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The Effects of Religious Orientations on Malevolent Creativity: Role of Positive Emotions and Spiritual Intelligence

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ABSTRACT

Creativity has long been touted as one of the aspects of human behavior that truly delineates mankind from all other species. However, sometimes people use creativity in negative ways, whereby it is used to reach goals through harming others. Often these malevolent acts are sensationalized in the media. Previous research found that there is a relationship between malevolent creativity and religious beliefs. This research evaluates the effect of two dimensions of religious orientation, intrinsic and extrinsic, on malevolent creativity through the mediating roles of positive emotions and spiritual intelligence. Data were collected from 862 Muslim students from the countries of Iran, Iraq, Yemen, Afghanistan and Syria. In this research, intrinsic religious orientation was found to reduce students' malevolent creativity while extrinsic religious orientation increased the malevolent creativity. Furthermore, the effect of intrinsic religious orientation on malevolent creativity through spiritual intelligence and positive emotion was negative, whereas this effect for extrinsic religious orientation was positive. Thus, understanding how religious orientation affects malevolent creativity is vital to advancing our understanding of this area of human behavior.

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Creativity research tends to focus mainly on the originality and appropriateness of people's creative ideas (Runco & Jaeger, 2012), and its positive and benevolent aspects (Cropley, Kaufman, White, & Chiera, 2014). However, when an individual's intentions are considered, creativity may also be malevolent, meaning that a person can reach personally favorable goals while intentionally and creatively harming others (Gutworth, Cushenbery, & Hunter, 2016; Mueller, Melwani, & Goncalo, 2012). Although past research has generally focused on the benevolent form of creativity, this research delves into its malevolent aspects – which McLaren (1993) referred to as the “dark side of creativity”.

Researches have explored many factors associated with malevolent creativity such as religion, prejudice, anxiety, discrimination (Baker & Gorsuch, 1982; Cropley et al., 2014; Kirkpatrick, 1993; McFarland, 1989). However, the concept of “religion” as used in Cropley et al.'s (2014) work is very broad and that delineating specific subcategories may be useful in determining where particular effects are originating. One such partitioning is based on religious

orientation – either intrinsic or extrinsic (Allport & Ross, 1967). Religious orientation is an overarching construct, generally referred to as adhering to a set of beliefs based on faith (Astin, Astin, & Lindholm, 2011). However, there is a paucity of information relating to religious orientation to creativity and even less research focusing on the complexities of malevolent creativity. Similarly, there is a dearth of investigations into the many potential intervening or mediating factors such as positive emotions and spiritual intelligence, which may reduce or increase the levels of malevolent creativity.

In past years, the media has raised significant concerns with respect to religion and malevolence, so any research investigating such issues is vitally important. Although it has been shown that religious beliefs are associated with malevolent creativity, its impact on religious orientation is still unknown. Thus, this research subdivides individuals based on their religious orientation (intrinsic versus extrinsic) in hopes of better explaining the effect of religious beliefs on malevolent creativity. Additionally, since both spiritual intelligence and positive emotions have been shown to be connected with religious beliefs, this research has

included these constructs as potential mediating factors. Thus, this research will allow us to with greater depth examine potential mechanisms associated with malevolent creativity for the purpose of better understanding its roots, with the aim of eventually mitigating its deleterious effects.

Malevolent creativity

Rogers (1954) elucidated that creativity can have both benevolent (positive) and malevolent (negative) goals (Gutworth et al., 2016). Until the 90s, the dark and anti-social (negative) aspects of creativity had been only infrequently investigated. However, it has only been in recent decades that investigations into the malevolent side of creativity began (McLaren, 1993). Malevolent creativity is defined as thinking about novel ideas and/or creative methods to purposely harm others (Gutworth et al., 2016; Hao, Tang, Yang, Wang, & Runco, 2016; Harris & Reiter-Palmon, 2015; Harris, Reiter-Palmon, & Kaufman, 2013) and is often used to gain an unfair advantage (Harris et al., 2013). Exactly, what actions fall into what category is dependent on the intention of the person is considered (Runco & Charles, 1993).

Malevolent creativity is mostly considered as thinking about creative methods in the areas of terrorism, crime, larceny, and espionage (Cropley, Kaufman, & Cropley, 2008; Gill, Horgan, Hunter, & Cushenbery, 2013). However, the malevolent form of creativity is not limited to these fields. It may also include thinking about deception, tricks, lying, betrayal, revenge, rumor-mongering, punishing, suppressing people who are in your way, sabotage, roughly hurting others, expressing excuses to justify your wrongdoings, concealing your misdoings from others, and stealing the novel ideas of others (Gill et al., 2013; Hao et al., 2016; Harris & Reiter-Palmon, 2015). Thus, the use of malevolent creativity in its many forms, appear to make it quite a versatile tool for harming others.

