

**Extraversion, Openness to new Experience,
Spirituality and Sexual Attitudes
in Irish College Students**

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Abstract

The aim of this study was to investigate the potential relationship between openness to new experience, extraversion, spirituality, gender and sexual attitudes in Irish college students. In a correlational mixed method design, the participants were given a set of three quantitative self-report questionnaires with one additional qualitative question. The analysis showed a weak relationship between openness and sexual communion. Spirituality was found to correlate positively with communion and negatively with permissiveness. Significant gender differences were found for sexual permissiveness. Research into the area of sexual attitudes should be continued as it seems to be changing over time and influences are not entirely clear yet.

Keywords: Sexual attitudes, spirituality, openness to new experience, extraversion

EXTRAVERSION, OPENNESS TO NEW EXPERIENCE, SPIRITUALITY AND SEXUAL ATTITUDES IN IRISH COLLEGE STUDENTS

Introduction

In the past, sexual attitudes in Ireland were strongly influenced by the Catholic teachings, which stated that only marital sex for procreational reasons was righteous and moral (Inglis, 1998). These teachings were enforced through families, education, church and society itself by eliciting feelings of shame, guilt and embarrassment when discussing sexuality. Sexual content was to be talked about only in the confessional. A study conducted by Kennedy showed that Ireland had the highest percentage of bachelors and spinsters over 45 years in the 1930s, 1960s, and 1970s in Europe (1973). Kennedy argues that this is not only due to the moral teachings of the church promoting strict celibacy outside of marriage, but also depicts a mean to increase standards of living by decreasing family sizes. This strategy had been successful for families throughout the hardship of the 19th century in Ireland.

But the social attitudes towards sex slowly started to change during the 1960s, especially due to an increase of medial reflection on sexuality thereby opening this taboo topic for discussion. The kick-off for a scientific approach to studying sexual behaviours and attitudes had been the previous studies by Alfred Kinsey in America in the 1940s and 1950s and Master and Johnson's finding on female orgasms in the 1960s. As Inglis states: "Understanding other peoples' sexuality became a means of reflecting on one's own beliefs, attitudes and practices" (1998, p. 70). In 1974, a national survey revealed that the liberation of sexual attitudes in Ireland was taking place only very slowly, as more than seven out of 10 people questioned found that sexual relations outside of marriage were always wrong. Almost twenty years later, more than 60% of respondents believed it to be very common to be sexually active without being married, and almost 75% thought teenagers were much more

involved in sexual relationships (Inglis, 1998). This change in attitudes is quite similar to the one found in most parts of the western world between the 1950s and 1990s, with a decrease in the age of first intercourse and an increase of sexual activity before the age of 18. Weeks (2011) calls this shift in sexual attitudes the Great Transition, which started in western countries, and is soon to change prevalent norms around the globe. The pattern of this shift or transition can be described by looking at how sexuality is discussed in four different discourses (Carlson, 1991). The traditionalist discourse is closest to the Catholic Church teachings and depicts sex as sinful and immoral. In the 1920, the progressive discourse focussed on “secular, scientific, utilitarian, state management of sexual problems” (Inglis, 1998, p.16) became more prevalent. It was then replaced twenty years later with the libertarian discourse centred on pleasure, diversity and individual sexual rights. This discourse was strongly supported by the media and an increased interest in the population to discuss sexual content more freely. According to Carlson (1991), the fourth discourse, the radical Freudian one, emphasized a non-repressive sexuality. Inglis argues that “in any one society, such as Ireland, and at any one point in time, such as the 1990s, there will be elements of all of the different perspectives” (1998, p.17). At the end of the past century, the strict traditionalist discourse within the Catholic Church regarding sexual attitudes and behaviours slowly evolved to a more moderate one. In 1997, the Department of Education’s programme called Relationships and Sexuality Education (RSE) was initiated, even though it was strongly opposed by teachers and lay Catholic groups. The programme aims at “acquiring knowledge and understanding and [...] developing attitudes, beliefs and values about sexual identity, relationships and intimacy” (Government of Ireland, 1997, p.4). Still, even in today’s Ireland, conservative perspectives on sexuality can be found in society, particularly for those who grew up with the traditional teachings of the church. According to Inglis (1998) there have been major changes in the display and discourse of sex but the Irish

are still not a permissive society. Malesevic (2003) looked at the sexual attitude of Galway first year university students and found a vast variety of opinions from traditional Catholic to liberal but also emphasised still prevalent impact of the legacy of the Catholic Church's teachings on sexual attitudes. Unfortunately, the study was not of empirical, but more of philosophical nature and the data discussed were actually taken from a large sample survey called "Sexual Behaviour, Attitudes and Knowledge in Cross-Cultural Perspective 2000". As it was simply survey data, on which no statistical tests regarding correlations were conducted, it is impossible to hypothesize about influencing factors or significant relations within the data. Nevertheless, Malesevic sees the result as a support to Inglis thesis from 1998, as more than 70% of participants reported to be open to discuss sexual matters, informed on contraceptive methods and regard male and female sexuality as egalitarian (2003). This study, even though the data used is hardly anything other than a complex opinion poll, is one of the handful studies on recent Irish sexuality and shows how important it is to conduct further research in this area, particularly in this country, that seems to still be in the Great transition at the moment. The data used in this study is already over 15 years old, therefore, it is more than necessary to collect up to date data and to look at some of the underlying factors that influence Irish college students sexual attitudes, which is the aim of this study. It will particularly be looking at the relationship between personality traits, spirituality, gender and sexual attitudes in Irish college students today.

In 2015, Ireland has become the first country in the world to legally allow same sex marriage by popular vote. On the other hand, it is one of the few EU countries where it is still forbidden to have an abortion unless the mother's life is endangered. The Health (Family Planning) Act from 1992 also shows how strict contraception is regulated still today: Contraceptives are to be sold only to people over the age of 17 or married. As sexuality is still a very sensitive topic to some, it is important to restrict the sample to Irish of legal age.

