

VALUE ORIENTATIONS AND RISKY SEXUAL BEHAVIOUR AMONG FIRST YEAR UNIVERSITY STUDENTS

ORIENTACJA WARTOŚCI I RYZYKOWNE ZACHOWANIA SEKSUALNE U STUDENTÓW PIERWSZEGO ROKU

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- A. Study design/planning
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- D. Data interpretation
interpretacja danych
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przygotowanie artykułu
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wyszukiwanie i analiza literatury
- G. Funds collection
zebranie funduszy

Summary

Background. There is strong evidence that values play an important role in basic patterns of human behaviour, but there is a lack of support for this with respect to sexual behaviour. This study examines the relationship between the value orientations of young adults and their sexual behaviour.

Material and methods. The Rokeach Value Survey (18 terminal values – desirable end-states; 18 instrumental values – desirable modes of conduct) and a questionnaire on sexual behaviour (number of sexual partners in one's lifetime, condom use, and sex with an unknown person) were administered to 832 students (355 males; mean age = 20.5 years). Six factors were extracted from the Rokeach Value Survey. Logistic regression was performed on students who had had sexual experience (n = 455) using the measures pertaining to risky sexual behaviour as outcomes and each of the value factors as separate predictors.

Results. The students with high scores on the value factors relating to Social Orientation (Capable, Clean, Obedient, Polite, Responsible, Honest) and Sense of Fellowship (Broad-Minded, Helpful, Forgiving) were less likely to report risky sexual behaviour than the students with low scores on these value factors.

Conclusions. Individuals who consider socially oriented values to be more important are less likely to engage in risky sexual behaviour. The promotion of safe sex should take health values into account.

Keywords: value orientation, students, risky sexual behaviour

Streszczenie

Wprowadzenie. Istnieją mocne dowody potwierdzające koncepcję, że wartości odgrywają ważną rolę w formowaniu podstawowych schematów ludzkiego zachowania, choć wciąż brak wniosków związanych z zachowaniem seksualnym. To badanie przygląda się związkowi między orientacją wartości i zachowaniami seksualnymi u młodych osób dorosłych.

Materiał i metody. Ankieta Rokeacha dotycząca wartości (18 wartości ostatecznych – pożądanego stanów końcowych, 18 wartości instrumentalnych – pożądanego rodzajów postępowania) oraz kwestionariusz zachowań seksualnych (ilość partnerów seksualnych w ciągu życia, stosowanie prezerwatyw, stosunki z osobami nieznanymi) zostały przedstawione grupie 832 studentów (355 mężczyzn; średnia wieku: 20,5). Sześć czynników wyszczególniono z ankiety Rokeacha. Zastosowano regresję logistyczną na grupie studentów z doświadczeniem seksualnym (n = 455), przyjmując miarę ryzykownych zachowań seksualnych jako rezultat, a każdą z wartości jako osobny wskaźnik.

Wyniki. Studenci z wysokimi wynikami związanymi z wartościami: Orientacja Społeczna (Pomysłowość, Czystość, Posłuszeństwo, Grzeczność, Odpowiedzialność, Szczerłość) oraz Poczucie Wspólnoty (Otwartość, Bycie pomocnym, Wybaczanie) w mniejszym stopniu raportowali ryzykowne zachowania seksualne niż studenci z niskimi wynikami dla tych wartości.

Wnioski. Można przyjąć, że przypisanie większego znaczenia wartościom prospołecznym jest związane z rzadszymi ryzykownymi zachowaniami seksualnymi. Promocja bezpiecznych zachowań seksualnych powinna obejmować kwestie zdrowotne.

