Edyta Charzyńska, Ewa Wysocka
Poland

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The Role of Spirituality and Belief in Free Will in the Perception of Self-efficacy Among Young Adults

Abstract

The primary goal of the study was to examine the relationships between spirituality, belief in free will and perceived self-efficacy among young adults. In order to develop the preliminary adaptation of the FAD-Plus questionnaire, used for measuring the lay beliefs in free will and three related constructs, Study 1 was carried out among 485 young adults. The tool had satisfactory psychometric properties. Study 2, in which 340 students participated, verified the role of believing in free will as a potential mediator between spirituality and perceived self-efficacy. In the case of male students, total mediation was found, and in the case of female students, partial mediation was noted. The studies indicate the need to put greater emphasis on the spiritual sphere and the sense of free will in the education provided for young adults.

Keywords: *spirituality, free will, determinism, self-efficacy, young adults*

Introduction

Early adulthood is the time when one looks for the meaning of life. One source of the answers to the questions bothering young people is spirituality. In this paper, spirituality is understood as the belief in the existence of something beyond what is visible, not necessarily referred to in the religious sense as "God" (Fetzer Institute, 2003).

For many people the beginning of adulthood overlaps with university studies, when a young person learns the scientific understanding and analysis of reality. It is

a period when young adults perceive the pluralism of the surrounding world and its complexity better than before, which leads to reflections on their own world views and moral values. Cavendish et al. (2001) point out that exploring the spiritual sphere of life becomes especially important for young people aged 18 to 24, who are discovering the ability of abstract thinking. It provokes them to pose questions about the legitimacy of their previous choices in spiritual matters.

A rich spiritual sphere not only creates the sense of meaning or gives benefits connected with finding guidelines to one's conduct. It is also important for maintaining physical and mental health, for young adults as well as for others (Koenig, 2008). Furthermore, a high spirituality level promotes the sense of self-efficacy, including the one connected with success at university (Walker & Dixon, 2002). Perceived self-efficacy is defined as 'the belief in one's capabilities to organize and execute the sources of action required to manage prospective situations' (Bandura, 1986, p. 391). It motivates an individual to take up activities and has an impact on cognitive and affective processes.

The concept of self-efficacy is connected with another one, still evoking controversies among philosophers, namely "free will". It can be understood as the possibility to make choices and control one's actions, although its conceptualisation depends closely on the declared stance in the issue of free will and determinism.

Regarding the topic of free will and determinism, two conclusions can be drawn: the assumption that determinism excludes the existence of free will or that it does not.

The first of the approaches is referred to as incompatibilism, which occurs in two versions: a) hard determinism, claiming that the whole reality (including human activity) has a cause and effect character, which excludes the existence of free will (Wegner, 2002); b) libertarianism, rejecting the assumption of determinism as false and assuming that humans are "special cases" exceeding the laws of nature, having the ability to make choices.

The second approach to the issue of free will, trying to reconcile it with determinism, is compatibilism (so-called soft determinism). According to this approach, people make conscious choices between various possible behaviours and thus influence their own lives, although the choices are dependent on other factors (Baumeister, 2008).

For obvious reasons, psychology is less concerned with the problem of the existence of free will and more with its practical aspects, e.g., the effects of the belief that it exists. Experimental studies showed that belief in free will plays an important role in the sphere of morality, especially the sense of responsibility

for one's actions, as well as the assessment of other people's behaviours (Vohs & Schooler, 2008).

Two main **aims** of the conducted studies were: 1) to prepare the preliminary adaptation of the tool measuring the lay beliefs in free will and related constructs – the FAD-Plus by Paulhus and Carey (2011); 2) taking into consideration positive correlations between spirituality and a sense of efficacy, as well as remembering that the free will doctrine is the core of religious beliefs in the Western culture, to verify whether free will is a mediator between spirituality and a sense of self-efficacy among male and female young adults.