Intrinsic and extrinsic religious orientation

One way to conceptualize religiosity (the quality of being religious – piety, devoutness) is through religious orientation (Vazquez & McClure, 2017). Religious orientation refers to how a person thinks of and behaves in accordance with his/her religion (Nawi & Ahmad, 2018), and is depicted through actions such as religious affiliation, attending religious services, religious practices such as prayer, and religiosity (Pargament, 1997). The idea of extrinsic and intrinsic religious orientation originated with Allport and Ross

(1967) and was further subdivided into two categories: intrinsic and extrinsic by Nawi and Ahmad (2018).

Intrinsic religious orientation is defined as “living a religion for the sake of religion” (Nawi & Ahmad, 2018). It is not a mere mode of conformity, nor a tranquilizer and all needs are subordinated to an overarching religious commitment (Allport & Ross, 1967). Intrinsically oriented believers view their religion as important, specifically because it answers questions regarding the meaning of life. Often it represents the foundation for individualistic identity and existing worldviews (Meagher, 2016). Conversely, extrinsic religious orientation is defined as “living a religion for material, social and spiritual gains” (Nawi & Ahmad, 2018). A person with an extrinsic religious orientation is using religion to provide security, comfort, status, or social support. Indeed, religion is not a value in its own right, as it serves other needs, and it is a purely utilitarian formation (Allport & Ross, 1967). Allport’s theory specifies that bipolar differences exist between intrinsic and extrinsic religious orientation, realizing that they occur on a continuum. The main difference between these two dimensions is based on the specific motive(s) or goal(s) behind each. Intrinsic orientation points to an internal religious commitment, whereas extrinsic orientation indicates a utilitarian and selfish motivation (Kirkpatrick & Hood, 1990). More specifically, extrinsic orientation is the use of religion for the individual’s personal own ends, e.g., to provide security and solace, sociability, status and self-justification, retribution. In contrast, individuals with intrinsic orientation derive their primary motives from religion, having embraced a creed whereby the individual internalizes the associated religious doctrine, beliefs and practices. In this research, both intrinsic and extrinsic religious orientations are jointly considered to determine each’s individual impact on their self-reported malevolent creativity.

Relationship between intrinsic/extrinsic religious orientation and malevolent creativity

There are some researches regarding the effect of intrinsic and extrinsic religious orientation on various behaviors. For instance, Baker and Gorsuch (1982) found that intrinsic religious orientation is negatively correlated with trait anxiety, whereas extrinsic religious orientation is positively correlated. Additionally, they found that intrinsic religious orientation appears to be associated with greater ego weakness, more integrated social behavior, less paranoia, less insecurity, and less anxiety. Conversely, extrinsic religious orientation seems to relate oppositely. Moreover, according to Allport and Ross (1967), people with an extrinsic

religious orientation are significantly more prejudiced than people with an intrinsic religious orientation. However, no specific research to date explores the impact of religious orientation (intrinsic versus extrinsic) on malevolent creativity.

According to the results obtained by Cropley et al. (2014), the strength of religious beliefs affects malevolent creativity, whereby stronger levels of religious beliefs reduce malevolent creativity. Additionally, Kirkpatrick and Hood (1990) have shown that the strength of religious belief correlates highly with both intrinsic and extrinsic religious orientation. For example, a person with strong religious beliefs is more likely to externally display religious symbols connected to their belief. Thus, it appears plausible that religious orientation may indeed have a relationship to malevolent creativity. Therefore, the following hypotheses are proposed:

Hypothesis 1: *Intrinsic religious orientation* has a significant negative effect on *malevolent creativity*.

Hypothesis 2: *Extrinsic religious orientation* has a significant positive effect on *malevolent creativity*.

Spiritual intelligence

The concept of spiritual intelligence was first introduced by Stevens (1996) and was then further developed by Emmons (1999). Spiritual intelligence is a type of adjustment and problem-solving approach, which includes a level of development in various cognitive, behavioral, and emotional aspects that help with the interaction and coordination with the surrounding world (Animasahun, 2010). This type of intelligence is also seen as a set of mental capacities connected with non-material aspects of realities, especially those related to the existence of human beings, transcending self-awareness. The benefits of these mental capacities include the facilitation of problem-solving (King, 2001).