Słowa kluczowe: orientacja wartości, studenci, ryzykowne zachowania seksualne

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Submitted: 2019 Oct 22

Accepted: 2019 Nov 27

Kalina O. Value orientations and risky sexual behaviour among first year university students. Health Prob Civil. 2020; 14(1): 9-17.
<https://doi.org/10.5114/hpc.2020.90174>

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Introduction

Values are strong, cognitive, emotionally significant guiding and organising principles in an individual's life; they substantially shape both their current and future patterns of health-related behaviour [1, 2], and they might also influence sexual behaviour. Rokeach sees a value system as an enduring organisation of beliefs comprising preferable modes of conduct or end-states of existence along a continuum of relative importance [3]. On the basis of Rokeach's value system theory it was assumed [4] that people's underlying core values would be relatively (1) stable and enduring, (2) limited in number, and (3) capable of being measured in terms of personal importance.

Several studies [4-11] have shown that specific value orientations are associated with risky health-related patterns of behaviour and that two of these are specifically associated with sexual behaviour. However, the labels for the values concerned are varied (e.g., *Sense of Accomplishment*, *Broad-Minded*, *Independent* or *Freedom*). Nagel [12] found that those who did not use tobacco were more concerned with the values associated with *World at Peace* and having a *Sense of Accomplishment*. Such non-smokers were also less interested in material comforts, pleasure, and having an exciting life. Foreyt [13] found that individuals who use tobacco seem to have different value characteristics than non-smokers. On the other hand, a study conducted by Young and West [2] did not confirm that certain values were more likely associated with risky patterns of behaviour. Kristiansen [14] showed that smokers placed more emphasis on being *Broad-Minded* than non-smokers. Smokers were also more concerned with *Freedom*, being *Independent* and not being *Obedient*, which suggests that smokers' behaviour can be described as flexible or unconstrained. These results highlight the possibility that smokers and non-smokers might have different value priorities. Chang [10] observed that smokers and non-smokers differ in personal values: *Hedonic Gratification* values predicted more favourable attitudes towards smoking, and *Idealism* predicted more negative attitudes towards this activity.

Chernoff & Davison [4] demonstrated that the respondents in their study who took higher risks reported significantly different value priorities than those who took lower risks with the former prioritising the value *Exciting Life* and deeming the values *Self-Controlled*, *Helpful*, *Honest*, *Loving*, *Equality*, and a *World at Peace* as less important. It was therefore suggested that health-endangering behaviour may be positively associated with the values *Risk-Taking*, *Impulsivity*, and *Sensation Seeking*, and negatively associated with other-oriented values (i.e., *Concern for Others*) [4].

There are several reasons why this topic is important among young adults, especially those who are in the university environment. Firstly, there is significant public concern regarding risky health-related behaviour in late adolescence and early adulthood as such people are focused on establishing their own attitudes towards life, often without parental supervision [15]. Compared with other stages of life, this 'emerging adulthood' period is characterised by a very sharp increase in risky patterns of behaviour such as alcohol and drug use or risky sexual behaviour (RSB) [16]. As far as RSB is concerned, rates of inconsistent condom use, sex with unknown partners or the use of drugs or alcohol during this life stage are likely to be twice as much as any other period in life [17].

The aim of this study is to examine the relationship between value orientations and sexual behaviour of young adults. It is expected that the participants with more socially oriented values will engage in less risky sexual behaviour than those with less socially oriented values.

Material and methods

Sample and procedure

The sample consisted of 882 first-year students at P.J. Šafárik University (7,000 students) and the Technical University (12,000 students) in Košice (230,000 inhabitants) who, under the guidance of field workers, completed a questionnaire concerning health behaviour during a compulsory lecture. The students were randomly selected from a list of study groups provided by the faculties concerned and their participation was voluntary. All the procedures concerning data collection were explained to respondents before data collection. The Ethics Committee of the Medical Faculty of P.J. Šafárik University approved this study.

50 of the 882 participants were excluded from the study – 7 left the room before the beginning and 43 were excluded afterwards because they did not complete major parts of the questionnaire. A total of 832 respondents therefore completed the study (94.3%): 355 males and 477 females, aged 19-28 years with 90% of the students aged 19-23 years (mean = 20.5; SD = 1.4). Out of these, 45.1% studied at the science faculty, 34.8% at the technical faculty and 20.1% at the medical faculty. More than half of the respondents had completed grammar school and the majority of the students lived in student halls (38.0%) or with their parents (37.1%).