Research Methodology

Study 1

Research Sample

The study of the psychometric properties of the tool involved 485 persons including 211 females and 274 males between 18 and 29 years of age (M=21.61; SD=3.38); 369 of them were students, 61 worked, 28 both studied and worked, and 27 neither studied nor worked. The participants received paper questionnaires and were asked to return them within a week. Finally, correctly filled in questionnaires were received from 483 persons (210 females and 273 males).

Instrument

Description of the FAD-Plus

The FAD-Plus (Paulhus & Carey, 2011) was used to measure lay beliefs in free will and three related constructs. The tool includes 27 items rated in a 1–5 scale (1 – *strongly disagree*, 5 – *strongly agree*), being part of 4 scales: Free Will, Scientific Determinism, Fatalistic Determinism, and Unpredictability. Free will is understood here as having control of – and hence, the responsibility for – one's behaviours. In the Scientific Determinism scale, it is assumed that genetic and environmental factors are the determinants of our personality and behaviours. The Fatalistic Determinism scale reflects the idea that future has already been planned and is impossible to change. The Unpredictability scale is related to the belief that the history of the universe is only determined by accidents (Paulhus & Carey, 2011).

The FAD-Plus is not the only tool used for measuring belief in free will. However, it has a measurable advantage over the earlier questionnaires of the kind, which assumed a priori the existence of relationships between free will and determinism,

supported the incompatibilistic stance and/or only took into account some of the variables (kinds of determinism) significant from the theoretical point of view (Paulhus & Carey, 2011).

Both the exploratory and confirmatory factor analyses of the tool's original version indicate that the Free Will scale is independent of the other ones. Only the Fatalistic Determinism scale positively correlated with the Unpredictability scale (r=.19; p<.05). All the scales are characterised by acceptable reliability, measured with α-Cronbach internal consistencies: Free Will scale=.70, Scientific Determinism=.69, Fatalistic Determinism=.82, and Unpredictability=.72 (Paulhus & Carey, 2011).

Preparation of the Polish version of the FAD-Plus

The items of the original version of the FAD-Plus were translated into Polish by two independent English translators and a psychologist proficient in English. The differences in translations were discussed and a common version of the tool was developed, which was then back-translated by an independent English translator.

Analysis

In order to extract the number of factors, exploratory factor analysis was carried out using the Principal Component Analysis (PCA) and Oblimin rotation, delta=0, so as not to force the orthogonality of the scales. Bivariate correlations between the subscales of the tool were also calculated. The tool's reliability was measured with the use of the coefficient of internal consistency (α-Cronbach). All the calculations were performed with the use of the SPSS 20.0 package.

Research Results

Bartlett's test gave a statistically significant result at the level of $p<.001$ ($\chi 2(351) = 2301.80$), and the KMO test was 77. So as to find the optimum number of factors, a scree diagram and the Kaiser criterion were used. Both methods showed the legitimacy of extracting four factors, in total accounting for 48.736% of the variance, including: factor I – 13.710% (Fatalistic Determinism; 5 items), II – 12.899% (Unpredictability; 8 items), III – 11.349% (Free Will; 7 items) and IV – 10.778% (Scientific Determinism; 7 items). It was assumed that each item should load its factor at least at the level.4, at the same time loading other factors at the level lower than.3. The analysis of the model matrix and the structure matrix showed that individual items loaded factors in conformity with the original version of the tool. The analysis of relationships between the tool's subscales proved positive correlations between Fatalistic Determinism and Scientific Determinism ($r=.191$; $p<.001$) and between

Fatalistic Determinism and Unpredictability (r=.226; p<.001). As expected, no significant correlations between the Free Will scale and the other scales were found.

Calculating internal consistencies with the use of the α-Cronbach method served to assess the tool's reliability. The obtained values were satisfactory for all the subscales: Free Will=.74, Scientific Determinism=.68, Fatalistic Determinism=.77, Unpredictability=.70.

Study 2

Research Sample

340 students of Polish universities participated in Study 2, including 183 females and 157 males aged from 18 to 25 (M=20.59; SD=1.66). The participants represented different faculties: scientific, technical, humanistic, social, and artistic ones. Paper questionnaires were distributed during university classes at the consent of the academics conducting them.

