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## THE INFLUENCE OF SPIRITUALITY ON MOTIVATION IN THE WORK PLACE

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THE INFLUENCE OF SPIRITUALITY ON MOTIVATION  
IN THE WORK PLACE

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A Thesis  
Presented to the  
Faculty of  
California State University,  
San Bernardino

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In Partial Fulfillment  
of the Requirements for the Degree  
Master of Science  
in  
Psychology:  
Industrial and Organizational

---

by  
Tong Yao  
December 2020

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## ABSTRACT

Spirituality is the tendency of people to ask ultimate questions and look for meaning in life. Employees' spirituality brings benefits such as better performance, higher satisfaction, and lower turnover. No research study has yet studied how spirituality in the workplace influences what type of motivation employees have. According to self-determination theory, there are several types of motivation including intrinsic motivation and four types of extrinsic motivation. Intrinsic motivation and two types of extrinsic motivation are seen as autonomous motivation. Autonomous motivation brings benefits to life and also the workplace. This study hypothesizes that people with high spirituality also reported more autonomous motivation when they work. Also, managers can influence employees' autonomous motivation by providing reasons for why working is important and valuable. In the current study, a survey was sent to participants online. Spirituality, autonomous motivation, satisfaction at work, and some control variables were measured in the survey. The findings show that spirituality did not predict autonomous motivation, managers' provision of rationales did not predict autonomous motivation, managers' provision of rationales did not moderate the relationship between spirituality and autonomous motivation, and both autonomous motivation and managers' provision of rationales predicted job satisfaction. The non-significant results may be due to several factors such as low statistical power and measures with psychometric quality. Also, it may suggest that the hypotheses proposed in the current study are not consistent with reality.

Spirituality may not be a predictor of employees' autonomous motivation and this relationship may not be worth studying in future research. In future research, I suggest that measures with better psychometric properties are used. Also, other workplace outcomes can be added to study more relationships between autonomous motivation and these outcomes. Besides, other types of research methods can be applied such as true experiments and field experiments in future research. The developmental stage of employees' spirituality can also be considered in future research.

*Keywords:* spirituality, motivation, autonomous motivation, employees.

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## CHAPTER ONE

### LITERATURE REVIEW

#### The Influence of Spirituality on Motivation in the Work Place

Spirituality is a topic that is often ignored by researchers in industrial and organizational psychology (Karakas, 2010; Loo, 2017). Other researchers try to find out how employees' performance can be better, how employees can have higher satisfaction at work, and how they can stay longer in the organization (among other questions). They often do not believe spirituality is one of the factors that can contribute to performance. I am interested in the concept of spirituality, with an interest in how spirituality can bring benefits to employees in the workplace. There can be many benefits in the workplace and many researchers have summarized these findings (see Loo, 2017 and Karakas, 2010). One thing to notice is that Karakas (2010) suggested that spirituality could help people have intrinsic motivation when they work. However, there is no research to see whether this suggestion is true or not. Intrinsic motivation is one type of motivation. There are also other types of motivation. In this paper, I would like to answer the question of how spirituality influences what kind of motivation employees have in the workplace. In the following sections, I will review the literature about spirituality, meaning at work, self-determination theory, and autonomous motivation.

## Literature Review

### Spirituality

Koenig, McCullough, and Larson (2000) defined spirituality as “the personal quest for understanding answers to ultimate questions about life, meaning, and relationship to the sacred or transcendent, which may lead to or arise from the development of religious rituals and the formation of community” (p. 18). Of course, this is one among many definitions of spirituality (see Loo, 2017) but I think this is a clear definition of this concept. Spirituality is obviously different from logical reasoning or emotional experience. Rather, it is the unique human ability to ask questions that are basic to the existence of one’s self, such as the real meaning or purpose in life and the relationships with the creator.

Loo (2017) summarizes three common themes in the many definitions of spirituality. The first common theme of spirituality is inner-connectedness. People express spirituality through behaving according to their own values, finding meaning in life and work, and also finding purpose in life (Steffler, Murdock, & Gosselin, 2014). For example, Ottaway (2013) pointed out that one part of spirituality is meaningful work. Spiritual people try to contribute to work in meaningful ways. In other words, they want their own work to be important and meaningful. The second theme is inter-connectedness, which means that spirituality is expressed by connecting with others in a meaningful and good way (Steffler et al. 2014). For example, Marques (2006) mentioned the concept of sense of community, which means that spiritual people have a feeling of fitting in

the community. The third theme among the many definitions of spirituality is vertical connectedness. Besides connecting with the self and others, spiritual people also connect with the supernatural beings or God. Spiritual people have a feeling that they rely on and have a strong relationship with supernatural beings or God.

Some researchers also examined the relationships between spirituality and work-related outcomes in the workplace. First, research done by Mitroff and Denton (1999) showed that many people in the workplace are indeed spiritual. They interviewed executives from business environments and found that almost all of these participants believed that there was a high power or God existing and they agreed that they felt the spiritual power at work. Also, spirituality helps employees to have a strong commitment to the organization. McCarty (2004) found that the participants who joined prayer meetings had lower turnover rates. Also, spirituality may be related to employees' well-being level. Karakas (2010) tried to answer the question of how spirituality could contribute to organizations. He suggested that spirituality helped employees by increasing their feelings of well-being. Karakas (2010) suggested that expression of the spiritual helped employees to cope with stress from the workplace and increase their well-being. Also, Karakas (2010) suggested that spirituality was connected to a stronger sense of meaning and purpose. Many researchers have found that expression of spirituality helped employees to find meaning (such as Mitroff & Denton, 1999). In addition, spirituality may give employees a strong sense of interconnectedness

with others (Karakas, 2010). Brown (1992) found that spirituality helped employees to have a sense that they are part of the community in the workplace and they have strong connections with others. However, there are no research findings of how spirituality influences what type of motivation employees have.

### Spirituality and Meaning at Work

Karakas (2010) pointed out searching for meaning is often seen in current workplaces. Since the industrious age, focusing on pursuing material wealth has become mainstream in the workplace (Walsh et al., 2003). Corporations in the business world usually strive to succeed in the market and pursue financial wealth. As a result, some outcomes that are external, observable, and materialistic are prevalent in people's minds (Gull & Doh, 2004). Gull and Doh (2004) defined this type of work as the "a world without depth" (p. 129). People may gradually put less focus on the inner and spiritual world.

Whether pursuing material rewards can bring happiness and satisfaction with life is questionable. According to Maslow's (1954) hierarchy of needs theory, there are various needs that people pursue an order to function well. These needs are categorized into five levels, organized in a hierarchy. At the low level of the hierarchy, there are physiological needs such as the need for water, food, and shelter. At the second lowest level, there are safety needs such as the need to live in a safe environment. At the upper hierarchy, there are needs for love and belonging. People pursue loving others and being loved by others. They also hope to belong to some groups. At the fourth level, there are needs for

achievement and esteem. People strive to make achievements and maintain their own self-esteem. At the highest level, people start to self-actualize themselves. People do not pursue all the needs at the same time, but they prioritize these needs. People tend to focus on the satisfaction of the needs at lower levels until these needs are fulfilled. For example, if the physiological needs are not satisfied, people allocate all their attentional and mental resources to meeting these needs. If the physiological needs are generally satisfied, they start to pursue the needs at the upper hierarchy which is the need for safety. If the needs on the lowest two levels are satisfied, they start to pursue the need for love and belonging and the need for achievement. Pursuing economic growth and material wealth provide people the opportunity to satisfy the needs at the lowest two levels but not work well to satisfy the needs at the higher levels such as the need for love and belonging.