According to the model presented by King (2008), spiritual intelligence has four dimensions. These four dimensions include: 1) critical existential thinking – the ability to critically reflect on the reality of being, existence, world, space, time, and other existential and metaphysical subjects, 2) personal self-awareness – having a purpose and accurate understanding of the goals in life and order and reason for existence; 3) transcendental awareness – the ability to recognize the best dimensions of oneself such as transcendental self; 4) developing a vigilance state – widening awareness whereby influencing the ability to enter and exit states higher than spirituality and consciousness, such as

unity and integrity. In this study, these four dimensions were used to measure spiritual intelligence.

Relationships among intrinsic and extrinsic religious orientation, spiritual intelligence and malevolent creativity

Spiritual intelligence is the capacity for a deep understanding of existential questions and insight into multiple layers of religiosity (Vaughan, 2002). In a similar vein, Alburan et al. (2016) stated that spiritual intelligence refers to the meaning of life and death, and the ultimate truth of the physical and psychological world and refers to the transcending ordinary consciousness. These researchers believe that a person with high spiritual intelligence has many virtues, such as humility, generosity, kindness to make others happy, and achieving spiritual values. Therefore, it does not seem that a person with high spiritual intelligence would want to be malevolently creative in an attempt to harm others. On the other hand, Alburan et al. (2016) found there is a relationship between religious orientation and spiritual intelligence – since spiritual intelligence is predicated upon religious understandings. In a study by Chin, Raman, Yeow, and Eze (2012), spiritual intelligence increased creativity (from this article, it appears to be only benevolent creativity was measured). However, although there is potentially a relationship between spiritual intelligence and benevolent creativity, there has been no research found that has looked at the impact of spiritual intelligence on malevolent creativity. In this regard, the following hypotheses are presented:

Hypothesis 3: *Intrinsic religious orientation* has a significant positive effect on *spiritual intelligence*.

Hypothesis 4: *Extrinsic religious orientation* has a significant negative effect on *spiritual intelligence*.

Hypothesis 5: *Spiritual intelligence* has a significant negative effect on *malevolent creativity*.

Hypothesis 6: *Intrinsic religious orientation* has a significant negative effect on *malevolent creativity* as mediated through *spiritual intelligence*.

Hypothesis 7: *Extrinsic religious orientation* has a significant positive effect on *malevolent creativity* as mediated through *spiritual intelligence*.

Positive emotions

Psychological well-being is a construct that involves both the presence of positive indicators of psychological

adjustment such as positive emotions, happiness, high self-esteem, or life satisfaction, and the absence of indicators of psychological maladjustment such as negative emotions, psychopathological symptoms and diagnoses (Houben, Van Den Noortgate, & Kuppens, 2015). As such, positive emotions are a key component in psychological well-being. Positive emotions include pleasant or desirable situational responses, ranging from interest and contentment to love and joy (Cohn & Fredrickson, 2009). According to Fredrickson (2001) that developed the *theory of broaden and build of positive emotions*, experiences of positive emotions broaden people's momentary thought-action repertoires, which in turn serves to build their enduring personal resources, ranging from physical and intellectual resources to social and psychological resources. Positive emotions encompass a wide range of positive mood states, including enthusiasm, pride, power, interest, excitement, alertness, inspiration, determination, and being attentive, accurate, and active (Watson, Clark, & Tellegen, 1988). Additionally, high levels of positive emotion are indicative of high energy, concentration, and satisfaction (Diener, 1994). Watson et al. (1988) described positive emotions as having the following dimensions of being: interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, and active. These dimensions operationalize the components of the positive emotion construct utilized in the current research.

Relationships among intrinsic and extrinsic religious orientation, positive emotions and malevolent creativity

Studies have shown that positive emotions improve the effectiveness of problem-solving, increase the performance of individuals in many creative thinking activities (Forgeard, 2011), and as a result, facilitate creativity (Amabile, Barsade, Mueller, & Staw, 2005; Baron & Tang, 2011; Davis, 2009; Strong et al., 2007). According to Rego, Sousa, Marques, and e Cunha (2014), positive emotions also broaden the scope of attention (through increasing the number of cognitive elements present for communication) and recognition (by increasing the extent of the elements related to the problem), which increases the probability of performing creative activities. Watson et al. (1988) found that high levels of positive emotions are associated with high energy, focus, social activities, and satisfaction. Given that positive emotions help mitigate risk, individuals are more likely to participate in activities with higher risks, which in turn potentially increases their level of creativity (Liu, 2016). According to the *broaden and*