Measures

Sexual behaviour – The respondents were first asked whether they had ever had sex (penetration of the vagina by the penis) (yes / no). Further questions on sexual behaviour included (1) how many sexual partners they had had in their life (3 and less / 4 or more); (2) how often they used condoms (always / almost always, occasionally, never); (3) whether they had ever had sex with an unknown person (yes / no). Those who reported more than 4 sexual partners, inconsistent condom use, and the experience of sex with an unknown partner were reported as engaging in risky sexual behaviour (RSB).

By combining these three types of sexual behaviour another four variables were constructed: (1) multiple sexual partners and sex with an unknown person; (2) multiple sexual partners and inconsistent condom use; (3) sex with an unknown partner and inconsistent condom use; (4) multiple sexual partners, sex with an unknown person and inconsistent condom use. All four types of combined variables were dichotomised as apply / none. All other combinations were recorded as missing for that variable.

Values – Values were measured by the Rokeach Personal Value Survey [18]. The Personal Value Survey includes terminal values, that is desired end-states, and instrumental values. The questionnaire includes the following terminal values: *Comfortable Life, Exciting Life, Sense of Accomplishment, World at Peace, World of Beauty, Equality, Family Security, National Security, Freedom, Happiness, Inner Harmony, Pleasure, Self-Respect, Social Recognition, Mature Love, Health, True Friendship, and Wisdom*. The instrumental values comprised *Being Ambitious, Broad-Minded, Capable, Cheerful, Clean, Courageous, Forgiving, Helpful, Honest, Imaginative, Independent, Intellectual, Obedient, Polite, Logical, Loving, Responsible, and Self-Controlled*.

The Rokeach Survey can be applied in two ways, namely *ipsative*, in which values are rank-ordered, and *non-ipsative*, in which all values are measured independently from one another. In this study the *non-ipsative* method was used. The participants were asked to rate the importance of each value from the terminal and instrumental scales on a 5-point Likert scale, ranging from Not at all important (1) to Maximum importance (5).

Statistical analyses

As we were interested in the importance of values regarding risky vs. safe sexual behaviour rather than in the importance of values regarding the initiation of sexual behaviour, the analyses were limited to the 455 respondents who reported having ever had sexual intercourse. We first assessed their current sexual behaviour and sexual history by gender. Gender differences were tested using the Chi-Square Test. Next, we performed a factor analysis on the Rokeach Survey to reduce the number of variables. We omitted variables with Kaiser-Meyer-Olkin (KMO) values lower than 0.6 or with communalities lower than 0.4 [19], which resulted in the elimination of nine items. The resulting KMO measure of sampling adequacy was 0.908, which is higher than the recommended value of 0.6. Moreover, the diagonals of the anti-image correlation matrix were all over 0.84, supporting the inclusion of each item in the factor analysis. We then extracted six factors with loadings from 0.366 to 0.787. Finally, we performed logistic regression analyses using the measures of RSB as outcomes and each of the factors as separate predictors. All of the statistical analyses were performed using SPSS 15.

Results

Sexual behaviour

Table 1 presents information on sexual behaviour separately for males and females. 43% of males versus 31% of females reported that they had had 4 or more sexual partners in their life; 72% of males versus 81% of females reported inconsistent condom use; and 17% of males versus 10% of females had had sex with an unknown person.

