that the theory does not adequately explain why the imaginative obstacle allows for the imagination of future non-existence but not present non-existence (Hodge, 2011). There are currently no empirical studies designed to test the strength of imaginative obstacle theory.

The third position has argued from the perspective of offline social reasoning and social embodiment theory (Hodge, 2011) that intuitive immortality beliefs arise from the offline social reasoning process which allows us to think about others within our social community, who are not in our immediate presence, as existing in

other spaces. Within the context of afterlife beliefs, offline social reasoning allows us to view those who are no longer present in this reality, as persisting in another place where they continue to participate in social relationships and social obligations. For Hodge, then, afterlife beliefs are essentially social in nature whereby ‘those who have passed are not annihilated by physical death, but are simply socially embodied in an eternal realm’ (Hodge, 2011, p. 406). This is the result of a predisposed imaginative process which has developed to allow us to think about and emotionally engage with those who are no longer present in our social community. There are currently no empirical studies testing the strength of offline social reasoning and social embodiment theory.

The fourth position has argued from the perspective of terror management theory (Pyszczynski, Greenberg, & Solomon, 1999) that intuitive immortality beliefs are the result of constant (although largely unconscious) levels of anxiety that people experience regarding fear of death. This innate fear of death creates a predisposition towards the acceptance and construction of cultural worldviews which ‘provide meaning, purpose, value, and hope of either literal or symbolic immortality, through either an afterlife or a connection to something greater than oneself that transcends one’s mortal existence’ (Pyszczynski, Rothschild, & Abdollahi, 2008, p. 318). Reminders of death activate reliance on terror management techniques which alleviate heightened levels of death anxiety through either strengthened commitment to literal immortality beliefs (afterlife beliefs), or strengthened commitment to symbolic immortality beliefs (acceptance of cultural worldviews). On this basis, immortality beliefs should provide psychological protection against fear of death and death anxiety.

Empirical studies supporting terror management theory have demonstrated that increased awareness to mortality promotes reliance on terror management techniques through increased levels of belief in an afterlife (Vail, Rothschild, Weise, Solomon, & Pyszczynski, 2010). For example, empirical studies conducted among undergraduate and adult populations have reported that mortality salience increases belief in literal but not symbolic immortality (Conn, Schrader, Wann, & Mruz, 1996), and that belief in literal immortality provides a psychological buffer against the terror of death by lowering levels of death anxiety (Dechesne et al., 2003; Heflick & Goldenberg, 2012).

However, critics have highlighted that within the context of terror management theory the presence of intuitive immortality beliefs is reliant on an individual being aware of the prospect of their own death, and experiencing anxiety towards it (Hodge, 2011). Yet, empirical studies have consistently demonstrated that, while young children are not able to conceptualise the prospect of their own deaths (Speece & Sandor, 1984; Norris-Shortle, Young, & Williams, 1993; Cox, Garrett, & Graham, 2005), they are capable of conceptualising the immortality of others (Bering & Bjorklund, 2004; Bering, Blasi, & Bjorklund, 2005; Bering, 2006). Hodge (2011) argues that, on this basis, terror management theory cannot account for the presence of immortality beliefs in the lives of young children. Bering (2002) also demonstrates that there is no significant association between death anxiety and the immortality beliefs. This suggests that the presence of immortality beliefs in the lives of individuals cannot simply be attributed to a predisposition towards fear of death and death anxiety alone.

## **Predictors of immortality beliefs**

The second perspective has attempted to explore predictors of immortality beliefs. Few empirical studies have been designed which focus specifically on establishing the key indicators of individual differences in immortality beliefs. As a consequence research within this area is limited but continues to grow. For example, the findings of some empirical studies suggest that sex functions as a significant predictor of immortality beliefs, where higher levels of afterlife belief are reported among women (Aday, 1984; Klenow & Bolin, 1989; Holcomb, Neimeyer, & Moore, 1993; Thalbourne, 1996). However, the consistency of this finding is questioned by the results of empirical studies which have found no significant differences in levels of afterlife belief among men and women (Cicirelli, 1998, 2001; Lester et al., 2001).

The findings of other empirical studies have suggested that age functions as a significant predictor of immortality beliefs, where higher levels of afterlife belief are reported among adults and older-adults than among children and adolescents (Klenow & Bolin, 1989; Noppe & Noppe, 1997; Cicirelli, 1998; Schwadel, 2011). However, the consistency of this finding has been questioned by the results of empirical studies which have reported no significant differences in levels of afterlife belief among young adults (Lester et al., 2001).

Further to this, findings of empirical studies suggest that personality may function as a significant predictor of immortality beliefs. Within Eysenck's dimensional model of personality (Eysenck & Eysenck, 1991), afterlife beliefs have been associated with lower psychoticism scores and higher extraversion scores (Lester, 1993). However, empirical studies exploring the connection between immortality beliefs and the big five factor model of personality (Costa & McCrae, 1985) have found that symbolic immortality beliefs (within the terror management

framework) are unrelated to all five personality dimensions including, extraversion, agreeableness, neuroticism, conscientiousness and openness (Boyd & Zimbardo, 2006).

Future empirical research is required to gain a clearer and more generalisable view of the key predictors of immortality beliefs.

### **Immortality beliefs and psychological constructs**

The third perspective has attempted to explore the psychological correlates of belief in immortality and its ability to predict a range of key individual differences. Some empirical studies, conducted among undergraduate and adult populations, have reported a positive correlation between immortality beliefs and a variety of different psychological constructs. For example, higher levels of afterlife belief have been associated with increased awareness to mortality salience (Osarchuk & Tatz, 1973; Schoenrade, 1989), higher levels of personal adjustment (assessed by measures of internal locus of control) in the presence of mortality salience (O'Dowd, 1984), higher levels of psychological well-being (Ellison, Boardman, Williams, & Jackson, 2001), higher levels of tranquillity (Ellison, Burdette, & Hill, 2009), and positive attitudes towards life (Tsai, 2008).

Other empirical studies have reported a negative correlation between immortality beliefs and a variety of different psychological constructs. For example, higher levels of afterlife belief have been associated with lower levels of death anxiety and death depression (Alvarado, Templer, Bresler, & Thomas-Dobson, 1995), lower levels of anxiety, depression, obsession, compulsion, paranoid ideation and social anxiety (Flannelly, Koenig, Ellison, Galek, & Krause, 2006), lower levels of general anxiety (Ellison, Burdette, & Hill, 2009), and lower acceptance of moral transgressions (Atkinson & Bourrat, 2011).

A smaller number of studies have reported no association between immortality beliefs and selected psychological constructs, including death anxiety (Rose & O'Sullivan, 2002), general well-being (Cohen & Hall, 2009), and psychological distress (Ellison, Boardman, Williams, & Jackson, 2001).

### **Immortality beliefs and religiosity**

The fourth perspective has attempted to explore the connection between immortality beliefs and a number of different conceptualisations and operationalisations of religiosity. For example, empirical studies conducted among undergraduate and adult populations have reported that higher levels of afterlife belief are associated with higher levels of church attendance (Templer, 1972; Aday, 1984; Ochsmann, 1984). Other empirical studies have demonstrated that religious affiliation may act as a significant predictor of afterlife beliefs. Thus, higher levels of afterlife belief are reported among Catholics and Protestants than among Jews (Aday, 1984; Klenow & Bolin, 1989; Cohen & Hall, 2009), and among Jews than among those of no religious affiliation (Florian & Kravetz, 1983). Higher levels of afterlife belief have also been associated with positive attitudes toward religion (Dezutter et al., 2009).

A range of empirical studies have also demonstrated that immortality beliefs in themselves function as a stronger predictor of certain psychological constructs than religiosity. For example, empirical studies have reported that afterlife beliefs are stronger predictors of death anxiety than church attendance (Thorson, 1991), stronger predictors of psychological distress than church attendance or personal prayer (Ellison, Boardman, Williams, & Jackson, 2001), and stronger predictors of mental health than church attendance (Flannelly, Koenig, Ellison, Galek, & Krause, 2006). However, one study reported by Schafer (1997) found that belief in God acted as a stronger predictor of psychological well-being than afterlife beliefs.

While empirical research exploring the connection between immortality beliefs and religiosity is limited, the weight of empirical evidence tends to suggest that there is a positive association between afterlife beliefs and religiosity, and that while religiosity and afterlife beliefs share a connection, afterlife beliefs are capable of acting as a significant predictor of individual differences in their own right.

### **Content of immortality beliefs**

The fifth perspective has attempted to explore the content of immortality beliefs. A number of empirical studies conducted among undergraduate and adult populations have demonstrated that those who accept immortality beliefs are more likely to view the afterlife in a positive light. For example, higher levels of afterlife belief are associated with the view that the afterlife will be favourable positive existence (Dixon, & Kinlaw, 1982), involving reunion with family and friends, comfort, heaven, a peaceful transition (Lester et al., 2001), and that the afterlife is a good, and peaceful place (Tsai, 2008). In a similar vein, findings from the 1983 to 1984 General Social Survey indicate that 85% to 95% of Christians who believe in an afterlife, are likely to believe that it will take the form of union with God, peace and tranquility, and union with relatives. These beliefs are largely comparable to the afterlife beliefs of those who affiliate with the Jewish tradition, however, Jewish afterlife beliefs are more likely to emphasise an intellectual afterlife (87%), and a pale and shadowy afterlife (49%). Of those with no religious affiliation who believe in an afterlife, 75% are reported to believe in heaven, while only 60% are reported to believe in hell (Greeley & Hout, 1999).

Empirical studies exploring the content of immortality beliefs have also demonstrated that differences in the content of afterlife beliefs can influence individual attitudes and behaviours. For example, empirical studies have

demonstrated that fear of punishment in the afterlife is associated with higher levels of death anxiety (Swanson & Byrd, 1998), and stress (Krause et al., 2002), and that pleasant afterlife beliefs (including belief in union with God, peace and tranquillity, reunion with loved ones, paradise and eternal reward) are associated with higher levels of mental health, while unpleasant afterlife beliefs (including belief in reincarnation, and belief in a pale shadowy life) are associated with lower levels of mental health (Flannelly, Ellison, Galek, & Koenig, 2008).

### **Immortality beliefs and young people**

The majority of empirical research concerned with establishing the correlates, antecedents and consequences of beliefs about immortality has been conducted among undergraduate, adult and older-adult populations, most particularly in the USA. As a consequence, very little is known about the presence and influence of immortality beliefs in the lives of young people, both within the USA and outside. Within the existing literature, empirical studies concerned with young people's immortality beliefs have focussed on the content of afterlife beliefs, as shaped by the simulation constraint framework (see, Intuitive immortality beliefs earlier in this chapter: Bering & Bjorklund, 2004; Bering, Blasi, & Bjorklund, 2005; Astuti & Harris, 2008; Harris, Koepke, Jackson, Borisova, & Giménez, 2010). A smaller number of studies have explored the predictors and correlates of immortality beliefs among young people. For example, two key studies reporting on the predictors of afterlife beliefs among children and adolescents demonstrate that, afterlife beliefs are higher among adolescents than among young children (Noppe & Noppe, 1997; Chikako, 2004). One key study, reporting on the connection between afterlife beliefs and psychological constructs among young people demonstrates that, higher levels of afterlife belief are associated with higher levels of life satisfaction (Cohen et al.,



2005). This study also reports on the connection between afterlife beliefs and religiosity among young people, demonstrating that intrinsic religiosity is negatively associated with afterlife beliefs, while extrinsic religiosity is positively associated with afterlife beliefs. Findings from the study also report similar levels of afterlife belief among Protestants and Catholics, and that religious orientation functions as a stronger predictor of afterlife beliefs among Protestants than among Catholics.

There is a recognised need within this literature (Harris, 2011) to expand upon the handful of existing studies concerned with young people's immortality beliefs in a way which provides a clearer and more generalisable view of how immortality beliefs influence attitudes and behaviours during teenage-years. Against this background, the present chapter will explore the correlates of immortality beliefs among the students included within the Young People's Values Survey dataset. Statistical analyses will build on the relevant and existing literature in three steps. The first step will examine the presence of afterlife beliefs among young people in the UK within the first decade of the twenty-first century. The second step will examine the influence of potential predictors of young people's afterlife beliefs, such as age, sex and personality, assessed by Eysenck's dimensional model of personality (Eysenck & Eysenck, 1991). If these variables are found to function as significant predictors of young people's afterlife beliefs, care will be taken to control for their influence in the proceeding analyses. The third step will examine the connection between young people's afterlife beliefs and religiosity, assessed by the Francis Scale of Attitude toward Christianity. The fourth step will examine the strength of other religious variables, personal prayer and church attendance, to account for afterlife beliefs among young people after affective religiosity has been taken into account.

## **Aims**

The aim of this chapter is to explore the connection between afterlife beliefs and attitude toward Christianity among a sample of 13- to 15-year-old students. The analyses will test three hypotheses. The first hypothesis is that there is a positive association between belief in an afterlife and attitude toward Christianity, and that attitude toward Christianity functions as a significant predictor of afterlife beliefs. The second hypothesis is that attitude toward Christianity is a stronger predictor of afterlife beliefs than personal prayer and church attendance. The third hypothesis is that personality functions as a significant predictor of afterlife belief.

## **Method**

### **Sample**

A sample of 5,199 students aged between 13 and 15 attending secondary schools in England and Wales completed the Young People's Values Survey which included the Francis Scale of Attitude toward Christianity, a measure of afterlife belief, measures of personal prayer and church attendance, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). The sample comprised 2,449 males (47%), and 2,750 females (53%). Within this sample, 2,725 were year-nine students (52%) and 2,474 were year-ten students (48%). Within this sample, 3,793 were attending community schools (73%), 655 were attending voluntary Anglican schools (13%), 426 were attending voluntary Catholic schools (8%), and 325 were attending independent schools (6%).

### **Procedure**

Participating schools were asked to follow a standard procedure. The questionnaires were administered in normal class groups to all year-nine and year-ten students throughout the school. Students were asked not to write their name on

the booklet and to complete the inventory under examination-like conditions. They were assured of confidentiality and anonymity. They were informed that their responses would not be read by anyone in the school, and that the questionnaires would be dispatched to the research centre for analysis. Although students were given the choice not to participate very few decided not to take part in the survey.

### **Measures**

In addition to basic information about sex and school year, the present analysis draws on the following measures included in the questionnaire.

*Religiosity* was assessed by the short form of the Francis Scale of Attitude toward Christianity (Francis, Greer, & Gibson, 1991). This is a 7-item Likert-type instrument employing a five-point response scale: agree strongly, agree, not certain, disagree, and disagree strongly. The individual items assess the respondents' affective response to five key components of the Christian faith including: God, Jesus, Bible, church, and prayer.

*Afterlife beliefs* were assessed by the item, 'I believe in life after death' rated on a 5-point Likert-type scale: agree strongly, agree, not certain, disagree, and disagree strongly.

*Personal prayer* was assessed by the item, 'Do you pray by yourself?' rated on a 5-point scale: never, occasionally, at least once a month, at least once a week, and nearly every day.

*Church attendance* was assessed by the item, 'How often do you attend a place of religious worship? (e.g., church, mosque, temple)' rated on a 5-point scale: never, at least once or twice a year, at least six times a year, at least once a month, and nearly every week.

*Personality* was assessed by the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996) .This is a 24-item instrument which proposes four six-item measures of extraversion, neuroticism, psychoticism, and a lie scale. Each item is assessed on a dichotomous scale: yes and no.

#### Data analysis

The data were analysed by SPSS statistical package using the frequency, reliability, correlation, and multiple-regression functions. Stepwise multiple-regression was employed to control for individual differences in sex, age and personality before testing for the influence of attitude toward Christianity on afterlife beliefs. Measures of personal prayer and church attendance were then added to the regression model to explore whether they added any additional influence to the prediction afterlife beliefs after attitude toward Christianity had been taken into account.

### **Results**

Table 9.1 presents the levels of belief in life after death reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 18.1% of students agree strongly with the view that there is life after death, 20.8% of students agree with the view that there is life after death, 35.3% of students are not certain whether they believe in life after death, 10.0% of students disagree with the view that there is life after death, and 15.8% disagree strongly with the view that there is life after death.