Instruments

Apart from measuring belief in free will and related constructs with the use of the FAD-Plus questionnaire described above, the following variables were measured:

Spirituality

The Self-Description Questionnaire by Heszen-Niejodek and Gruszczyńska (2004) was used to measure the level of spirituality. The questionnaire comprises 20 items making three scales (harmony, ethical sensitivity, and religiousness) rated in a 5-point Likert scale. The general level of spirituality is obtained by adding up the results of the individual scales. The questionnaire has satisfactory construct validity and good reliability.

General sense of self-efficacy

The sense of self-efficacy was measured with the General Self-Efficacy Scale (GSE) by Schwarzer and Jerusalem (1995) in the Polish adaptation by Juczyński (2012). This tool is made up of 10 statements rated in a 1–4 scale, being part of one factor. The Polish adaptation has good psychometric properties (Juczyński, 2012).

Analysis

In order to study the role of belief in free will as a mediator between spirituality and perceived self-efficacy, the classic approach of Baron and Kenny (1986) was

applied. Hence, regression analyses were carried out for each sex to check whether: 1) spirituality is a significant predictor of the sense of efficacy, 2) spirituality is a significant predictor of belief in free will, 3) the relationship between spirituality and perceived self-efficacy ceases to be significant (total mediation) or decreases (partial mediation) after the introduction of belief in free will as a predictor of the sense of self-efficacy. Before the regression analyses, 7 outliers were removed. Thus, the shortened base included N=333.

Results

Table 1 presents means and standard deviations for all the studied variables with consideration of the division into sexes. The male students had a higher sense of free will ($t(335)=2.25$; p=.025) and sense of self-efficacy ($t(336)=5.09$; p<.001) as compared to the female students. Among the women, in turn, a higher level of fatalistic determinism ($t(336)=-4.55$; p<.001), general spirituality level ($t(338)=-2.64$; p=.009), ethical sensitivity (t(336)=-4.96; p<.001) as well as unpredictability ($t(335)=-1.80$; $p=.073$) and religiousness ($t(338)=-1.79$; $p=.074$) were found.

Tables 2 and 3 present correlations between the variables with the division into sexes. Among the female students, belief in free will positively correlated with spirituality ($r=.33$; $p<.001$), internal harmony ($r=.33$; $p<.001$), religiousness ($r=.28$; $p<.001$) and the sense of self-efficacy ($r=.34$; $p<.001$). Unpredictability was negatively correlated with the general spirituality level ($r=-.24$; $p<.001$) and with all the scales of the Self-Description Questionnaire at the level of $r=-.17$–-19. Perceived self-efficacy correlated positively with the general level of spirituality ($r=.27$; $p<.001$), harmony ($r=.47$; $p<.001$) and ethical sensitivity ($r=.18$; $p<.05$), but not with religiousness ($r=.05$; NS).

Table 1. Free will/determinism, spirituality, and self-efficacy among female and male students

	Women M (SD)	Men M (SD)	t	p
Free will	3.52 (.55)	3.66 (.60)	2.25	.025
Fatalistic determinism	2.63 (.85)	2.20 (.88)	-4.55	<.001
Scientific determinism	2.87 (.55)	2.90 (.51)	.485	NS
Unpredictability	3.48 (.56)	3.36 (.61)	-1.80	.073
Spirituality	69.99 (12.93)	66.15 (13.84)	-2.64	.009
Inner harmony	19.31 (4.75)	19.48 (4.47)	.34	NS
Ethical sensitivity	27.94 (4.30)	25.55 (4.59)	-4.96	<.001

	Women M (SD)	Men M (SD)	t	p
Religiousness	22.74 (8.16)	21.12 (8.53)	-1.79	.074
Self-efficacy	28.47 (4.44)	31.00 (4.67)	5.09	<.001

Table 2. Correlations between the variables in female students

	SP	IH	ES	RL	SE
FW	.33***	.33***	.10	.28***	.34***
FD	.03	.03	.-08	.08	-.01
SD	.02	.02	.-04	.04	-.01
UP	-.24**	-.17*	.17*	-.19**	-.03
SE	.27***	.47***	.18*	.05	X