Consistent with implications from the hierarchy of needs theory, employees have been searching the satisfaction of the inner world besides the pursuit of material wealth (Cavanagh, 1999, Fairholm, 1996). Johnson (2004) found that more than 60 percent of employees believed that they would benefit from a sense of meaning and spirituality at workplaces. Kouzes and Posner (2003) summarized a list of questions that employees asked when they searched for meaning and purpose. Examples of these questions are “what do I stand for? What do I believe in? why?” and “Is there a reason for my existence and the organization’s” (pp. 69 – 70).

Some researchers believed that spirituality could provide employees the opportunities to find meaning at work (Bolman & Deal, 1995; Brandt, 1996). For example, Mitroff and Denton (1999) found that the expression of spirituality through people's work was associated with a sense of meaningfulness and better performance. Dehler and Welsh (1994) found that if employees were supported to incorporate spirituality into their work, their job satisfaction and happiness increased. Paloutzian et al. (2003) studied the relationships between meaning at work and employee' perceptions of work. Specifically, they found that if employees viewed work as an opportunity to serve God, their sense of meaning at work was strong. They also found that these workers' productivity was increased because of the greater sense of meaning. From these findings, it maybe that a belief that spirituality can help employees find meanings at workplaces.

#### Self-determination Theory and Autonomous Motivation

Self-determination theory (SDT) is a meta-theory that incorporates and organize various aspects of human psychological mechanisms into a coherent system (Deci & Ryan, 2000). Self-determination theory embraces the assumption that individuals are organisms and inherently active (Deci & Ryan, 1985a; Ryan & Deci, 2017). In other words, individuals actively pursue some goals and these goals are generated within themselves. Driven by these goals, people have more and more new experiences. These experiences become parts of themselves and

these experiences are organized into a coherent sense of self. People are able to grow psychologically through this process.

Self-determination theory originated from the early theory that Deci and Ryan (1980) developed which is cognitive evaluation theory. In the 1970s, Deci (1971) showed that there were different types of motivations that drive an individual to behave, in addition to the strengths of one's motivation. In particular, intrinsic motivation depicts the motivational state that the person involves themselves in an activity for merely experiencing the activity itself instead of other purposes (Deci & Ryan, 1980). The prototype of intrinsic motivation is children's play for fun. Extrinsic motivation, instead, depicts the state that the person involves themselves in an activity for other purposes such as pursuing rewards, avoiding punishments, or avoiding negative psychological states (Deci & Ryan, 1985a). People who are extrinsically motivated involve in a behavioral pattern of "if X, then Y". In other words, involving in the activity is a means for another end.

In the experiment done by Deci (1971), a classroom with equipment for multiple activities in a kindergarten was prepared and multiple children were recruited in the experiment. These children freely played in this classroom and the experimenter observed them playing. They mainly observed the children who were interested in drawing and recorded their behaviors which indicated the strength of their interest. The experimenter later asked each of the children who were interested in drawing to go to a separate room. In the experimental

condition, the experimenter told the child that they could draw a picture for a guest. If the child agreed, they could get a gold medal as the reward. In the control condition, the experimenter told the child that they could draw a picture for a guest but not mentioned that they could get a gold medal. All the children in both conditions agreed and drew pictures. After the treatment, children went back to the classroom with equipment and the experimenter observed the tendency for them to become involved in drawing. They found that the children in the experimental condition were less interested in drawing and they started to become involved in other activities. Not surprisingly, the children in the control condition were still interested in drawing and did not involve themselves in other activities. From this experiment, we could see that when an external reward is involved (the gold medal in this case), children were less interested in the activity than they were beforehand. Deci (1971) explained that they over justified the reason why they are involved in this activity. When an external reward is given, they think that they become involved in this activity for pursuing this external reward instead of being interested in in the activity itself.

Another major contribution of self-determination theory is the development of the concept “internalization”. People continuously integrate external experiences into the self which is the process of internalization (Deci & Ryan, 1985a; Ryan & Connell, 1989). People are actively pursuing goals no matter whether they are intrinsically or extrinsically motivated. During this process, people gain more and more new experience and they have a tendency to

incorporate these experiences into a coherent system, which is the sense of the self. For instance, a child who has the opportunity to draw on the canvas may have pleasurable experiences of drawing and start to become interested in this activity. Another example can be that a child hopes to get some form of external rewards and they find that drawing can be a way to gain these rewards, and they start to draw pictures.

The process of internalization varies within every person. By the degree of integration between external experiences and the self, there are intrinsic motivation and extrinsic motivation. When people are intrinsically motivated, they autonomously regulate themselves and are able to internalize experiences successfully. If a person has a genuine interest in an activity, such as drawing, they are most likely to be intrinsically motivated. When intrinsically motivated, they have a sense that they manage themselves based on their own will rather than other external factors.

However, when people are extrinsically motivated, they more or less feel coerced to internalize external experiences into the self and thus may not successfully go through this process. For example, children hope to gain some external rewards such as a gold medal, but they have to draw a picture to gain this reward. In this case, drawing becomes an activity they do not hope to experience and an activity as a means to reach another goal. Deci and Ryan (1980) found that there are different types of extrinsic motivation depending on the degree that people internalize experiences. These four types of extrinsic

motivation are external regulation, introjected regulation, identified regulation, and integrated regulation.

When they involve in external regulation, they regulate themselves for pursuing external rewards or avoiding external punishment. For example, in Deci's (1971) experiment, children were rewarded with a golden medal for drawing a picture for a guest and as a result, they started to anticipate that they were able to get more medals when they drew more pictures. During this moment, the children involved in external regulation in that they were motivated to pursue some rewards that are tangible and external to the activity.

Sometimes people are indeed motivated not for external factors, but internal factors, such as avoiding feeling shameful and seeking higher self-esteem. The reason that a person may be involved in introjected regulation is that external values, which they receive from the external environment, are introjected into the person's sense of self but not fully internalized yet. People feel forced to pursue these introjected values otherwise negative psychological states may arise. The common characteristics of external regulation and introjected regulation are that people experience being controlled and forced to involve in activities and these two forms of extrinsic motivation are controlled motivation.

Rather, two less controlled forms of motivation are identified regulation and integrated regulation (Deci & Ryan, 2000). Individuals who are consciously aware of some external values and goals are important for their functioning and

well-being so that they identify with these values and goals. They are still extrinsically motivated, but they experience autonomy when they pursue these identified values, which is the process of identified regulation. Integrated regulation is the most internalized form of extrinsic motivation. People may successfully integrate external values into the self, and they become involved in integrated regulation when they pursue these values. These two forms of motivation are autonomous motivation in that people experience autonomy when they are involved in these forms of motivation.

