

SPIRITUALITY AS A DETERMINANT OF HEALTH RISK BEHAVIOUR AMONG BLACK UNIVERSITY STUDENTS IN LIMPOPO, SOUTH AFRICA

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Abstract

Data from 333 Black university students in Limpopo, South Africa were used to investigate the association between the spirituality dimensions of religious and existential wellbeing (RWB and EWB) and health risk behaviours. The mean scores of almost all health risk behaviours, with the exception of the daily eating of healthy foods, varied according to the levels of RWB ($p \leq 0.05$). On the other hand, with regards to levels of EWB, the analysis of physical activity produced a gender by EWB interaction only, and the results pertaining to the drinking of alcoholic beverages were marginal ($p \leq 0.10$). There was a marginal gender by EWB effect for cigarette and marijuana use ($p \leq 0.10$), with a 0.019 effect size (partial eta squared) for each analysis, and a gender effect for both ($p \leq 0.001$ and 0.01 , respectively). Effectively, there were no instances of statistically significant main effect of EWB ($p > 0.05$). Apparently, the type or dimensionality of spirituality used is important, and future studies should investigate varied measures of the construct to establish its relationship with health risk behaviour.

Key words: Black university students, existential wellbeing, health risk behaviours, religious wellbeing, spirituality

INTRODUCTION

Studies have confirmed the useful role played by religiosity and spirituality in countering and lessening a wide range of health risk behaviours (Koenig, 2012; Yonker, Schnabelrauch, & DeHaan, 2012; also see Mbotho, Cilliers, & Akintola, 2013). Nonetheless, the operationalization of the religiosity/spirituality construct remains a problem. A case can be made for the relatedness of religiosity and spirituality (Seybold & Hill, 2001) as both concepts pertain to a search for the divine, super-terrestrial or Godly by setting apart the sacred and venerable from commonplace events and things (Hill & Pargament, 2003; Pargament, Magyar-Russell, & Murray-Swank, 2005). In spite of their similarities, they also retain their unique character for them to warrant exclusive treatment in research studies (Aldwin, Park, Jeong, & Nath, 2014; Saroglou & Muñoz-García, 2008). Spirituality is associated with meaning and transcendence, and religiosity with formal beliefs and rites of religious establishments (Hill et al., 2000).

Thus, our recent contribution reconsidered and analysed how religiosity and spirituality relate (Mashegoane & Makhubela, 2016). Precisely, Mashegoane and Makhubela conducted mediational analysis to establish if: a) religious and existential well-being (RWB & EWB, correspondingly; spirituality dimensions), and b) intrinsic religiosity have the capacity to mediate each other in their relationship with health risk behaviours. The results of the analysis indicated that spirituality does not mediate the relationship between intrinsic religiosity and health risk behaviours, and intrinsic religiosity does not mediate the association between spirituality and health risk behaviours. The results effectively support the notion that religiosity and spirituality are distinct concepts, which in turn should behave differently when used to predict or to determine the occurrence of health risk behaviours.

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Based on the results of Mashegoane and Makhubela (2016) we proceeded to determine the nature of the relationship between spirituality and a number of health risk behaviours among a cohort of male and female Limpopo university students. More specifically, we expected to find a statistically significant interaction between the sex of the students and each spirituality dimension (RWB or EWB) for any of the health risk behaviours measured. Main effects were also expected for sex and each of the spirituality dimensions.

Method

Data used for this study were collected as part of the data used in the cross-sectional study reported by Mashegoane and Makhubela (2016). It was used in the present report to investigate patterns of association between spirituality and health risk behaviours.

Aside from background information, we used the students' responses from the following two questionnaires:

The National College Health Risk Behaviours Scale (NCHRBS; Centers for Disease Control & Prevention [CDC], 1997): The instrument was adapted and used to measure six health risk behaviours, namely, cigarette smoking, marijuana use, drinking, the daily consumption of a healthy diet, involvement in physical activity and exercise, and risky sexual behaviour (CDC, 1997). It is self-administered, and the response options are of a multiple-choice type. The instrument has already been adapted for use in a long-running South African surveillance system (Reddy et al., 2013).

The Spiritual well-being (SWB) scale (SWB; Ellison, 1983; Paloutzian & Ellison, 1982): Spirituality was measured with the total SWB scale and two of its subscales, namely, the religious well-being (RWB; $\alpha = 0.801$) and the existential well-

being scales (EWB; $\alpha = 0.757$). The response scale of all the items of the SWB was keyed from “Strongly agree” (1) to “Strongly disagree” (6).