Table 9.2 presents the frequency of personal prayer reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 6.5% of students report that they pray by themselves nearly every day, 3.1% of

students report that they pray by themselves at least once a week, 1.8% of students report that they pray by themselves at least once a month, 20.6% of students report that they pray by themselves occasionally, and 68.0% of students report that they never pray by themselves.

Table 3 presents the frequency of church attendance reported by the students included within the Young People's Values Survey dataset. These data demonstrate that 4.0% of students report that they attend a place of religious worship nearly every week, 5.5% of students report that they attend a place of religious worship at least once a month, 4.5% of students report that they attend a place of religious worship at least six times a year, 29.8% of students report that they attend a place of religious worship at least once or twice a year, and 56.2% of students report that they never attend a place of religious worship.

Table 4 presents the scale properties of the Francis Scale of Attitude toward Christianity, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire. In terms of the alpha coefficient (Cronbach, 1951) as an index of internal consistency reliability the measures of attitude toward Christianity, extraversion, and neuroticism all exceed DeVellis' (2003) recommended threshold of 0.65. While the psychoticism scale displays an alpha coefficient of .60, this is high given the historic difficulties typically encountered by the psychoticism scales in general (Francis, Philipchalk, & Brown, 1991). The lie scale displays the lowest alpha coefficient of .54, which is in line with the findings of previous research findings (Francis, 1996).

Table 9.5 presents the correlation coefficients between belief in life after death, sex, age, extraversion, neuroticism, psychoticism, the lie scale, attitude toward Christianity, personal prayer and church attendance. Given the size of the sample,

the probability level has been set at 1%. Five main features of this correlation matrix require comment. First, these data demonstrate that sex is a significant predictor of belief in life after death, extraversion, neuroticism, psychoticism, lie-scale scores, attitude toward Christianity, personal prayer and church attendance: females record higher scores on belief in life after death, extraversion, neuroticism, the lie scale, attitude toward Christianity, frequency of personal prayer and frequency of church attendance, while males record higher psychoticism scores. Second, these data demonstrate that while age is unrelated to belief in life after death, it is a significant predictor of neuroticism, psychoticism, lie-scale scores, attitude toward Christianity and church attendance: while year-ten students record higher scores on neuroticism and psychoticism, year-nine students record higher scores on the lie scale, attitude toward Christianity and frequency of church attendance. Third, the pattern of correlations between personality and religiosity demonstrate that all three dimensions of Eysenck's personality model as well as the lie scale are significant predictors of attitude toward Christianity: while a significant positive correlation exists between attitude toward Christianity, lie-scale scores and neuroticism, a significant negative correlation is observed between attitude toward Christianity and psychoticism and extraversion. Fourth, belief in life after death is significantly associated with personality scores: higher levels of belief in life after death are recorded by introverts, those who record higher scores on the neuroticism scale and lie scale, and by those who record lower scores on the psychoticism scale. Fifth, the pattern of correlations between religiosity and belief in an afterlife demonstrate that religiosity functions as a significant predictor of afterlife belief: higher scores on the attitude toward Christianity scale, higher levels of personal prayer, and higher levels of church attendance are associated with higher levels of belief in life after death.

Table 9.6 presents the partial correlation coefficients between belief in life after death, age, extraversion, neuroticism, psychoticism, the lie scale, attitude toward Christianity, personal prayer and church attendance controlling for sex. These data demonstrate that controlling for sex differences does not change the basic pattern of correlations identified in table 9.5, with the exception of the negative association between age and church attendance which emerges as no longer significant.

In view of the complex pattern of relationships between belief in life after death, sex, age, personality, attitude toward Christianity, personal prayer, and church attendance. Table 9.7 presents the multiple regression model in which belief in life after death stands as the dependent variable and in which the predictor variables were entered in this fixed order: sex, age, extraversion, neuroticism, psychoticism, lie scale, attitude toward Christianity, personal prayer and church attendance. These data demonstrate that: after controlling for the influence of age, sex and personality, attitude toward Christianity emerges as a strong predictor of belief in life after death; and that after the influence of attitude toward Christianity has been taken into account, personal prayer adds a small but statistically significant influence to the prediction of belief in life after death, while church attendance adds no additional predictive power to belief in life after death. These data also demonstrate that the only personality dimension to emerge as a significant predictor of belief in life after death is neuroticism.

### **Discussion**

This chapter set out to examine and to clarify the relationship between immortality beliefs and attitude toward Christianity among a sample of 13- to 15-year-old young people. The findings of this chapter add to the growing body of

empirical research concerned with establishing the psychological correlates, antecedents and consequences of beliefs about immortality. This research tradition has typically assessed immortality beliefs in terms of belief in an afterlife. In exploring the relationship between afterlife beliefs and attitude toward Christianity, care has been taken to control for the potentially contaminating influences of sex, age, and individual differences in personality. Five main conclusions emerge from these data.

The first conclusion concerns attitude toward Christianity as a significant predictor of afterlife beliefs among young people. These data support the first hypotheses of this study that there is a positive relationship between afterlife beliefs and attitude toward religion. Young people who record higher scores on the Francis Scale of Attitude toward Christianity report higher levels of belief in life after death. This is supported by empirical studies which also report a positive correlation between afterlife beliefs and religiosity among adult and undergraduate populations (Templer, 1972; Florian & Kravetz, 1983; Aday, 1984; Ochsmann, 1984; Dezutter et al., 2009).

The second conclusion concerns attitude toward Christianity as a stronger predictor of afterlife beliefs among young people than other dimensions of religiosity. These data support the second hypotheses of this study that attitude toward Christianity functions as a stronger predictor of afterlife beliefs than personal prayer and church attendance. Initial analyses demonstrate a positive correlation between afterlife beliefs and all three measures of religiosity: attitude toward Christianity, personal prayer and church attendance. Further analyses, however, controlling for the impact of attitude toward Christianity scores by means of multiple-regression, demonstrate that while personal prayer continues to add a small



but statistically significant influence to the prediction of belief in life after death among young people, church attendance adds no further influence. While previous empirical studies have demonstrated that church attendance, in particular, functions as a significant predictor of afterlife beliefs among undergraduate and adult populations (Templer, 1972; Aday, 1984; Ochsmann, 1984) these studies have not included measures of attitude toward religion or personal prayer. The findings of this chapter recommend that future empirical research exploring the connection between afterlife beliefs and religiosity include reliable measures of attitude toward religion and personal prayer alongside other measures of religiosity to examine whether this pattern of relationship remains consistent. This will provide a clearer and more generalisable view of how afterlife beliefs are related to different dimensions of religiosity.

The third conclusion concerns personality as a significant predictor of afterlife beliefs among young people. These data support the third hypotheses of this study that personality constitutes a significant predictor of belief in life after death. Within Eysenck's dimensional model of personality higher levels of belief in life after death are associated with higher neuroticism and higher lie-scale scores (an indicator of social conformity), as well as lower psychoticism and lower extraversion scores. Further analyses of the data demonstrate that neuroticism functions as the strongest predictor of belief in life after death among young people. The finding that afterlife beliefs are associated with lower psychoticism is supported by a previous empirical study conducted among undergraduates (Lester et al., 2001). This study, however, also found that afterlife beliefs were associated with higher extraversion and were unrelated to both neuroticism and lie-scale scores. This highlights that the relationship between afterlife beliefs and personality among young people is

somewhat different from the pattern of relationship between afterlife beliefs and personality among adults and requires further exploration.

The findings of this study also indicate that afterlife beliefs occupy a different psychological space among young people than affective religiosity, which is consistently shown to be associated with lower levels of psychoticism, higher lie-scale scores (an indicator of social conformity), and unrelated to both neuroticism and extraversion within Eysenck's dimensional model of personality (Kay, 1981a; Francis & Pearson, 1985a; Francis, 1992b). Afterlife beliefs also appear to occupy a different psychological space among young people than paranormal beliefs, which have been shown to be associated with higher psychoticism and higher neuroticism scores (Francis & Williams, 2009; Francis, Williams, & Robbins, 2009). As little is known about connection between afterlife beliefs and personality among young people, the findings of this chapter recommend that future empirical research is required to explore in closer detail the consistent personality profile associated with young people's afterlife beliefs.

The fourth conclusion concerns sex as a significant predictor of afterlife beliefs among young people. These data demonstrate that teenage girls are more likely to believe in life after death than teenage boys. This is consistent with the findings of previous empirical studies which have reported higher levels of afterlife belief among women than among men (Aday, 1984; Klenow & Bolin, 1989; Holcomb, Neimeyer, & Moore, 1993; Thalbourne, 1996). However, other empirical studies have reported no association between afterlife beliefs and sex (Cicirelli, 1998, 2001; Lester et al., 2001). The ambiguous nature of results regarding the influence of sex on afterlife beliefs highlights that future empirical studies exploring

the correlation between afterlife beliefs and other variables would be wise to control for the influence that sex may, or may not have on this relationship.

The fifth conclusion concerns the association between age and afterlife beliefs among young people. These data demonstrate that age is unrelated to levels of belief in life after death among 13- to 15-year-old young people. This is consistent with the findings of previous empirical studies which have reported no association between age and afterlife beliefs among young adults (Lester et al., 2001). However, the majority of empirical studies conducted among undergraduates, adults and older-adults demonstrate that age functions as a significant predictor of afterlife beliefs (Klenow & Bolin, 1989; Noppe & Noppe, 1997; Cicirelli, 1998; Schwadel, 2011). As less is known about the predictors of afterlife beliefs among young people, the findings of this chapter recommend that future empirical research is required to explore the impact of age on afterlife beliefs, and to examine whether this pattern of relationship remains consistent. The ambiguous nature of results regarding the influence of age on afterlife beliefs highlights that future empirical studies exploring the correlation between afterlife beliefs and other variables would be wise to control for the influence that age may, or may not have on this relationship.

### **Conclusion**

The present chapter has examined the contribution of attitude toward Christianity in predicting immortality beliefs among 13- to 15-year-old students. The data have demonstrated a clear link between higher attitude toward Christianity scores and higher levels of belief in life after death. The data also indicate that attitude toward Christianity functions as a stronger predictor of afterlife beliefs among young people than other dimensions of religiosity, such as personal prayer and church attendance. Moreover, the data indicate that personality, assessed by

Eysenck's dimensional model, functions as a significant predictor of young people's afterlife beliefs.

Replication studies are required to extend this analysis among similar and larger samples of young people, as well as among samples of adults to explore whether this pattern of relationship remains consistent. Future empirical research would also benefit from addressing two significant methodological limitations within the present study. The first limitation concerns the relatively crude way in which afterlife beliefs were measured in the present study by a single-item measure. Future empirical research may benefit from including a more sophisticated index of afterlife beliefs such as the Belief-in-Afterlife Scale (BIA: Osarchuk & Tatz, 1973), or may benefit from developing a new multi-item measure addressing the afterlife beliefs of young people located within the context of the twenty-first century. The second limitation highlights how the present study is grounded within the Christian tradition. Future empirical research may benefit from including measures of alternative faith-traditions (e.g., the Sahin-Francis Scale of Attitude toward Islam, the Katz-Francis Scale of Attitude toward Judaism, the Santosh-Francis Scale of Attitude toward Hinduism, the Williams Scale of Attitude toward Paganism, and the Astley-Francis Scale of Attitude toward Theistic Faith) to examine whether this pattern of relationship exists within different religious contexts.

## **CHAPTER TEN**

### **ATTITUDE TOWARD CHRISTIANITY AND IMPLICIT RELIGION**

**Summary**

**Introduction**

**Implicit religion**

**Prevalence of implicit religion**

**Implicit religion and psychological functioning**

**Predicting attitudes toward Christianity**

**Aims**

**Method**

**Sample**

**Procedure**

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**Results**

**Findings**

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## Summary

The previous chapter considered the relationship between attitudes toward Christianity and beliefs about immortality. Chapter ten examines the relationship between young people's attitudes toward Christianity and implicit religion. The first part of this chapter reviews recent empirical literature which has employed Bailey's (1998) concept of implicit religion to examine the persistence of Christian believing in the UK, exploring: the implicit religion of those who believe that you do not need to go to church to be a Christian, and the implicit religion of individuals attached to Christian rites of passage. The second part of this chapter reports on the findings of statistical analyses designed to test the relative impact of explicit religiosity (defined as frequency of church attendance) and implicit religiosity (defined as attachment to Christian rites of passage) on young people's attitudes toward Christianity, following the analytical model proposed by Francis (2013a, 2013b) and Penny and Francis (under review).

## **Introduction**

This chapter presents findings from the last of five separate analyses conducted on the Young People's Values Survey dataset designed to explore the correlates, antecedents and consequences of young people's attitudes toward Christianity during the first decade of the twenty-first century. This chapter focuses specifically on the relationship between young people's attitudes toward Christianity and implicit religion. Within the psychology of religion, an increasing number of studies have employed Bailey's (1997, 1998) concept of implicit religion to explore the persistence of religion within secular societies. Empirical studies investigating the changing religious landscape of the UK (in terms of Christian believing) have utilised this construct to develop two fields of research concerned with: the implicit religion of believing that you do not need to go to church to be a Christian, and the psychological functions served by the implicit religion of believing that you do not need to go to church to be a Christian, and the implicit religion of attachment to Christian rites of passage. The present chapter builds on this body of empirical literature by exploring the implicit religion of young people (assessed as attachment to Christian rites of passage), and the connection this operationalisation of implicit religion shares with affective religiosity.

The first part of this chapter considers how Bailey's (1997, 1998) concept of implicit religion has been operationalised within the psychology of religion. The second part of this chapter explores how this concept has been employed to examine the persistence of Christian believing in the UK, reflected as: the implicit religion of those who believe that you do not need to go to church to be a Christian, and the implicit religion of those who are attached to certain rites of passage central to the Christian faith. The third part of this chapter discusses the findings of statistical

analyses which replicate the analytical model proposed by Francis (2013a, 2013b) and Penny and Francis (under review) in order to examine the relative impact of explicit religion (assessed as frequency of church attendance) and implicit religion (assessed as attachment to Christian rites of passage) on young people's attitudes toward Christianity. The fifth part of this chapter considers the implications of these findings for future empirical research concerned with the implicit religion of young people living in the UK in the twenty-first century.

### **Implicit religion**

The notion of implicit religion, proposed by Bailey (1997, 1998), has recently gained considerable interest within the psychology of religion, as evidenced by the collection of empirical studies employing psychological theories or methods published within the Special Issue (2011) of the journal *Implicit Religion* and the Special Issue (2013) of the journal *Mental Health, Religion and Culture*. As Francis *et al* (2013) highlight, Bailey's conceptualisation of implicit religion provides a powerful heuristic tool for interrogating the presence of religion within secular societies. For Bailey implicit religion may be characterised (but not limited to) three key qualities:

Implicit religion displays commitment, it is something to which individuals feel committed. Implicit religion provides integrating foci, it is something that draws together the identity of an individual (or a group) and in doing so furnishes meaning and generates purpose. Implicit religion displays intensive effects, it is something that helps to shape a worldview and carries implications for the way in which life is lived. (Francis *et al.*, 2013, pp. 2)

Bailey's account of implicit religion, then, is an intentionally broad and multi-faceted construct which takes seriously the persistence of religious and spiritual



worldviews within contemporary British societies, in ways both continuous with and discontinuous from the conventional practice of Christianity (Bailey, 1997, 1998, 2002). Empirical studies concerned with the study of implicit religion have operationalised this concept in a variety of ways, including: the implicit religion of contemporary belief systems and spiritual practices, such as belief in luck (Francis, Robbins, & Williams, 2006; Francis, Williams, & Robbins, 2006, 2008), belief in the paranormal (Williams, Francis, & Robbins, 2011), commitment to New Age beliefs (Kemp, 2001; Francis et al., 2013) and the spirituality of the practice of belly dancing (Kraus, 2009); the implicit religion of secular activities, such as the implicit religion of a British public house (Bailey, 1997), the practice of football (French, 2002) and contemporary rock music (Till, 2010); and the implicit religion of more conventional religious practices, such as the implicit religion of contemporary pilgrimage and ritual (Schnell & Pali, 2013), and the implicit religion of prayer requests (ap Siôn & Edwards, 2013; ap Siôn & Nash, 2013). The present chapter, however, is concerned to build upon the body of empirical literature which has employed Bailey's concept of implicit religion to chart the persistence of Christian believing in UK, operationalised as the implicit religion of believing that you do not need to go to church to be a Christian, and operationalised as the implicit religion of attachment to Christian rites of passage. Empirical studies employing these operationalisations of implicit religion represent two distinct fields of research exploring: the prevalence of implicit religion in the UK expressed by the belief that 'You don't have to go to church to be a good Christian' (Walker, Francis, & Robbins, 2010; Walker, 2013); the psychological functions served by both belief that you do not need to go to church to be a Christian (Francis, 2013a, 2013b) and the

implicit religion of attachment to Christian rites of passage (Penny & Francis, under review).