Note: FW=Free Will, FD=Fatalistic Determinism, SD=Scientific Determinism, UP=Unpredictability, SP=Spirituality, IH=Inner Harmony, ES=Ethical Sensitivity, RL=Religiousness, SE=Self-efficacy, t<.05;.1); *p<.05; **p<.01; ***p<.001

Among the male students, belief in free will correlated positively with the general spirituality level (r=.19; p<.001), religiousness (r=.14; p<.1) and perceived self-efficacy (r=.26; p<.001). As regards Fatalistic Determinism, a positive correlation with religiousness was found (r=.25; p<.001), and a negative one with the sense of self-efficacy (r=-.16; p<.001). Unpredictability correlated negatively with spirituality (r =-.20; p<.05) and religiousness (r=-.26; p<.01). Positive correlations were also observed between perceived self-efficacy and the general spirituality level (r=.17; p<.001) and internal harmony (r=.35; p<.001).

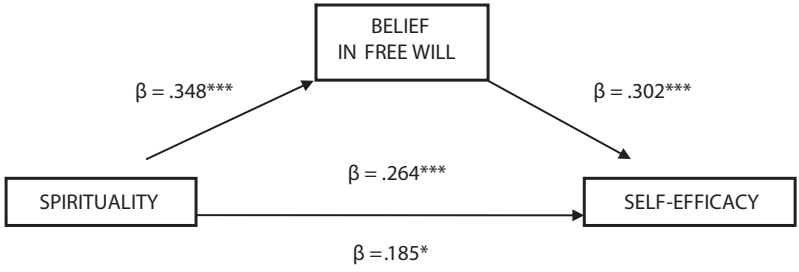
Table 3. Correlations between the variables in male students

	SP	IH	ES	RL	SE
FW	.19*	.10	.12	.14t	.26**
FD	.12	.02	.04	.25**	-.16*
SD	.03	.08	.12	-.06	-.05
UP	-.20*	-.09	-.02	-.26**	-.06
SE	.17*	.35***	.05	.01	X

Note: the adopted abbreviations and p significances are the same as in Table 2.

The first phase of mediation analyses among the female students confirmed that spirituality predicted the sense of self-efficacy (β=.264; $t(178)=3.64$; $p<.001$). The second phase of the analyses proved a positive relationship between spirituality and belief in free will (β=.348; $t(176)=4.90$; $p<.001$). In the third phase, an independent variable and a mediator were introduced to the model at the same time – as a consequence, the role of spirituality in predicting perceived self-efficacy decreased (β=.185; $t(175)=2.44$; $p<.05$), while the mediator was positively related to the dependent variable (β=.302; $t(175)=4.18$; $p<.001$). The Sobel test was done to assess the significance of the indirect effect. It confirmed the occurrence of partial mediation ($z=3.17$; $p=.002$). Figure 1 presents the obtained results of mediation analysis in that group.

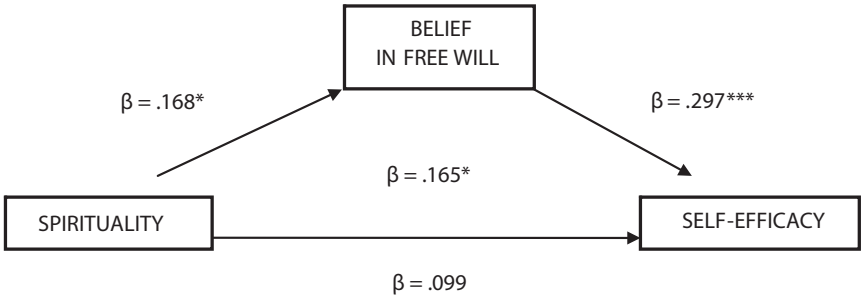
Figure 1. Mediation model for female students



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

In the group of male students, the direct relationship between spirituality and perceived self-efficacy (β=.161; $t(151)=2.01$; $p<.05$), as well as a significant relationship between spirituality and belief in free will (β=.168; $t(152)=2.03$; $p<.05$) were also confirmed. After the simultaneous introduction of spirituality and free will into the model, the relationship between spirituality and perceived self-efficacy became statistically insignificant (β=.099; $t(151)=1.26$; NS), whereas the mediator was positively related to the dependent variable (β=.297; $t(151)=3.81$; $p<.001$). The total mediation was confirmed by the Sobel test ($z=1.99$; $p<.05$). Figure 2 presents the results of mediation analysis for the male students.