build theory of positive emotions (Fredrickson, 2004), positive emotions open the mind to different types of external stimuli, creating opportunities for more broadened attention to the environment and leading to improved creativity. Extending this line of reasoning further, Loewenthal, MacLeod, Goldblatt, Lubitsh, and Valentine (2000) demonstrated that religious beliefs affect the formation of positive emotions in individuals. Baranik and Eby (2016) used two theories, the *broaden-and-build theory of positive emotions* (Fredrickson, 2004) and *mood regulation theory* (Larsen, 2000), to explain why positive emotions are significantly correlated with individual behaviors, such as creativity. According to these theories, positive emotions encompass a wide range of positive mood states, including enthusiasm, pride, power, interest, excitement, alertness, inspiration, determination, and being attentive, accurate, and active (Watson et al., 1988). As such, a person with intrinsic religious orientation should have higher levels of positive emotions, which in turn may affect their levels of malevolent creativity. Therefore, it is proposed that:

Hypothesis 8: *Intrinsic religious orientation* has a significant positive effect on *positive emotions*.

Hypothesis 9: *Extrinsic religious orientation* has a significant negative effect on *positive emotions*.

Hypothesis 10: *Positive emotions* have a significant negative effect on *malevolent creativity*.

Hypothesis 11: *Intrinsic religious orientation* has a significant negative effect on *malevolent creativity* as mediated through *positive emotions*.

Hypothesis 12: *Extrinsic religious orientation* has a significant positive effect on *malevolent creativity* as mediated through *positive emotions*.

According to Hypotheses, the conceptual model of this research is presented in Figure 1.

Method

Participants and procedure

The participants were Muslim MSc and Ph.D. students from Iran and four foreign countries. Foreign students were selected from Islamic countries enveloped in war, including Iraq, Yemen, Afghanistan, and Syria, who had been studying in Iran for less than five years. About 900 questionnaires were distributed among the

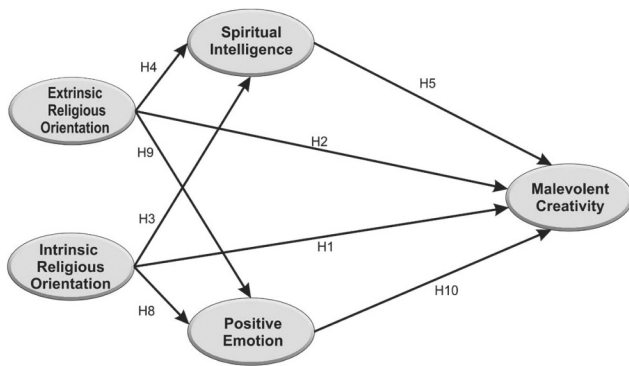


Figure 1. Proposed research model.

students of these four countries and Iran. A total of 862 complete questionnaires were returned.

In terms of demographics, 37.9% of the participants were female, and 62.1% were male. In terms of nationality, 49.3% were Iranian, and 50.6% were Afghan, Iraqi, Syrian, and Yemeni. Regarding occupational positions, 13% of the participants had government jobs, 29.1% were recruited by the private sector, 51% were unemployed, 6.2% were previously employed but not currently employed, and 0.6% did not answer this item. In terms of age, 16.5% were within the age range of 20–24 years, whereas 52.5%, 23.5%, 4% and, 2% were in the ranges of 25–29, 30–34, 35–39 and above 40 years, respectively. However, 1.5% did not answer this question.

Measures

Intrinsic and extrinsic religious orientations were measured using the survey instrument developed by Allport and Ross (1967). The intrinsic scale uses eight ordinal scale items, while the extrinsic scale is composed of 12. These items are scored on a five-point Likert scale (from completely disagree = 1 to completely agree = 5). Sample items for intrinsic religious orientation are: “I mostly pray to be relaxed and supported” and “I strive to use religion in all of my behaviors in life.” On the other hand, sample items for extrinsic religious orientation are: “One of the reasons for going to religious places is strengthening my associations with other society members” and “while I am a religious person, I do not allow religious considerations intervene with my daily life affairs.” In this regard, Cronbach’s alphas of .838 and .885 were obtained for the intrinsic and extrinsic religious orientations, respectively, in this research.