Research and influences on sexual attitudes

Sexual attitudes are strongly influenced by internal psychological factors such as emotions or motivation and external social group processes such as norms, traditions and values (Crooks & Baur, 2013). The extent to which society and social groups impact sexual attitudes and behaviours might not always be obvious to the individual (Laumann *et al.*, 1994) and cannot be generalised across cultures, even though rules for appropriate sexual behaviour can be found in all societies (Beach, 1978). Sexual attitudes are further shaped by educational level and socioeconomic status of the individual, as more educated individuals tend to masturbate more often than do less-educated for example (Michael *et al.*, 1994). It might therefore be an important step to focus on one particular educational group, as it will be done in this study with Irish college students to ensure comparability and generalizability of results. Crooks and Baur (2013) state that sexual attitudes, beliefs and behaviours are non-homogenous even for people of the same religious group. Fundamentalist Christians have a very different perspective on sexuality than those who do not interpret the Bible as literally (Ostling, 2000). Fundamentalists of the three big religions in general seem to be more restrictive regarding gender roles and sexuality than non-fundamentalist counterparts. The impact of religiosity on sexual behaviour and attitudes has been the focus of several studies (Glenn & Weaver, 1979; Mahoney, 1980). Others like Jurich and Jurich (1974) have found that differences in premarital sexual standards were not linked to religiosity but instead to the gender of participants. Female college undergraduates generally reported more conservative sexual attitudes than did men in this study. Another study by Hendrick and colleagues (1985) described women as “moderately conservative” and men as “moderately permissive” after finding that women scored lower on sexual permissiveness than the male participants. Sexual permissiveness involves accepting casual sex and multiple partners (Bailey *et al.*, 1987). Another interesting finding from this study was that no difference between the genders

concerning sexual communion, a variable which refers to sex as ultimately harmonious communication and merging of two bodies and minds (Bailey *et al.*, 1987), or instrumentality was significant. The latter refers to viewing sex as a mainly uncommitted physical pleasure taking from another person (Bailey *et al.*, 1987). The previously mentioned gender gap for permissiveness has been regarded as obvious for a long time, and even though Hunt (1974) found that it is slowly closing, this might not be the case. Still in 2007, Fisher found that males are more sexually experienced and score higher on sexual permissiveness than females. Therefore, this study will look at if gender differences regarding sexual attitudes, in particular permissiveness can still be found among Irish college students. Evolutionists like Trivers (1972) argue accordingly to the Parental Investment Theory that due to biological differences between men and women, women need invest more into their offspring as they cannot reproduce as often as their male counterparts. This leads to different mating preferences and more conservative sexual attitudes. Buss (1989, 1992) further concluded that men cannot be sure of their parenthood for the offspring, and thus are strongly concerned about sexual infidelity of their partners. Men therefore seek in women very conservative, loyal partners, leading to specific (sexual) roles for both genders. From a biosocial perspective, sex differences regarding attitudes towards sexuality are not as clear. These differences “reflect interactions between the biological qualities of men and women and social factors, particularly those involving economic conditions and the division of labour within society” (Pervin & Cervone, 2010, p. 434). Some studies (e.g. Eagly & Wood, 1999) have found that the gender gap is smaller in societies where both sexes take on similar roles – a situation more prevalent in western, developed countries. Bailey, Hendrick and Hendrick (1987) also found that both gender role and biological sex predicted sexual attitudes in a study with 286 American college students. In a more recent study, Schmitt *et al.* concluded that evolutionist

and biosocial perspective on gender differences together help to understand the influences sexual attitudes are subject to (2008).

Personality: The Trait approach

Personality can be measured and described in various different ways, for example as hierarchical structure of traits that underlie and influence an individual's pattern of behaviour. The trait approach to describing personality assumes a direct connection between an individual's behaviour and his or her predispositions (so-called traits). Gordon W. Allport further divided these traits into cardinal (most influential), central (limited to certain situations) and secondary traits. He also found that "traits are often aroused in one situation and not in another" (Allport, 1937, p.331), thus assuming a situation specificity. Later in the century, Eysenck (as cited in Pervin & Cervone, 2010) posed the idea that behaviour is organized hierarchically in specific and habitual response, trait and superfactor levels. On the basis of the previous research work of his colleagues in the field, and by using a factor analysis, Raymond B. Cattell then proposed a 16-source trait model covering ability, temperament and dynamic traits (Pervin & Cervone, 2010). Eysenck (1970) criticized the large number of traits in Cattell's model and conducted a secondary factor analysis, which led to only two superfactors: extraversion and neuroticism. He strongly emphasized the link between personality and sexual attitudes, stating that the extrovert would seek sexual stimuli more actively (Lameiras Fernández & Rodríguez Castro, 2003). This was the initial spark to researching the relationship between personality traits and sexuality, which will also be looked at in the current study. Eysenck furthermore found that personality could be a predictor regarding sexual experiences (1971; 1972). Based on all this pioneer work, Costa and McCrae postulated the Big-Five Personality Trait Model consisting of the factors: openness to new experience, conscientiousness, extraversion, agreeableness and neuroticism. . Two of these factors will be included in the current study: openness to new experience

which includes curiosity, broad interests, creativity, imagination and originality as well as extraversion, which assesses “the quantity and intensity of interpersonal interaction, activity level, need for stimulation, and capacity of joy” (Pervin & Cervone, 2010, p.261). The five factors showed good reliability, validity and relative stability in adulthood and were assumed to be a human universal (McCrae & Costa, 1997). This assumption has been difficult to prove due to existing variations in language and culture biased direct translation of measurements. Culturally specific influences, for example a “Chinese tradition” factor, have been put forward by a group of researchers (Cheung *et al.*, 1996). Further cross-cultural research concluded that extraversion, agreeableness and conscientiousness could be measured precisely around the world while neuroticism and openness to new experiences were sometimes biased by translation and culture. Unfortunately, there has not been any research on a possible “Irish tradition” factor but researchers in the area of personality should be aware of possible cultural influences. Regarding the stability over lifetime, Costa & McCrae (1994) found that neuroticism, extraversion and openness are reported less intense by older people than by young adults. It needs to be considered that these differences might not be due to age but to cohort differences between participants. For the above-mentioned reasons, it is important to focus on a specific age group within a specific culture in order to avoid biased data. The current study therefore will look at two of the five proposed personality traits only in students between 18 and 30 years of age that are of Irish nationality.