### **Prevalence of implicit religion**

The first field has employed Bailey's notion of implicit religion to explore the persistence of Christian believing in the UK in the light of declining levels of church attendance. Empirical studies within this field of research have drawn attention to the variety of perspectives which have attempted to characterise the connection between Christian believing and churchgoing within contemporary Britain. For example, some perspectives have proposed a causal link between loss of faith and reduced levels of church attendance, either in terms of classic secularization theory, where loss of faith leads to reduced church attendance (see, for example, Bruce, 2002), or where reduced church attendance leads to loss of faith (Gill, 1993, 2003). Other perspectives have characterised the contemporary disconnection between Christian believing and churchgoing as 'believing without belonging' (Davie, 1994), while Francis and Robbins (2004) maintain that the term 'belonging without believing' is a more accurate indicator of this relationship. Empirical studies within this field have highlighted that Bailey's notion of implicit religion is capable of providing an effective descriptor of the relationship between contemporary Christian believing and churchgoing. As Francis (2013b) maintains, one of the key aspects of Bailey's notion of implicit religion concerns identifying a way in which the Christian religious tradition continues to claim a hold over people's lives in the UK long after they have ceased to have active participation in the ongoing life of the local church. This feature of implicit religion is represented in Bailey's original study among suburban populations in Britain, where religious commitment was most adequately expressed by the statement 'Well, you see, I

believe in Christianity' (Bailey, 1998, p. 67). Within this context Christianity is representative of broad belief in God, broad belief in Jesus and broad belief in the Church, but Christianity in this context does not entail active church attendance. In essence, those who express their religious commitment through this form of implicit religion (broad belief in Christianity without active church attendance) are likely to take the view that 'You don't have to go to church to be a good Christian.' Four key studies have operationalised this conceptualisation of implicit religion by exploring the prevalence of this view among individuals living in the UK.

For example, a first study reported by Francis and Richter (2007) proposed that implicit religion, as expressed by the statement 'You don't have to go to church to be a good Christian', may be understood within the wider context of why people leave churches. Their study conducted among 800 church-leavers demonstrated that one of the main motivations behind church-leaving is concerned with increasing attraction to the notion of a 'deinstitutionalised faith'. Findings from the qualitative part of the study revealed that deinstitutionalised faith may be most clearly expressed by four key statements: 'I believed that you do not need to go to church to be a Christian'; 'People have God within them, so churches aren't really necessary'; 'I wanted to follow my own private spiritual quest, without religious institutions'; and 'I distrusted most institutions, including the church'. Deinstitutionalised faith, then, is representative of Bailey's implicit religion conceptualised as the belief that you do not need to go to church to be a Christian. As one participant in the study explained, in some sense not being part of a church has the potential to deepen religious faith rather than weaken it:

I feel that God led me away from the church, in his mysterious wisdom, in order for me to discover more about my relationship with God...I think it's

not a problem for me right now to be worshipping on my own, to be praying alone, in fact I've found that quite a positive experience, to be alone with God in a sense. (Francis & Richter, 2007, pp. 229–230)

Findings from the quantitative part of the study demonstrated that 75% of church-leavers agreed with the statement 'You don't have to go to church to be a good Christian'. This figure showed little variation in respect of sex differences, generational differences, cohort differences or in terms of the age at which an individual had left the church. The only factor which emerged as a significant predictor of this view was denominational affiliation, where Anglicans were more likely (78%) to endorse this view than Roman Catholics (70%) or Free Church members (67%).

Building on this framework, Walker, Francis, and Robbins (2010) reported on a second study exploring the prevalence of the view that 'You don't have to go to church to be a good Christian' among a 1,226 individuals attending harvest festival services within rural Anglican churches. This study aimed to test the connection between this view and four key variables, including: sex, age, frequency of church attendance and frequency of private prayer. Findings demonstrated a high level of agreement with the belief that you don't have to go to church to be a good Christian (63%). Across the four key variables, findings demonstrated no significant differences according to sex. However, age emerged as a significant predictor where younger people (under 30s) were more likely to accept this view (81%) than people aged over 60 (51%). Higher levels of acceptance were also observed among those who attend church less than six times a year (84%) and among those who never prayed (81%). Reflecting on their findings Walker, Francis, and Robbins (2010) highlighted that this clearly indicates that belief in Christianity can be supported

outside of the churches unaccompanied by traditional practices such as church attendance and private prayer. This led them to the conclusion that de-institutionalised implicit religion may be superseding commitment to conventional explicit religious attendance.

Replicating this study among 1,081 individuals attending Christmas carol services within two English cathedrals, Walker (2013) found that 69% agreed with the view that you don't have to go to church to be a good Christian. Walker's (2013) study, however, demonstrated a somewhat different pattern of results regarding the four key variables. For example, women were significantly more likely to agree with the view that you don't have to go to church to be a good Christian (74%) than men (65%). Findings demonstrated that agreement with the statement declines as age increases, from over three quarters among under 30s (78%) and 30- to 49-year-olds (77%), to just over half (55%) among those aged 70 or older. No statistically significant differences were reported in terms of agreement with regard to levels of church attendance. However, responses to an item which asked participants whether they had been baptised or confirmed proved to be a highly significant predictor. For example, while the lowest level of agreement came from those who had been baptised and confirmed (63%) the highest level was observed among those who had been baptised but not confirmed (80%). By contrast among those who had been neither baptised nor confirmed the figure fell to 73%. Reflecting on this finding, Walker (2013) highlighted that this indicates that people who have no historic link with Christianity see a stronger connection between belief and practice than those for whom it is part of their past, the former being more traditionally secular rather than having adopted the implicit religiosity that marks out the latter. This supports the

view that implicit religion and secularism are different phenomena associated with different patterns of belief and behaviour.

Taken together, the findings of these four key studies demonstrate three conclusions concerning the nature of implicit religion operationalised in this way. First, among individuals living in the UK during the first decade of the twenty-first century levels of commitment to implicit religion (in terms of believing that you do not need to go to church to be a Christian) are high. Second, this form of implicit religion has a greater presence within individual lives than conventional explicit features of religion such as church attendance. Third, this form of implicit religion is personalised in the sense that individuals committed to implicit religiosity may choose to engage with the benefits of certain aspects of the Christian faith (e.g., Christmas carol services at a Cathedral) but feel that they do not need to or are not required to participate in the regular features of a conventional religious life. Fourth, these findings demonstrate that the contemporary religious landscape within the UK (in terms of the Christian faith) is one which is reflected more by the notion of a de-institutionalised and personalised implicit religion than by a secular worldview.

### **Implicit religion and psychological functioning**

The second field has built upon the framework established by Walker, Francis, and Robbins (2010) and Walker (2013), concerning the implicit religion of believing that you do not need to go to church to be a Christian, by testing the extent to which this form of implicit religion serves the same psychological functions in people's lives as explicit religion. The impetus behind this research question, as Francis (2013a) explains, is that for implicit religion (conceptualised as the belief that you do not need to go to church to be a Christian) to count as religious believing there has to be evidence of some functional equivalence of implicit religion in the

lives of such believers to match the functions of explicit religion in the lives of conventional Christian believers.

A first study reported by Francis (2013a) tested the hypothesis that implicit religion serves a similar psychological function to that served by explicit religion in respect of the construct purpose of life. Empirical research concerned with the connection between religiosity and purpose in life has routinely demonstrated that explicit religiosity is associated with an enhanced sense of purpose in life (Francis & Burton, 1994; Francis & Evans, 1996; Francis 2000b; Robbins & Francis, 2005; Francis & Robbins, 2006, 2009). On this basis, Francis argued that if implicit religiosity serves the same function as explicit religiosity, implicit religiosity should also be associated with an enhanced sense of purpose in life. In this study, conducted among 25,825 13- to 15-year-old students, purpose in life was operationalised by the item 'I feel that my life has a sense of purpose', explicit religion was operationalised by frequency of church attendance, and implicit religion was operationalised by the item 'I believe that I can be a Christian without going to church'. A complex regression model was employed to control for the influence of contaminating factors before examining the predictive power of explicit religiosity and implicit religiosity on purpose in life. These factors included: age, sex, the personality dimensions of extraversion, neuroticism, psychoticism and the lie scale within Eysenck's dimensional model (Eysenck & Eysenck, 1991), self-assigned religious affiliation and belief in God. These extra religious factors were included as control variables since they may be considered to underpin the related operational forms of both explicit religiosity and implicit religiosity. Using this model two separate regression analyses were computed, the first of which entered church attendance (explicit religion) as the final term and the second of which entered the belief that you do not

need to attend church to be a Christian (implicit religiosity) as the final term. Results demonstrated that both explicit religiosity and implicit religiosity were associated with an enhanced sense of purpose in life among young people. These findings support the general hypothesis that implicit religion and explicit religion serve similar psychological functions.

A second study reported by Francis (2013b) employed the same analytical framework to examine the relative impact of explicit religion (frequency of church attendance) and implicit religion (believing that you do not need to go to church to be a Christian) on suicidal ideation among 25,726 13- to 15-year-old students. This study employed the same measures and statistical model as the foundation study, and operationalised suicidal ideation with the item 'I have sometimes considered ending my own life'. In this study, however, explicit religion and implicit religion functioned in different ways: explicit religiosity was associated with lower levels of suicidal ideation while implicit religiosity was unrelated suicidal ideation among young people.

A third study, reported by Penny and Francis (under review), employed the same research model but explored an alternative operationalisation of implicit religion. As Walker (2013) highlights, while the notion of believing that you do not need to go to church to be a Christian has nuanced understanding of the implicit religion of individuals living in the UK, there is a need to identify other concepts which can be used to operationalise a measure for implicit religion in order for the phenomenon of implicit religion to be studied more deeply. Responding to this call, Penny and Francis (under review) sought to operationalise a new measure representative of individuals whose commitment to implicit religion is expressed by attachment to Christian rites of passage, such as the quest for infant baptism, the



desire to get married in a church, or the hope of a church funeral after death. This is a form of implicit religion which may or may not be accompanied by belief in God, by belief in Jesus or by active participation in religious practice, but which may nonetheless carry significant meaning for those committed to it. This operationalisation of implicit religion provides a further platform from which, in the light of declining levels of church attendance, it is possible to examine the ways in which Christianity may be persisting in the lives of individuals within the UK. Within this operationalisation of implicit religion, for instance, the church continues to play a central role within the lives of individuals living in contemporary Britain. This is in recognition of the view that at the heart of the implicit religion of those attached to Christian rites of passage is the church in which they are held. On this basis, Penny and Francis (under review) developed a new 3-item measure assessed on a 5-point Likert-type scale which was administered to a sample of 11,516 13- to 15-year-old students and which achieved a high level of internal consistency reliability (.72). The scale comprised the items 'I want a church funeral after my death', 'I want my children to be baptised/christened/dedicated in church', and 'I want to get married in a church'.

The first aim of this study was to examine the prevalence of implicit religion among young people, operationalised as attachment to Christian rites of passage. Responses to the individual items comprising the scale demonstrated a high prevalence of implicit religion among the young people included within the study: 60% agreed with the view that they would like to get married in a church, 42% agreed with the view that they would like to have their children baptised/christened/dedicated in a church, and 57% agreed with the view that they would like a church funeral. Implicit religion in this sense also occupied a more

central role in the lives of young people than explicit religion (in terms of church attendance): 45% of young people reported never attending church, 29% of young people reported attending church once or twice a year, 6% of young people reported attending at least six times a year, 10% of young people reported attending church at least once a month, and a further 10% reported attending church weekly.

The second aim of this study was to employ this measure to replicate the analytical model proposed by Francis (2013a, 2013b) to examine the relative impact of explicit religiosity (frequency of church attendance) and implicit religiosity (attachment to Christian rites of passage) on negative attitudes toward substances among 11,516 13- to 15-year-old students. With the exception of the new measure of implicit religion, this study employed the same measures and statistical model as the previous two studies. Results demonstrated that this indicator of implicit religion functioned in the same way as explicit religion in relation to attitudes toward substances: both explicit religion and implicit religion were associated with more negative attitudes toward substances among young people.

Taken together, the findings of these three studies demonstrate two conclusions. First, the coherence of operationalising implicit religion as both the belief that you do not need to go to church to be a Christian and attachment to Christian rites of passage is demonstrated in their ability to predict individual differences in psychological constructs in meaningful ways. Consistent with Bailey's view of implicit religion as displaying intensive effects, it is clear that these two forms of implicit religion shape the worldviews of the young people committed to them and carry implications for the way in which they live their lives. Second, the psychological functions served by implicit religion differ according to the psychological construct measured and the operationalisation of implicit religion

employed. For instance, as Francis (2013b) highlights, there are some ways in which implicit religion (operationalised by believing that you do not need to go to church to be a Christian and operationalised by attachment to Christian rites of passage) serves the same function as explicit religion captured as church attendance, but there are also ways in which this is not the case. On the one hand, implicit religion (operationalised as believing that you do not need to go to church to be a Christian) may work in the lives of individuals in the same way as explicit religion to generate positive psychological outcomes like positive affect and the sense of meaning and purpose (see, Francis, 2013a). Similarly, implicit religion (operationalised as attachment to Christian rites of passage) may work in the lives of individuals in the same way as explicit religion to generate moral awareness and a sense of prohibition toward experiences that have the potential to hinder human flourishing (see, Penny and Francis, under review). On the other hand, implicit religion (operationalised as believing that you do not need to go to church to be a Christian) may not work in the lives of individuals in the same way as explicit religion to offer protection from negative psychological outcomes like negative affect and the sense of despair and meaningless (see, Francis, 2013b). This demonstrates that further empirical research is required replicating this research model with other psychological constructs and similar or different operationalisations of implicit religion.

### **Predicting attitudes toward Christianity**

The aim of this chapter is to replicate the analytical research model proposed by Francis (2013a, 2013b) and Penny and Francis (under review) in order to explore the relative impact of explicit religion (operationalised as church attendance) and implicit religion (operationalised as attachment to Christian rites of passage) on affective religiosity (operationalised by the Francis Scale of Attitude toward

Christianity). However, empirical research seeking to provide an accurate picture of the connection between affective religion, implicit religion and explicit religion needs to be aware of the influence of potentially contaminating variables. Since its development in the 1970s, a series of empirical studies have explored the correlates of the Francis Scale of Attitude toward Christianity using the same research model. This model proposes attitude toward Christianity as a dependent variable in multiple-regression analyses and tests the ability of a range of other variables to predict attitude scores. Findings from these studies demonstrate that attitude toward Christianity is most clearly associated with three different types of variables. In terms of personal variables, attitudes toward Christianity are consistently predicted by age (Boyle & Francis, 1986; Francis, 1980b, 1986a, 1986b; Francis & Greer, 1999a; Rhymer & Francis, 1985) and by sex (Boyle & Francis, 1986; Francis, 1980b, 1986a, 1986b, 1998; Francis & Greer, 1993, 1999a; Kay, 1981c, 1981d; Rhymer & Francis, 1985). In terms of psychological variables, attitudes toward Christianity are consistently predicted by the personality dimension of psychoticism (see, for example, Francis, 1992b) within Eysenck's model of personality (Eysenck & Eysenck, 1991). In terms of religious variables, attitudes toward Christianity are consistently predicted by church attendance (Boyle & Francis, 1986; Francis, 1980b, 1986a, 1986b; Francis & Greer, 1993, 1999a; Francis & Gibson, 1993; Robbins, Babbington, & Francis, 2004), parental church attendance (Francis, 1980b, 1986a, 1986b; Francis & Gibson, 1993), personal prayer (Francis & Greer, 1993, 1999a; Robbins, Babbington, & Francis, 2004), religious belief (Francis & Greer, 1993, 1999a), religious affiliation (Francis, 1980b, 1986a; Francis & Greer, 1999b; Francis & Gibson, 2001), religious experience (Francis & Greer, 1993, 1999a) and intrinsic

religiosity (Joseph & Lewis, 1997) within the model of religious orientation originally proposed by Allport and Ross (1967).