Procedure

Lecturers were approached to provide time for participant recruitment at the end of their respective lectures. The students were briefed about the study, which was briefly explained as an evaluation of students' religiosity and how they approached issues of personal health and safety in their lives. Effort was made not to make them aware of the associations subsequently to be investigated between the variables of the study. Prospective participants were given opportunity to ask questions of clarification before agreeing to take part. They were also informed that participation in the study was voluntary. Those who consented to participate were also made aware of their rights as research participants, such as the right to withdraw from the study at any time, confidentiality and anonymity.

All participating students completed an assent form before completing the study's data collection questionnaire. Questionnaires were completed in group settings in the presence of a researcher, or in private at the respondents' own time.

Ethical consideration

The study protocol was approved by the Research and Ethics Committee of the University of Limpopo. Participants were made aware and familiarized with all their rights as research participants. Subsequently, they consented to participation.

Results

RWB and EWB scores were each used to divide the sample into quartiles, and the results of this process are presented in

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Table 1. A mean and standard deviation for each of the quartile sets was calculated.

Table 1: Means and standard deviations of health risk behaviours by quartiles for a) religious well-being (RWB), and b) existential wellbeing (EWB)								
Health Risk behaviour	$\bar{X}(SD)$		$\bar{X}(SD)$		$\bar{X}(SD)$		$\bar{X}(SD)$	
	Male	Fe-male	Male	Fe-male	Male	Fe-male	Male	Fe-male
	a) RWB							
	<i>1st Quartile (N = 93)</i>		<i>2nd Quartile (N = 83)</i>		<i>3rd Quartile (N = 83)</i>		<i>4th Quartile (N = 74)</i>	
Cigarette use	5.02 (6.86)	2.04 (2.77)	4.81 (6.86)	2.26 (3.71)	6.64 (8.340)	3.93 (4.91)	7.32 (8.320)	5.95 (8.91)
Marijuana use	4.23 (2.51)	3.12 (0.86)	3.56 (2.37)	3.69 (2.03)	4.30 (3.07)	3.16 (0.92)	5.24 (3.69)	4.51 (3.63)
Drinking	6.93 (4.09)	5.55 (3.15)	5.83 (3.19)	6.26 (3.14)	8.38 (4.68)	7.42 (3.91)	7.14 (3.89)	7.95 (5.21)
Healthy eating	17.61 (1.82)	17.12 (2.41)	18.27 (2.36)	17.64 (2.05)	18.33 (2.73)	17.74 (2.38)	17.57 (1.99)	18.11 (2.44)
Physical activity	16.07 (7.15)	15.55 (5.52)	17.14 (8.41)	15.47 (5.77)	16.50 (6.87)	15.37 (6.06)	15.08 (5.61)	12.49 (4.67)
Risky sex behaviour	9.11 (5.41)	7.82 (5.00)	8.11 (5.40)	9.60 (5.26)	12.08 (4.74)	11.02 (5.57)	10.76 (5.97)	10.16 (6.46)
b) EWB								
	<i>1st Quartile (N = 90)</i>		<i>2nd Quartile (N = 100)</i>		<i>3rd Quartile (N = 72)</i>		<i>4th Quartile (N = 71)</i>	
Cigarette use	5.62 (6.93)	2.02 (2.65)	6.68 (8.12)	2.57 (4.06)	6.06 (7.23)	3.68 (5.56)	4.93 (7.94)	5.66 (8.19)
Marijuana use	4.67 (3.21)	3.31 (1.55)	3.86 (2.28)	3.22 (1.09)	4.89 (3.38)	3.38 (2.30)	4.00 (3.13)	4.39 (3.11)
Drinking	7.43 (4.30)	5.65 (3.32)	7.04 (3.87)	6.74 (3.60)	7.46 (4.08)	6.76 (3.60)	6.30 (4.22)	7.83 (4.94)
Healthy eating	17.98 (2.16)	17.38 (2.31)	18.06 (2.17)	17.34 (2.33)	17.94 (2.59)	17.89 (2.05)	17.67 (2.17)	18.00 (2.56)
Physical activity	15.81 (6.86)	16.48 (5.99)	18.58 (7.84)	13.90 (4.14)	14.86 (6.27)	14.30 (6.65)	14.30 (5.83)	14.56 (5.66)
Risky sex behaviour	9.45 (5.76)	9.21 (5.12)	10.72 (5.44)	10.30 (5.57)	11.00 (5.07)	9.43 (5.85)	8.53 (5.80)	9.22 (6.15)

