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Attitudes toward sexuality and substances among young Canadian Baptists and their leaders:

Exploring personal, psychological and religious factors

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### **Abstract**

This study explores the effect of personal factors (sex and age), psychological factors (psychological type and emotionality) and religious factors (intrinsic and extrinsic religious orientation) on shaping attitudes toward sexuality and substances among young Canadian Baptists and their leaders. Data provided by 181 participants attending a summer youth mission and service programme demonstrated the centrality of intrinsic religiosity on shaping stricter attitudes within both moral domains. While young Baptists and their leaders shared similar positions and attitudes toward sexuality, young Baptists held stricter views than their leaders on substances.

*Keywords:* moral values, intrinsic religious orientation, psychology of religion, psychological type, prayer, youth

## Introduction

Within the empirical psychology of religion there has been a long-established interest in the connections between religion and moral values. The complexity of empirical findings within the field has led to two main conclusions: that religion may impact various moral domains differently, and that religion itself is a complex phenomenon in which various components of religion may impact the same moral domain differently. The present paper takes both of these conclusions seriously and proposes to discuss each in turn, first discussing moral domains and then discussing religious orientations, before introducing consideration of how personal factors and psychological factors may also interact with the association between religion and moral values.

### Moral domains

In an earlier study, Village and Francis employed factor analysis in order to identify how moral domains were shaped among 16- to 18-year-old students.<sup>1</sup> A key finding from this study was that issues relating to sexuality and issues relating to substances loaded clearly on different factors. Other studies within the empirical psychology of religion have confirmed, however, that both domains are significantly related to a common measure of religious practice. For example, in a study of values among 33,982 13- to 15-year-old adolescents, Francis explored the connections between religion and attitudes toward sexuality and attitudes toward substances, employing church attendance as a measure of religion.<sup>2</sup> In terms of sexual issues, while 10% of young people who never attended church rated sexual intercourse outside of marriage as wrong, the proportion rose to 28% among weekly churchgoers; while 34% of young people who never attended church rated abortion as wrong,

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<sup>1</sup> Andrew Village, Leslie J. Francis, 'The development of the Francis Moral Values Scales: A study among 16- to 18-year-old students taking Religious Studies at A level in the UK', *Journal of Beliefs and Values*, 37.3 (2016), pp. 347-356, doi:10.1080/13617672.2016.1232568.

<sup>2</sup> Leslie J. Francis, *The values debate: A voice from the pupils* (London: Woburn Press, 2001).

the proportion rose to 47% among weekly churchgoers. In terms of substances, while 16% of young people who never attended church rated getting drunk as wrong, the proportion rose to 28% of weekly churchgoers; while 39% of young people who never attended church rated smoking cigarettes as wrong, the proportion rose to 49% among weekly churchgoers.

### **Religious orientation**

The social scientific study of religion has routinely differentiated among three core components of religion: religious affiliation, either conceptualised in terms of faith traditions (say Christian or Muslim) or conceptualised in terms of denominations (say Catholic or Presbyterian); religious practice, generally conceptualised in terms of frequency of religious attendance; and religious belief, often conceptualised in broad terms (say belief in God, differentiating among atheists, agnostics and theists). It was the puzzling data generated by employing these broad components of religion that stimulated Allport to question their utility and precision.<sup>3</sup> In particular Allport confronted the puzzle that, while religious teaching generally promoted inclusion and acceptance, high levels of church attendance were found to be associated with exclusion and prejudice. Allport addressed this problem by proposing the notion of 'religious orientation' and differentiating between two opposing orientation styles, extrinsic religiosity and intrinsic religiosity. Allport and Ross then proposed two scales designed to operationalise these two orientations: an 11-item measure of extrinsic religiosity and a 9-item measure of intrinsic religiosity.<sup>4</sup>

For Allport and Ross extrinsic religiosity and intrinsic religiosity were not opposite ends of a single continuum, but two largely independent continua.<sup>5</sup> As a consequence, individuals could be located in one of four positions on their two continua: high intrinsic

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<sup>3</sup> Gordon W. Allport, 'Religious context of prejudice', *Journal for the Scientific Study of Religion*, 5.3 (1966), pp. 447-457, doi:10.2307/1384172.

<sup>4</sup> Gordon W. Allport, J. Michael Ross, 'Personal religious orientation and prejudice', *Journal of Personality and Social Psychology*, 5.4 (1967), pp. 432-443, doi:10.1037/h0021212.