Ryan and Deci (2017) summarized the research examining how types of motivation influenced workplace outcomes and concluded that autonomous motivation predicted these outcomes. Autonomous motivation is related to less burnout (Fernet, Gagne, & Austin, 2010), higher work satisfaction (Richer, Blanchard, & Vallerand, 2002), less emotional exhaustion (Richer et al., 2002), more knowledge sharing among employees (Foss, Minbaeva, Pedersen, & Reinholt, 2009), and higher work performance (Kuvaas, 2009). Overall, autonomous motivation at workplaces brings many benefits and therefore autonomous motivation can contribute to employees' performance and also organizational performance.

Various environmental factors may contribute to the satisfaction of the three basic psychological needs (Deci & Ryan, 2000). Multiple autonomy support strategies were proposed and applied to classrooms and workplaces (Ryan & Deci, 2017). For example, Hadre and Reeve (2009) developed and applied an

intervention to train managers to nurture their followers' inner motivational resources. In the intervention, managers were trained to know about employees and present the work that is consistent with employees' preferences and interests. Providing explanatory rationales is another strategy that is often involved in these applications of autonomy support, especially when the task for employees or students is uninteresting (Hadre & Reeve, 2009). Managers in the intervention were trained to communicate with employees with the rationales for why the task is meaningful for the self and the organization, instead of merely assigning the task to employees. This strategy facilitated the internalization of external standards for employees so that employees were involved in identified regulation rather than external regulation when performing the task. The way that the information is communicated also matters to support employees' or students' autonomy need. In several interventions (Deci, Connell, & Ryan, 1989; Hadre & Reeve, 2009), managers were trained to show patience, take the perspectives of, empathically listen to, and acknowledge the effort of employees. In addition, feedback was communicated in a non-controlling way. This method of communication allows employees to express their coherent sense of self, rather than be threatened and controlled by subordinates' command, and thus their need for autonomy can be satisfied.

In the following sections, I will give the reasons for why I believe spirituality can increase autonomous motivation and a related positive outcome, i.e., job satisfaction.

## Hypotheses

In the model that is proposed in this paper, Spirituality is the predictor variable, which predicts autonomous motivation at work. Managers' provision of rationales is the moderator between spirituality and autonomous motivation.

Additionally, job satisfaction can be outcome of autonomous motivation.

Therefore, autonomous motivation becomes a mediator between spirituality and job satisfaction. The theoretical model of this paper including all the hypotheses are displayed in Appendix A.

### Spirituality and Autonomous Motivation

Spirituality helps employees to change the types of motivation that motivates them to work. I believe that spirituality helps employees find more meaning in the workplace so that they are motivated by identified regulation and even integrated regulation but not by external regulation. We can often see and hear that employees choose to have a job not because they like doing the job itself but like to make more money in order to support themselves. In this situation, they are motivated by external regulation or introjected motivation, which is controlled motivation. They regulate themselves to pursue the external rewards, which is the tangible financial reward, instead of for the sake of pursuing the exciting experience of the work itself. Either they are not motivated to work for pursuing something meaningful to them, or they may not even think of the meaning behind their own work. The only thing they may think of is that they have to earn a salary to support themselves.

Employees' motivation can be shifted from external regulation to identified regulation, which is one form of the autonomous regulation if they can find the meaning at work (see Deci et al, 1989; Hardre & Reeve, 2009). Identified regulation refers to the state that individuals regulate their own behaviors to pursue something they believe important to themselves or others (Deci & Ryan, 1985). Individuals do not involve themselves in identified regulation until they perceive the importance or the meaning of the activity. They are still not interested in the activity itself, but they believe that the completion of the activity itself can lead to some consequences that are meaningful to them.

Spiritual people with high spirituality oftentimes asks the ultimate question of themselves and search meaning and purpose in life. In other words, highly spiritual people may make more effort in searching for meaning in life and in the work that they do. They may not be satisfied with a situation where they pursue external tangible rewards or avoid tangible punishment. Their focus may be on the meaning of their activities. Another possible pathway between spirituality and meaningfulness is that they attempt to make connections with other people and also vertical connections with a higher spiritual power. They oftentimes find that what they do can have a huge impact on another people's lives and the world. Therefore, they can find the meaning at work as well.

According to Karakas' (1999), employees also search for meaning and purpose in the workplace. Therefore, people with high spirituality can have a strong sense of meaning and purpose. With such a strong sense of purpose and

meaning, they may find that their work is not only an activity that brings money but also something that is important for themselves and even for others. They may feel that they work not because they want to get money but because the job is important and consistent with their own values.

Finding meaning at work is the key that their motivation can be shifted from controlled motivation to autonomous motivation. The reason that people may become involved in controlled motivation, including external regulation and introjected regulation, is because they cannot find something with tangible rewards or punishments that is worth pursuing. In other words, they cannot find meaning at work so that they are involved in external regulation rather than identified regulation. Sometimes they work not only for the sake of tangible monetary rewards, but they may also involve in introjected regulation. Individuals have a sense of being forced to accept the values that others or the whole society endorse. The problem is that they themselves may not endorse these values. Thus, they are involved in introjected regulation. At the workplace, they are motivated to work probably because they attempt to pursue some value that society endorses but they themselves do not endorse. In this situation, they find something that is important to others, not to themselves. In other words, they cannot find meaning at work that themselves believe important. Therefore, to become involved in identified regulation, there are two necessary conditions. First, individuals find the meaning at work, and second, they need to endorse these as important for themselves.

Spirituality helps the process of finding meaning that individuals themselves endorse. As mentioned above, spiritual people oftentimes take the time and make the effort to search the meaning of life and the importance of every activity. They are more likely to find meaning in life than those who are not spiritual. Also, the meaning they find is endorsed by themselves in that the meaning is found by themselves, instead of being forced to be accepted from others' coercion. Therefore, with meaning that they themselves endorse; spiritual people may be likely to be involved in identified regulation instead of the two forms of controlled motivation. They become motivated by identified regulation and integrated regulation, which are types of autonomous motivation. Therefore, spirituality is positively related to autonomous motivation.

***Hypothesis 1: Employees' spirituality is positively related to autonomous (intrinsic) motivation in the workplace.***

Some research shows that others' support is also important in changing someone's type of motivation when they do something. Reeve, Jang, Hardre, and Omura (2002) found that people like to do the task when others provided reasons as to why they needed to do it. Reeve et al. (2002) defined the provision of rationales as the activity of "a verbal explanation of why putting forth effort during the activity might be a useful thing to do" (p. 185). The rationales can be provided by others (Newby, 1991) or by the self (Green-Demers, Pelletir, Stewart, & Cushue, 1998). All these studies are correlational and found that provision of rationales is connected to the sense of meaningfulness and identified

regulation. In the current research, the rationales provided by managers or supervisors are considered.

Sometimes a person is doing something that is not interesting to him or her because he or she wants to get rewards. In this situation, if another person can explain to this person why doing this thing is very important and has value, this person can change the motivation to do this thing because he or she finds the meaning in doing it, not only for getting rewards. Right now, this person is motivated by identified regulation.

Reeve et al. (2002) proposed and tested the motivational mediation model. In this model, the presence of a rationale which is delivered in a supportive way is related to the identification of the importance of the task. Identification in this model is defined as the experience that person endorses and values the effort put in during this activity (Reeve et al., 2002). In other words, in the identification process, the person starts to agree with and see the reason for why they need to do this activity even though it is not interesting. They gradually admit the values of this uninteresting activity, which implies that they start to find the meaning beyond the activity itself when they cannot find the activity interesting. Identification is related to effort. Namely, if the person identifies the activity, they start to put in more effort to complete this activity.