Once quartiles were formed, a series of 2 (gender) by 4 (spirituality dimension) analyses was conducted to establish if the risk status of the students could be determined on the basis

of the levels of their RWB. Analysis for the use of cigarettes and marijuana found no interaction effect (cigarette use and RWB: $F(3, 323) = 0.235, p > 0.05, \eta_p^2 = 0.002$; marijuana use and RWB: $F(3, 325) = 0.987, p > 0.05, \eta_p^2 = 0.009$). However, there was a gender main effect (cigarette use: $F(1, 323) = 11.331, p = 0.001, \eta_p^2 = 0.034$; marijuana use: $F(1, 325) = 6.973, p = 0.009, \eta_p^2 = 0.021$), and a RWB main effect (cigarette use: $F(3, 323) = 4.329, p = 0.005, \eta_p^2 = 0.039$; marijuana use: $F(3, 325) = 4.529, p = 0.004, \eta_p^2 = 0.040$). Post-hoc analyses showed that male students were more likely to use marijuana and cigarettes, and those students who reported higher RWB were less likely to use the substances than those who reported lower levels of RWB. In the case of drinking and risky sexual behaviour, there was no gender and RWB interaction effect (drinking: $F(3, 325) = 1.495, p > 0.05, \eta_p^2 = 0.014$; risky sexual behaviour: $F(3, 325) = 1.121, p > 0.05, \eta_p^2 = 0.010$), and there was no gender main effect (drinking: $F(1, 325) = 0.406, p > 0.05, \eta_p^2 = 0.001$; risky sexual behaviour: $F(1, 325) = 0.366, p > 0.05, \eta_p^2 = 0.001$). There was however a RWB main effect (drinking: $F(3, 325) = 4.584, p = 0.004, \eta_p^2 = 0.041$; risky sexual behaviour: $F(1, 325) = 5.841, p = 0.001, \eta_p^2 = 0.051$). Follow-up analyses showed that students reporting higher levels of RWB engaged less in risky sexual behaviour and drinking.

Further analysis was conducted to investigate if gender and RWB determined healthy eating among students. There was no interaction effect of gender and RWB, $F(3, 327) = 0.309, p > 0.05, \eta_p^2 = 0.011$, no gender effect, $F(1, 327) = 0.176, p > 0.05, \eta_p^2 = 0.006$, and no RWB main effect, $F(3, 327) = 1.944, p > 0.05, \eta_p^2 = 0.018$. In the case of engagement in physical activities, there was no interaction effect of gender and RWB, $F(3, 327) = 0.422, p > 0.05, \eta_p^2 = 0.004$. Nevertheless, there

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was a gender main effect, $F(1, 327) = 4.007$, $p = 0.046$, $\eta_p^2 = 0.012$. Important to note is that although the significance level of the RWB main effect was only marginal, $F(3, 327) = 2.437$, $p = 0.065$, the effect size was comparatively considerable at $\eta_p^2 = 0.022$.

Analysis was also conducted to investigate a relationship between EWB and health risk behaviours. In two of the analyses conducted, there were no gender and EWB interaction effects (healthy eating: $F(3, 324) = 0.911$, $p > 0.05$, $\eta_p^2 = 0.008$; risky sexual behaviour: $F(3, 325) = 0.486$, $p > 0.05$, $\eta_p^2 = 0.004$), no main effect of gender (healthy eating: $F(3, 324) = 1.032$, $p > 0.05$, $\eta_p^2 = 0.003$; risky sexual behaviour: $F(3, 325) = 0.386$, $p > 0.05$, $\eta_p^2 = 0.001$), and no EWB main effect (healthy eating: $F(3, 324) = 0.196$, $p > 0.05$, $\eta_p^2 = 0.002$; risky sexual behaviour: $F(3, 325) = 1.512$, $p > 0.05$, $\eta_p^2 = 0.014$). Analysis of the drinking variable found that the gender and EWB interaction was only marginally statistically significant, $F(3, 325) = 2.288$, $p = 0.078$, $\eta_p^2 = 0.021$, but there was no gender main effect, $F(1, 325) = 0.499$, $p > 0.05$, $\eta_p^2 = 0.002$, and no EWB main effect, $F(3, 325) = 0.348$, $p > 0.05$, $\eta_p^2 = 0.003$.