<sup>5</sup> Ibid.

scores and low extrinsic scores (pure intrinsic religion); high extrinsic scores and low intrinsic scores (pure extrinsic religion); high intrinsic scores and high extrinsic scores (indiscriminately pro religion); and low extrinsic scores and low intrinsic scores (anti religion). Allport's model of religious orientation was modified and augmented by Batson and Ventis who introduced a third orientation styled quest religiosity, together with a six-item scale.<sup>6</sup> Subsequently Batson and Schoenrade introduced a 12-item measure of quest religiosity.<sup>7 8</sup>

Refining the three-orientation model further, Francis introduced the New Indices of Religious Orientation (NIRO).<sup>9</sup> Conceptually the NIRO identified three components for each of the three orientations: intrinsic religiosity that comprised integration, public religion, and personal religion; extrinsic religiosity that comprised social support, personal support, and compartmentalisation; quest religiosity that comprised existentialism, self-criticism, and openness to change. Operationally the three scales proposed by the NIRO each comprised three items for each of the three components.

While the various scales developed to measure the three components of religious orientation theory (intrinsic, extrinsic, and quest) have made important contributions to the literature two caveats needs voicing. First, the quest orientation, as introduced by Batson and Ventis,<sup>10</sup> is grounded in a different conceptual framework from the two orientations originally proposed by Allport and Ross,<sup>11</sup> with the consequence that current research often

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<sup>6</sup> C. Daniel Batson, W. Larry Ventis, *The religious experience: A social psychological perspective* (New York: Oxford University Press, 1982).

<sup>7</sup> C. Daniel Batson, Patricia A. Schoenrade, 'Measuring religion as quest: Reliability concerns', *Journal for the Scientific Study of Religion*, 30.4 (1991a), pp. 430-447, doi:10.2307/1387278.

<sup>8</sup> C. Daniel Batson, Patricia A. Schoenrade, 'Masuring religion as quest: Validity concerns', *Journal for the Scientific Study of Religion*, 30.4 (1991b), pp. 416-429, doi:10.2307/1387277.

<sup>9</sup> Leslie J. Francis, 'Introducing the New Indices of Religious Orientation (NIRO): Conceptualisation and measurement', *Mental Health, Religion & Culture*, 10.6 (2007), pp. 585-602, doi:10.1080/13674670601035510.

<sup>10</sup> C. Daniel Batson, W. Larry Venus, *The religious experience: A social psychological perspective* (New York: Oxford University Press, 1982).

<sup>11</sup> Gordon W. Allport, J. Michael Ross, 'Personal religious orientation and prejudice', *Journal of Personality and Social Psychology*, 5.4 (1967), pp. 432-443, doi:10.1037/h0021212.

continues to focus on the contrast between the intrinsic and extrinsic orientations. In terms of explaining the associations between religious orientations and moral domains, intrinsic and extrinsic remain core. Second, while the conceptualisation and operationalisation of the intrinsic and extrinsic orientations through multi-item scales is of good scientific value, for practical research purposes there are two good proxy measures: frequency of religious attendance captures the extrinsic orientation and frequency of personal prayer captures the intrinsic orientation. The present study employs these proxy measures because of the time constraint placed on the survey.

### **Personal factors**

The association between religion and moral values may be contaminated by two core personal factors, namely sex and age. Sex differences in religiosity was deemed by Argyle as being at that time the best established finding within the empirical psychology of religion.<sup>12</sup> More recent reviews of the evidence by Francis<sup>13</sup> and Francis and Penny<sup>14</sup> support that early claim, but with two caveats: the finding is mainly based on evidence from Christian and post-Christian societies; while the evidence is secure the theories advanced to account for the differences remain less secure. At the same time, there are clear sex differences in moral values as evidenced by Francis.<sup>15</sup> Age differences in religiosity are particularly evidenced during childhood and adolescence, with significant changes in religious thinking<sup>16</sup> and

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<sup>12</sup> Michael Argyle, *Religious behaviour* (London: Routledge and Kegan Paul, 1958).

<sup>13</sup> Leslie J. Francis, 'The psychology of gender differences in religion: A review of empirical research', *Religion*, 27.1 (1997), pp. 81-96, doi:10.1006/reli.1996.0066.