Table 1. Self-reported sexual behaviour

	Total % (N)	Male % (N)	Female % (N)	Gender Difference (p)
Sexual experience				ns
Yes	62.5 (455)	61.3 (184)	63.3 (271)	
Number of sexual partners				*
lower risk (3 or less)	63.7 (269)	57.1 (97)	68.3 (172)	
higher risk (4 or more)	36.0 (152)	42.9 (73)	31.3 (79)	

Condom use				ns
lower risk (always)	22.7 (100)	24.6 (50)	19.3 (50)	
higher risk (often, sometimes, never)	77.3 (340)	72.4 (131)	80.7 (209)	
Sex with an unknown person				*
lower risk (no)	87.4 (341)	83.5 (132)	90.1 (209)	
higher risk (yes)	12.6 (49)	16.5 (26)	9.9 (23)	
Cumulative risk indicators				
Number of partners and an unknown partner				ns
lower risk	90.1 (314)	87.5 (119)	91.9 (192)	
higher risk	9.9 (34)	12.5 (17)	8.1 (17)	
Number of partners and condom use				ns
lower risk	69.5 (290)	66.3 (112)	71.8 (178)	
higher risk	30.5 (127)	33.7 (57)	28.2 (70)	
Sex with an unknown partner and condom use				ns
lower risk	89.7 (323)	86.3 (126)	92.1 (197)	
higher risk	10.3 (37)	13.6 (20)	7.9 (17)	
Number of sexual partners, condom use and age of first intercourse				ns
lower risk	89.1 (368)	88.6 (148)	89.4 (220)	
higher risk	10.9 (45)	11.4 (19)	10.6 (26)	

* $p < .05$; ns = not statistically significant

Values

Table 2 presents the mean ratings for the 18 terminal and 18 instrumental values. In comparison with *Family Security*, *Mature Love*, *Health* and *Wisdom*, which were the highest rated terminal values, *World of Beauty* and *Comfortable Life* were rated the lowest in this respect. Among the instrumental values, *Loving*, *Honest* and *Responsible* were rated the highest, whereas *Helpful*, *Ambitious* and *Forgiving* were among the lowest rated.

Table 2. Means and standard deviations (SD) for terminal and Instrumental values

Terminal values	Mean	SD
Comfortable Life	3.7	0.9
Exciting Life	3.8	0.9
Sense of Accomplishment	3.9	0.8
World at Peace	4.4	0.9
Equality	3.8	0.9
World of Beauty	4.2	1.0
Family Security	4.6	0.7
Freedom	4.4	0.9
Happiness	4.5	0.7
Inner Harmony	4.4	1.0
Mature Love	4.6	0.7
National Security	4.1	1.0
Pleasure	4.1	0.8
Self-Respect	4.1	0.8
Social Recognition	3.8	0.9
True Friendship	4.6	0.7
Wisdom	4.3	0.7
Health	4.4	0.8
Instrumental values		
Ambitious	3.4	0.9
Broad-Minded	3.6	0.9
Capable	3.7	0.8
Cheerful	4.0	1.0

Clean	4.1	0.9
Courageous	3.8	0.8
Forgiving	3.4	0.9
Helpful	3.2	0.9
Honest	4.2	0.9
Imaginative	3.6	0.9
Independent	3.8	1.0
Intellectual	3.9	0.9
Logical	3.7	0.9
Loving	4.4	0.8
Obedient	3.6	0.9
Polite	4.0	0.8
Responsible	4.2	0.8
Self-Controlled	3.6	0.9

SD = standard deviation; Participants rated the importance of each value on a 5-point scale, from “not at all important” (1) to “extremely important” (5). Higher scores indicate higher importance.

Table 3 presents the following six factors that were extracted from the items: Self-Contentment, Social Orientation, Concern for Society, Self-Confidence, Self-Actualisation, Sense of Fellowship. Factor loadings varied from 0.366 to 0.787.

Table 3. The 6 extracted factors and value loadings

Values	Factors					
	F1 Self- Contentment	F2 Social Orientation	F3 Concern for Society	F4 Self- Confidence	F5 Self- Actualisation	F6 Sense of Fellowship
Independent					.744	
Intellectual					.784	
Logical					.780	
Freedom					.324	
World at Peace			.759			
World of Beauty			.758			
Equality			.692			
National Security			.539			
Freedom			.366			
Clean		.508				
Capable		.594				
Obedient		.787				
Polite		.655				
Responsible		.554				
Honest		.389				
Broad-Minded						.634
Helpful						.717
Forgiving						.701
Loving				.573		
Happiness				.555		
Family Security				.591		
True Friendship				.571		
Mature Love				.645		
Freedom				.309		
Self-Respect	.658					
Pleasure	.608					
Social Recognition	.732					
Health	.563					