Of particular interest to the present chapter, however, are the empirical studies which have explored the association between affective religiosity and church attendance. Findings from these studies consistently demonstrate that attitudes toward Christianity are enhanced by higher levels of church attendance (Boyle & Francis, 1986; Francis, 1980b, 1986a, 1986b; Francis & Greer, 1993, 1999a; Francis & Gibson, 1993; Robbins, Babbington, & Francis, 2004). Against this background, the present chapter will test Francis' (2013a, 2013b) and Penny and Francis' (under review) general hypothesis that if implicit religion (operationalised as attachment to Christian rites of passage) is to count as a form of religious believing, there has to be evidence of some functional equivalence of implicit religion in the lives of such believers to match the functions of explicit religion in the lives of conventional Christian believers. On this basis, if implicit religion serves the same function as explicit religion (operationalised as church attendance), implicit religion should also be associated with enhanced attitudes toward Christianity.

### **Aims**

The aim of this chapter is to explore the relative impact of explicit religiosity (defined as frequency of church attendance) and implicit religiosity (defined as attachment to Christian rites of passage) on attitude toward Christianity among the sample of students included within the Young People's Values Survey dataset. Following the analytical model proposed by Penny and Francis (under review) these associations will be tested within a regression model that allows for potentially contaminating factors to be taken into account, including: sex, age, personality in terms of Eysenck's dimensional model (extraversion, neuroticism, psychoticism and

the lie scale), and self-assigned religious affiliation. The analyses will test two hypotheses. The first hypothesis is that implicit religion functions in a similar way to explicit religion (church attendance) in relation to attitudes toward Christianity. On this basis, a positive relationship exists between implicit religiosity and attitude toward Christianity. The second hypothesis is that implicit religiosity functions as a stronger predictor of attitude toward Christianity than explicit religiosity (church attendance).

### **Sample**

A sample of 5,199 young people aged between 13 and 15 attending secondary schools in England and Wales completed the Young People's Values Survey which included the Francis Scale of Attitude toward Christianity, a 2-item scale of implicit religiosity, measures of religious affiliation and church attendance, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). The sample comprised 2,449 males (47%), and 2,750 females (53%). Within this sample, 2,725 were year-nine students (52%) and 2,474 were year-ten students (48%). Within this sample, 3,793 were attending community schools (73%), 655 were attending voluntary Anglican schools (13%), 426 were attending voluntary Catholic schools (8%), and 325 were attending independent schools (6%).

### **Procedure**

Participating schools were asked to follow a standard procedure. The questionnaires were administered in normal class groups to all year-nine and year-ten students throughout the school. Students were asked not to write their name on the booklet and to complete the inventory under examination-like conditions. They were assured of confidentiality and anonymity. They were informed that their

responses would not be read by anyone in the school, and that the questionnaires would be dispatched to the research centre for analysis. Although students were given the choice not to participate very few decided not to take part in the survey.

## **Measures**

In addition to basic information about sex and school year, the present analysis draws on the following measures included in the questionnaire.

*Affective religiosity* was assessed by the short form of the Francis Scale of Attitude toward Christianity (Francis, Greer, & Gibson, 1991). This is a 7-item Likert-type instrument employing a five-point response scale: agree strongly, agree, not certain, disagree, and disagree strongly. The individual items assess the respondents' affective response to five key components of the Christian faith including: God, Jesus, Bible, church, and prayer.

*Implicit religiosity* was operationalised by a two-item scale concerned with attachment to Christian rites of passage based on the measure employed by Penny and Francis (under review), including the statements, 'I would like to have my children baptised/christened in church', and 'I would like to get married in church'. Each item was assessed according to a five-point response scale: agree strongly, agree, not certain, disagree, and disagree strongly.

*Explicit religiosity* was operationalised by the item, 'How often do you attend a place of religious worship? (e.g., church, mosque, temple)' rated on a 5-point scale: never, at least once or twice a year, at least six times a year, at least once a month, and nearly every week.

*Religious affiliation* was measured by the item, 'What is your religion?' followed by a check list of Christian denominations and other faith-groups. The first category in the list was 'none' and the last category was 'other (please specify)'.

*Personality* was assessed by the abbreviated form of the Revised Junior Eysenck Personality Questionnaire (JEPQR-A: Francis, 1996). This is a 24-item instrument which proposes four six-item measures of extraversion, neuroticism, psychoticism, and a lie scale. Each item is assessed on a dichotomous scale: yes and no.

### **Data analysis**

The present analysis was conducted on a subset of the total database shaped by responses to the item in the survey concerned with religious affiliation. This item was employed to exclude from analysis all students who identified with a non-Christian world faith, and all the Christian denominations were combined to form the single category 'Christian'. The analysis therefore was capable of comparing the two categories: students of no religious affiliation and students of Christian affiliation. The analysis was, consequently, conducted on the subset of 4,711 students. This subset included 2,150 males and 2,615 females, 2,472 year-nine students and 2,239 year-ten students, 2,417 students of no religious affiliation and 2,294 students of Christian religious affiliation. The data were analysed by SPSS statistical package using the frequency, reliability, correlation, and multiple-regression functions. Step-wise multiple-regression was employed to create two independent models, both of which controlled for individual differences in sex, age, personality and religious affiliation before testing for the influence of explicit religiosity (model 1) and implicit religiosity (model 2) on attitude toward Christianity.

### **Results**

Table 10.1 presents the level of explicit religiosity reported by students included within the Young People's Values Survey dataset in terms of church attendance. These data demonstrate that 4.0% of students report that they attend a



place of religious worship nearly every week, 5.5% of students report that they attend a place of religious worship at least once a month, 4.5% of students report that they attend a place of religious worship at least six times a year, 29.8% of students report that they attend a place of religious worship at least once or twice a year, and 56.2% of students report that they never attend a place of religious worship.

Table 10.2 presents the level of implicit religiosity reported by students included within the Young People's Values Survey dataset in terms of two items. Responses to the first item demonstrate that 19% of students agree strongly and 25% of students agree with the view that they would like to have their children baptised in a church, 30% of students are not certain, while 10% disagree and 16% disagree strongly with the view that they would like to have their children baptised in a church. Responses to the second item demonstrate that 17% of students agree strongly and 22% of students agree that they would like to get married in a church, 38% of students are not certain, while 12% disagree and 11% disagree strongly with the view that they would like to get married in a church.

Table 10.3 presents the scale properties of the Francis Scale of Attitude toward Christianity, the 2-item implicit religiosity scale, and the abbreviated form of the Revised Junior Eysenck Personality Questionnaire. In terms of the alpha coefficient (Cronbach, 1951) as an index of internal consistency reliability the measures of attitude toward Christianity, implicit religiosity, extraversion, and neuroticism all exceed DeVellis' (2003) recommended threshold of 0.65. While the psychoticism scale displays an alpha coefficient of .60, this is high given the historic difficulties typically encountered by the psychoticism scales in general (Francis, Philipchalk, & Brown, 1991). The lie scale displays the lowest alpha coefficient of .54, which is in line with the findings of previous research findings (Francis, 1996).

Table 10.4 presents the correlation coefficients between attitude toward Christianity, sex, age, extraversion, neuroticism, psychoticism, the lie scale, implicit religiosity and explicit religiosity. Given the size of the sample, the probability level has been set at 1%. Five main features of this correlation matrix require comment. First, these data demonstrate that sex functions as a significant predictor of all the variables included within this study: females are more likely to be affiliated with the Christian tradition than males, and females also record higher scores on extraversion, neuroticism, the lie scale, attitude toward Christianity, explicit religiosity and implicit religiosity, while males record higher psychoticism scores. In this instance the indicator of implicit religion functioned in relation with sex in the same way as the indicator of explicit religion. Second, these data demonstrate that while age is unrelated to implicit religiosity and religious affiliation, age does function as a significant predictor of neuroticism, lie-scale scores, attitude toward Christianity, and explicit religiosity: while year-nine students record higher scores on the lie scale, attitude toward Christianity, and explicit religiosity (in terms of church attendance), year-ten students record higher scores on the neuroticism scale. In this instance the indicator of implicit religion functioned differently in relation with age than the indicator of explicit religion. Third, the pattern of correlations between personality and religiosity demonstrate that all three dimensions of Eysenck's personality model as well as the lie scale are significant predictors of the four religiosity measures included within this study: a significant positive correlation is observed between attitude toward Christianity, explicit religiosity, implicit religiosity and religious affiliation with the personality dimension of neuroticism and with the lie scale; a significant negative correlation is observed between attitude toward Christianity, explicit religiosity, implicit religiosity and religious affiliation with the personality

dimension of psychoticism; a negative correlation is observed between attitude toward Christianity and explicit religiosity with extraversion. In this instance the indicator of implicit religion functioned in relation with psychoticism, neuroticism and the lie scale in the same way as the indicator of explicit religion. Fourth, these data demonstrate that all three measures of religiosity included within this study function as significant predictors of attitude toward Christianity: positive attitudes toward Christianity are associated with higher levels of explicit religiosity, implicit religiosity and with affiliation to the Christian tradition. In this instance the indicator of implicit religion functioned in relation with affective religiosity in the same way at the indicator of explicit religion.

Table 10.5 presents the partial correlation coefficients between attitude toward Christianity, sex, age, extraversion, neuroticism, psychoticism, the lie scale, implicit religiosity and explicit religiosity controlling for sex. These data demonstrate that controlling for sex differences does not change the basic pattern of correlations identified in table 10.4, with the exception of the negative association between age and explicit religiosity which emerges as no longer significant.

Tables 10.6 (model 1) and 10.7 (model 2) present the two regression models in which attitude toward Christianity is the dependent variable and in which the predictor variables have been entered in this fixed order: sex, age, psychoticism, neuroticism, extraversion, lie scale and Christian affiliation. Then in model one, the indicator of explicit religiosity (church attendance) has been entered as the final predictor variable, in model two the indicator of implicit religiosity has been entered as the final predictor variable. In the first model, these data demonstrate that: after controlling for the influence of age, sex, personality and Christian affiliation, explicit religiosity (in terms of church attendance) emerges as a strong predictor of attitudes

toward Christianity. In the second model, these data demonstrate that: after controlling for the influence of age, sex, personality and Christian affiliation, implicit religiosity also emerges as a strong predictor of attitudes toward Christianity and functions in the same way as the indicator of explicit religiosity. Moreover, these data highlight that the influence of implicit religiosity in predicting attitudes toward Christianity is marginally stronger than the predictive power of explicit religiosity (in terms of church attendance).

### **Discussion**

This chapter set out to examine and to clarify the relationship between attitude toward Christianity, implicit religion and explicit religion among a sample of 13- to 15-year-old young people. The findings of this chapter build on previous empirical research employing Bailey's (1997, 1998) notion of implicit religion to assess the persistence of Christian believing within the UK. This literature represents two fields of research, exploring: the prevalence of implicit religion in the UK operationalised by the belief that you don't have to go to church to be a Christian; the psychological functions served by both the implicit religion of believing that you do not need to go to church to be a Christian, and the implicit religion of attachment to Christian rites of passage. The findings of this chapter add to this literature by testing the general hypothesis posited by Francis (2013a, 2013b) and Penny and Francis (under review) concerning the symmetry of the effects of explicit religion (assessed by frequency of church attendance) and the effects of implicit religion (assessed by attachment to Christian rites of passage) on certain outcome variables, in this case, affective religiosity. In exploring the relationship between attitude toward Christianity, implicit religion and explicit religion, care has been taken to control for the potentially contaminating influences of sex, age, religious affiliation

and individual differences in personality. Four main conclusions emerge from these data.

The first conclusion concerns the prevalence of implicit religion among young people living in the first decade of the twenty-first century. These data demonstrate a high level of commitment to implicit religion (operationalised as quest for infant baptism and the desire to be married in a church) among the young people included within this study. Moreover, this form of implicit religion has a greater presence within the lives of young people than conventional explicit Christian practice (in terms of church attendance). These findings are supported by empirical studies which report high levels of implicit religion among individuals living in the UK in terms of believing that you do not need to go to church to be a Christian, and which demonstrate that commitment to implicit religion may be superseding commitment to conventional explicit religious attendance (Francis & Richter, 2007; Walker, Francis, & Robbins, 2010; Walker, 2013). As Francis (2013b) highlights, the advantage of Bailey's construct of implicit religion is that it values and respects popular reformulations of Christian identity outside the confines of strict doctrinal orthodox belief and conventional observance of practice. Bailey does not dismiss those whose religious commitment is most adequately expressed in the confession 'Well, you see, I believe in Christianity' as secular or merely cultural Christians, he understands such a formulation as a sincere expression of implicit religion (Francis, 2013b). Here, then, Bailey's concept of implicit religion is capable of taking seriously the implicit religion of the young people included within the present study. This expression of implicit religion is characterised by the desire to pursue rites of passage central to the Christian faith even in presence of low levels of commitment to conventional explicit Christian practices (such as church attendance).

This finding, however, also says something about the place and role of the church among young people living within the first decade of the twenty-first century. While it is clear that levels of commitment to conventional Christian explicit practices are low (in terms of frequent church attendance), the church continues to serve a central role in the lives of young people in this study through their commitment to and expression of implicit religion. The church is, after all, the place where christenings, weddings and funerals happen. It is clear that in their commitment to implicit religion, these young people continue to attribute meaning to the act of attending church within the context of participating in Christian rites of passage. This may be what is reflected by the significant proportions of young people within this study who report that they attend church once or twice a year. This finding provides further support for the view that conventional religion in the UK (in terms of the Christian tradition) is giving way not to a secular worldview but to a personalised form of implicit religion.

The second conclusion concerns implicit religion as a significant predictor of attitudes toward Christianity among young people. This chapter has tested the general hypothesis, proposed by Francis (2013a, 2013b) and Penny and Francis (under review), that for implicit religion to count as religious believing there has to be evidence of some fundamental equivalence of implicit religion in the lives of such believers to match the functions of explicit religion in the lives of conventional Christian believers. Replication of the analytic model proposed by Francis (2013a, 2013b) and Penny and Francis (under review) in the present study has demonstrated that implicit religion (operationalised as attachment to Christian rites of passage) functions in a similar way to explicit religion (operationalised as frequency of church attendance) in relation to young people's attitudes toward Christianity. These data

support the first hypotheses of this study that a positive relationship exists between implicit religion and attitude toward Christianity. Young people who record higher scores on implicit religion are more likely to hold positive attitudes toward Christianity, in the same way that young people who attend church frequently are more likely to hold positive attitudes toward Christianity. The symmetry of the effects of explicit religion and implicit religion on affective religiosity highlight that the operationalisation of implicit religion employed by the present study constitutes a real feature of religiosity among young people capable of predicting attitudes and behaviours. This conclusion is supported by other empirical studies employing this research model which have demonstrated that implicit religion functions in the same way as explicit religion in relation to certain psychological constructs (see, for example, Francis, 2013a; Penny & Francis, under review).