<sup>14</sup> Leslie J. Francis, Gemma Penny, "Gender difference in religion" in *Religion, personality, and social behaviour*, ed. by Vassilis Saroglou (New York, NY: Psychology Press, 2014), pp. 313-317.

<sup>15</sup> Leslie, J. Francis, *The values debate: A voice from the pupils* (London: Woburn Press, 2001).

<sup>16</sup> Ronald J. Goldman, *Religious thinking from childhood to adolescence* (London: Routledge and Kegan Paul, 1964).

deterioration in attitude toward religion<sup>17</sup>. At the same time, there are clear age differences in moral values.<sup>18</sup>

### **Psychological factors**

The association between religion and moral values may also be contaminated by psychological factors. Although there has been a long interest within the psychology of religion concerning the association between personality and religion, only recently has consensus begun to emerge in the literatures. In a second major review of the field, Argyle and Beit-Hallahmi<sup>19</sup> concluded that the jury was still out on this issue, but by the time of their third review, Beit-Hallahmi and Argyle<sup>20</sup> concluded that the empirical data now suggested clear links between individual differences in religiosity and the three-dimensional model of personality proposed by Eysenck and Eysenck<sup>21</sup>. More recently, a series of studies has documented consistent patterns between individual differences in religiosity and the Jungian model of psychological type<sup>22</sup> as operationalised by instruments like the Myers-Briggs Type Indicator<sup>23</sup> and the Francis Psychological Type Scales<sup>24 25</sup>. At the same time, individual differences in moral values may be impacted by personality.<sup>26</sup>

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<sup>17</sup> William K. Kay, Leslie J. Francis, *Drift from the churches: Attitude toward Christianity during childhood and adolescence* (Cardiff: University of Wales Press, 1996).

<sup>18</sup> Leslie, J. Francis, *The values debate: A voice from the pupils* (London: Woburn Press, 2001).

<sup>19</sup> Michael Argyle, Benjamin Beit-Hallahmi, *The social psychology of religion* (London: Routledge and Kegan Paul, 1975).

<sup>20</sup> Benjamin Beit-Hallahmi, Michael Argyle, *The psychology of religious behaviour, belief and experience* (London: Routledge, 1997).

<sup>21</sup> Hans J. Eysenck, Sybil Bianca Giuletta Eysenck, *Manual of the Eysenck Personality Questionnaire (adult and junior)* (London: Hodder and Stoughton, 1975).

<sup>22</sup> Carl G. Jung, *Psychological types: The collected works* (volume 6) (London: Routledge and Kegan Paul, 1971).

<sup>23</sup> Isabel Briggs Myers, Mary H. McCaulley, *Manual: A guide to the development and use of the Myers-Briggs Type Indicator* (Palo Alto, CA: Consulting Psychologists Press, 1985).

<sup>24</sup> Leslie J. Francis, *Faith and psychology: Personality, religion and the individual* (London: Darton, Longman and Todd, 2005).

<sup>25</sup> Leslie J. Francis, Patrick Laycock, Christine Brewster, 'Exploring the factor structure of the Francis Psychological Type Scales (FPTS) among a sample of Anglican clergy in England', *Mental Health, Religion & Culture*, 20.9 (2017), pp. 930-941, doi:10.1080/13674676.2017.1375469.

<sup>26</sup> Leslie J. Francis, David W. Lankshear, Mandy Robbins, Andrew Village, Tania ap Siôn, 'Defining and measuring the contribution of Anglican secondary schools to students' religious, personal and social values', *Journal of Empirical Theology*, 27.1 (2014), pp. 57-84, doi:10.1163/15709256-12341294.



**Research objective**

Against this background, the present study has three primary research aims. The first aim is to explore the factor structure of the participants' views on contemporary moral issues and to test whether it is possible to develop relevant scales on the basis of this factor structure. The second aim is to test the effect of personal variables (age and sex), psychological variables (as assessed by psychological type theory and emotionality) and religious variables (intrinsic religiosity and extrinsic religiosity) on individual differences in scores on these scales concerned with moral values. The third aim is to assess whether different domains of moral values within this population relate to personal variables, psychological variables, and religious variables in the same or in different ways.

**Method****Procedure**

All the young people attending the week-long Tidal Impact summer youth mission and service programme sponsored by the Canadian Baptists of Atlantic Canada, held in 2023 were invited to complete a detailed questionnaire following the completion of a worship service. Following an explanation of the nature of the survey and assurances of confidentiality and anonymity, the questionnaires were distributed to the young people. Participation was voluntary, but the overall level of interest in the topic meant that few young people failed to complete the exercise. A total of 181 questionnaires were returned that provided data fully completed for the analyses reported in the present study (that means with no missing data).