Analyses pertaining to the cigarette and marijuana use variables found that the effect of gender and EWB interaction was only marginally statistically significant (cigarette use: $F(3, 323) = 2.135$, $p = 0.096$, $\eta_p^2 = 0.019$; marijuana use: $F(3, 325) = 2.124$, $p = 0.096$, $\eta_p^2 = 0.019$), and the EWB main effect was not statistically significant (cigarette use: $F(3, 323) = 0.734$, $p > 0.05$, $\eta_p^2 = 0.007$; marijuana use: $F(3, 325) = 1.207$, $p > 0.05$, $\eta_p^2 = 0.011$). On the other hand, the gender main effect was statistically significant (cigarette use: $F(3, 323) = 10.404$, $p = 0.001$, $\eta_p^2 = 0.031$; marijuana use: $F(3, 325) =$

7.588, $p = 0.007$, $\eta_p^2 = 0.023$). For both cigarette and marijuana use, follow-up t-test analyses found that males were likely to report higher rates of use for both substances ($p < 0.001$ & 0.01 , respectively). Finally, there was a gender and EWB interaction effect, $F(3, 325) = 3.633$, $p = 0.013$, $\eta_p^2 = 0.032$, for the physical activity analysis. However, there was no gender main effect, $F(1, 325) = 2.408$, $p > 0.05$, $\eta_p^2 = 0.007$, and no EWB main effect, $F(3, 325) = 1.987$, $p > 0.05$, $\eta_p^2 = 0.018$.

DISCUSSION

This study found that spirituality does determine whether students will engage in one or other health risk behaviour. In that regard, it adds to accumulating evidence that spirituality protects against engagement in health risk behaviours (Koenig, 2012). The findings show that spirituality lessens the use of substances, including cigarettes, marijuana and alcohol, and risky sexual behaviour (Hodge, Cardenas, & Montoya, 2001; Holder et al., 2000; Turner-Musa & Lipscomb, 2007; White et al., 2006; Yonker et al., 2012). Also, there was a gender effect on smoking and marijuana use, in line with existing South African studies (Reddy et al., 2013). However, the lack of gender main effect on drinking was surprising when existing trends are taken into account (e.g., Reddy et al., 2013; Sukhwil & Suman, 2013). Nevertheless, we should not lose sight of the fact that patterns and attitudes towards drinking among Black students, especially those studying in Limpopo, have always departed from the norm. Whereas drinking is an endemic problem among university students across the world (Krohn & Brandon, 2000), university students in Limpopo have reported comparatively low prevalence rates of drinking over the years (Mhlongo, 2008; Peltzer & Phaswana, 1999).

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Another surprise was the finding in this study that spirituality was not a determinant of physical activity and the consumption of healthy foods. There are numerous studies showing that spirituality or religiosity is indeed linked to physical activity and the consumption of healthy foods (Henderson & Ellison, 2015; Kim & Sobal, 2004; Tan, Chan, & Reidpath, 2014). It is not clear why the link was not found in this study. One can only speculate that spirituality in particular, or the version measured in this study, was not related to the said health risk behaviours.

Another issue of note in this study is the dimension of spirituality assessed. Whereas RWB was an important determinant for most health risk behaviours, EWB was not. The latter found no interaction or main effects for almost all the health risk behaviours. The importance of the type of spirituality used to assess links with health risk behaviours confirms the findings of researchers such as Sussman, Skara, Rodriguez and Pokhrel (2006). This is so, because spirituality defies a singular conceptualization, largely due to its multidimensional nature. This point can only strengthen the recommendation that spirituality should be considered to be complex and multifaceted, and alternative conceptualizations of the construct should be used in research to establish their actual relationship with health risk behaviours.

CONCLUSION

The present research has demonstrated that spirituality is negatively associated with most health risk behaviours among Black students in South Africa. The exceptions of health risk behaviours were levels of engagement in physical activity and the consumption of healthy foods. At this point it

is not clear why spirituality was not related to them. Nevertheless, interventions to reduce risky health behaviours among Black university students can take into account the results which were clear in this study. Notably, the spirituality dimension to be targeted for intervention must be carefully considered since not all forms of spirituality are related to health risk behaviours.

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