Figure 2. Mediation model for male students



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

Discussion

The conducted studies allowed for preparing a preliminary adaptation of the FAD-Plus questionnaire to measure lay beliefs in free will and three related constructs. The tool's structure was confirmed with exploratory analysis. Its reliability measured with the *a*-Cronbach method was satisfactory. The independence of the Free Will scale from the others was confirmed. This result agrees with the results obtained by the authors of the FAD-Plus and suggests that lay people prefer the compatibilistic approach, accepting that the assumption of determinism does not exclude the existence of free will (Pauhlus & Carey, 2011). The obtained results are promising, but it must be remembered that further work on the Polish adaptation of the FAD-Plus is necessary, e.g., to confirm its factor structure with confirmatory analysis and to assess its validity.

The results concerning gender differences connected with the FAD-Plus questionnaire are interesting. The male students had a higher sense of free will, whereas the female students displayed a higher level of fatalistic determinism and unpredictability. The differences may be explained, among other things, by socialisation influences. Women are taught (also through religious models) to manifest submission and dependence in their behaviour, which does not help to develop the sense of free will and learn to make decisions about themselves (Francis, 1997). Higher levels of anxiety, depression or worrying are also observed in this group (Kessler et al., 1994). It may be connected with a higher level of uncertainty about their own lot, accompanied by a strong sense of responsibility for the happiness of those they love. The impact of hormone cycles promoting mood swings and

negative emotions, which may be related to the fatalist outlook on the world and the sense of lack of control, is not to be disregarded either.

The observed correlations make quite clear patterns: both among the female and the male students there were positive relationships of spirituality with belief in free will and the sense of self-efficacy. It should be emphasized that these correlations were stronger among the female students than among the male students. Moreover, the negative correlations of unpredictability with spirituality and religiousness were noted in both groups.

It is noticeable that the sense of self-efficacy in both groups correlated with spirituality but not with religiousness, which suggests that in the student group, spirituality – rather than religiousness – can promote the development of the sense of being an efficient agent. This hypothesis is initially confirmed by the results obtained in the male students group, in which a positive correlation was found between religiousness and fatalistic determinism. It shows that men may pay more attention to the fatalistic elements of religious beliefs (such as God's plan). In addition, the negative correlation between fatalistic determinism and self-efficacy suggests that the element of fatalism present in religion may make it less attractive for men, who feel the need to emphasize their agency and autonomy to a greater extent than women do.

The analysis of mediation showed that the positive correlation between spirituality and the sense of self-efficacy was totally (in females) or partly (in males) mediated by belief in free will. It means that for the males, spirituality deepens belief in free will and thus affects perceived self-efficacy, while among the female students, spirituality – apart from the indirect effect – directly affects the sense of self-efficacy as well. This suggests a more complex role of spirituality in feeling self-efficacy in the case of women.

Conclusions

The literature on the subject mentions the occurrence of a phenomenon called "secularization of education" – empirical basis of knowledge, presented in the academic environment, usually does not promote the consideration of developmental spiritual needs of young people (Jacobsen & Jacobsen, 2004). Since the spiritual sphere has a positive impact on mental and physical functioning, as well as on adjusting to the university environment, including better academic results (Walker & Dixon, 2002), there is a need to pay more attention to that area of the life of young adults. It would be useful to mention issues connected with spirituality,

free will and the determinants of human life during selected lectures, seminars and classes, so as to encourage young people to do their own search by means of discussions and reflections, as well as to strengthen their sense of being the agents of their actions and teach them to be responsible for their choices. It is especially important in the case of pedagogy or psychology students, for whom the answer to the question of free will and its limitations is of measurable importance for the adopted strategies for helping people.

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