**Measures**

*Sex* was assessed by the following question. Are you: male (1), female (2), other (please specify) (3), prefer not to say (4).

*Age* was assessed by the following question. How old are you? 12 (1), 13 (2), 14 (3), 15 (4), 16 (5), 17 (6), 18 (7), 19 (8), 20-24 (9), 25-29 (10), 30-39 (11), and 40 and over (12).

*Extrinsic religiosity* was assessed by the following question. How often do you attend a worship service (other than youth group): nearly every week (5), at least once a month (4), sometimes (3), once or twice a year (2), never (1).

*Intrinsic religiosity* was assessed by the following question. How often do you pray by yourself: nearly every day (5), at least once a week (4), at least once a month (3), occasionally (2), never (1).

*Psychological variables* were assessed by the Adolescent form of the Francis Psychological Type and Emotional Temperament Scales.<sup>27</sup> This is a 50-item instrument comprising five sets of 10 forced-choice items related to each of the four components of psychological type theory: orientation (introversion and extraversion), perceiving process (sensing and intuition), judging process (thinking and feeling), and attitude toward the external world (judging and perceiving) and augmented by emotionality (calm and volatile). In the foundation paper, Francis, Fawcett, and McKenna<sup>28</sup> reported the following alpha coefficients<sup>29</sup> for these scales: orientation,  $\alpha = .78$ ; perceiving process,  $\alpha = .71$ ; judging process,  $\alpha = .73$ ; attitude toward the external world,  $\alpha = .74$ ; emotionality,  $\alpha = .75$ . In the present study the following alpha coefficients were reported: orientation,  $\alpha = .80$ ; perceiving process,  $\alpha = .59$ ; judging process,  $\alpha = .70$ ; attitude toward the external world,  $\alpha = .63$ ; emotionality,  $\alpha = .75$ .

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<sup>27</sup> Leslie J. Francis, Bruce Fawcett, Ursula McKenna, 'Exploring the factor structure of the Adolescent Form of the Francis Psychological Type and Emotional Temperament Scales (FPTETSA) among Canadian Baptist youth: Full form and short form', *Mental Health, Religion & Culture*, 1.1 (2023), pp. 1-13, doi:10.1080/13674676.2023.2256676.

<sup>28</sup> Ibid.

<sup>29</sup> Lee J. Cronbach, 'Coefficient alpha and the internal structure of tests', *Psychometrika*, 16.3 (1951), pp. 297-334, doi:10.1007/BF02310555.

*Views on contemporary moral issues* were assessed by a battery of 23 items assessed on a five-point scale: always right (1), usually right, sometimes wrong (2), don't know (3), usually wrong, sometimes right (4), always wrong (5). While covering a range of issues multiple items concentrated on the use of substances and on sexuality.

### **Participants**

Of the 181 participants who provided full data, 78 were male and 103 female; 21 were 12 years of age, 27 were 13, 19 were 14, 19 were 15, 15 were 16, 12 were 17, 6 were 18, 4 were 19, 24 were in their twenties, 14 in their thirties, and 20 were aged 40 and over; 75% attended church nearly every week, 7% at least once a month, 11% sometimes, 3% once or twice a year, and 4% never attended; 50% prayed nearly every day, 19% at least once a week, 4% at least once a month, 15% occasionally, and 6% never prayed.

### **Data analysis**

The data were analysed by the SPSS package using the frequency, factor, reliability, correlation, and regression routines.

### **Results**

- insert table 1 about here -

The first step in data analysis was designed to explore the factor structure of all diverse 23 items concerning views on contemporary moral issues. Using an iterative process, the two sets of items concerning substances and sexuality emerged as distinct factors with a third factor attracting two items on the treatment of criminals. The final rotated three factor solution is presented in table 1. Together from this set of 14 items the three-factor solution explained 60.4% of the variance. Although one item concerning using cannabis above the legal age cross-loaded on the sexuality factor, this item was retained to increase the number of items in the substances factor.