Spiritual intelligence was measured using King’s (2008) survey instrument. This scale is composed of four dimensions of 1) critical existential thinking, 2) personal meaning production, 3) transcendental

awareness and 4) conscious state expansion, each measured on a separate subscale. Items are similarly scored on a five-point ordinal scale (from never = 1 to always = 5). Examples of the items include: “I think about the reality of the world and the relationship to the universe”, “I am able to create meaning and purpose in my life”, and “I am able to see a larger picture that is more than physical aspects of experience.” In this regard, the Cronbach’s alphas were .899, .854, .791 and .862 for critical existential thinking, personal meaning production, transcendental awareness and, conscious state expansion, respectively, in this research.

Positive and negative affect (PANAS) was used to measure levels of positive emotions based on a survey instrument designed by Watson et al. (1988). The 10 items in this scale were scored using a five-point ordinal scale (from very slightly or not at all = 1 to extremely = 5). Some of the items of this variable include: “interested”, “excited”, and “strong”. In this regard, the Cronbach’s alpha of .910 was calculated for this variable in this research.

Malevolent creativity was measured utilizing the survey instrument developed by Hao et al. (2016). This 13 item self-reported tool is composed of three dimensions of 1) hurting people (six items), 2) lying (four items), and 3) playing tricks (three items). This scale is scored based on a five-point Likert scale (from never = 1 to usually = 5). Sample items of this variable are: “How often do you have ideas about how to suppress people who are in your way?”, “How often do you think about excuses to justify your wrongdoings?”, and “How often do you play tricks on people as revenge?” In this regard, the Cronbach’s alphas were .921, .862 and .903 for hurting people, lying, and playing tricks, respectively, in this research.

Results

In Table 1, the correlations, mean and standard deviation of each variable are presented. Each of the statistics presented was calculated using an average of each of the scales/subscales. As presented in Table 1, the means of all measurement variables are above 3.0, except for that of malevolent creativity. In addition, a positive and significant correlation was observed between independent, dependent and Mediator variables at the confidence level of .99.

To determine the *reliability*, Cronbach’s alpha and composite reliability (CR) measures are used and presented in Table 2. As seen, the reliability estimates ranged from $\alpha = 0.768$ to $\alpha = 0.946$ and CR = 0.708 to CR = 0.885, which indicates that each of the five scales demonstrate adequate internal consistency.

Table 1. Descriptive statistics, \sqrt{AVE} and Pearson correlation coefficients among constructs.

variables	Mean	Std. Dev.	ERO	IRO	SI	PE	MC
ERO	3.32	.83	.707	-	-	-	-
IRO	3.55	.68	-.049	.795	-	-	-
SI	2.38	.61	-.434**	.143**	.817	-	-
PE	3.43	.61	-.194**	.583**	.229**	.707	-
MC	2.80	.90	.522**	-.261**	-.422**	-.339**	.908

ERO (Extrinsic Religious Orientation), IRO (Intrinsic Religious Orientation), SI (Spiritual Intelligence), PE (Positive Emotion), MC (Malevolence Creativity)

[†] The presented diagonal values are the square root of AVE

*correlation significant at $p < .05$, **Significant at $p < .01$

To determine the *convergent validity*, both the factor loadings and the average variance explained (AVE) values were estimated using a confirmatory factor analysis (CFA) in AMOS software. The fitness indices of the CFA where $\chi^2 = 6098.810$, $df = 2034$, $GFI = .813$, $AGFI = .802$, $NFI = .900$, $CFI = .909$ and $RMR = .066$ indicating an adequate model fit. As presented in Table 2, all of the CFA factor loadings were above 0.5, indicating that each measurement variable is significantly and adequately contributing to the measurement of their associated construct. In addition, the AVE was also estimated to evaluate convergent validity. Fornell and Larcker (1981) suggested the AVE values above .5 indicate that at least 50% of the construct variance is explained by its indicators. As seen in Table 2, all AVE values are above .50, similarly indicating that each construct demonstrated convergent validity. Thus,

both the CFA loadings and the AVE estimates indicate that each construct demonstrates convergent validity.

Discriminant validity demonstrates that two constructs are measuring distinctly different underlying latent variables (Fornell & Larcker, 1981). Discriminant validity exists if the square root of the AVE \sqrt{AVE} is greater than the correlations between the construct under examination and other constructs. As seen in Table 1, the \sqrt{AVE} (bolded diagonal elements) are all greater than the correlations between the construct under investigation and the other constructs. Therefore, discriminant validity exists among the constructs.

Before examining the relationships in the model (as described in Figure 1), the fit of the model has to be determined. The model tested in Figure 2 had the following fit statistics: $\chi^2 = 1779.6$, $\chi^2/df = .900$, $RMSEA = .075$, $RMR = .066$, $CFI = .945$. Recommended values are $\chi^2/df < 3$, $RMSEA < .08$, $RMR < .09$, and $CFI > .94$ (Blunch, 2012). Therefore, the model appears to fit the data reasonably well.