Wisdom	.471					
Freedom	.311					
Eigen value	7.59	2.19	1.89	1.52	1.14	1.04
Explained variance	28%	8%	7%	6%	4%	4%

Values and risky sexual behaviour

Table 4 presents the correlations of the six value factors with RSB. It shows that the factors Social Orientation (*Clean, Capable, Obedient, Polite, Responsible, and Honest*) and Sense of Fellowship (*Broad-Minded, Helpful, and Forgiving*) have statistically significant correlations with RSB. With the exception of condom use, there was a significant negative correlation between Social Orientation and RSB as well as a significant negative correlation between Sense of Fellowship and RSB in all its aspects apart from condom use and the number of sexual partners. The factor Concern for Society (*World at Peace, World of Beauty, Equality, National Security, and Freedom*) was only correlated with fewer sexual partners. The correlation analyses showed that all of the factors were associated with lower ratings of RSB. Condom use, represented as a single variable, was not significantly associated with any of the factors. However, when it was combined with other RSB it correlated significantly with several value factors.

Table 4. Correlations between value factors and indicators of risky sexual behaviour

Factors	Indicators of more risky patterns of sexual behaviour						
	More than 4 sexual partners	Inconsistent condom use	Sex with an unknown person	More than 4 partners and sex with an unknown person	More than 4 partners and inconsistent condom use	Inconsistent condom use and sex with an unknown person	More than 4 partners, inconsistent condom use and sex with an unknown person
	OR (CI)	OR (CI)	OR (CI)	OR (CI)	OR (CI)	OR (CI)	OR (CI)
F1 – Self-Contentment	ns	ns	ns	ns	ns	ns	ns
F2 – Social Orientation	0.60 (0.50-0.82)***	ns	0.54 (0.38-0.76)***	0.57 (0.38-0.85)**	0.66 (0.50-0.85)**	0.41 (0.24-0.69)***	0.55 (0.35-0.84)**
F3 – Concern for Society	0.75 (0.60-0.94)***	ns	ns	ns	ns	ns	ns
F4 – Self-Confidence	ns	ns	ns	ns	ns	ns	ns
F5 – Self-Actualisation	ns	ns	ns	ns	ns	ns	ns
F6 – Sense of Fellowship	ns	ns	0.71 (0.51-0.79)*	0.63 (0.43-0.91)**	0.71 (0.57-0.91)*	0.49 (0.29-0.82)**	0.55 (0.37-0.82)**

* $p < .05$ ** $p < .01$ *** $p < .001$; OR = odds ratio; CI = confidence interval; ns = not statistically significant

Discussion

The aim of this study was to examine the relationship between value orientations and sexual behaviour of young adults. We expected that participants with more socially oriented values would show less risky sexual behaviour compared with those with less socially oriented values. Our results support such differences but not for all of the measured values. The most robust associations were found in the Social Orientation factor (*Clean, Capable, Obedient, Polite, Responsible, and Honest*) and the Sense of Fellowship factor (*Broad-Minded, Helpful, and Forgiving*). In all of the correlations that were significant, the higher the importance of the values in the particular factors the less risky the sexual behaviour.

We found that RSB was inversely related to the factors Social Orientation and Sense of Fellowship, which reflect values focused on the well-being of others. Participants taking a higher risk (higher number of partners, sex with an unknown person, and all cumulative indicators) consistently rated such well-being values lower, both those reflecting social orientation on a personal level, for example *Responsible, Loving* and *Honest*, and

social orientation on a societal level, for example *Equality*, *Justice* and *World at Peace*. This is consistent with Chernoff & Davison's [4] finding that the values *Honest*, *Loving* and *Helpful* were less important for those who engage in risky sexual behaviour. The reason for the consistently lower preferences for these values might be that such people seem to be less concerned with the well-being of others. This confirms assumptions originally advanced by Morash [20]. Moreover, socially-oriented values and beliefs have been associated with higher levels of empathy, moral reasoning and pro-social behaviour [21].