According to Lameiras Fernández and Rodríguez Castro (2003), there has been very little research on the link between Big Five and sexual attitudes, despite the proposed relationship between personality and sexuality by Eysenck. They conducted a study with 255 Spanish students and found significant gender differences for extraversion but no definite link between extraversion and sexual attitudes. To defend Eysenck’s postulate, it needs to be said that there was a significant relationship between openness and a more positive view of

erotic material for both genders, as well as a higher same-sex physical attraction for the female students. Unfortunately, in their study, Lameiras Fernández and Rodríguez Castro used a different instrument to measure attitudes to sexuality than will be used in the current study, the Spanish version of the Sexual Opinion Survey by Fisher (1998). Even though a considerable amount of research focused on the link between different concepts of personality and sexuality has been done, there are unfortunately very few studies that are concerned with the predictive value of spirituality and personality combined with gender differences regarding sexual attitudes. Therefore this study will aim at further investigating the potential correlations and influences of personality, spirituality and gender differences on sexual attitudes, hoping to identify variables that might be important in the process of the Great Transition of sexual attitudes.

Spirituality and sexual attitudes

An empirical definition of spirituality by Piedmont (2001) emphasises the individual's relationship to a greater, transcendental (meaning supernatural) being like God while religiosity in his opinion is more concerned with the organisational structures like church or communities that shape the individual's beliefs. As spirituality seems deeply rooted in human kind, he had proposed (1999) to introduce it as a sixth factor called transcendence in the Big Five Model earlier. Unfortunately there is no definition, not even the one by Piedmont (2001), that is widely accepted nor is the construct of spirituality well established or researched. Hatch and colleagues for example describe spirituality as the individual's interconnection with the divine resulting from a strong relationship to nature or proactive social behaviour (1998), which is close to the previous definition but does not distinguish religiosity from spirituality. Unclear definitions and vague distinctions between religiosity and spirituality, that vary between researchers have cause major problems in the past, particularly as the two are strongly connected but not redundant concepts as Burriss, Smith

and Carlson (2009) have shown. There seems to be an overlap between the two constructs as well as important differences especially regarding their impact on attitudes. This led Burris and colleagues (2009) to believe that shifting the research focus from religiosity to spirituality may give much deeper insight to college students' attitudes. In the different past definitions, spirituality has commonly been described to concern the individual as a whole and influence its behaviour and attitudes, including the individual's sexuality (Helminiak, 1989). Due to the mentioned distinction and definition problems regarding religiosity and spirituality, empirical research has had its difficulties investigating the impact of spirituality alone on sexual attitudes and behaviours. Most studies in the past therefore were focused on the impact of either religiosity alone or a combination of both religiosity and spirituality on sexual attitudes and sexual behaviours, but very little research has been done to investigate the relationship of spirituality and sexual attitudes. This study therefore will focus solely on spirituality, and will not include religiosity as a variable regarding influences on sexual attitudes.

Despite the terminological and conceptual shortcomings, there have been some interesting findings in the area of spirituality and sexuality. Murray-Swank, Pargament and Mahoney (2005) for example found that across different cultures, individuals reporting a higher level of religiosity and spirituality are more likely to be premaritally abstinent, to have fewer lifetime partners and less frequent intercourse. In this study, participants were also asked about their own beliefs regarding a link between spirituality and sexuality and results showed that the belief of sexuality as sacred and divine was related to increased levels of sexual activity and satisfaction.

Additionally to the previous conceptual difficulties, the link between spirituality and sexual attitudes has unfortunately mostly been investigated by frequency of church attendance or level of importance of affiliation with religion while ignoring the deeper

implications of spirituality outside of a religion onto attitudes and beliefs (Murray, Ciarrocchi & Murray-Swank, 2007). In their study, they concluded that spirituality and religiosity both play an important role for moral decision regarding sexuality, as the more spiritual and religious individuals did not support casual sex. Higher spirituality was also strongly linked to disagreeing with the use of contraceptives. Interestingly, sexual communion was neither predicted by spirituality nor by religiosity. These findings support those of Beckwith and Morrow (2005) that higher spirituality is linked to lower sexual permissiveness and more conservative attitudes towards sexuality. Therefore in this study, the link between sexual attitudes, in particular permissiveness and communion, and spirituality will be further investigated in the hope to find support for an underlying relationship. Gender differences regarding sexuality and spirituality have been investigated by Luquis, Brelsford and Rojas-Guyler (2012). They believe the gender differences in sexual attitudes, like males scoring higher on sexual instrumentality, are due to social norms rather than differences in spirituality. Unfortunately, this assumption was no further investigated in their study and can only be seen as an idea for future research. Furthermore, they linked the more positive attitude of women towards birth control to the fact that the marketing strategy for contraceptives (except for condoms) is targeting an all-female group; therefore women are much more exposed to medial influences on birth control. Gender differences in sexual attitudes will also be investigated in this study, as they seem to account for some of the variance usually found in sex research.

Rationale for research

In summary, previous studies have reported a gender-influenced link between personality traits and sexual attitudes (Eysenck, 1971, 1972) as well as between spirituality and sexual attitudes (Burriss *et al.*, 2009; Luquis *et al.*, 2012; Murray *et al.*, 2007; Murray-Swank *et al.*, 2005). Gender differences regarding sexual attitudes and behaviours have also

been targeted in research (Jurich & Jurich, 1974; Hendrick *et al.*, 1985; Fisher, 2007; Helm, Gondra, & McBride, 2015). Overall, the results indicate that women are still slightly more conservative in terms of sexual attitudes, especially regarding permissiveness, and have a more positive opinion on birth control than their male counterparts. Despite their empirically proven distinctness, the constructs of religiosity and spirituality have not been distinguished as clearly in past studies and there is very little research that focuses on the link between all three factors (spirituality, personality and sexual attitudes). Since most of the research was conducted in the USA, there is not much recent data for the Irish population, specifically for those aged 18 to 30 and in third level education. Ireland's culture, social norms and values have been under strong influence of the Catholic Church teachings in the past. Therefore the Irish youth is a particularly interesting target population as to see whether younger generations' sexual attitudes are still rather conservative or have become more liberal. As previously discussed, cultural influences, age differences and language barriers can bias data. Therefore an all-Irish, age-restricted sample is necessary to ensure results represent the target population of students. As gender differences regarding sexual attitudes have been found in the past a gender-balanced participant group is desirable.

Purpose of this study

The present study seeks to investigate the link between specific personality traits (extraversion and openness to new experience), spirituality and an individual's sexual attitudes. It furthermore aims to compare male and female participants to find potential differences between the genders.