The third conclusion concerns implicit religion as a marginally stronger predictor of attitudes toward Christianity than explicit religion. These data confirm the second hypothesis of this study that implicit religion (operationalised as attachment to Christian rites of passage) shares a closer connection with affective religiosity than explicit religiosity (in terms of church attendance). Among the young people included within this study implicit religion, reflected in the quest for infant baptism or the desire to be married in a church, makes a marginally stronger contribution to predicting positive attitudes toward Christianity than frequent church attendance (explicit religion). The ability of implicit religion to impact so clearly on young people's affective appreciation of Christianity demonstrates that continued attachment to Christian rites of passage carries a strong inner meaning, one which carries more weight in the development of positive attitudes toward Christianity than regular church attendance. The finding that implicit religion shares a closer

connection with attitudes toward Christianity than explicit religion is also supported by empirical studies which demonstrate that attitude toward Christianity, as an affective construct, is enhanced more by religious variables that reflect the inner realities of individual religiosity, such as private prayer (Greer & Francis, 1991), religious belief (Greer, 1982) or intrinsic religiosity (Joseph & Lewis, 1997) than by religious variables that reflect external realities of religiosity, such as church attendance.

The fourth conclusion concerns the connection that implicit religiosity shares with the other variables measured in this study. These findings demonstrate that there are some ways in which the implicit religion of young people (operationalised as attachment to Christian rites of passage) serves the same function as explicit religion (operationalised as church attendance) but that there are others in which this is not the case. For example, on the one hand, implicit religion functions in the same way as explicit religion with regards to sex, the personality dimensions of psychoticism, and neuroticism, the lie scale, and with regards to religious affiliation. On the other hand, implicit religion functions differently to explicit religion with regards to age and the personality dimension of extraversion. Thus, while levels of church attendance decline with age among 13- to 15-year-old students, levels of implicit religion remain consistent, and while higher levels of church attendance are associated with introverts, higher levels of implicit religion are associated with extraverts.

### **Conclusion**

Working within Bailey's (1997, 1998) concept of implicit religion the present chapter has examined the relative contribution of implicit religion (assessed in terms of attachment to Christian rites of passage) and explicit religion (assessed in terms of



frequency of church attendance) to affective religiosity (assessed by the Francis Scale of Attitude toward Christianit) among 13- to 15-year-old students. The data have demonstrated a high level of commitment to implicit religion among young people living in the UK during the first decade of the twenty-first century. The data have also demonstrated that implicit religion functions in a similar way to explicit religion in the sense that both are connected with enhanced positive attitudes toward Christianity. Moreover, the data have indicated that implicit religion functions as a marginally stronger predictor of attitudes toward Christianity than explicit religion. This suggests that implicit religion (operationalised as attachment to Christian rites of passage) constitutes a real feature of religiosity capable of predicting attitudes and behaviours.

However, due to the limited body of evidence on which the present study has been based the conclusions of the present chapter remain vulnerable. Replication studies are required to extend this analysis among similar and larger samples of young people, as well as among samples of adults to test, as Francis (2013b) highlights, the adequacy of the theory regarding the functions of implicit religion and its general stability within the broader interface between the study of implicit religion and the scientific psychology of religion. Future empirical research may also wish to address a significant methodological limitation within the present study concerning the relatively crude way in which implicit religion was measured in the present study, by a 2-item scale. Future empirical studies may wish to utilise a more comprehensive measure of this form of implicit religion, such as that used by Penny and Francis (under review).

## **CHAPTER ELEVEN**

### **CONCLUSION**

#### **Introduction**

#### **Part two – Scoping the field**

**The attitudinal dimension of religiosity**

**The Teenage Religion and Values Survey**

**The Young People’s Values Survey**

#### **Part two – New empirical evidence**

**Psychometric properties of the Francis Scale**

**Sex differences**

**Purpose in life**

**Suicidal ideation**

**Immortality beliefs**

**Implicit religion**

**Attitudes toward Christianity in the twenty-first century**

**Present research context**

## **Summary**

The previous chapter considered the relationship between attitudes toward Christianity and implicit religion, presenting the last of five separate analyses conducted on the Young People's Values Survey designed to explore the correlates of attitude toward Christianity. Chapter eleven draws together the conclusions highlighted by the literature review in part one of this thesis and the findings of the new empirical evidence in part two of this thesis, to make an assessment on what this study is able to say about attitudes toward religion among 13- to 15-year-old students living within the first decade of the twenty-first century in England and Wales. This thesis concludes by discussing how the findings of this study may shape future empirical research within the tradition of empirical theology.

## **Introduction**

The aim of this thesis was to explore the correlates of attitude toward Christianity (assessed by the Francis Scale of Attitude toward Christianity) among 5,199 13- to 15-year-old students who participated in the Young People's Values Survey conducted during the years of 2002 to 2010 across England and Wales. This study was designed to add a new contribution to the tradition of empirical theology developed by Francis and colleagues concerned with individual differences in young people's attitudes toward religion and values. The Young People's Values Survey was created to draw together two strands of research within this tradition, the first concerned with the establishing the correlates of attitude toward religion (operationalised by the Francis Scale of Attitude toward Christianity and family of instruments developed from this scale), and the second concerned with assessing individual differences in young people's religion and values (operationalised by the Teenage Religion and Values Survey and the family of instruments developed for use in this series). This thesis has built on these two strands of research by reporting on findings generated from the Young People's Values Survey, the first study within the Teenage Religion and Values Survey series to include the Francis Scale of Attitude toward Christianity.

The first half of this thesis provided a context for the present study by collating, reviewing and assessing the bodies of knowledge on which it builds. This review considered the two strands of research within the tradition of empirical theology (concerned with the attitudinal dimension of religiosity and with teenage religion and values), and explored how the Young People's Values Survey was designed to promote dialogue between these two separate strands of research by providing an opportunity to examine young people's attitudes toward religion and

values within the context of the twenty-first century. The second half of this thesis comprised new empirical evidence designed to explore through statistical analysis of the quantitative dataset generated by the Young People's Values Survey the personal and social correlates of young people's attitudes toward Christianity. The aim of this final chapter is to consider the main findings and implications of this study. This thesis concludes by considering future possibilities for both the Young People's Values Survey dataset and for the tradition of empirical theology concerned with assessing individual differences in young people's attitudes toward religion and values.

### **Part-one – Scoping the field**

#### **The attitudinal dimension of religiosity**

The second chapter of this thesis considered the first strand of research on which this thesis builds, concerned with the measurement of individual differences in the attitudinal dimension of religiosity operationalised by the Francis Scale of Attitude toward Christianity. The first half of this chapter examined the theoretical frameworks which shape this approach to the scientific study of religion, conceptualisation of the affective dimension of religiosity, and development of the instrument designed to measure this psychological construct. The second half of this chapter examined two practical examples of how the attitudinal dimension has been practically applied to research questions within the broader context of the psychology of religion. Three main conclusions emerge from consideration of this tradition's approach to empirical research in religion.

First, a scientific assessment which recognises the multiple dimensions of religion is beneficial to empirical research seeking to provide an accurate picture of how the complex nature of religion is experienced. Empirical studies which accept a

multi-dimensional model of religiosity allow the individual aspects of religiosity to be considered independently but also leave open the possibility to explore relationships between the different dimensions.

Second, the utility of the research model, which proposes the attitudinal dimension as the most secure basis for empirical research in religion, is demonstrated by the extensive body of reliable and valid information generated from studies employing the Francis Scale of Attitude toward Christianity. The consistent use of one measure in a series of interrelated studies has developed a cumulative picture of the correlates, antecedents, and consequences of individual differences in attitudes toward Christianity over a forty-year research period.

Third, while empirical research exploring the correlates of attitude toward Christianity is well established, there is a need to keep this literature up-to-date and to ensure the scales use within future studies. This need is recognised within the present thesis which adds a new piece to the jigsaw puzzle began by Francis (1978a) by exploring the correlates of attitudes toward Christianity among 13- to 15-year-old students living in England and Wales within the first decade of the twenty-first century.

### **The Teenage Religion and Values Survey**

The third chapter of this thesis considered the second strand of research on which this thesis builds, concerned with the assessment of individual differences in young people's religion and values operationalised by the Teenage Religion and Values Survey. The first half of this chapter examined the design, methodology and theoretical frameworks shaping the Teenage Religion and Values Survey. The second half of this chapter examined the body of empirical literature that was generated from the largest study in this series conducted among 33,982 13- to 15-

year-old students across England and Wales throughout the 1990s. Two main conclusions emerge from consideration of the Teenage Religion and Values Survey.

First, the efficacy of the research model utilised by this approach to empirical research exploring young people's religion and values is recommended by the substantial body of literature generated from the study conducted throughout the 1990s (Francis, 2001a) as well as that generated by earlier studies in this series (Francis & Kay, 1995). The advantage of utilising large-scale cross-sectional quantitative surveys within this research model is that findings can be held with confidence and are generalisable to the wider population. The use of common instrumentation within this series means that data may be employed comparatively to provide a view of the ways in which young people's religion and values are changing at different points in time. A further benefit is gained in the design of a questionnaire based on an individual differences approach to empirical research. As findings of the 1990s study highlight, there are often many factors which impact on young people's experiences of religion. To provide a meaningful picture of the changing nature of religiosity in the lives of young people it is important to adopt a research model that is capable of identifying and investigating the influence of such factors. The Teenage Religion and Values Survey allows this research question to be realised through the use of sophisticated statistical models which consistently yield significant results. This places a real value on what studies belonging to the Teenage Religion and Values Survey can tell us about young people's religion and values.

Second, while it is clear that the Teenage Religion and Values Survey conducted throughout the 1990s made a significant contribution to knowledge about religion and values among young people, there is a need to keep this literature up-to-date. This can be achieved by keeping the quantitative design of the survey informed

by current qualitative research and by updating the value domains to include new areas of interest as they come to the fore within the lives of young people, the psychology of religion and empirical theology. This allows the research model to accurately reflect the changing worldview of young people living in the twenty-first century.

### **The Young People's Values Survey**

The fourth chapter of this thesis introduced the Young People's Value's Survey. This study was designed to draw together the two different strands of research within the field of empirical theology (concerned with the correlates of attitude toward religion and concerned with young people's religion and values) so as to allow effective assessment of individual differences in young people's attitudes toward religion and values in the context of the twenty-first century. The Young People's Values Survey is the latest addition to the Teenage Religion and Values Survey, it represents the third phase of this series. It is the first study within this series to include the Francis Scale of Attitude toward Christianity. The first half of this chapter considered the design, methodology and empirical literature which emerged from the interim datasets. The second half of this chapter explored the values profile of the 5,199 young people included within the completed dataset. This served to identify potential domains in which attitudes could be discussed within the proceeding chapters of this thesis. Three main conclusions emerge from the findings of this chapter.

First, the inclusion of the Francis Scale of Attitude toward Christianity within the Young People's Values Survey promotes empirical research in religion by allowing the research question concerned with charting the correlates of attitude toward Christianity to have conversation with the broader research question



regarding young people's values developed by the Teenage Religion and Values Survey. This extends the range of personal and social correlates that may be explored in relation to attitudes toward Christianity (as made available by the new values map represented in part three of the questionnaire), and provides an opportunity to examine the interaction between affective religiosity and other dimensions of religion routinely included within the Teenage Religion and Values Survey (e.g., self-assigned religious affiliation, attendance to places of religious worship, personal prayer, reported reading of scriptures, religious belief) in respect of young people's values. However, there are currently no empirical studies that have employed the completed dataset of 5,199 cases to explore the place of religion and values in the lives of young people living within the twenty-first century. This thesis was designed to explore the potential of the Young People's Values Survey dataset.

Second, the values profile of the young people included within the dataset, drawn across ten value domains, reveals a complex picture of the personal and social worldviews of young people today. This is a group of 13- to 15-year-old students among whom: belief in the afterlife is more prevalent than traditional Christian belief-systems (God, Jesus, Bible); the place of religion in society and education is questioned, yet the church retains importance through attachment to Christian rites of passage (infant baptism, church weddings); non-traditional beliefs (ghosts, fate, horoscopes) are more prevalent than conventional Christian beliefs; the future prospect of a successful career and home-ownership are key aims and motivators in life; personal well-being (in terms of perceived purpose in life) exists at a good level, yet worryingly, so do experiences of depression, thoughts of self-harm and suicide among a significant number; school-life is an area of both contentment (in terms of teachers abilities and the relevance of education to future life experience) and worry

(in terms of exams, bullying and relevance of education to future employment); attitudes toward sexual morality are more liberal in respect of under-age sex and divorce than in respect of homosexuality; attitudes toward alcohol consumption and inebriation are relaxed, while caution remains in respect of illegal substances; there are high levels of concern about political and social issues (poverty, terrorism) but also high levels of helplessness in ability to combat such issues; there are high level of concern about environmental issues (over-use of worlds resources, pollution) but less active commitment in combating such issues.

Third, this values profile served to highlight areas of interest which occupy a prominent position in the personal and social worldviews of students within the Young People's Values Survey, and which represent areas of wider interest to the psychology of religion and study of empirical theology. These research areas, drawn from the value domains, are chosen as the basis of five independent analyses exploring the connection between attitudes toward Christianity (assessed by the Francis Scale of Attitude toward Christianity) and: sex differences, purpose in life, suicidal ideation, immortality beliefs (belief in life after death) and implicit religion (attachment to Christian rites of passage implicit).

### **Part two – New empirical evidence**

The second half of this thesis presented new empirical analyses exploring the correlates of young people's attitudes toward Christianity assessed by the Francis Scale of Attitude toward Christianity. Six chapters were presented, each designed to reflect one of six independent analyses conducted on the Young People's Values Survey dataset. The first of these chapters reported on the psychometric properties of the Francis Scale of Attitude toward Christianity. Five chapters were then dedicated to exploring (through bivariate and multivariate analyses) the relationship between

individual differences in scores recorded on the Francis Scale of Attitude toward Christianity and sex differences, purpose in life, suicidal ideation, immortality beliefs (belief in life after death), and implicit religion (attachment to Christian rites of passage). The main findings of each of these chapters will now be considered.

### **Psychometric properties of the Francis Scale**

The fifth chapter of this thesis explored the psychometric properties of the Francis Scale of Attitude toward Christianity. The first half of this chapter considered the body of empirical literature which has tested the properties of the Francis Scale of Attitude toward Christianity and the family of instruments which have developed from this original scale. The second half of this chapter reported on the reliability and validity of the 7-item short form of the Francis Scale of Attitude toward Christianity among the 13- to 15-year-old students who participated in the Young People's Values Survey. Two main conclusions emerge from the findings of this chapter.

First, the Francis Scale of Attitude toward Christianity was shown to function reliably and validly over a forty-year period across an age range of eight years through to late adult life. A review of the literature exploring the psychometric properties of the scale finds that on average the scale functions with an alpha coefficient around 0.97. The consistent high reliability of the scale has provided a solid foundation from which a family of measures could be developed that expand the scope of research concerned with the attitudinal dimension of religiosity into different contexts and cultures. This allows the research tradition to be inclusive of a number of countries and faith traditions, promoting interfaith and international dialogue about the place of religion in the lives of children, young people and adults across the world.

Second, the findings of statistical analyses reported in the second half of this chapter demonstrated that the 7-item short-form Francis Scale of Attitude toward Christianity continues to function with satisfactory scale properties of unidimensionality, internal consistency reliability and construct validity among the students of the Young People's Values Survey. This recommends the instrument for use within this study designed to build upon the comparative empirical research tradition established by Francis (1978a) exploring the correlates, antecedents and consequences of young people's changing attitudes toward Christianity. These findings serve to update the literature on the psychometric properties of the scale among secondary-school students living in England and Wales within the first decade of the twenty-first century. This will help to ensure the scale's continued use within future studies.

### **Sex differences**

The sixth chapter of this thesis set out to examine the connection between young people's attitudes toward Christianity and sex differences. The first half of this chapter considered the different theoretical approaches that have been put forward to account for the well-established finding within the psychology of religion that females are regularly found to be more religious than males in Christian (or post-Christian contexts) (Argyle & Beit-Hallahmi, 1975; Francis, 1997a; Francis & Penny, 2013), including: sociologically-grounded theories (*classic sociological theories*, gender role socialisation and structural location, and *new sociological theories*, risk-aversion and power-control) and psychologically-grounded theories (gender orientation and personality-based theories). Working within the context of personality-based psychologically-grounded theories, the second half of this chapter reported on the findings of statistical analyses designed to examine whether sex

differences in young people's attitudes toward Christianity persist after individual differences in Eysenck's (Eysenck & Eysenck, 1991) dimensional model of personality have been taken into account, building on the recent study by Penny, Francis, and Robbins (under review). Three main conclusions emerge from the findings of this chapter.