With the model fit established, the X and Y measurement portions of the model can now be examined. As seen in Table 2, all measurement variables loaded significantly ($p < .05$) on their associated constructs. With respect to the intrinsic religious orientation construct the loadings ranged from $\lambda = .508$ to

Table 2. Results of confirmatory factor analysis (CFA).

Construct	AVE	CR	Cronbach's α	Indicators	Factor loading	t- value	Indicators	Factor loading	t- value
Intrinsic religious orientation	0.501	0.835	0.842	IRO1	.679		IRO5	.577	15.083
				IRO2	.508	13.406	IRO6	.723	18.403
				IRO3	.657	16.933	IRO7	.664	17.090
				IRO4	.593	15.459	IRO8	.686	17.582
Extrinsic religious orientation	0.633	0.708	0.946	ERO1	.604		ERO7	.725	17.652
				ERO2	.918	20.643	ERO8	.744	17.978
				ERO3	.821	19.227	ERO9	.591	15.116
				ERO4	.906	20.478	ERO10	.783	18.517
				ERO5	.770	18.414	ERO11	.768	18.382
				ERO6	.799	18.887	ERO12	.783	18.632
Spiritual intelligence	0.513	0.840	0.837	CET1	.753		CET5	.648	18.520
				CET2	.765	22.121	CET6	.651	18.615
				CET3	.619	17.651	CET7	.581	16.511
				CET4	.591	16.808			
	0.590	0.776	0.768	PMP1	.664		PMP3	.693	17.491
				PMP2	.654	16.651	PMP4	.681	17.239
				TA1	.641		TA5	.726	18.059
				TA2	.666	16.844	TA6	.661	16.753
				TA3	.662	16.771	TA7	.677	17.081
				TA4	.716	17.853			
0.651	0.817	0.866	CSE1	.752		CSE4	.743	21.636	
			CSE2	.753	21.974	CSE5	.744	21.686	
			CSE3	.764	22.314				
Positive emotions	0.501	0.838	0.873	PE1	.527		PE6	.681	14.171
				PE2	.589	12.997	PE7	.618	13.389
				PE3	.707	14.470	PE8	.653	13.835
				PE4	.647	13.762	PE9	.599	13.138
				PE5	.672	14.070	PE10	.714	14.543
Malevolent creativity	0.667	0.885	0.899	H1	.683		H4	.833	22.441
				H2	.762	20.722	H5	.808	21.832
				H3	.706	19.320	H6	.831	22.387
				L1	.801		L3	.816	27.142
	0.721	0.814	0.865	L2	.741	23.912	L4	.783	25.693
				PT1	.833		PT3	.748	25.325
				PT2	.862	31.411			

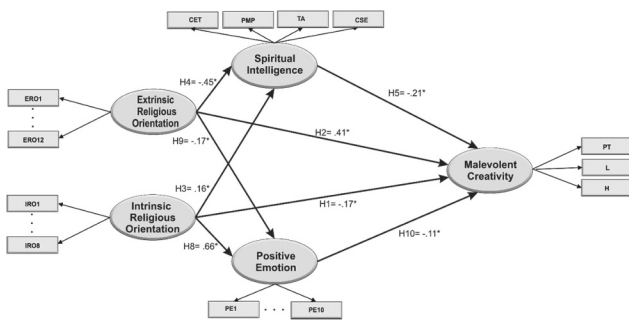


Figure 2. Structural equation model with standardized estimates of the hypotheses.

$\lambda = .679$, extrinsic religious orientation $\lambda = .591$ to $\lambda = .918$, spiritual intelligence $\lambda = .581$ to $\lambda = .765$, positive emotions $\lambda = .527$ to $\lambda = .714$, Malevolent creativity $\lambda = .683$ to $\lambda = .862$. Thus, the X and Y portions of the model are appropriate.

The next step in assessing the model is to evaluate the parameters estimated in relation to the proposed hypotheses. In the model (see Figure 2 and Table 3), all direct effects between the constructs were significant ($p < .05$, $t > 1.96$). As observed in Table 3, the standardized parameter estimating the impact of intrinsic religious orientation on positive emotions and spiritual intelligence were .66 and .16 (both were significant). In addition, the effect of extrinsic religious orientation on positive emotions and spiritual intelligence was significant and estimated to be $-.17$, $-.45$, respectively. The impact of the intrinsic and extrinsic religious orientation on malevolent creativity was significant, with the standardized parameter estimates being $-.17$ and $.41$, respectively. The effect of positive emotions and spiritual intelligence on malevolent creativity is $-.11$ and $-.21$, respectively, which are both negative and significant. The summary of results for Hypotheses 1–5 and 8–10 are presented in Table 3 and displayed in Figure 2.