This mode actually specifies the process of how people internalize some values that are external to them at the beginning but gradually become internal. Providing a rationale by somebody, self or the other, is critical in this process of

internalization. With a rationale, people start to recognize the values of the uninteresting activity and embrace the values within the activity that they do not endorse before.

Reeve et al. (2002) tested this model by conducting two experiments. In the first experiment, all participants from a college in the United States were asked to take a conversational Chinese lesson. The participants were randomly assigned to three conditions. In the first experimental condition, the participants watched a video that provided the reason why they needed to take this lesson before they took this lesson. This is the “identified regulation” condition. In the second experimental condition, which is the “external regulation” condition, the participants also watched a video, but they were promised to be given an external reward after taking the lesson. In the control condition, the participants were not asked to watch any videos before taking the lesson. They found that the rationale given by the video predicted the identification experience of the participants and in turn, the identification experiences predicted the effort that the participants put in the lesson. The result indicates that giving a rationale can actually help people to have identified regulation.

This is also true for employees in the workplace, some research (see Hardre & Reeve, 2009) shows that managers can provide reasons to employees so that employees can be motivated by identified regulation but not external regulation anymore. Therefore, managers’ provision of rationales is positively related to employees’ autonomous motivation.

***Hypothesis 2: Managers' provision of rationales is positively related to employee autonomous (intrinsic) motivation in the workplace.***

Sometimes managers do not really influence employees by giving reasons for why doing something, but they just ask employees to do some tasks and do not give any reasons. In this situation, employees cannot really change their motivation to work and they are still motivated by external regulation. This situation stops employees from finding importance, meaning, or values from work. In other words, employees are slower to find meanings in work because of managers' bad treatment of employees.

The managers' influence can act as the environmental factor that impacts the relationship between spirituality and autonomous motivation. Whether employees can find meaning at work, especially in those tasks that are not really interesting to them, depend on at least both the person variable, which is spirituality, and the situation variable, the provision of rationales by managers. Actually, both the two variables help individuals find meaning at work and expectedly help employees to become involved in identified regulation instead of external regulation.

When the managers do a good job providing the rationale for why the employee needs to do some uninteresting tasks, the relationship between spirituality and autonomous motivation may not be that clear. This is because the employees are already finding meaning with the help of managers no matter if they are spiritual or not. In other words, whether employees are highly spiritual or

not are highly autonomously motivated depends on whether when managers can provide enough rationales for doing the tasks.

When the managers do not do a good job providing the rationale for why the employee needs to do the task, especially when the task is not interesting, the spirituality of the employee can be the determining factor for whether the employee can find meaning at work and be autonomously motivated. The external source of meaning searching at work, which is the provision of rationales by the managers, is absent in this case so that the employee needs to look internally to find the source of meaning searching. As hypothesized in Hypothesis 1, highly spiritual employees may have a good opportunity to find meaning at work. When there is an absence of the managers' provision of rationales, highly spiritual employees are more likely to be autonomously motivated than those who are not spiritual.

Therefore, managers' different influences on employees can moderate the relationship between spirituality and autonomous motivation. When managers successfully provide rationales to employees, the relationship between spirituality and autonomous motivation is not salient. When managers do not provide rationales to employees, the relationship between spirituality and autonomous motivation is salient (see Figure 1).

***Hypothesis 3: Managers' provision of rationales to employees will moderate the relationship between spirituality and autonomous (intrinsic) motivation, such that the relationship will be stronger when managers' provision of***

*rationale is high, and the relationship will be weaker when managers' provision of rationale is low.*

One probable outcome of autonomous motivation in the workplace is satisfaction with the job that employees have. Job satisfaction can be understood as an emotional state that one is satisfied with the job. Locke (1976) defined job satisfaction as “a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences” (p. 1304). One possible source of job satisfaction is that the job itself brings a satisfying experience. I argue that if people are autonomously motivated to engage in an activity, they will have satisfying experience. When people are autonomously motivated, they may enjoy engaging in the activity itself so that it is more likely for them to have a satisfying experience. They also may feel that engaging in this activity is meaningful or reflects their own preference or values so that they feel that their life is meaningful, or they live a life that they really want to live. This may be the primary reason why autonomous motivation can bring job satisfaction.

Research findings show that autonomous work motivation predicted job satisfaction (Ilardi, Leone, Kasser, & Ryan, 1993; Keaveney & Nelson, 1993; Richer, Blanchard, & Vallerand, 2002). For example, one of the findings by Richer et al. (2002) is that autonomous motivation is associated with job satisfaction. They argued that if employees were involved in controlled motivation, such as introjected and controlled regulation, they were not able to have the satisfying experience from the activity itself because their focus was to

gain the benefits or avoid any punishment outside of the activity. Keaveney and Nelson (1993) hypothesized that autonomous motivation was negatively related to perceived role conflict and perceived role ambiguity, and positively related to perceived role benefits. Further, less perceived role conflict and ambiguity is related to a high level of job satisfaction. Perceived role benefit brings job satisfaction as well. In general, autonomous motivation is related positively with job satisfaction.

***Hypothesis 4: Autonomous (intrinsic) motivation in the workplace is positively related to job satisfaction.***

***Hypothesis 5: Managers' provision of rationales to employees is positively related to job satisfaction.***

## CHAPTER TWO

### METHODS

#### Overview of the Study

I conducted a study to test the five hypotheses that I propose in this paper and the research question in this paper. Because this is a study that tries to study how employees' spirituality influences their own motivation to work and thus influence job satisfaction, I cannot conduct an experiment to test these hypotheses. Experimental controls are not possible in this study because I am interested in the naturally occurring level of spirituality in real workers. Therefore, I did a correlational study to answer the question that I have.

#### Design

This study was a correlational study. I examined the relationship between spirituality and autonomous motivation for employees using structural equation modeling and the relationship between how managers' treatment of employees and employees' autonomous motivation through examining the interaction between the two variables using multiple regression. I designed an online survey that asks participants' questions about spirituality, their types of motivation to work, to what degree that managers give rationales to employees, job satisfaction, and some basic question such as gender and age.

In this study, I examined the relationship between spirituality and job satisfaction. Autonomous (intrinsic) motivation was expected to mediate this

relationship. Provision of rationales was included as a moderator of the relationship between spirituality and autonomous (intrinsic) motivation.

### Participants and Procedures

These participants were recruited from two sources. Some participants were recruited from the recruitment system SONA. The SONA system is a web portal that allows researchers in the Psychology Department post studies for which they may need participants. The students who participated in the study received one online unit. Some other participants were recruited through convenience and snowball sampling by sending the survey to friends and people I know from church. There were 247 participants who completed the survey. Among these participants, 39 were males and 207 were females; three completed high school, 76 attended college, 108 have a 2-year college degree, 15 have a 4-year college degree, and 37 completed college with advanced degrees; 103 were Christian, 90 were Catholic, one is Jewish, three were Buddhist, 13 were Atheist, and 37 had other religious affiliations.