First, both sex and personality function as significant predictors of attitude toward Christianity among the 13- to 15-year-old students of the Young People's Values Survey. In terms of sex differences, females record higher scores on the Francis Scale of Attitude toward Christianity than males. This is consistent with previous empirical research using the scale among young people (Kay & Francis, 1996) and reflects wider findings of the psychology of religion regarding religious sex differences (Argyle & Beit-Hallahmi, 1975; Francis & Penny, 2013). In terms of personality differences, the bivariate analysis demonstrates that attitude toward Christianity is negatively associated with psychoticism and extraversion, and positively associated with neuroticism. The multivariate analysis demonstrates that psychoticism functions as the strongest predictor of attitudes toward Christianity. This finding is supported by previous empirical research which consistently demonstrates that, within Eysenck's dimensional model of personality, psychoticism is fundamental to religiosity (Francis, 1992b; Francis, Lewis, Brown, Philipchalk, & Lester, 1995).

Second, multivariate analysis controlling for the influence of personality demonstrates that biological sex makes no significant contribution to the prediction of attitude toward Christianity scores. This suggests that sex differences in religiosity can be understood in terms of basic personality differences rather than as a function of being male or female. This finding highlights, as Penny, Francis, and Robbins

(under review) maintain, that sociological theories, which draw on the social context of women to explain higher levels of religiosity among women, become redundant, and that the most economic explanation resides in the personality characteristics associated with being female (within Eysenck's dimensional model of personality this is associated with low psychoticism scores). The implications of this finding highlight that future empirical research exploring the relationship between religiosity and other variables must be aware of the potentially contaminating influence of sex differences in religiosity and take steps to manage this influence effectively by including reliable measures of personality.

Third, conclusions of the study reported by Penny, Francis, and Robbins (under review) and those of this chapter remain vulnerable due to the limited evidence base on which they are built. Replication studies are required which test this model among similar and larger samples of young people, undergraduates and adults within the UK and outside, utilising different models of personality (e.g., big the five factor model, Jung's model of psychological type), and different measures of alternative faith-traditions (e.g., Sahin-Francis Scale of Attitude toward Islam, Katz-Francis Scale of Attitude toward Judaism, Santosh-Francis Scale of Attitude toward Hinduism, Williams Scale of Attitude toward Paganism, Astley-Francis Scale of Attitude toward Theistic Faith) to examine whether this pattern of relationship exists within different contexts.

### **Purpose in life**

The seventh chapter of this thesis set out to examine the connection between young people's attitudes toward Christianity and perceived purpose in life. The first half of this chapter considered empirical literature that has explored the ability of purpose in life to predict a range of individual differences within the areas of

psychopathology, positive psychology, social attitudes and religiosity. Within this literature, a series of studies conducted among young people have explored the connection between different measures of religiosity and the same single-item measure of purpose in life: 'I feel that my life has a sense of purpose' (Francis & Burton, 1994; Francis & Evans, 1996; Francis, 2005b; Robbins & Francis, 2005). The second half of this chapter adds to this research tradition by reporting on the findings of statistical analyses designed to examine the connection between young people's attitudes toward Christianity and the same single-item measure of purpose in life. Four main conclusions emerge from the findings of this chapter.

First, attitude toward Christianity functions as a significant predictor of perceived purpose in life among the 13- to 15-year-old students of the Young People's Values Survey. The bivariate analysis demonstrates a positive association between purpose in life and attitude toward Christianity. The multivariate analysis demonstrates that attitude toward Christianity scores account for additional variance in purpose in life after age, sex and personality have been taken into account. Among this group of young people it is clear that a positive attitude toward Christianity makes a significant contribution to promoting a sense of purpose in life. This finding is supported by previous empirical research which also reports a positive association between different conceptualisations of religiosity and perceived purpose in life (assessed by the same single-item measure) among young people (Francis & Burton, 1994; Francis & Evans, 1996; Francis, 2000b, 2005b; Robbins & Francis, 2005).

Second, attitude toward Christianity functions as a stronger predictor of perceived purpose in life among young people than other dimensions of religiosity, such as personal prayer and church attendance. The bivariate analysis initially demonstrates a significant positive association between purpose in life and all three

measures of religiosity (attitude toward Christianity, personal prayer and church attendance). However, the multivariate analysis demonstrates that after the influence of age, sex, personality and attitude toward Christianity are taken into account neither personal prayer nor church attendance add any additional predictive power to purpose in life score. The implication of these findings highlight that future empirical studies exploring the relationship between purpose in life and religiosity would be wise to include multiple-measures of religion so as to allow a clear picture of the association between the different dimensions of religiosity and purpose in life to emerge.

Third, personality functions as a significant predictor of purpose in life. The bivariate analysis demonstrates a positive association between purpose in life, extraversion and lie-scale scores, and a negative association between purpose in life, neuroticism and psychoticism scores. The multivariate analysis demonstrates that neuroticism functions as the strongest predictor of purpose in life among this group of young people. This is supported by previous empirical research which has also demonstrated this basic pattern of results (Francis, 2000b, 2005b; Robbins & Francis, 2005; Francis, Jewell, & Robbins, 2010). The implication of this finding highlights the importance of accounting for the influence of personality in empirical studies exploring the relationship between religiosity and purpose in life.

Fourth, replication studies are required to extend this analysis among similar and larger samples of young people, undergraduates and adults, utilising the same and more sophisticated measures of purpose in life, within a variety of geographic locations, and including measures of alternative faith traditions so as to examine whether this pattern of relationship exists within different contexts.



## **Suicidal ideation**

The eighth chapter of this thesis set out to examine the connection between young people's attitudes toward Christianity and suicidal ideation. The first half of this chapter considered empirical literature concerned with predicting individual differences in vulnerability to suicidal behaviour focusing on the construct suicidal ideation. Within this literature, a series of studies have explored the patterns of relationship between suicidal ideation, different dimensions of religiosity and Eysenck's dimensional model of personality (Lester & Francis, 1993; Hills & Francis, 2005; Kay & Francis, 2006; Robbins & Francis, 2009). The second half of this chapter adds to this research tradition by reporting on the findings of statistical analyses designed to examine the role of personality in shaping the association between affective religiosity and suicidal ideation (assessed by the single-item measure 'I have sometimes considered taking my own life'). Three main conclusions emerge from the findings of this chapter.

First, attitude toward Christianity is unrelated to the levels of suicidal ideation experienced by the 13- to 15-year-old students of the Young People's Values Survey. Moreover, personal prayer and church attendance are also found to be unrelated to suicidal ideation. This finding is demonstrated by the bivariate analysis and remains consistent in the multivariate analysis even after the influence of age, sex and personality have been taken into account. Religion among this group of young people, then, does not act as an inhibitor of suicidal thoughts. While there is some support for this finding (Hovey, 1999; Hills & Francis, 2005; Fife et al., 2011) this study has not confirmed the general pattern of results established by previous empirical research which tends to demonstrate that religion acts as a protective force against suicidal ideation (Abdel-Khalek, & Lester, 2007; Robbins &

Francis, 2009; Franić et al., 2011; Francis, 2013b). The implication of this finding highlights that further investigation is required to establish whether these conclusions remain consistent among other samples of young people living in the UK in the twenty-first century.

Second, personality functions as a significant predictor of suicidal ideation. While the association between religiosity and suicidal ideation is limited and weak, the corresponding associations with personality are substantial. The bivariate analysis demonstrates a positive association between suicidal ideation, neuroticism and psychoticism, and a negative association between extraversion and lie-scale scores. The multivariate analysis demonstrates that neuroticism functions as the strongest predictor of suicidal ideation among this group of young people. This finding is supported by previous empirical studies which have also demonstrated this basic pattern of results (Brezo, Paris, & Turecki, 2006; Kay & Francis, 2006; Robbins & Francis, 2009; Francis, 2013b). The implications of this finding highlight the importance of accounting for the influence of personality in empirical studies exploring the relationship between religiosity and suicidal ideation.

Third, replication studies are required to extend this analysis among similar and larger samples of young people, undergraduates and adults, utilising the same or more sophisticated measures of suicidal ideation, and including measures of alternative faith-traditions so as to examine whether this pattern of relationship exists within a variety of different contexts.

### **Immortality beliefs**

The ninth chapter of this thesis set out to examine the connection between young people's attitudes toward Christianity and beliefs about immortality. The first half of this chapter considered recent empirical literature which has concerned itself

with mapping the psychological correlates, antecedents and consequences of afterlife beliefs. The second half of this chapter adds to this literature by reporting on the findings of statistical analyses designed to explore the connection between affective religiosity and afterlife beliefs (assessed by the single-item 'I believe in life after death'). Four main conclusions emerge from the findings of this chapter.

First, attitude toward Christianity functions as a significant predictor of beliefs about immortality among the 13- to 15-year-old students of the Young People's Values Survey. The bivariate analysis demonstrates a positive association between belief in life after death and attitude toward Christianity. The multivariate analysis demonstrates that attitude toward Christianity accounts for additional variance in belief in life after death after the influence of age, sex and personality have been taken into account. Among this group of young people it is clear that a positive attitude toward Christianity makes a significant contribution to promoting beliefs about immortality. This finding is supported by previous empirical research which reports a positive association between different measures of religiosity and afterlife beliefs (Ochsmann, 1984; Florian & Kravetz, 1983; Dezutter et al., 2009).

Second, attitude toward Christianity functions as a stronger predictor of beliefs about immortality among young people than other dimensions of religiosity, such as personal prayer and church attendance. The bivariate analysis initially demonstrates a significant positive association between belief in life after death and all three measures of religiosity (attitude toward Christianity, personal prayer and church attendance). However, the multivariate analysis demonstrates that after the influence of age, sex, personality and attitude toward Christianity are taken into account, personal prayer continues to add a small but statistically significant influence to the prediction of belief in life after death, but church attendance adds no

further influence. The implication of these findings highlight that future empirical studies exploring the relationship between afterlife beliefs and religion would be wise to include multiple-measures of religiosity so as to gain a clear view of the interaction between beliefs about immortality and the different dimensions of religiosity.

Third, personality functions as a significant predictor of beliefs about immortality. The bivariate analysis demonstrates that belief in life after death is positively associated with neuroticism and lie-scale scores, and negatively associated with psychoticism and extraversion. Multivariate analysis demonstrates that neuroticism functions as the strongest predictor of belief in life after death among this group of young people. The implications of this finding highlight that beliefs about immortality serve a different psychological function to that of affective religiosity (typically associated with low psychoticism) (Kay, 1981a; Francis & Pearson, 1985a; Francis, 1992b) and that of paranormal beliefs (typically associated with high psychoticism and high neuroticism) (Francis & Williams, 2009; Francis, Williams, & Robbins, 2009). Further empirical research is needed to explore in closer detail the personality profile associated with young people's immortality beliefs.

Fourth, replication studies are required to extend this analysis among similar and larger samples of young people, undergraduates and adults, utilising the same, different and more sophisticated measures of immortality beliefs, and including measures of alternative faith traditions so as to examine whether this pattern of relationship exists in a variety of different contexts.

## **Implicit religion**

The tenth chapter of this thesis set out to examine the connection between young people's attitudes toward Christianity and implicit religion. The first part of this chapter considered recent empirical literature which has employed Bailey's (1998) concept of implicit religion to examine the persistence of Christian believing in the UK, exploring: the implicit religion of individuals who believe that you do not need to go to church to be a Christian, and the psychological functions served by implicit religion (assessed by the belief that you do not need to go to church to be a Christian and assessed by attachment to Christian rites of passage). The second half of this chapter adds to this literature by reporting on the findings of statistical analyses designed to test the relative impact of explicit religiosity (defined as frequency of church attendance) and implicit religiosity (defined as attachment to Christian rites of passage) on young people's attitudes toward Christianity, following the analytical model proposed by Francis (2013a, 2013b) and Penny and Francis (under review). Four main conclusions emerge from the findings of this chapter.

First, there is a high level of commitment to implicit religion (assessed by attachment to Christian rites of passage) among the 13- to 15-year-old students of the Young People's Values Survey. Moreover, this form of implicit religion has a greater presence within the lives of young people than conventional explicit Christian practice (in terms of church attendance). This finding is supported by previous empirical research which also reports high levels of implicit religion in the UK (in terms of believing that you do not need to go to church to be a Christian) (Francis & Richter, 2007; Walker, Francis, & Robbins, 2010; Walker, 2013). The implication of these findings highlight that, as Walker, Francis and Robbins (2010)

maintain, conventional religion in the UK (in terms of the Christian tradition) is giving way not to a secular worldview but to a personalised form of implicit religion.

Second, implicit religion functions as a significant predictor of attitudes toward Christianity among this group of young people. Replication of the analytic model proposed by Francis (2013a, 2013b) and by Penny and Francis (under review) designed to test the relative impact of explicit religion (assessed by frequency of church attendance) and implicit religion (variously defined) on certain psychological constructs, demonstrated that in respect of attitudes toward Christianity implicit religion (assessed by attachment to Christian rites of passage) functions in a similar way to explicit religion. The bivariate analysis demonstrates a positive association between attitude toward religion and both explicit religion and implicit religion. Multivariate analyses controlling for the influence of age, sex, personality and Christian affiliation demonstrate that higher levels of both explicit religion and implicit religion make a significant contribution to promoting positive attitudes toward Christianity. This finding is supported by previous empirical studies that also provide evidence to support Francis' (2013a, 2013b) general hypothesis regarding the symmetry of the effects of explicit religion and implicit religion on certain outcome variables (Francis, 2013b; Penny & Francis, under review). The implication of this finding highlights that implicit religion (assessed by attachment to Christian rites of passage) constitutes a real feature of religiosity among this group of young people capable of predicting attitudes and behaviours.

Third, implicit religion functions as a marginally stronger predictor of attitudes toward Christianity than explicit religion. The multivariate analyses controlling for the influence of sex, age, personality and Christian affiliation demonstrate that attachment to Christian rites of passage functions as a marginally

stronger predictor of attitudes toward Christianity than regular church attendance (explicit religiosity). This is supported by previous empirical research which demonstrates that attitudes toward Christianity, as an affective construct, share a closer connection with religious variables that reflect the inner realities of individual religiosity (e.g., private prayer, intrinsic religiosity) rather than religious variables that reflect the external realities of religiosity (e.g., church attendance) (Greer & Francis, 1991; Joseph & Lewis, 1997).

Fourth, replication studies are required to extend this analysis among similar and larger samples of young people, undergraduates and adults, utilising the same, different and more sophisticated measures of implicit religion to test the adequacy of theory regarding the functions of implicit religion and its general stability within the broader interface between the study of implicit religion and the scientific psychology of religion.

### **Attitudes toward Christianity in the twenty-first century**

Taken together, the findings of this thesis add a new piece to the jigsaw puzzle began by Francis (1978a) by providing a view of the personal and social correlates of attitudes toward Christianity among 13- to 15-year-old young people living within England and Wales during the first decade of the twenty-first century. This section provides a short summary of the main findings of this study.

In respect of personal variables, this study demonstrates that the attitudinal dimension of religiosity (assessed by the Francis Scale of Attitude toward Christianity) is associated with sex differences and age differences. In terms of sex differences, females hold a more positive attitude toward Christianity than males. This is consistent with previous empirical research utilising this scale among young people and adults (Kay & Francis, 1996) and reflects wider research findings

established in the psychology of religion (Argyle & Beit-Hallahmi, 1975; Francis, 1997a; Francis & Penny, 2013). In terms of age differences, 13- to 14-year-old students (year-nine students) hold a more positive attitude toward Christianity than 14- to 15-year-old students (year-ten students). This is consistent with previous empirical research utilising this scale which demonstrates that positive attitudes toward religion tend to decline during the years of secondary schooling (Kay & Francis, 1996).