In the current research, Hypotheses 6, 7, 11 and 12 were related to the evaluation of the indirect impact of intrinsic and extrinsic religious orientations on malevolent creativity. In this regard, the level of the indirect

Table 3. Standardized results of direct hypothesis testing.

Direct hypothesis	Estimate	S.E.	t-value	P-value
IRO → MC (H1)	-.173	.057	-3.713	.000
ERO → MC (H2)	.414	.052	10.509	.000
IRO → SI (H3)	.158	.028	4.435	.000
ERO → SI (H4)	-.450	.034	-11.104	.000
SI → MC (H5)	-.208	.055	-5.885	.000
IRO → PE (H8)	.660	.040	12.232	.000
ERO → PE (H9)	-.169	.026	-5.232	.000
PE → MC (H10)	-.115	.045	-4.133	.000

ERO (Extrinsic Religious Orientation), IRO (Intrinsic Religious Orientation), SI (Spiritual Intelligence), PE (Positive Emotion), MC (Malevolence Creativity)

impact of independent variables on dependent variables was calculated using formula one, where a is the effect of the independent variable on the mediator and b is the impact of the mediator on the dependent variable.

$$B_{indirect} = a \times b \quad (\text{Formula1})$$

In addition to the estimation of indirect effects, the significance of indirect impact was also evaluated by using the Sobel test (1982). The results are shown in Table 4. It is shown that spiritual intelligence and positive emotions mediate the effect of intrinsic religious orientation on malevolent creativity (Sobel test = -3.174 , -2.418 , $p < .05$). In addition, the mediating role of spiritual intelligence and positive emotions in the effect of extrinsic religious orientation on malevolent creativity is confirmed (Sobel test = 3.668 , 2.289 , $p < .05$). Additionally, the total standardized effect of extrinsic religious orientation on malevolent creativity is $.527$, and the total standardized effect of intrinsic religious orientation on malevolent creativity is $-.282$.

Extrinsic religious orientation

The total standardized effect of extrinsic religious orientation on malevolent creativity was fairly large ($\gamma = .527$). Concerning the direct effect, the findings of this study indicate that an *extrinsic religious orientation* has a positive direct significant impact on *malevolent creativity* (Hypothesis 2). The indirect effects paint a similar picture. Hypotheses 4 and 5 indicate that extrinsic religious orientation, as mediated through *spiritual intelligence*, has a significant positive impact on *malevolent creativity*. Thus, as higher levels of extrinsic religious orientation are observed, lower levels of spiritual intelligence are seen as well as higher levels of *malevolent creativity*. Similarly, Hypotheses 9 and 10 indicate that *extrinsic religious orientation*, as mediated through *positive emotions*, has a positive and significant impact on *malevolent creativity*. Thus, as higher levels of *extrinsic religious orientation* are observed, lower levels of positive emotions are seen, which results in higher levels of *malevolent creativity*. Thus, both the direct and indirect effects indicate that those individuals with an extrinsic

Table 4. Results of indirect hypothesis testing.

Indirect hypothesis	Indirect effects	Sobel test statistic	p-value
IRO → SI → MC (H6)	-0.033	-3.174	.001
ERO → SI → MC (H7)	.094	3.668	.000
IRO → PE → MC (H11)	-0.072	-2.418	.015
ERO → PE → MC (H12)	0.018	2.289	.005

ERO (Extrinsic Religious Orientation), IRO (Intrinsic Religious Orientation), SI (Spiritual Intelligence), PE (Positive Emotion), MC (Malevolence Creativity)

religious orientation are more likely to report higher levels of malevolent creativity. This is a new finding in the literature that is congruent with Cropley et al.'s (2014) findings that indicate that the stronger religious beliefs are connected to an increase in malevolent creativity.