A sample of 88 Irish college students aged 18 to 30 will complete the Brief Sexual Attitudes Scale (BSAS, Hendrick, Hendrick, & Reich, 2006), the Spiritual Involvement and Belief Scale (SIBS, Hatch *et al.*, 1998) and a shortened version of the Big Five Inventory by John, Naumann and Soto (2008).

This study firstly looks at whether personality traits are linked to sexual attitudes. It is hypothesized that openness and extraversion are linked to sexual permissiveness, which is one of the subscales of the BSAS (Hypothesis 1).

Secondly, a high spiritual involvement is hypothesized to be linked to the emphasis of sexual communion measured by the BSAS (Hypothesis 2). Spiritual involvement as measured by the SIBS consists of factors such as purpose in life, fulfilment from nonmaterial things, ability to find meaning from suffering or spiritual activities with others (Hatch *et al.*, 1998).

Thirdly, significant gender differences regarding the four subscales of the BSAS are hypothesized. Besides permissiveness and communion, the BSAS also measures attitudes towards birth control, or responsible sexuality, and sexual instrumentality.

Method

All methodological aspects of this study (e.g. sample size, procedure) followed a research proposal, which was granted ethical approval by the ethical board at Dublin Business School.

Participants

The sample consisted of 88 subjects (30 males, 58 females). All participants were between 18 and 30 years of age, of Irish nationality and currently enrolled in college education.

The type of sampling was convenient sampling as all participants were recruited online via Facebook advertisement. The advertisement contained a debriefing on the nature and content of the study as well as the link to the Google form. All participants gave consent to take part in the study. If any of the exclusion criteria was met (not in age range, not Irish, not in college education, no internet access) the participant was told to exit the page and the respective data was deleted automatically.

Design

A non-interventional correlational mixed method research design was used. It consisted of psychometric questionnaires aimed at measuring quantitative data and one qualitative question regarding the personal opinion towards the influence of spirituality on sexual attitudes. Additional demographic data on gender and inclusion criteria was collected. The study design is hypothetic-deductive.

As there were three hypothesis to be answered, there were also several predictors and criteria. Firstly, it was hypothesized that openness to new experience and extraversion are linked to sexual permissiveness, therefore the first two are the predictor variables and the latter the criterion variable. The second hypothesis states that spiritual involvement (the predictor) is linked to the emphasis of the criterion sexual communion. Finally it was

hypothesized that the gender of participants (independent variable) is linked to the four subscales of the Brief Sexual Attitudes Scale (dependent variables).

The first two hypotheses consist of within subject variables, the last one of between subject variables.

Materials

All participants were asked to answer the same three self-report questionnaires. For all three sections, participants were instructed to answer all items truthfully and tick the box with resembles their extent of agreement to the given statement.

The first section consisted of 18 items from the Big Five Inventory (BFI) by John et al. (2008) regarding the variables of Extraversion (eight items) and Openness to new experience (ten items). The full version with 44 items measures the five dimensions of personality (Extraversion, Openness to new experience, Conscientiousness, Agreeableness and Neuroticism). All items were to be answered on a 5-point Likert scale from 'strongly disagree, 1' to 'strongly agree, 5'. The higher the score, the more the participant agrees with the item statement. There were positively scored items such as "I am someone who is talkative" for Extraversion or "I am someone who is curious" for Openness, as well as reversely scored items like "I am someone who is reserved" (Extraversion). According to John et al. (2008), the BFI shows adequate internal reliability with a mean internal consistency of .83 (e.g. alphas are .86 for Extraversion and .83 for Openness). Divergent and convergent validity has been shown with similar Big Five Instruments such as the NEO-FFI (John et al., 2008).

Afterwards, the participants were given the 23-item *Brief Sexual Attitudes Scale (BSAS)* (Hendrick & Hendrick, 2006) to measure their sexual attitudes on four dimensions. For this questionnaire, participants were additionally instructed to keep in mind their last or current sexual relationship and answer accordingly. If participants had not had a sexual

relationship so far, they were instructed to tick a box resembling their most likely answer. The scale consists of four subscales: permissiveness, birth control, communion and instrumentality. (Detailed information on the subscales can be found in the introduction.) Permissiveness describes the general attitude towards casual sex with multiple partners and was measured using ten items such as “I do not need to be committed to a person to have sex with him or her”, “Casual sex is acceptable” or “I would like to have many sex partners”. Birth control consisted of only three items: “Birth control is part of responsible sexuality”, “A men should share responsibility for birth control” and “A women should share responsibility for birth control.” Communion emphasises the bond that exists between two sex partners with five items such as “At its best, sex seems to be the merging of two souls”. The last subscale, instrumentality, is concerned with the sex as a bodily pleasure (e.g. “Sex is primarily the taking of pleasure from another person”). The same Likert rating basis as for the first section was used to ensure rating scale consistency. Therefore, higher scores indicate higher agreement with items. Previous research (Hendrick *et al.*, 2006) found good internal consistency for the BSAS (e.g. alphas between 0.79 and 0.95).

The third and last section then comprised 23 items of the *Spiritual Involvement and Beliefs Scale* (Hatch *et al.*, 1998). This questionnaire measures attitudes towards spirituality and beliefs regardless of the religion of participants. It consists of reversed items like “In the future, science will be able to explain everything” as well as items regarding spirituality (e.g. “Some experiences can be understood only through one’s spiritual beliefs”). For the first 19 items, a Likert scale similar to the previous was used. For item 20, 21, 22 and 23, the questions regarded frequencies. Therefore, a five-point scale from ‘1, never’ to ‘5, always’ was applied. Hatch *et al.* (1998) showed high instrument reliability and validity ($\alpha = .92$), as well as test-retest reliability ($r=.92$).

Finally, a qualitative self-reflective question on whether spiritual involvement affects the participant's sexual attitudes had to be answered.

Procedure

After clicking on the link in the advertisement on Facebook, potential participants were transferred to the Google form where they were shortly informed that the following study would be concerned with the relationship between sexual attitudes, personality features and spiritual involvements and beliefs. Awareness was raised to the sensitivity of questions in the consequent survey and the right to withdraw at any time. Anonymization as well as data protection was ensured. Two help hotlines as well as a contact e-mail address were displayed, then participants were thanked and asked to give their informed consent by clicking a box. In the following section, participants had to state their gender and answer the inclusion criteria questions regarding age range, Irish nationality and current college education before proceeding to the actual questionnaires. If participants did not meet the inclusion criteria, they were told to exit the page and their data was deleted. All participants had to answer the three previously described questionnaires and the qualitative question, in total 65 items, following the instruction given prior to the first item of each section. On the last page of the survey, participants were thanked for their time and reminded of the depersonalization of data, help lines and the contact email address in case they were interested in the results of the study. Completing the online form took participants approximately five to ten minutes. The information sheet, consent question as well as all questionnaires and the debriefing sheet can be found in the appendices for further information.