- insert tables 2 and 3 about here -

The second step in data analysis was designed to explore more fully the scaling properties of the two emerging scales concerning attitude toward substances and attitude toward sexuality. Tables 2 and 3 discuss each of these scales in turn in terms of the correlations between the individual items and the sum of the other items in the scale, the proportion of the participants endorsing the ‘always wrong’ response, and the alpha coefficient.<sup>30</sup> The five-item scale of attitude toward substances reported a satisfactory alpha coefficient of .74; each item correlated well with the sum of the other four items; the five items displayed a good range of discrimination, varying from 25% who rated drinking alcohol as always wrong to 80% who rated using cannabis (marijuana) below the legal age as always wrong. The seven-item scale of attitude toward sexuality reported a satisfactory alpha coefficient of .89; each item correlated well with the sum of the other six items; the seven items displayed a good range of discrimination, varying from 24% who rated an unmarried couple living together as always wrong to 71% who rated viewing pornography as always wrong.

- insert table 4 about here -

The third step in data analysis was designed to examine the bivariate correlations between the three groups of predictor variables (psychological, personal, and religious) and each of the two scales (sexuality and substances). In terms of the religious variables the data presented in table 4 demonstrated that both personal prayer and church attendance are statistically significant predictors of higher scores on both scales, and that of these two, personal prayer is the stronger predictor. In terms of personal variables, the correlations suggested that both sex and age function differently in relation to the two scales. Older participants recorded statistically significant higher scores on the scale of attitude toward sexuality and statistically significant lower scores on the scale of attitude to substances. While females recorded higher

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<sup>30</sup> Ibid.

scores on the scale of attitude toward substances, there were no statistically significant sex differences on the scale of attitude toward sexuality. In terms of psychological factors, thinking types reported lower scores than feeling types on both scales, and judging types reported higher scores than perceiving types on both scales. Higher emotionality scores were associated with higher scores on the scale of attitude toward sexuality ( $r = .21, p < .01$ ), but unrelated to scores on the scale of attitude toward substances ( $r = .01, ns$ ).

In terms of the bivariate correlations there was a statistically significant correlation between the scale of attitude toward sexuality and the scale of attitude toward substances ( $r = .50, p < .001$ ). A correlation of this strength indicates that the two measures follow similar trajectories but are far from identical. The independence of the two measures is confirmed by differences in association with some of the predictor variables.

- insert table 5 about here -

The final step in data analysis was designed to employ multiple regression to assess the overall impact of the three sets of predictor variables (personal, psychological, and religious) on individual differences in attitudes toward sexuality and attitude toward substances. In this analysis the predictor variables were entered in three steps in the order of psychological variables, personal variables, and religious variables. The first and clearest conclusion from these regression models is that the strongest predictor of individual differences in both attitudinal domains is intrinsic religiosity. Participants committed to personal prayer adopt stricter moral absolutes in terms of sexuality and substances. When personal prayer is taken into account no additional variance is explained by church attendance. The second conclusion is that young Baptists and their leaders adopt similar attitudes toward sexuality and that young Baptists adopt stricter attitudes than their leaders toward substances. Once these two variables have been taken into account, statistically significant sex differences do not emerge in either attitudinal domain, and only two of the five psychological variables now record

statistical significance: judging predicts significantly higher scores in terms of attitude toward sexuality and attitude toward substances; thinking predicts significantly lower scores in terms of attitude toward substances.

### **Conclusion**

Drawing on theory suggesting that religion may impact various moral domains differently, that intrinsic religiosity and extrinsic religiosity may relate to moral domains differently, that personal variables (age and sex) may interact with the association between religion and moral domains, and that psychological variables (personality) may contaminate the association between religion and moral domains, the present study set out to address three specific research aims. The first research aim was to explore the factor structure of the views on contemporary moral issues held by young Canadian Baptists. From the wide range of moral issues included in the survey two clear factors emerged, one concerned with sexuality, and one concerned with substances. Each of these two factors displayed good scaling properties. The five-item scale of attitude toward substances reported an alpha coefficient of .74, with the items displaying a good range of discrimination varying from 25% to 80%. The seven-item scale of attitude toward substances reported an alpha coefficient of .89 with the items displaying a good range of discrimination varying from 24% to 71%. The satisfactory performance of these two scales allowed the other two research aims to be addressed.

The second research aim was to test the bivariate effect of personal variables (age and sex), psychological variables (as assessed by psychological type theory and emotionality) and religious variables (intrinsic religiosity and extrinsic religiosity) on individual differences in scores on the scale of attitudes toward substances and the scale of attitudes toward sexuality. The statistically significant bivariate correlations confirmed that some personal variables, psychological variables, and religious variables, considered individually, were associated with individual differences in the two moral domains. This finding paved the way for

transition from bivariate analyses to multivariate regression analyses to address the third research aim.