Intrinsic religious orientation

The total standardized effect of intrinsic religious orientation on malevolent creativity was moderate ($\gamma = -.282$). With respect to the direct effects, intrinsic religious orientation had a significant direct negative impact on malevolent creativity (Hypothesis 1). Thus individuals with higher levels of intrinsic religious orientation are associated with lower levels of malevolent creativity. A similar effect is seen when the indirect effects are examined. The path outlined by hypotheses 3 and 5 indicates that intrinsic religious orientation, as mediated through spiritual intelligence, has a positive and significant impact on malevolent creativity. Thus, as higher levels of intrinsic religious orientation are observed, higher levels of spiritual intelligence are seen as well as lower levels of malevolent creativity. Similarly, the indirect path outlined by hypotheses 8 and 10 indicates that intrinsic religious orientation mediated through positive emotion reduces malevolent creativity. Thus, as higher levels of intrinsic religious orientation are observed, higher levels of positive emotions are also seen, as well as lower levels of malevolent creativity. Thus, the findings indicate that both the direct and indirect effects of intrinsic religious orientation are associated with decreased levels of malevolent creativity, which is the direct opposite observed with an extrinsic religious orientation.

Secondary findings indicate that *extrinsic religious orientation* is associated with lower levels of *spiritual intelligence* (H4) and *positive emotions* (H9), while higher levels of *intrinsic religious orientation* are associated with higher levels of *spiritual intelligence* (H3) and *positive emotions* (H8). Also, higher levels of *spiritual intelligence*, as well as higher levels of *positive emotion*, are associated with lower levels of *malevolent creativity* (H5 and 10, respectively).

Discussion

The current study builds on previous findings to examine not overall religiosity, as was done by Cropley et al. (2014), but partitions it into internal and external religious orientations to determine the impact on malevolent creativity, as was done by Allport and Ross (1967). Through this partitioning, the current research found

that an intrinsic religious orientation was associated with a significant decrease in reported levels of malevolent creativity, whereas an extrinsic orientation was associated with an increase.

These findings then beg the question, "Why does an extrinsic religious orientation lead to higher levels of malevolent creativity while an intrinsic orientation reduces it?" The conjecture is that a person with an intrinsic religious orientation internalizes the positive values and beliefs of the religion for its own sake, which would preclude negative aspects such as prejudice and malevolent creativity. Additionally, this internalization could potentially motivate individuals to acquire an increased level of religious knowledge (spiritual intelligence), leading to more benevolent positive feelings. Research by Baker and Gorsuch (1982) has shown that intrinsic religious orientation leads to lower levels of anxiety than observed in extrinsic religious oriented people, which is congruent with this logic. Conversely, an externalized religious orientation, where religion is seen as a tool having utility, would not likely enhance spiritual intelligence or positive emotions but be used to advance personal agendas (e.g., use religion for career advancement). This self-centered motivation potentially leads to the detriment of others (malevolent creativity).

These findings must be interpreted in the context of the individual's environment. Respondents in this study are members of Islamic theocracies, where religion and politics are not independent. Thus, it is reasonable to assert that some individuals utilize religion as a tool to reach personal/political aspirations and to do this, take on an extrinsic religious orientation (e.g., wearing religious garb, being seen at religious events, etc.) for personal gain. Therefore, because religion is used for its utility rather than for its internalized values and beliefs of the religion itself, it is not surprising that these two orientations having diametrically opposed outcomes.

Limitations and opportunities for future research

This study has multiple limitations that must be taken into consideration when interpreting the findings. First, this research is dependent on survey self-reported data, which may be influenced by social desirability influences and other biasing effects. However, virtually all empirical research relating to the constructs measured in this study are based on self-report and thereby directly comparable to the current research. Second, the sampling frame was composed of Muslim students. Students are undoubtedly less religious (and potentially less malevolently creative) than

members of the general population (Kirkpatrick, 1993). In fact, one might expect that education levels could possibly mitigate levels of malevolent creativity, an avenue that invites further investigation. In addition, this research needs to be conducted with other religions (such as Hindu, Christianity, Buddhism) to determine the generalizability of the findings or if these results are particular to an Islamic theocracy. Third, there may be other intervening variables that influence the model that were not measured, such as religious fundamentalism or strength of religious belief. Researchers are encouraged to conduct future research to investigate the impacts and contributions of these variables in further refining this study's findings/model. In this research, the self-reported cognitive aspect of malevolent creativity (that is, having malevolent ideas but not necessarily implementing/taking action on these ideas), has been examined. Future research should extend these findings to the implementation and behavioral aspects of malevolent ideas. Thus, although this research advances the understanding of the role of religious orientation and its impact on malevolent creativity, there are many avenues to explore before the authors have a comprehensive understanding of this area of human behavior.

Disclosure statement

The authors declare that there is no conflict of interest regarding the publication of this article.

The data used in this article have not been used in any other publications.

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