Results

The descriptive and inferential analysis of data was conducted electronically using the Statistical Package for Social Sciences (SPSS) in the 22nd version. Two-tailed analysis were run with a level of statistical significance of $p < 0.05$. Tests to ensure normal distribution of data were conducted. As two of the variables (birth control and communion) were not normally distributed, statistical tests deviated from the initially proposed analysis and both parametric and nonparametric tests were used.

Descriptive statistics

As it can be seen in Table 1, the 88 participants consisted of 58 females (65,9 %) and 30 males (39,9%).

Table 1 *Descriptive Statistics of Sample Distribution*

	Number of participants	Percentage
Male	30	34,1 %
Female	58	65,9 %
Total	88	100 %

The item scores for each of the two personality variables (extraversion and openness to new experience) as well as for each of the four subscales of the BSAS were added up and divided by the number of items per variable, respectively, to calculate the main score for each participant. For spirituality, a total score was calculated by adding up each participant's item scores.

Table 2 shows the means (M), standard deviations (SD), standard error (SE) medians (Med) as well as the range, minimum (Min) and maximum (Max) of the total sample for the scale variables openness to new experience, extraversion, permissiveness, birth control, communion, instrumentality and spirituality.

Table 2 Descriptive Statistics of Measured Variables

Variable	M	SD	SE	Med	Range	Min	Max
Openness	3.54	.42	.04	3.50	2.00	2.30	4.30
Extraversion	3.42	.79	.08	3.63	3.50	1.50	5.00
Permissiveness	2.88	.89	.09	3.00	3.60	1.00	4.60
Birth control	4.51	.46	.07	5.00	2.33	2.67	5.00
Communion	3.6	.79	.08	3.60	3.00	2.00	5.00
Instrumentality	3.12	.78	.08	3.00	3.80	1.20	5.00
Spirituality	67.67	15.39	1.64	67.50	69.00	35.00	104.00

Inferential statistics

The data was analysed inferentially using Pearson's correlation coefficient, Spearman's rho, linear regression, independent sample t-test and Mann-Whitney U tests.

The first hypothesis stated that openness to new experience and extraversion are linked to sexual permissiveness. The mean scores for the two personality variables were 3.54 (SD=.42) for openness and 3.42 (SD=.79) for extraversion. For permissiveness the mean score was 2.88 with a standard deviation of .89 as Table 2 shows. Parametric (Pearson's product moment correlation coefficient) and nonparametric (Spearman's rho) tests for correlations between the personality variables and all subscales of the BSAS were run. The relationship between openness and permissiveness as well as between extraversion and permissiveness was not significant. Therefore the first hypothesis has to be rejected, as a link between the relevant variables could not be found. Additional analysis showed there was a weak significant relationship between openness and communion ($r(88) = .23, p = .032$).

Spirituality was hypothesized to be linked to the emphasis of sexual communion. As it can be seen in Table 2, the mean score for spirituality was 67.67 (SD=15.39) and 3.63 (SD=.79) for communion. As communion was not normally distributed, a nonparametric test was used. Spearman's rho correlation found a weak positive significant correlation between spirituality and communion ($r_s(88)=.25$, $p=.018$). $R_s = .25$. $(.25)^2 = 0.06$. Therefore, spirituality accounts for 6% of the variance between individuals regarding communion. In additional analyses, a weak negative significant relationship between spirituality and permissiveness was found ($r_s(88)=-.22$, $p=0.43$). The hypothesis regarding the link between spirituality and emphasis of sexual communion can therefore be accepted.

A relationship between gender and the four subscales of the BSAS was hypothesized. As two of the subscales were found to be skewed, nonparametric and parametric tests were used. Independent samples t-tests showed a significant difference between permissiveness of males ($M=3.21$, $SD=.69$) and females ($M=2.71$, $SD=.94$) ($t(88)= 2.81$, $dfs=86$, $p=.006$, CI (95%) .14 --.85). The mean difference was .50. No significant differences between the genders could be found regarding all other variables, including personality traits and spirituality. As it can be seen in Figure 1, the distribution of means for sexual attitudes in respect to gender shows no gender gap except for permissiveness. Nevertheless, the hypothesis can be accepted.