In respect of psychological variables, this study demonstrates that within Eysenck's dimensional model of personality, psychoticism is fundamental to the prediction of individual differences in the attitudinal dimension of religiosity. Among this group of young people those who record lower scores on the psychoticism scale and higher scores on the lie scale (an indicator of social conformity) are more likely to hold a positive attitude toward Christianity. This is consistent with previous empirical research which, reporting on the relationship between the Francis Scale of Attitude toward Christianity and Eysenck's dimensional model of personality, has demonstrated this basic pattern of results among young people in the UK (Francis & Pearson, 1988b; Francis & Montgomery, 1992; Robbins, Francis, & Gibbs, 1995; Francis & Fearn, 1999) as well as among undergraduates and adults in the UK (Francis, 1991a, 1993a, 1999a; Francis & Bennett, 1992; Carter, Kay, & Francis, 1996; Bourke & Francis, 2000; Fearn, Lewis, & Francis, 2003; Bourke, Francis, & Robbins, 2005; Williams & Francis, 2006), Australia and Canada (Francis, Lewis, Brown, Philipchalk, & Lester, 1995), Germany (Francis, Ziebertz, & Lewis, 2003), Northern Ireland (Lewis & Joseph, 1994), the Republic of Ireland (Maltby & Lewis, 1997), the USA (Lewis & Maltby, 1995b), and Greece (Youtika, Joseph, & Diduca, 1999). However, the finding of this



study that attitudes toward Christianity are negatively correlated with extraversion and positively correlated with neuroticism (even after expected sex differences have been taken into account) does not follow the general pattern of results established by previous empirical research which consistently demonstrates that affective religiosity is unrelated to the personality dimensions of both extraversion (Francis, Pearson, Carter, & Kay, 1981b; Francis, Pearson, & Kay, 1983b; Francis & Pearson, 1985b) and neuroticism (after controlling for sex differences) (Francis, Pearson, Carter, & Kay, 1981a; Francis, Pearson, & Kay, 1983a; Francis & Pearson, 1991). The finding of this study that there is a connection between higher levels of affective religiosity and introversion and neuroticism requires further investigation.

In respect of religious variables, the attitudinal dimension of religiosity functions as a stronger predictor of certain personal and social correlates than other dimensions of religiosity. This study demonstrates that positive attitudes toward Christianity share a closer connection with and play a larger role in shaping young people's sense of perceived purpose in life, commitment to immortality beliefs (belief in life after death) and attachment to implicit religion (Christian rites of passage) than either church attendance or personal prayer. This provides firm evidence to support Francis' (2009a, 2009b) argument that the attitudinal dimension of religiosity forms the most secure basis for comparative empirical research in religion because it accesses the heart of what religion really means in the lives of individuals.

In respect of the constructs chosen as the central focus of investigation within this thesis, the attitudinal dimension of religiosity is shown to function in a variety of different ways. Five main conclusions are displayed by the findings of this study. First, sex differences in young people's attitudes toward Christianity can be

attributed to individual differences in the psychoticism dimension of personality within the model proposed by Eysenck (Eysenck & Eysenck, 1991). Second, young people who hold a more positive attitude toward Christianity experience psychological benefits in terms of an enhanced sense of purpose in life. Third, among this group of young people attitudes toward Christianity do not function as a protective force against negative psychological experiences such as suicidal ideation. Fourth, young people who hold positive attitudes toward Christianity are more likely to entertain beliefs about immortality (in terms of belief in life after death). Fifth, young people who hold positive attitudes toward Christianity are more likely to display commitment to implicit forms of religion (expressed as attachment to Christian rites of passage).

These findings provide a view of religion and values in the lives of young people living within England and Wales in the context of the first decade of the twenty-first century. While, it is clear that students who participated in the Young People's Values Survey show a relatively low level of commitment to conventional features of Christian practice (such as church attendance and personal prayer), the attitudinal dimension of religiosity continues to occupy a significant position within the lives of young people one which is capable of predicting personal and social attitudes and behaviours. As such, the Francis Scale of Attitude toward Christianity continues to stand as an invaluable empirical measure that is able to provide a clear and coherent view of the changing nature of young people's religiosity in a modern context.

### **Present research context**

The final part of this chapter considers the current state of research within the tradition of empirical theology exploring individual differences in young people's

attitudes toward religion and values. The Young People's Values Survey was designed to draw together two areas of research within this tradition (concerned with the correlates of attitude toward religion and concerned with young people's religion and values) by including the Francis Scale of Attitude toward Christianity in the latest phase of Teenage Religion and Values Survey series. The advantage of this approach to empirical research in religion is that the findings of this study are able to make a new contribution to advancing knowledge about both the correlates of attitudes toward Christianity and about young people's religion and values. However, the findings of this study are also able to make a legitimate contribution to the cumulative picture of religion in the lives of children, young people and adults which has already been established by both of these research areas independently. The findings of this study may be taken as a guide to aid the development of new comparative studies within this tradition of empirical theology that aim to provide a picture of religion and values among today's generation of young people. Three recommendations for future research are proposed.

First, it is important that empirical research exploring the correlates of attitude toward religion utilising the Francis Scale of Attitude toward Christianity and the family of instruments developed from this measure is kept up-to-date. This includes the need for new studies reporting on the psychometric properties of the scale, and the need for new studies exploring correlates which are just beginning to enter into the debate within the psychology of religion and empirical theology about the changing role of religion in the twenty-first century (e.g., immortality beliefs, implicit religion). The development of the newer measures in particular (e.g., Sahin-Francis Scale of Attitude toward Islam, Katz-Francis Scale of Attitude toward Judaism, Santosh-Francis Scale of Attitude toward Hinduism, Williams Scale of

Attitude toward Paganism, Astley-Francis Scale of Attitude toward Theistic Faith) provide a real opportunity to explore the ways in which affective religiosity influences attitudes and behaviours within the context of the Jewish, Hindu, Islamic, and Pagan faiths, as well as across the theistic traditions in general. This information may then be employed comparatively with the established body of literature exploring the correlates of attitude toward Christianity. Comparative empirical research of this kind is imperative to shaping understanding about the place and function of religion among individuals living in a multi-faith and multi-cultural society. The second and third recommendations of this thesis present a way in which this research agenda may be advanced among young people.

Second, it is clear from the findings of this study that the Young People's Values Survey dataset represents a valuable resource capable of providing an insightful view of individual differences in young people's attitudes toward religion and values within the first decade of the twenty-first century. This thesis has gone some way to unlocking the potential of the dataset generated from this survey. However, given the broad range of topics included within the Young People's Values Survey it would be beneficial to continue analyses exploring the correlates of attitudes toward Christianity utilising information from some of the values domains not included in this thesis (e.g., substances attitudes, environmental issues, political and social issues). The research group may also wish to initiate a second data collection phase which focuses on creating a better balance between the alternative faith-groups and ethnicities represented within the dataset (see, Chapter 4 - Sample and data collection). Including a broader range of participants from alternative faith-groups within the Young People's Values Survey would provide the opportunity to explore more fully the place of religion and values within the lives of young

Muslims, Jews, Hindus and Pagans living in England and Wales in the twenty-first century.

Third, while the Young People's Values Survey dataset represents a valuable resource in terms of understanding young people's religiosity within the first decade of the twenty-first century, in 2014, twelve years after this study first began there is a sense in which the dataset can now be said to be aging. Within this comparative tradition of empirical theology there is a need for a new large-scale quantitative study within the Teenage Religion and Values Survey series exploring young people's religion and values today. Given the valuable information generated by this thesis, the new study would be wise to include the Francis Scale of Attitude toward Christianity within its design. This allows the conversation between the correlates of attitudes toward religion and young people's values, started by the Young People's Values Survey, to continue within the context of today's youth. Insights gained from the process of designing the Young People's Values Survey (particularly regarding language and value domains) may also be utilised to revise the Teenage Religion and Values Survey so that this instrument is able to accurately assess the personal and social worldviews of young people living in a modern context. The new study may wish to achieve a sample size comparable with that of the Teenage Religion and Values Survey conducted throughout the 1990s (around 34,000) recognising that a survey of this size allows assessment of religiosity to be inclusive of significant membership numbers from the major world traditions (e.g., Hindus, Jews, Muslims and Sikhs) as well as a number of smaller Christian denominations (e.g., Methodists) and minority groups (e.g., Jehovah's witnesses). This to conclude is the primary recommendation of this thesis.

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## Statistical Appendix

### Chapter 4. Young People's Values Survey

Table 4.1

*Young People's Values Survey sample composition by Local Education Authority*

LEA Name	<i>N</i> Students	<i>N</i> Schools	%
Cheshire	388	2	7.5
Derbyshire	506	1	9.7
Devon	413	1	7.9
Halton	262	1	5.0
Hampshire	196	2	3.8
Harrow	122	1	2.3
Kent	227	1	4.4
Lancashire	342	1	6.6
Newcastle Upon Tyne	96	1	1.0
Portsmouth	95	1	1.8
Shropshire	599	3	11.5
Southampton	65	1	1.4
Surrey	66	1	1.4
Swindon	342	1	6.6
Warwickshire	104	2	2.0
Cardiff	364	2	7.1
Denbighshire	181	1	3.7
Flintshire	191	1	3.9
Pembrokeshire	351	1	6.8
Wrexham	117	1	2.3
Ceredigion	172	1	3.3

Table 4.2

*Young People's Values Survey sample composition by school type*

School Type	<i>N</i> Students	%
Community	3793	72.9
Church of England Voluntary-controlled/ Voluntary-aided	655	12.6
Roman Catholic Voluntary-aided	426	8.2
Non-denominational Independent	167	3.2
Christian independent	158	3.1

Table 4.3

*Young People's Values Survey sample composition by religious affiliation*

	<i>N</i> Students	%
None	2417	46.5
Baptist	154	3.0
Anglican	1304	25.1
Jehovah's Witness	24	0.5
Methodist	76	1.5
Pentecostal	22	0.4
Roman Catholic	596	11.5
Salvation Army	8	0.2
Quaker (Society of Friends)	4	0.1
URC or Presbyterian	8	0.2
Buddhist	33	0.3
Hindu	53	1.0
Jew	27	0.5
Muslim	135	2.6
Sikh	30	0.6
Other	198	3.7
Christian	98	1.9
Protestant	8	0.2
Evangelical	4	0.1

Table 4.4

*Religious beliefs*

	agree (%)	not certain (%)	disagree (%)
I believe in God	29	25	46
I believe in Jesus Christ	21	27	52
I believe that God made the world in six days and rested on the seventh	13	28	59
I believe in life after death	39	35	26
I think the Bible is out of date	23	41	36

Table 4.5

*Church, religion and society*

	agree (%)	not certain (%)	disagree (%)
I think RE should be taught in school	34	25	41
I would like to have my children baptised/christened in a church	42	28	30
I would like to get married in a church	39	38	23
Women and men should be treated equally by the church/religious institutions	63	28	9
Religion is mainly a force for good in the world today	20	47	33

Table 4.6

*Non-traditional beliefs*

	agree (%)	not certain (%)	disagree (%)
I believe in my horoscope	28	30	42
I believe in fate	43	36	21
I believe in ghosts	37	25	38
I believe it is possible to contact spirits of the dead	25	25	50
I believe that tarot cards can tell the future	12	29	59

Table 4.7

*Personal aims in life*

	agree (%)	not certain (%)	disagree (%)
I would like to have a successful career	89.8	6.9	3.3
I would like to own my own home	81.3	14.7	3.9
I would like to get married	79.8	14.9	5.3
I would like to have children	57.6	29.0	13.4
I would like to make a difference to the world	95.9	2.7	1.4

Table 4.8

*Personal well-being*

	agree (%)	not certain (%)	disagree (%)
The most important thing to me is to be happy	78	13	9
I feel my life has a sense of purpose	56	30	14
I often feel depressed	35	18	47
I have sometimes considered deliberately hurting myself	26	16	58
I have sometimes considered taking my own life	23	14	63



Table 4.9

*School*

	agree (%)	not certain (%)	disagree (%)
School is helping me prepare for life	75	15	10
What I learn in school will help me get a good job	38	59	3
I think teachers do a good job	54	28	18
I am concerned about my exams in school	76	13	11
I am concerned about being bullied at school	31	25	44

Table 4.10

*Sexual morality*

	agree (%)	not certain (%)	disagree (%)
Divorce is wrong	15	25	60
I think abortion is wrong	34	32	34
It is wrong for a woman to have sex with a woman	16	24	60
It is wrong for a man to have sex with a man	32	21	47
I think it is wrong to have sex before you are 16	24	24	52

Table 4.11

*Substance use*

	agree (%)	not certain (%)	disagree (%)
I think it is wrong to get drunk	10	15	75
I think it is wrong to smoke cigarettes	52	19	29
I think it is wrong to use cannabis	52	20	28
I think it is wrong to use ecstasy	64	20	16
I think it is wrong to use heroin	70	16	14

Table 4.12

*Political and social issues*

	agree (%)	not certain (%)	disagree (%)
People should be looked after by the government when they are old	59	28	13
I am concerned about the poverty of the developing world (e.g. Africa)	52	32	16
I feel threatened by the risk of terrorism	36	32	32
I feel threatened by the risk of chemical and biological war	33	34	33
There is nothing I can do to help solve the world's problems	40	28	32

Table 4.13

*The environment*

	agree (%)	not certain (%)	disagree (%)
I am concerned that we use too much of the world's resources	53	31	16
I am concerned about animals and plants becoming extinct	47	28	25
I am concerned about the risk of pollution to the environment	47	31	22
I make a special effort to help save the world's energy (e.g. turning off lights when not in a room)	36	30	34
I make a special effort to recycle	32	29	39

## Chapter 5. Reliability and validity of the Francis Scale of Attitude toward Christianity

Table 5.1

*Frequency of personal prayer*

	Percentage %
nearly every day	6.5
at least once a week	3.1
at least once a month	1.8
occasionally	20.6
never	68.0

Table 5.2

*Frequency of church attendance*

	Percentage %
nearly every week	4.0
at least once a month	5.5
at least six times a year	4.5
at least once or twice a year	29.8
never	56.2

Table 5.3

*Scale properties: 7-item short-form Francis Scale of Attitude toward Christianity*

Scale item	<i>r</i>	factor loading
I know that Jesus helps me	.82	.88
I think going to church is a waste of time*	.63	.71
God helps me to lead a better life	.80	.86
God means a lot to me	.80	.87
Prayer helps me a lot	.76	.83
I know that Jesus is very close to me	.82	.88
I think the Bible is out of date*	.51	.59
Alpha coefficient/% of variance	0.91	66%

Note. \*these negative items were reverse scored.



Table 5.4

*Correlation matrix: attitude toward Christianity, age, sex, church attendance and prayer*

	attitude
sex	.07 <sup>***</sup>
age	-.04 <sup>**</sup>
church attendance	.52 <sup>***</sup>
prayer	.58 <sup>***</sup>

<sup>\*\*</sup> p < .01; <sup>\*\*\*</sup> p < .001.

## Chapter 6. Sex differences and attitude toward Christianity

Table 6.1

*Scale properties and mean scores by sex: attitude toward Christianity, extraversion, neuroticism and psychoticism*

Scales	$\alpha$	males		females		$t$	$p <$
		$M$	$SD$	$M$	$SD$		
attitude toward Christianity	.91	16.18	7.18	17.08	6.75	-4.65	.001
extraversion	.71	4.74	1.54	4.97	1.43	-5.55	.001
neuroticism	.72	2.25	1.74	3.35	1.84	-21.94	.001
psychoticism	.60	1.39	1.39	.71	1.07	20.01	.001

Table 6.2

*Correlation matrix: attitude toward Christianity, sex, neuroticism, extraversion and psychoticism*

	sex	neuroticism	extraversion	psychoticism
attitude toward Christianity	.07***	.10***	-.07***	-.16***
psychoticism	-.27***	-.07***	.05***	
extraversion	.08***	-.17***		
neuroticism	.30***			

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

Table 6.3

*Partial correlation matrix controlling for sex: attitude toward Christianity, neuroticism, extraversion and psychoticism*

	neuroticism	extraversion	psychoticism
attitude toward Christianity	.07 <sup>***</sup>	-.08 <sup>***</sup>	-.15 <sup>***</sup>
psychoticism	-.01	.07 <sup>***</sup>	
extraversion	-.20 <sup>***</sup>		

<sup>\*\*</sup> p < .01; <sup>\*\*\*</sup> p < .001.