The third research aim was to assess whether the two different domains of moral values (substances and sexuality) within this population related to personal variables, psychological variables, and religious variables in the same or different ways. Three key conclusions emerged from the regression models. The first conclusion is that intrinsic religiosity (as measured by frequency of personal prayer) was the strongest predictor of stricter moral absolutes in terms of both sexuality and substances. When personal prayer was taken into account, extrinsic religiosity (as measured by frequency of church attendance) added no further predictive power. The second conclusion is that there were no statistically significant sex differences in either of the two moral domains. However, age was reflected differently in the two domains. On the one hand, age was not statistically significant in respect of attitudes toward sexuality. In other words, Baptist youth and their leaders shared similar views in this domain. On the other hand, age was statistically significant in respect of attitudes toward substances. In other words, Baptist youth held a more proscriptive position on substances than their leaders. Third, when personal variables and religious variables were taken into account, only two of the five psychological variables emerged as statistically significant.

The limitations with the present study include the restricted range of moral issues included in the inventory, the assessment of intrinsic religiosity and extrinsic religiosity by the proxy measures of prayer frequency and attendance frequency, and the number of participants. These are issues that may be addressed by future studies.

### **Acknowledgements**

#### **Conflict of interest**

No potential conflict of interest was reported by the authors.

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**Data availability**

Data are available from the corresponding author upon reasonable request.

**Ethical approval**

The research was approved by the Research Ethics Committee of Crandall University on 31 May 2023.



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Table 1

*Rotated factor solution*

	factor 1	factor 2	factor 3
Drinking alcohol		.71	
Vaping		.74	
Using cannabis (marijuana) below the legal age		.59	
Using cannabis (marijuana) above the legal age	.43	.63	
Smoking cigarettes		.70	
Sexual intercourse prior to marriage	.89		
Oral sex prior to marriage	.85		
An unmarried couple living together	.77		
Abortion	.69		
Sexual relations between two individuals of the same sex	.79		
Viewing pornography	.66		
Sexting (sending nude images by texting)	.58		
Putting to death people convicted of violent crimes			.79
Placing violent prisoners in solitary confinement			.83

Note: loadings below .30 suppressed

N = 181

Cumulative variance explained, 60.4%

Table 2

*Scale of attitude toward substances*

	<i>r</i>	Yes %
Drinking alcohol	.45	25
Vaping	.55	72
Using cannabis (marijuana) below the legal age	.47	80
Using cannabis (marijuana) above the legal age	.59	30
Smoking cigarettes	.56	60
alpha	.74	

Note: *r* = correlation between the item and the sum of the other four items

yes % = proportion answering as ‘always wrong’

N = 181

Table 3

*Scale of attitude toward sexual practice*

	<i>r</i>	Yes %
Sexual intercourse prior to marriage	.83	56
Oral sex prior to marriage	.78	58
An unmarried couple living together	.71	24
Abortion	.67	29
Sexual relations between two individuals of the same sex	.67	54
Viewing pornography	.63	71
Sexting (sending nude images by texting)	.56	69
alpha	.89	

Note: *r* = correlation between the item and the sum of the other six items

yes % = proportion answering as 'always wrong'

N = 181

Table 4

*Bivariate correlations*

	Sexual	Substances
<i>Psychological variables</i>		
Thinking	-.17*	-.23**
Judging	.30***	.29***
Emotionality	.21**	.01
Extraversion	.01	.06
Sensing	.01	-.13
<i>Personal variables</i>		
Age	.22**	-.17*
Sex	.07	.16*
<i>Religious variables</i>		
Church attendance	.19**	.17*
Personal prayer	.51***	.31***

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

Correlation between sexual and substances = .50

Table 5

*Regression models*

	Sexual	Substances
<i>Psychological variables</i>		
Thinking	.03	-.14*
Judging	.15*	.14*
Emotionality	-.14	-.07
Extraversion	-.01	.05
Sensing	-.06	-.09
<i>Personal variables</i>		
Age	.03	-.29***
Sex	.05	.08
<i>Religious variables</i>		
Church attendance	.06	.10
Personal prayer	.40***	.26***
$r^2$	.29	.25

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