We found no differences in sexual behaviour with respect to some of the values that Chernoff and Davison had identified as differences in their research. Chernoff and Davison [4] showed that college students with high risk levels of RSB reported significantly different value priorities than their lower-risk peers. Specifically, the high-risk students gave less priority to caution, restrain, self-discipline, and concern for the well-being of others. The authors found that risky sexual behaviour was associated with higher levels of importance concerning *Exciting Life* and lower levels of importance with respect to *Self-Controlled*, *Loving* and *Equality*. We did not find these associations. In comparison with Chernoff and Davison [4], who claimed that the importance of the value of *Exciting Life* might lead to a high probability of risky sexual behaviour, this value in our study had such weak correlations that it was eliminated from the factor analyses. Similarly, a study by Liu [22] indicates that boys with a higher level of self-enhancement and girls with a higher level of openness to change and a lower level of conservativeness are more likely to report engagement in problem behaviours [6]. An explanation for this difference might be that we reduced the number of values by factor analysis, which may have yielded more stable findings.

Other studies on the associations between values and health-related behaviour have also shown the importance of social values. Piko [6] found that a higher health and social value orientation is related to a lower level of smoking as well as alcohol and drug use, which might be explained in terms of social values protecting young people from risk behaviour. Chang [9] observed that socially oriented values such as *Equality*, *National Security* and *World at Peace* were associated with unfavourable attitudes towards smoking behaviour. These findings are consistent with the study of Joireman et al. which demonstrated that young adults with a pro-social value orientation were less likely to report health endangering behaviour [23]. However, a recent study by Young and West [2] found no significant associations between social values and substance use.

Interestingly, the self-oriented factors such as Self-Contentment, Self-Confidence and Self-Actualisation were not significantly related to any risky or safe sexual behaviour in our sample. This contrasts with a previous study showing that young adults with intrinsic life goals (e.g., self-acceptance, internal development, friendship and the development of good social relationships) tend to report lower frequencies of risky health-related behaviour [8, 24]. However, in the Chernoff & Davison [4] study students who gave a high priority to the self-oriented value *Health* reported a similar level of risky and safe sexual behaviour. We may assume that young people who perform risky sexual behaviour did not see their own behaviour as inconsistent with the idea that *Health* is an important value.

Strengths and limitations

This study has several strengths and limitations. We obtained a very high response rate (94%), limiting the likelihood of selection bias, and we included students from a range of university courses. Although we cannot exclude information bias, we did use specific measures to guarantee confidentiality. These measures have been shown to yield valid outcomes. Another limitation of this study apart from the self-report nature of the data is the cross-sectional design itself, which limits the potential for causal inferences. It should also be noted that our sample included only young adults from cities in one region; our findings therefore may not fully apply to students living in rural areas and should be confirmed by an assessment of other groups of young adults.

Implications

Our results support the hypothesis that a stronger orientation towards social values is associated with less risky sexual behaviour. This may support interventions aiming to promote safe sex among adolescents. An example of such an intervention might be the value of self-confrontation, which has been shown to promote smoking-cessation and weight-reduction [25].

Our study shows an association between higher social values and less risky sexual behaviour. More research is needed to explore how types of value models (extrinsic vs. intrinsic values or instrumental vs. terminal values) are associated with other health-related patterns of behaviour. Moreover, the stability of this association over time is unclear as is the causal pathway by which values are associated with health-related patterns of behaviour. It would seem that longitudinal studies are the most suitable to study this.

Conclusions

In conclusion, value orientations are associated with RSB. The higher one's values, the lower one's RSB. This may provide new pathways for prevention.

Acknowledgements and disclosures

The research was funded by the Slovak Research and Development Agency under the contract No. APVV-20-038205.

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