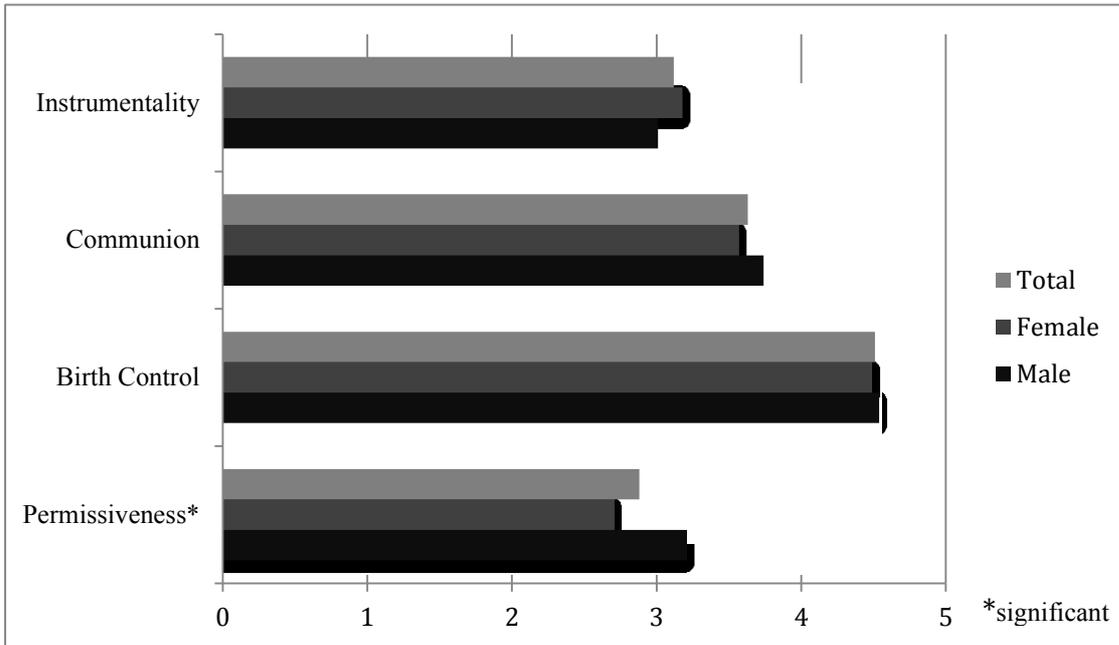


Figure 1 *Distribution of Means for Sexual Attitudes*

Qualitative Question

The qualitative question asked for the participants' personal opinion on whether spirituality influences sexual attitudes. Many participants answered single worded ("yes" or "no"), or gave statements that concluded in either option. Few gave very long answers without taking sides or stated they "did not know". Therefore, three answer categories were coded: "yes", "no" and "other". The distribution of the answer categories can be seen in Figure 2. 30 (34,1%) out of 88 answers were coded as "yes", 50 (56,8 %) as "no" and 8 (9,1%) as "other".

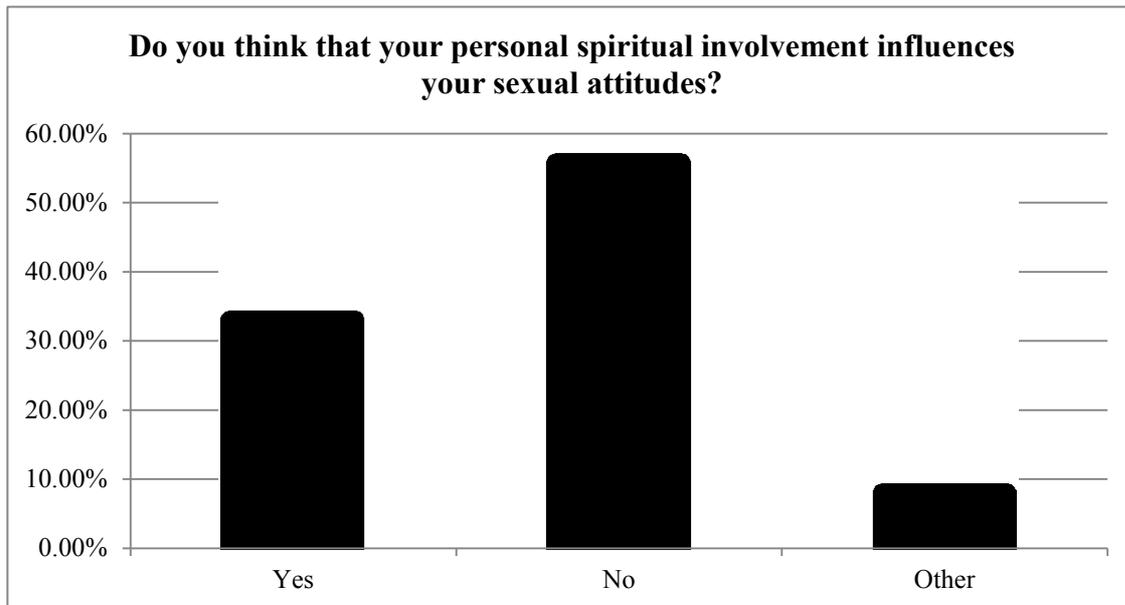


Figure 2: Bar chart showing distribution of answer categories

One participant answered in line with the findings for the second hypothesis, stating “I think the fact that I believe in science and modern theories of life, I can be more free with my sexual activity, whereas a spiritual person might want to find more meaning in sex”. The specific role of sex outside of marriage was regarded “as being a sin by many branches of different church's and religions”. The statement continued: ”Yet, in today’s society it is encouraged to have as many sexual partners and sexual experiences in order to [be] viewed as a woman. Women are not seen as being a woman until they sleep with someone. Society, peer pressure and the views of one's church lead to a very confusing and unpractical view on sex”. Another participant expressed it would be “hard to detach spiritual teachings from any form of life”.

Discussion

This study was aimed at investigating links between personality traits, spirituality, gender and sexual attitudes. The first hypothesis stated that openness to new experience and extraversion would be related to sexual permissiveness. A significant relationship between these variables was not found; therefore the hypothesis was not supported. For the second hypothesis, spirituality was expected to be linked to sexual communion. A significant positive relationship between these two factors could be demonstrated as well as a negative link between spirituality and sexual permissiveness. The answers some of the participants gave on the qualitative question regarding their personal opinion of a link between spirituality and sexual attitudes underline the findings. Most of those who did not feel spiritually involved also did not think spirituality influenced their sexual behaviour or attitudes while others said if they were more spiritual individuals it might be the case. Some of those who thought a link existed for themselves also regarded casual sex as acceptable for others but not for themselves. The findings therefore support this hypothesis. It was thirdly hypothesized that there would be gender differences in sexual attitudes. A significant difference for sexual permissiveness with males scoring higher than females was found. For the other three subscales of sexual attitudes no differences were found. The third hypothesis can still be seen as supported by the findings as gender did influence at least one of the sexual attitudes significantly.

The current findings are in line with those of Lameiras Fernández and Rodríguez Castro (2003), who also did not find a significant relationship between extraversion and sexual attitudes even though it needs to be said that a different instrument was used to measure sexual attitudes. Interestingly, the only significant weak link found in the current study was between openness to new experience and sexual communion. With regard to the findings, the relationship between personality traits and sexual attitudes does not seem to be

as strong as suggested by some of the previous research. This might be a sign that multiple factors such as sexual experience, culture, age or sex education instead of personality traits are more appropriate predictors of sexual attitudes. Further research should be conducted to find possible explanations for the link between openness and communion and to find other influencing factors for sexual attitudes.