### Measures

Employees' spirituality was measured using the 26-item Spirituality Involvement and Beliefs Scale (SIBS; Hatch, Burg, Naberhaus, & Hellmich, 1998). SIBS measures actions and beliefs under the influence of religious traditions. The authors of SIBS found some common themes of spirituality through many religions such as Christianity, Islam, and Judaism and made this measure. Sample items are "I can find meaning in times of hardship" and "a

person can be fulfilled without pursuing an active spiritual life”. For the items 1 through 19, the participants need to select one of the five options from “strongly agree” to “strongly disagree”; for the item 20 through 23, the participants select one of the five options from “always” to “never”; for item 24 through 26, the participants check one of the five frequency ranges. In this study, the average score of 26 items in SIBIS was used in the analysis as the score for each participant. The validity and reliability of this scale were good. The test-retest reliability is .92 over an 8-month period (Hatch et al., 1998). In the current study, the Cronbach’s alpha for this scale is .84.

To measure how managers influence employees by giving reasons, I created a question in the survey. The Work Climate Questionnaire (Baard, Deci & Ryan, 2004) is designed to measure employees’ perceptions of how they receive support from their own managers. However, there are no items in this scale that assess the specific action of giving rationales or reasons to employees by the manager. Therefore, I created a new item to measure employees’ perceptions of managers’ actions in giving rationales. Before this question, there was a paragraph as the instruction that is adapted from the Work Climate Questionnaire. The paragraph is “The following question is related to your experience with the manager who is your most immediate supervisor. Managers have different styles in dealing with employees, and we would like to know more about how you have felt about your encounters with your manager. Your responses are confidential. Please be honest and candid”. This question is “I feel

that my manager provides me the reasons why I need to do the task when my manager assigns a task to me.” The participants responded to this question by selecting one of the seven options ranging from “strongly disagree” to “strongly agree”. “strongly disagree” was coded as 1 in the data, and “strongly agree” was coded as 7 in the data.

To measure autonomous motivation, I used the Work Extrinsic and Intrinsic Motivation Scale (Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009; WEIMS). The WEIMS has 18 items and 6 subscales. Each of the subscale’s measures each of the six types of motivation according to self-determination theory, including intrinsic motivation, four types of extrinsic motivation (integrated, identified, introjected, and external regulation), and motivation (i.e., lack of any motivation; Deci & Ryan, 2000). The participants selected one of the five options from “does not correspond at all” to “corresponds exactly” to tell us to what degree they believe the statements in items are the reasons why they work. The sample items of the WEIMS are “Because I choose to be a leader to attain a certain lifestyle” and “For the income it provides me”. The WEIMS has good construct validity, criterion validity, and internal consistency (Tremblay et al., 2009). In this paper, I only used the scores from the three subscales that measure intrinsic motivation, integrated regulation, and identified regulation because autonomous motivation is consists of the three types of motivation. I took the means of the items from the three subscales as the

total score for each participant. In the current study, Cronbach's alpha for the autonomous motivation subscale is .90.

To measure participants' satisfaction at work, I used the Job Satisfaction Survey (JSS; Spector, 1985). The JSS is a scale that has 36 items and measures attitudes toward some aspects of the job. It asks participants to choose one of the six options for each item from "strongly disagree" to "strongly agree". Example items include "I feel I am being paid a fair amount for the work I do", "I like the people I work with", and "I like doing things I do at work". The JSS has high construct and criterion validity and its internal consistency is high (the reliability score is .91). The total score for each participant is calculated by summing all the scores of each item. In the current study, the Cronbach's alpha for this scale is .92.

In this study, I collected some basic demographic information from participants. This information includes gender, education level, region background (see details in the Participants section).

### Analysis Strategy

Before doing the analysis, I checked missing values for all the variables. I deleted all the data of a participant if there was one missing value for that participant. I calculated the total score for each variable by the methods that were specified in the section above. Then I examined the descriptive statistics for each variable, including spirituality, manager's influence, autonomous motivation, job satisfaction, age, gender, educational background, race, and religion

background. I calculated the mean, standard deviation, minimal score, maximum score, kurtosis, and skewness for each variable.

In the analysis, I tested the structural model specified in Appendix A with the technique of structural equation modelling with the statistical software R. In particular, I used the maximum likelihood as the estimation strategy to examine the fit of the structural model with the covariance matrix of the scores for each variable as the input. I also evaluated the data distribution of each variable by calculating the skewness and kurtosis of each variable. A range between 1.96 to -1.96 for both statistics were acceptable for each variable to be added in the analysis. If any of the variables were not normally distributed, I transformed the data of those variables.

I evaluated the fit of the model based on four criterion indices and they are Bentler Comparative Fix Index (CFI), Tucker Lewis Index (TLI), the root mean error of approximation (RMSEA), and standardized root mean square residual (SRMR). As the rule of thumb, if the CFI of the model is at least .90, the TLI is at least .90, the RMSEA is smaller than .80, and the SRMR is smaller than .60, the model fits the data very well.

I also ran multiple regressions to test hypothesis 1 and hypothesis 2, in addition to the testing of the structural model using structural equation modelling. In the analysis, spirituality, manager's influence, and the product term of the two variables were the predictors, and autonomous motivation was the outcome variable. I used the transformed variables (if there were any) in the analysis. I

computed the beta coefficients for the three predictors. If the p value for any coefficient was smaller than .05, I considered the effect as significant statistically.

## CHAPTER THREE

### RESULTS

#### Discussion and Analysis

##### Preliminary Analysis

The demographic information of all participants is shown in Table 1. The composite scores (total scores) for each variable were calculated. The Internal consistency coefficients (i.e., Cronbach's alpha) were also computed (see details in the Methods section). The means standard and standard deviations of all variables and the correlations among these variables were shown in Table 2. Also, I evaluated the data distribution of each variable by calculating the skewness and kurtosis of each variable. A range between 1.96 to -1.96 for both statistics are acceptable for each variable to be added in the analysis. All variables were normally distributed in the current study.

##### Confirmatory Factor Analysis

By using the software R, I conducted multiple confirmatory factor analyses to make sure that the variables used in the analysis were distinct from each other. I used the maximum likelihood as the estimation strategy to examine the fit of the structural model with the covariance matrix of the scores for each variable as the input. I evaluated the fit of the model based on four criterion indices and they are Bentler Comparative Fix Index (CFI), Tucker Lewis Index (TLI), the root mean error of approximation (RMSEA), and standardized root mean square

residual (SRMR). As the rule of thumb, if the CFI of the model is at least .90, the TLI is at least .90, the RMSEA is smaller than .80, and the SRMR is smaller than .60, the model fits the data very well.

Three models for the confirmatory factor analysis were made using the software R. In the first model, all measures were treated as separate factors. In the second model, job satisfaction and autonomous motivation were treated as a single factor and spirituality was treated as a separate factor. In the third model, all measures were treated as a single factor. From Table 3, it shows that all model fit indices get worse when more measures were treated as single factors, which demonstrates that the three measures were distinct from each other.