Table 6.4

*Multiple-regression analysis: testing the strength of personality and biological sex to predict individual differences in attitude toward Christianity*

Predictor variables	R <sup>2</sup>	Increase			Beta	t	p<
		R <sup>2</sup>	F	p<			
psychoticism	.026	.026	139.15	.001	-.15	-10.70	.001
extraversion	.030	.004	23.36	.001	-.06	-3.98	.001
neuroticism	.035	.005	24.64	.001	.07	4.54	.001
sex	.035	.000	.36	NS	.01	.59	NS

## Chapter 7. Attitude toward Christianity and purpose in life

Table 7.1

*Frequency of 'I feel that my life has a sense of purpose'*

	Percentage %
agree strongly	17.1
agree	39.3
not certain	30.5
disagree	7.1
disagree strongly	6.0

Table 7.2

*Frequency of personal prayer*

	Percentage %
nearly every day	6.5
at least once a week	3.1
at least once a month	1.8
occasionally	20.6
never	68.0

Table 7.3

*Frequency of church attendance*

	Percentage %
nearly every week	4.0
at least once a month	5.5
at least six times a year	4.5
at least once or twice a year	29.8
never	56.2



Table 7.4

*Scale properties: Francis Scale of Attitude toward Christianity and EPQR-A (extraversion, neuroticism, psychoticism and lie scale)*

Scales	$\alpha$	$M$	$SD$
Francis Scale of Attitude toward Christianity	.91	16.6	7.0
extraversion	.71	4.8	1.5
neuroticism	.72	2.8	1.8
psychoticism	.60	1.0	1.3
lie scale	.54	2.4	1.5

Table 7.5

*Correlation matrix: purpose in life, sex, age, personality, attitude toward Christianity, personal prayer and church attendance*

	purpose	attendance	prayer	attitude	lie	psy	neu	ext	age
sex	.03	.04 <sup>***</sup>	.03 <sup>**</sup>	.07 <sup>***</sup>	.08 <sup>***</sup>	-.27 <sup>***</sup>	.30 <sup>***</sup>	.08 <sup>***</sup>	-.01
age	-.03	-.03 <sup>**</sup>	-.02	-.04 <sup>**</sup>	-.06 <sup>***</sup>	.02 <sup>***</sup>	.04 <sup>**</sup>	.03	
ext	-.16 <sup>***</sup>	-.08 <sup>***</sup>	-.10 <sup>***</sup>	-.07 <sup>***</sup>	-.17 <sup>***</sup>	.05 <sup>***</sup>	-.17 <sup>***</sup>		
neu	-.10 <sup>***</sup>	.09 <sup>***</sup>	.10 <sup>***</sup>	.10 <sup>***</sup>	.02	-.07 <sup>***</sup>			
psy	-.07 <sup>***</sup>	-.04 <sup>***</sup>	-.04 <sup>**</sup>	-.16 <sup>***</sup>	-.34 <sup>***</sup>				
lie	.19 <sup>***</sup>	.06 <sup>***</sup>	.07 <sup>***</sup>	.19 <sup>***</sup>					
attitude	.47 <sup>***</sup>	.52 <sup>***</sup>	.58 <sup>***</sup>						
prayer	.54 <sup>***</sup>	.53 <sup>***</sup>							
attend	.57 <sup>***</sup>								

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

Table 7.6

*Partial correlation matrix controlling for sex: purpose in life, age, personality, attitude toward Christianity, personal prayer and church attendance*

	purpose	attendance	prayer	attitude	lie	psy	neu	ext
age	-.02	-.03	-.02	-.04**	-.06***	.02***	.04***	.02
ext	.11***	-.08***	-.10***	-.08***	-.18***	.07***	-.20***	
neu	-.10***	.09***	.09***	.07***	.00	-.01		
psy	-.11***	-.03	-.03	-.15***	-.33***			
lie	.04***	.06***	.06***	.20***				
attitude	.22***	.52***	.58***					
prayer	.13***	.53***						
attendance	.12***							

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

Table 7.7

*Multiple-regression analysis: testing the strength of sex, age, personality, attitude toward Christianity, personal prayer and church attendance to predict individual differences in purpose in life*

Predictor variables	R <sup>2</sup>	Increase			Beta	t	p<
		R <sup>2</sup>	F	p<			
sex	.000	.000	1.75	NS	-.04	-2.43	NS
age	.001	.000	1.51	NS	-.01	-.41	NS
extraversion	.013	.012	65.44	.001	.12	8.45	.001
neuroticism	.020	.007	35.50	.001	-.10	-7.12	.001
psychoticism	.033	.013	69.73	.001	-.09	-5.94	.001
lie scale	.034	.001	4.32	NS	-.00	-.11	NS
attitude	.082	.048	272.63	.001	.20	11.55	.001
prayer	.082	.001	4.10	NS	.03	1.73	NS
attendance	.083	.000	.36	NS	.01	.60	NS

## Chapter 8. Attitude toward Christianity and suicidal ideation

Table 8.1

*Frequency of 'I have sometimes considered taking my own life'*

	Percentage %
agree strongly	8.7
agree	14.6
not certain	13.7
disagree	13.4
disagree strongly	49.6

Table 8.2

*Frequency of personal prayer*

	Percentage %
nearly every day	6.5
at least once a week	3.1
at least once a month	1.8
occasionally	20.6
never	68.0

Table 8.3

*Frequency of church attendance*

	Percentage %
nearly every week	4.0
at least once a month	5.5
at least six times a year	4.5
at least once or twice a year	29.8
never	56.2

Table 8.4

*Scale properties: Francis Scale of Attitude toward Christianity and EPQR-A (extraversion, neuroticism, psychoticism and lie scale)*

Scales	$\alpha$	$M$	$SD$
Francis Scale of Attitude toward Christianity	.91	16.6	7.0
extraversion	.71	4.8	1.5
neuroticism	.72	2.8	1.8
psychoticism	.60	1.0	1.3
lie scale	.54	2.4	1.5



Table 8.5

*Correlation matrix: suicidal ideation, sex, age, personality, attitude toward Christianity, personal prayer and church attendance*

	suicide ideation	attend	prayer	attitude	lie	psy	neu	ext	age
sex	.06***	.04***	.03**	.07***	.08***	-.27***	.30***	.08***	-.01
age	-.01	-.03***	-.02	-.04**	-.06***	.02***	.04**	.03	
ext	-.06***	-.08**	-.10***	-.07***	-.17***	.05***	-.17***		
neu	.40***	.09***	.10***	.10***	.02	-.07***			
psy	.17***	-.04***	-.04**	-.16***	-.34***				
lie	-.06***	.06***	.07***	.19***					
attitude	-.02	.52***	.58***						
prayer	.03**	.53***							
attend	.01								

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

Table 8.6

*Partial correlation matrix controlling for sex: suicidal ideation, age, personality, attitude toward Christianity, personal prayer and church attendance*

	suicide ideation	attendance	prayer	attitude	lie	psy	neu	ext
age	-.01	-.03	-.02	-.04**	-.06***	.02***	.04***	.02
ext	-.07***	-.08***	-.10***	-.08***	-.18***	.07***	-.20***	
neu	.40***	.09***	.09***	.07***	.00	-.01		
psy	.19***	-.03	-.03	-.15***	-.33***			
lie	-.07***	.06***	.06***	.20***				
attitude	-.03	.52***	.58***					
prayer	.03	.53***						
attendance	.01							

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

Table 8.7

*Multiple-regression: testing the strength of sex, age, personality, attitude toward Christianity, personal prayer and church attendance to predict individual differences in suicidal ideation*

Predictor variables	R <sup>2</sup>	Increase			Beta	t	p<
		R <sup>2</sup>	F	p<			
sex	.004	.004	20.51	.001	-.002	-.130	NS
age	.004	.000	.31	NS	-.031	-2.480	NS
extraversion	.008	.004	22.82	.001	-.002	-.137	NS
neuroticism	.154	.146	896.40	.001	.405	30.20	.001
psychoticism	.190	.036	230.40	.001	.191	13.84	.001
lie scale	.190	.000	.40	NS	-.003	-.25	NS
attitude	.191	.001	4.60	NS	-.037	-2.26	NS
prayer	.191	.000	2.8	NS	.031	1.93	NS
attendance	.192	.000	1.14	NS	-.017	-1.06	NS

## Chapter 9. Attitude toward Christianity and immortality beliefs

Table 9.1

*Frequency of 'I believe in life after death'*

	Percentage %
agree strongly	18.1
agree	20.8
not certain	35.3
disagree	10.0
disagree strongly	15.8

Table 9.2

*Frequency of personal prayer*

	Percentage %
nearly every day	6.5
at least once a week	3.1
at least once a month	1.8
occasionally	20.6
never	68.0

Table 9.3

*Frequency of church attendance*

	Percentage %
nearly every week	4.0
at least once a month	5.5
at least six times a year	4.5
at least once or twice a year	29.8
never	56.2

Table 9.4

*Scale properties: Francis Scale of Attitude toward Christianity and EPQR-A (extraversion, neuroticism, psychoticism and lie scale)*

Scales	$\alpha$	$M$	$SD$
Francis Scale of Attitude toward Christianity	.91	16.6	7.0
extraversion	.71	4.8	1.5
neuroticism	.72	2.8	1.8
psychoticism	.60	1.0	1.3
lie scale	.54	2.4	1.5

Table 9.5

*Correlation matrix: immortality beliefs, sex, age, personality, attitude toward Christianity, personal prayer and church attendance*

	afterlife belief	attend	prayer	attitud e	lie	psy	neu	ext	age
sex	.08***	.04***	.03**	.07***	.08***	-.27***	.30***	.08***	-.01
age	-.00	-.03***	-.02	-.04**	-.06***	.02***	.04**	.03	
ext	-.03**	-.08**	-.10***	-.07***	-.17***	.05***	-.17***		
neu	.16***	.09***	.10***	.10***	.02	-.07***			
psy	-.07***	-.04***	-.04**	-.16***	-.34***				
lie	.07***	.06***	.07***	.19***					
attitude	.43***	.52***	.58***						
prayer	.31***	.04***							
attend	.08***								

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



Table 9.6

*Partial correlation matrix controlling for sex: immortality beliefs, age, personality, attitude toward Christianity, personal prayer and church attendance*

	afterlife belief	attendance	prayer	attitude	lie	psy	neu	ext
age	-.00	-.03	-.02	-.04**	-.06***	.02***	.04***	.02
ext	-.04**	-.08***	-.10***	-.08***	-.18***	.07***	-.20***	
neu	.15***	.09***	.09***	.07***	.00	-.01		
psy	-.05***	-.03	-.03	-.15***	-.33***			
lie	.06***	.06***	.06***	.20***				
attitude	.43***	.52***	.58***					
prayer	.31***	.53***						
attendance	.22***							

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

Table 9.7

*Multiple-regression analysis analysis: testing the strength of sex, age personality, attitude toward Christianity, personal prayer and church attendance to predict individual differences in immortality beliefs*

Predictor variables	R <sup>2</sup>	Increase			Beta	t	p<
		R <sup>2</sup>	F	p<			
sex	.007	.007	36.53	.001	.02	1.65	NS
age	.007	.000	.07	NS	.00	.35	NS
extraversion	.009	.002	8.05	.01	.02	1.53	NS
neuroticism	.028	.020	106.51	.001	.12	9.06	.001
psychoticism	.031	.003	14.23	.001	.00	.19	NS
lie scale	.033	.002	11.32	.01	-.01	-.81	NS
attitude	.203	.169	1103.54	.001	.38	23.50	.001
prayer	.208	.005	32.50	.001	.10	6.10	.001
attendance	.208	.001	4.83	NS	-.03	-2.20	NS

## Chapter 10. Attitude toward Christianity and implicit religion

Table 10.1

*Frequency of explicit religion (assessed as church attendance)*

	Percentage %
nearly every week	4.0
at least once a month	5.5
at least six times a year	4.5
at least once or twice a year	29.8
never	56.2

Table 10.2

*Frequency of implicit religion (assessed as attachment to Christian rites of passage)*

	AS %	A %	NC %	D %	DS %
I would like to have my children baptised in a church	19	25	30	10	16
I would like to get married in a church	17	22	38	12	11

Note

AS = agree strongly, A = agree, NC = not certain, D = disagree, DS = disagree strongly

Table 10.3

*Scale properties: Francis Scale of Attitude toward Christianity, implicit religiosity and EPQR-A (extraversion, neuroticism, psychoticism and lie scale)*

Scales	$\alpha$	$M$	$SD$
Francis Scale of Attitude toward Christianity	.91	16.6	7.0
implicit religiosity	.70	6.42	2.2
extraversion	.71	4.8	1.5
neuroticism	.72	2.8	1.8
psychoticism	.60	1.0	1.3
lie scale	.54	2.4	1.5

Table 10.4

*Correlation matrix: attitude toward Christianity, sex, age, personality, Christian affiliation, explicit religion and implicit religion*

	attitude	implicit	explicit	affiliation	lie	ext	neu	psy	age
sex	.07***	.15***	.06***	.06***	.07***	.08***	.30***	-.27***	.00
age	-.03**	-.01	-.03**	-.02	-.05***	.02	.05***	.01	
psy	-.16***	-.14***	-.08***	-.05***	-.32***	.05**	-.07***		
neu	.10***	.11***	.10***	.05***	.02	-.16***			
ext	-.07***	.03	-.05***	.02	-.17***				
lie	.19***	.14***	.07***	.05***					
affiliation	.47***	.47***	.41***						
explicit	.54***	.35***							
implicit	.57***								

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

Table 10.5

*Partial correlation matrix controlling for sex: attitude toward Christianity, age, personality, Christian affiliation, explicit religion and implicit religion*

	attitude	implicit	explicit	affiliation	lie	ext	neu	psy
age	-.03**	-.01	-.03	-.02	.05***	.02	.05***	.01
psy	-.15***	-.10***	-.06***	-.04**	-.32***	.07***	.01	
neu	.08***	.07***	.10***	.03	-.00	-.20***		
ext	-.07***	.02	-.06***	.01	-.18***			
lie	.18***	.13***	.06***	.05***				
affiliation	.46***	.47***	.41***					
explicit	.53***	.35***						
implicit	.57***							

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

Table 10.6

*Multiple-regression analysis (model one): testing the strength of age, sex, personality, Christian affiliation and explicit religion to predict individual differences in attitude toward Christianity*

Predictor variables	R <sup>2</sup>	Increase			Beta	t	p<
		R <sup>2</sup>	F	p<			
sex	.005	.005	25.16	.001	-.10	-.77	NS
age	.006	.001	5.01	ns	-.01	-.69	NS
psychoticism	.028	.022	105.0	.001	-.07	-6.02	.001
neuroticism	.035	.007	32.12	.001	.03	2.73	.01
extraversion	.037	.002	11.98	.001	-.02	-2.05	NS
lie scale	.056	.019	93.51	.001	.12	9.63	.001
affiliation	.259	.203	1287.65	.001	.30	23.17	.001
explicit religion	.388	.129	991.04	.001	.40	31.50	.001



Table 10.7

*Multiple-regression analysis (model two): testing the strength of age, sex, personality, Christian affiliation and implicit religion to predict individual differences in attitude toward Christianity*

Predictor variables	R <sup>2</sup>	Increase			Beta	t	p<
		R <sup>2</sup>	F	p<			
sex	.005	.005	25.16	.001	-.04	-2.88	.01
age	.006	.001	5.01	NS	-.02	-1.56	NS
psychoticism	.028	.022	105.00	.001	-.06	-5.25	.001
neuroticism	.035	.007	32.12	.001	.03	2.47	NS
extraversion	.037	.002	11.98	.001	-.06	-5.35	.001
lie scale	.056	.019	93.51	.001	.08	6.92	.001
affiliation	.259	.203	1287.65	.001	.25	19.80	.001
implicit religion	.399	.140	1098.46	.001	.43	33.14	.001