While the negative link found between spirituality and permissiveness is concordant with the research of Murray, Ciarrocchi & Murray-Swank (2007) who found that higher spirituality is linked to less acceptance of casual sex, the relationship found between spirituality and sexual communion is not. In their study, the hypothesized link between these two variables could not be shown. This current finding is particularly interesting, as it seems plausible that spiritual individuals who emphasize sexual communion are also opposed to casual sex. The findings from this study are also in agreement with those of Beckwith and Morrow (2005), who found that higher spirituality was related to lower sexual permissiveness and more conservative sexual attitudes. Surprisingly, the current study did not replicate the findings of Murray, Ciarrocchi & Murray-Swank regarding a link between higher spirituality and lower acceptance of birth control (2007), even though Irish culture is thought to be strongly influenced by the teachings of the Catholic Church (i.e. regarding the use of contraceptives; Inglis, 1998). Under the assumption that higher religiosity is linked to lower acceptance of birth control but higher spirituality is not, this could be a sign that the distinction between religiosity and spirituality was successfully established in the current study. A different explanatory approach might focus on whether the generation between 18 and 30 years of age might not be as strongly influenced in their attitudes by the teachings of the Catholic Church. Additional data from future research regarding the influences of those teachings on the attitudes of different age groups of the Irish population would be necessary to underline this hypothetical explanation. Further research should also focus on whether

birth control might be influenced by religious or cultural attitudes rather than by spiritual ones and studies should explicitly address religious and spiritual attitudes with appropriate instruments capable of differentiating between them.

The findings on gender differences are in agreement with those of previous research (i.e. Fisher (2007), Hendrick et al. (1985), Jurich & Jurich (1974)), which also showed males to be more sexually permissive than females. This can be seen as a sign that the gender gap is still not closed, despite the closing process Hunt (1974) described more than forty years ago. In the current study, just like in the one conducted by Hendrick and colleagues (1985), a significant link between gender and instrumentality or communion was not found. In agreement with Luquis', Brelsford's and Rojas-Guyler's idea that gender differences in sexual attitudes might not derive from spirituality but from social norms (2012), the current study also did not find gender differences regarding spirituality to help to explain the gender gap. But the current data also does not suggest females to be more positively primed towards birth control than males, an idea put forward by Luquis and colleagues (2012), instead no gender differences were found regarding birth control or who should share responsibility for it. This might be an outcome of the introduction of the Relationship and Sexual Education (RSE) in 1997, that most college students aged 18 to 30 should have had while schooled in Ireland (Government of Ireland, 1997). Future research should continue to investigate the gender gap regarding sexual permissiveness, as it might be an indicator of changing social norms included in the Great Transition. In either case, comparisons between the present study and the work of other authors should not only consider the different instruments, questionnaires, years of data collection and so on, but especially the particular composition of the participant group. Since the present study was conducted with a small and clearly defined subpopulation, results might not necessarily represent a confirmation or contradiction of any

previous findings. Whether relevant relations are indicated in the current study or not has to be the subject of critical analysis and discussion.

Limitations of the current study must be taken into consideration when evaluating the outcome. Firstly, the rather small sample (n=88) consisted of an uneven number of males and females, which might impact the generalizability of the findings. Had there been an equal number of males and females, other gender differences might have been found, even though this is up to speculation. Also, the data was collected only via an online form and advertised on a social network (Facebook), meaning that the small minority of Irish college students between 18 and 30 who a) do not have access to the Internet in general or b) are not registered on the said platform were not able to take part in the study. It might be that this particular group of people shares attitudes that differ significantly from those of the sample used in the current study. As participation was voluntary, only a particular group of students (i.e. those who like to share their opinions on sexuality) might have responded to the advertisement while others (i.e. those without a set opinion) might not be represented in the data. Another limitation to the study is that all measures were based on self-reports of participants, which might have lead to biased data particularly since the topics were very sensitive and socially desirable answer might have been given. On the other hand, the anonymity that derives from conducting research virtually might have lead to more socially undesirable answers and to more valid data. The fact that the relations between the variables were only analysed for possible correlations and only showed weak to moderate links, limits the results further, so that no causal explanations can be made. In future research, it should be considered to give out questionnaires virtually and in university classrooms as well as to control for socially desirable answers to ensure generalizability of results. If possible, causal relationships for variables should be tested to hint towards potential explanations or causal

factors. Longitudinal studies might additionally give better insight to the process of change in sexual attitudes in society.

The current study focused on three potential sources of influences on sexual attitudes: personality traits, spirituality and gender. Even though most of the variables did not seem to be related, some did, for example spirituality and communion. The findings from this study are valuable as they partly contradict and partly agree with previous research, taking into consideration that most of it was conducted outside of Ireland. To the best of my knowledge, the present study is the first to particularly target the Irish college student population and investigate their attitudes towards sexuality in relation to personality traits, spirituality and gender. The ambivalence in results could be looked at as a culture specific outcome and raises more questions to be answered by future research for example regarding the influence of Irish culture and religious teaching on sexual attitudes. Given the complex processes that shape attitudes and behaviours, particularly in a highly personal and controversial area such as human sexuality, research needs to be extended in order to find other and more relevant variables that impact sexual attitudes. Future research might focus on whether variables such as political rather than spiritual mindset, (Irish) culture or religious teachings are linked to or even predict sexual attitudes. Furthermore, the differentiation between biological sex and gender affiliation represents a background against which more questions arise. Bailey et al. (1987) addressed this issue, while the current study did not.

The results from the current study also indicate that male and female participants felt equally responsible for birth control and most participants thought of contraception as an important part of sexuality. This indicates that sex education in schools as well as the social marketing health campaigns for the use of contraceptives might have positively shaped the general perception of and attitude towards birth control. Unfortunately, studies to underline particular educational effects of the RSE programme on birth control attitudes and behaviours

have not been conducted yet. It is therefore important to evaluate and continuously better programmes like the RSE to further establish birth control as an important part of healthy sexuality, not only in attitude but also in behaviour in order to reduce the number of unwanted pregnancies and sexually transmitted infections.

With regard to the ambivalent findings from the current study concerning the link between personality traits, spirituality, gender and sexual attitudes in Irish college students, it becomes clear that there are many relevant questions left to be investigated. Findings can lead to important real life applications (i.e. sex education in schools, sexual health campaigns) as sexuality is at the core of human nature and concerns each and every one of us.

In conclusion, the current study contributes to the growing research investigating the relationship between sexual attitudes, gender, personality traits and spirituality. Specifically spirituality as well as gender were linked to some attitudes towards sexuality. The results suggest a gender gap regarding sexual permissiveness and a relationship between higher spirituality and higher sexual communion.

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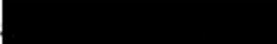
Research for undergraduate thesis

My name is Ariane Schulze and I am conducting research in the Department of Psychology at Dublin Business School as a basis for my undergraduate thesis. You are invited to take part voluntarily in this study by completing the anonymous survey on the next pages.