### Hypothesis Testing

As planned, I constructed a path analysis model using R. In this model (see Appendix A), there are four variables: spirituality, managers' provision of rationales, autonomous motivation, and job satisfaction. Spirituality is expected to predict job satisfaction, through the mediation effect of autonomous motivation. Managers' provision of rationales moderated the relationship between spirituality and autonomous motivation and also predicted autonomous motivation and job satisfaction. All the coefficients were obtained in the model that indicate the relationships among variables. Here are the model fit indices of this path analysis model:  $\chi^2(3) = 59.30$ , CFI = .25, TLI = -.74, RMSEA = .28, SRMR = .12. For autonomous motivation, the variance accounted for (i.e., the  $r^2$ ) is .03, and for

job satisfaction, the variance accounted for is .06. These indices show that the model does not fit the data very well.

Hypothesis 1 stated that spirituality predicts positively employees' autonomous motivation. The results show that spirituality does not significantly predict autonomous motivation ( $\beta = .09$ ,  $p = .14$ ). Hypothesis 1 was not supported.

Hypothesis 2 stated that managers' provision of rationales positively predicts employees' autonomous motivation as well. The results show that managers' provision of rationales almost predicted autonomous motivation in a positive direction ( $\beta = .12$ ,  $p = .06$ ). Although the p value of this coefficient did not reach the .05 standard, but this coefficient was sizable and close to other significant regression estimates. Hypothesis 2 was partially supported.

Hypothesis 3 states that managers' provision of rationales modified the relationship between spirituality and autonomous motivation. To test this hypothesis, I created a product variable between spirituality and rationality. It shows that this variable does not significantly predict autonomous motivation ( $\beta = -.07$ ,  $p = .30$ ). Hypothesis 3 was not supported.

Hypothesis 4 states that autonomous motivation positively predicts job satisfaction. The results show that the relationship between the two variables is significant and positive ( $\beta = .25$ ,  $p < .00$ ). Hypothesis 4 was supported.

Hypothesis 5 states that managers' provision of rationales positively predicts job satisfaction. The results show that the relationship between the two

variables is significant and positive ( $\beta = .45, p < .00$ ). Hypothesis 5 was supported.

### Supplementary Analysis

As the results show above, spirituality was not connected with autonomous motivation or job satisfaction. It is possible that not all the items in the SIBS, measure of spirituality used in the current analysis, are related to autonomous motivation or job satisfaction. In other words, it is possible that only a subset of items in the SIBS capture the real meaning of spirituality that are defined in the current research. Therefore, I chose a subset of items in the SIBS that are considered to be conceptually related to the definition of spirituality used in the current research and conducted supplementary analysis to test the hypotheses. As mentioned in the introduction, Koenig et al. (2000) defined spirituality as the pursuit for finding answers to ultimate questions about life. There are various aspects in the definition of spirituality. It may include internal reflection, patterns of interpersonal relationships, and related behaviors such as participation in communities and religious rituals. I believe that the aspects of spirituality that lead to autonomous motivation are more about internal reflection of life, meaning, and relationships with others. Among the items in the SIBS, I looked for items that mention that the individual is able to find meaning through careful reflection of life, emphasize the spirality aspect of life, and can change the patterns of interacting with other people. Therefore, I selected following items: “1 can find meaning in times of hardship”, “A person can be fulfilled without

pursuing an active spiritual life”, “I am thankful for all that has happened to me”, and “My spiritual life fulfills me in ways that material possessions do not”.

Confirmatory Factor Analysis. A confirmatory factor analysis was conducted using the chosen items. The model fits the data relatively well: the CFI is .871, the TLI is .614, the RMSEA is .177, and the SRMR is .078, the chi square with degree of freedom of 6 is 126.142. The item loadings are shown in Table 5.

Hypothesis Testing. Here are the model fit indices of this path analysis model:  $\chi^2(7) = 92.31$ , CFI = 1.00, TLI = 1.033, RMSEA = .00, SRMR = .01. For autonomous motivation, the variance accounted for (i.e., the  $r^2$ ) is .07, and for job satisfaction, the variance accounted for is .26. These indices show that the model fits the data well. Hypothesis 1 states that spirituality predicts positively employees' autonomous motivation. The results show that spirituality does not significantly predict autonomous motivation ( $\beta = -.15$ ,  $p = .53$ ). Hypothesis 1 was not supported. Hypothesis 2 states that managers' provision of rationales positively predicts employees' autonomous motivation as well. The results show that managers' provision of rationales did not predict autonomous motivation in a positive direction ( $\beta = -.42$ ,  $p = .23$ ). Hypothesis 2 was not supported. Hypothesis 3 states that managers' provision of rationales modified the relationship between spirituality and autonomous motivation. It shows that this variable does not significantly predict autonomous motivation ( $\beta = .66$ ,  $p = .13$ ). Hypothesis 3 was not supported. Hypothesis 4 states that autonomous

motivation positively predicts job satisfaction. The results show that the relationship between the two variables is significant and positive ( $\beta = .25$ ,  $p < .00$ ). Hypothesis 4 was supported. Hypothesis 5 states that managers' provision of rationales positively predicts job satisfaction. To The results show that the relationship between the two variables is significant and positive ( $\beta = .45$ ,  $p < .00$ ). Hypothesis 5 was supported. These results indicate that spirituality was not related to other variables in the analysis even though the subset of conceptually related items were used in the analysis.

## CHAPTER FOUR

### DISCUSSION

There are five hypotheses in this research. The first hypothesis stated that spirituality predicted positively the autonomous motivation of employees. This hypothesis was not supported. In other words, the results of data analysis seem not to support the idea that spirituality predicts positively the autonomous motivation of employees. There are several possible reasons for this non-significant result. The quality of the measure for spirituality may not be high so that the reliability and validity of this measure are questionable. The measure of spirituality used in the current study, which is the SIBIS, is not a measure with high psychometric properties. Although it was the best measure for spirituality that I could find, it may still cause great among of measurement errors. When reviewing the items in the SIBIS, there are several themes that are related but distinct. Some items are about views of the world and the self (e.g., “my life has a purpose”), and some items are about reporting the spiritual practices that respondents are involved on a daily basis (e.g., “When I wrong someone I make an effort to apologize”). There is a possibility that some of the items in the SIBIS are more likely to be related to autonomous motivation and some are not. I suspect that the items that are about world views or sense of meaningfulness in the personal life may predict autonomous motivation.

Hatch et al. (1998) in their paper that developed and validated SIBIS claimed that the scale assesses several dimensions of spirituality including

spiritual involvement, spiritual activities, and spiritual beliefs. In the factor analysis conducted by Hatch et al. (1998), four factors emerged. The first factor was labeled as “External/ Ritual”, indicating these items assessed spiritual activities in an external power. the second factor was labeled as “Internal/ Fluid”, indicating that these items reflected internal beliefs and growth. The third factor was labeled as “Existential/ Meditative”, in which the items addressed existential issues. The fourth factor was labeled as “Humility/ Personal application”, in which items addressed application of spiritual principles in daily activities. comparing the content in the four factors with the meaning of spirituality that this paper uses, I think that the second factor and the fourth factor were consistent with spirituality that this paper refers to. In this paper, spirituality is understood as the personal pursuit for understanding some ultimate questions about life and meaning and this pursuit can be reflected by religious rituals. It is more about internal thinking, feeling, and other related psychological activities. This pursuit for these ultimate questions bring some outcomes such as successful search for meaning in life and a genuine consideration of many aspects in life. These outcomes may be related to autonomous motivation at work. Therefore, I suspect that only a subset of the SIBIS is related to autonomous motivation.

Therefore, a supplementary analysis was conducted in the current research using a subset of the SIBIS. Some items that were considered to be consistent with my understanding of spirituality in the current research were

chosen and hypotheses were tested again with these items. The results did not show that this subset of items predict autonomous motivation or job satisfaction.

The second possible reason is that the relationship between the construct spirituality and the construct autonomous motivation does not really exist or only exists in specific groups. Although there are a great number of rationales that estimates the there is a relationship among the two concepts, it may not exist in reality. Furthermore, it might be the case that the relationship between spirituality and autonomous motivation only exists or can be observed among people who are highly spiritual for a long time. For those who are not highly spiritual or have not been spiritual for a very long time, the relationship might not exist. In other words, there might exist other moderators that impact this relationship. Another possible reason is that the sample size is not high enough so that the relationship is not significant.

The second hypothesis stated that managers' provision of rationales positively predicts employees' autonomous motivation. This hypothesis was not supported either. Contradictory to self-determination theory, the provision of managers' rationales does not predict autonomous motivation, but the relationship was in the expected direction and near the expected magnitude of the relationship (based on other observed relationships). The possible explanation of this result is that the sample size was not large enough, so it is approaching significant, but it is not. Another possible explanation for this result is that the single question used in the study is not validated so that the

psychometric quality of this measure is not good enough. Also, I found that the standard errors of this variable are too large so that it is difficult to get a significant result. This phenomenon might be due to the fact that leaders or managers are quite diverse. More specifically, employees may interact with leaders who have very different leadership styles and personality, so that employees may have very different experiences of being led.

The third hypothesis stated that that managers' provision of rationales modified the relationship between spirituality and autonomous motivation. This hypothesis was not supported. Given the rationales above, it is not surprising to get a non-significant result for this hypothesis. Neither spirituality nor managers' provision of rationales did not predict autonomous motivation, which suggests that the interaction between the two predictors did not exist either. This non-significant result may due to the low statistical power from the small sample size. A significant result might be detected if the sample size is large enough. This may be an issue especially for detecting the interaction effect. From a statistical simulation done by Andrew (2018), it shows that the sample size required to reach a certain level of statistical power for the interaction effect is 16 times than the sample size for the main effect to reach the same level of statistical power. In other words, the requirement of the sample size for the interaction effect is much stricter than the one for the main effect.

The fourth hypothesis stated that autonomous motivation positively predicted job satisfaction. This hypothesis was supported. The relationship

between autonomous motivation and job satisfaction was significant. In a meta-analysis done by Van Den Broeck, Ferris, Chang, and Rosen (2016), job satisfaction is an outcome of the employees' psychological needs (i.e., the needs of individuals for being autonomous, competent, and having meaningful connections with other people). Deci, Olafsen, and Ryan (2017) also reviewed and concluded that job satisfaction is one of the outcomes of employees' psychological needs satisfaction. Autonomous motivation is a product of satisfaction of psychological needs (Deci et al., 2017). In summary, psychological needs, autonomous motivation, and job satisfaction are interrelated. It seems that autonomous motivation mediates the relationship between psychological needs and job satisfaction for employees at work. In the current study, psychological needs were not measured, so that this speculation needs to be confirmed in future research.

The fifth hypothesis stated that managers' provision of rationales positively predicted job satisfaction, and this hypothesis was supported. In other words, managers' actions were important to improve employees' job satisfaction. Specifically, if managers can have conversations with employees, employees are more likely to have high job satisfaction.

## Implications

### Theoretical Implications

The current research found that employees' spirituality did not predict employees' autonomous motivation, which may imply that spirituality is not the

factor that contributes to autonomous motivation at work. In the current research, I hypothesized that autonomous motivation can be an outcome of spirituality. One of the important reasons is that spirituality helps individuals to find meanings, and meanings at work help workers to engage in work with autonomous motivation. It seems that a sense of meaningfulness is a mediator between spirituality and autonomous motivation. Rather, as the research indicates, spirituality did not have a strong enough effect on autonomous motivation. A sense of meaningfulness may positively predict autonomous motivation, but spirituality does not. The current research implies that spirituality is not an important factor that contributes to autonomous motivation.

As mentioned above, previous research and reviews have concluded that job satisfaction is an outcome of employees' psychological needs satisfaction. When employees feel that they can be autonomous, can succeed in life, and can have meaningful relationships with others, they are more likely to be satisfied with work itself (Deci et al., 2017). Also, autonomous motivation is an outcome of psychological needs. Further, the results in the current research show that autonomous motivation predicts job satisfaction. All this evidence may imply that autonomous motivation mediates the positive relationship between psychological needs and job satisfaction.

The main theoretical implication that we can get from the current research is that the relationship between spirituality and job satisfaction is not the direction we should go. We can choose other directions to find the factors that contribute

to autonomous motivation and job satisfaction. For example, it might be the case that specific behaviors and actions, while people are spiritual, may predict autonomous motivation. In other words, autonomous motivation is not predicted by spirituality in general but by some behaviors that highly spiritual people may engage in. The measure for the construct spirituality in the current study may not capture these behaviors or actions yet so that we could find the relationship between spirituality and autonomous motivation.

### Practical Implications

The findings in the current research imply that employees' spirituality may not be a significant factor that the researchers should care about. It is because of the significant relationship between spirituality and autonomous motivation is not found in the current research. However, autonomous motivation is found to be related to job satisfaction. I suggest that managers in the workplace can choose to find strategies to help employees improve autonomous motivation at work. For example, managers can help employees develop an interest in the tasks that employees need to accomplish (see Deci, Olafsen, and Ryan, 2017 for more details). Besides, autonomous motivation is only one of the multiple factors that improve job satisfaction. Managers should also pay attention to other factors that are related to job satisfaction. For example, Job Characteristics Model (Hackman & Oldham, 1975) tells us that multiple factors predict job satisfaction, such as skill variety and feedback. If employees need to use a wide range of skills and

talents to finish the work and if they can get timely feedback at work, they may be more satisfied.

### Limitations and Future Research

There are several limitations to the current research. First, the measures used in the study may not be the ideal choices. As mentioned above, the measure for spirituality may not be a good measure. More specifically, I found from the confirmatory factor analysis of this measure that some items in this measure had very low loadings. For example, the item 1, 3, 9, 10, and 13 had loadings lower than .30, which is not acceptable during the process of the scale validation process, but this measure is a published one. One possible reason for this phenomenon is that the loadings of each item may vary depending on different groups of participants who finished this survey. In the original published paper, I found that the loadings of each item were relatively high. Besides, I do not think a single total score can be obtained among different types of questions. In the spirituality measure that was used in the current research, some questions ask for the degree for agreement, some ask for frequency, and some ask specific frequencies such as 4-6 times per week. The scores of questions for agreement can be added together and a single total score can be formed, but it is not appropriate to add scores of other types of questions into this equation. Another suggestion about the measure of spirituality is that a subset of items in the SIBIS may be applied in the future research to predict autonomous motivation. As mentioned in the section above, some items in this scale are related to a sense

of meaningfulness or purposefulness in life and these items may be more likely to predict autonomous motivation than other items do. Also, the measure for the provision of managers' rationales is only one question, which may not be sufficient to accurately assess the construct.