This study seeks to investigate the relationship between sexual attitudes, personality features and spiritual involvement and beliefs. As the questions in this survey can be very sensitive to the individual, you must be 18 years or above to participate. This survey aims at Irish college or university students aged 18-30. There are no wrong or right answer to these questions, just answer according to how you feel.

All your data will be anonymized as you will not be asked to give your name and kept password protected. If you wish to withdraw from the study, you are free to do so without having to state a reason up until you have submitted your answer, after this there is no indication of which survey is yours. These are standardized questionnaires, however if you feel like you need someone to talk to after answering these sensitive questionnaires, here are some websites:

- <http://www.aware.ie/>
- www.samaritians.org/

Should you require any further information about the research, please contact Ariane Schulze (.

By giving your informed consent below, you agree to take part in this survey.

Thank you for taking the time!

Appendix A

Appendix B

1. Informed Consent *

By giving your informed consent below, you agree to voluntarily take part in this survey and state that you are over 18 years of age.

Mark only one oval.

Yes, I agree to take part in this study.

Demographic information

2. Please select your sex *

Mark only one oval.

Female

Male

3. Are you between 18 and 30 years of age? *

If you are younger than 18 or older than 30 years of age, you are not eligible to take part in this study. Please exit the website.

Mark only one oval.

Yes

4. Are you of Irish nationality? *

If you are not of Irish nationality, you are not eligible to take part in this study. Please exit the website.

Mark only one oval.

Yes

5. Are you a current student at a university or college? *

If you are not currently in university or college education, you are not eligible to take part in this study. Please exit the website.

Mark only one oval.

Yes

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please indicate the extent to which you agree or disagree with that statement.

6. I am someone who... *

Mark only one oval per row.

	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
is talkative					
is original, comes up with new ideas					
is reserved					
is curious about many different things					

7. I am someone who... *

Mark only one oval per row.

	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
is full of energy					
is ingenious, a deep thinker					
generates a lot of enthusiasm					
has an active imagination					
tends to be quiet					

8. I am someone who... *

Mark only one oval per row.

	Disagree strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
is inventive					
has an assertive personality					
values artistic, aesthetic experiences					
is sometimes shy, inhibited					

9. I am someone who... *

Mark only one oval per row.

	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
prefers work that is routine					
is outgoing, sociable					
likes to reflect, play with ideas					
has few artistic interests					
is sophisticated in art, music or literature					

Listed below are several statements that reflect different attitudes about sex. For each, tick the response box that indicates how much you agree or disagree with that statement. Some of the items refer to a specific sexual relationship, while others refer to general attitudes and beliefs about sex. Whenever possible, answer the questions with your current partner in mind. If you are not currently dating anyone, answer the questions with your most recent partner in mind. If you have never had a sexual relationship, answer in terms of what you think your responses would most likely be.

10. Please tick a box for each statement. *

Mark only one oval per row.

	Disagree strongly	Disagree moderately	Neither agree nor disagree	Agree moderately	Agree strongly
I do not need to be committed to a person to have sex with him or her					
Casual sex is acceptable					
I would like to have many sex partners					
One-night stands are sometimes very enjoyable					
It is okay to have ongoing sexual relationships with more than one person at a time					
Sex as a simple exchange of favors is okay if both people agree to it					
The best sex is with no strings attached					

11. Please tick a box for each statement. *

Mark only one oval per row.

	Disagree strongly	Disagree moderately	Neither agree nor disagree	Agree moderately	Agree strongly
Life would have fewer problems if people could have sex more freely					
It is possible to enjoy sex with a person and not like that person very much					
It is okay for sex to be just good physical release					
Birth control is part of responsible sexuality					
A woman should share responsibility for birth control					
A man should share responsibility for birth control					
Sex is the closest form of communication between two people					
A sexual encounter between two people deeply in love is the ultimate human interaction					

12. Please tick a box for each statement. *

Mark only one oval per row.

	Disagree strongly	Disagree moderately	Neither agree nor disagree	Agree moderately	Agree strongly
At its best, sex seems to be the merging of two souls					
Sex is a very important part of life					
Sex is usually an intensive, almost overwhelming experience					
Sex is best when you let yourself go and focus on your own pleasure					
Sex is primarily the taking of pleasure from another person					
The main purpose of sex is to enjoy oneself					
Sex is primarily physical					
Sex is primarily a bodily function, like eating					

13. Please indicate to what extent you agree to the following statements by ticking a box. *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
In the future, science will be able to explain everything					
I can find meaning in times of hardship					
A person can be fulfilled without pursuing an active spiritual life					
I am thankful for all that has happened to me					
Spiritual activities have not helped me become closer to other people					
Some experiences can be understood only through one's spiritual beliefs					
A spiritual force influences the events in my life					
My life has a purpose					
Prayers do not really change what happens					
Participating in spiritual activities helps me forgive other people					

14. Please indicate to what extent you agree to the following statements by ticking a box. *

Mark only one oval per row.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My spiritual beliefs continue to evolve					
I believe in a power greater than myself					
I probably will not re-examine my spiritual belief					
My spiritual life fulfills me in ways that material possessions do not					
Spiritual activities have not helped me develop my identity					
Meditation does not help me feel more in touch with my inner spirit					
I have a personal relationship with a power greater than myself					
I have felt pressured to accept spiritual beliefs that I do not agree with					
Spiritual activities help me draw closer to a power greater than myself					

15. Please indicate how often you do the following by ticking a box. *

Mark only one oval per row.

	Always	Usually	Sometimes	Rarely	Never
When I wrong someone, I make an effort to apology.					
When I am ashamed of something I have done, I tell.					
I solve my problems without using spiritual resources.					
I examine my actions to see if they reflect my values.					

16. Do you think that your personal spiritual involvement affects your sexual attitudes? *

Please leave a comment below and describe how you think your spiritual involvement affects your sexual attitudes.

Thank you!

Thank you for taking your time and answering the questions. You have contributed greatly to current research!

All answers are anonymous and irretraceable to anyone participating. The data collection will be stored safely and deleted after one year.

Here are some websites and telephone numbers you can contact if you feel like you need someone to talk to after answering this survey:

- www.aware.ie

- www.samaritans.org

If you wish to be informed about the results of this study, please send a message to:

aranesza@hotmail.com

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