Second, there can be other outcomes in the workplace that are related to spirituality, such as turnover intention, burnout, and well-being. As mentioned in the introduction, Karakas (2010) concluded that spiritual people are more likely to search for meaning. A sense of meaningfulness may bring some positive outcomes such as low turnover intention and high well-being. Thus, if spiritual employees can find meaning at work successfully, spirituality may be, at least indirectly, related to some other positive outcomes.

Third, this study is a correlational study indicating that the causal relationship between spirituality and other variables used in the study is not possible to be detected. Additionally, the developmental stages of spirituality may make a difference in predicting these outcomes such as autonomous motivation and job satisfaction. However, I did not include any measures about stages of spiritual development or other time-relevant measures.

In future research, it is recommended to use other measures with higher psychometric properties. In the current research, the measure of spirituality was the best measure available. Perhaps more reliable and valid measures for spirituality can be found and used in future studies. There are two suggestions so far for realizing this goal. First, a better measure of spirituality that has been well

validated and published can be used. Second, if a better measure cannot be found, researchers can develop new items for measuring spirituality that is tailored to the specific study. These items may partially come from existing measures and may be created by researchers for that study. These new items need to be validated before being used in the analysis. Besides, the one-item measure for the provision of managers' rationales does not meet the standard that can bring valid and reliable results. Therefore, another validated measure can be used to measure this construct. For example, I suggest using the measure for transformational leadership, which is the Multifactor Leadership Questionnaire (LMQ; Bass & Avolio, 2004). At least a part of the MLQ assesses leaders' behaviors of inspirational motivation, which is encouraging their followers by providing meaning and challenge to their followers (Bass & Avolio, 2004). As one of the four dimensions of transformational leadership, inspirational motivation reflects that leaders attempt to change followers' motivation to involve in tasks (Bass, 1985). Inspirational motivation, as a part of transformational leadership, is similar but different from managers' provision of rationales. Transformational leadership present the vision, or the possible ideal future scenarios to the employees to motivate them. In the current research, managers' provision of rationales is understood as actions to make followers know and identify the reasons and importance for why performing specific tasks. The concepts are similar in that the reasons and importance of some work task can be parts of the vision presented to employees. They are still different that transformational

leaders focus on the broad picture of future while managers' provision of rationales focus on detailed explanation of the nature of some specific work tasks.

In the current research, I have conducted the supplementary analysis in which a subset of the spirituality measure was used to test the hypotheses. It turned out that the results were still not significant even the items used had been refined. In the future research, I suggest that more research and practices on item refinement and development for measuring spirituality and other related variables are needed. For example, in the research that needs the measure of spirituality, specific items can be selected and their psychometric properties such as reliability and predictive validity can be tested in a study before the formal study.

In future research, more workplace outcomes can be added to examine the linkages between spirituality and more outcomes. For example, the productivity of employees can be added in the current research to examine whether spirituality and autonomous motivation provide actual performance improvement in the workplace. Another possibility is that the spirituality of employees may be connected to employees' well-being and stress levels. It is possible that highly spiritual employees can have higher well-being and reduce stress compared to those who are not highly spiritual. Other predictors in the workplace can be used in future research to examine factors that may contribute to autonomous motivation. For example, a sense of meaningfulness may be

used as the predictor in a future study. Besides, some environmental factors may guide people to have more autonomous motivation or intrinsic motivation at workplaces. For example, the way that managers or leaders communicate with employees makes a difference (Deci et al., 2017). If managers tell employees that they have to do some tasks and otherwise they will be punished, employees tend not to have autonomous motivation at work. By contrast, if managers tell employees the feedback and expectations of work tasks objectively without any coercion, employees are likely to have autonomous motivation at work. These predictors including environmental factors and personal characteristics can be added in future research.

In future research, I recommend designing and conduct a true experiment or a field experiment about this topic. With an experiment, we can see whether spirituality causes the improvement of autonomous motivation and job satisfaction. For example, participants in a possible study can be assigned to two groups. In the experimental group, participants will be asked to take courses that teach spiritual practices. In the control group, participants will not be asked to take any courses. In a moderate period such as one month, researchers can measure every participant's autonomous motivation, job satisfaction, and other related variables. Researchers can see if there are any significant differences between these variables between the two groups of participants.

In future research, I suggest adding measures that indicate the developmental stages of spirituality for individuals and other time-relevant

measures such as age and the number of years involved in religious practices. This is because I speculate that different stages and degrees to be spiritual may bring diverse outcomes.

### Conclusion

In the current paper, I examined the relationship between spirituality, motivation, and job satisfaction at work. It was hypothesized that spirituality would be positively related to employees' autonomous motivation to engage in work. This relationship is expected to be modified by managers' provision of rationales for engaging in work. Also, autonomous motivation was expected to improve job satisfaction at work. A correlational study was conducted to test the hypotheses. Participants were recruited from the online recruiting system SONA and churches. However, the evidence that spirituality predicted autonomous motivation was not found. The modification effect of managers' provision of rationales was not found either. In future research, better measures should be used, and an experimental study should be conducted.

APPENDIX A  
THEORETICAL MODEL AND TABLES

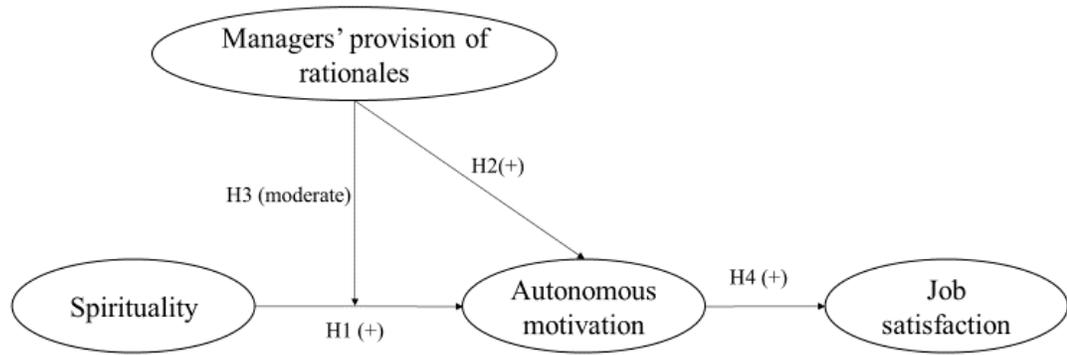


Figure 1: *The Theoretical Model*

**Table 1.**  
*Demographic Information of Participants.*

<b>Variable</b>	<b>Category/ Mean/ SD</b>	<b>Frequency</b>
Gender	Male	39
	Female	207
	Not disclosed	1
Educational background	Advanced degrees (Master's degree and doctoral degree)	8
	Bachelor's degree	15
	2-year college degree	108
	Been to college	76
	High school	11
	Christian	103
	Catholic	90
Religion	Jewish	1
	Buddhist	3
	Atheist	13
	Others	37

*Note.* N = 247.

**Table 2.***Descriptive Statistics and Correlations among Variables.*

<b>Variable</b>	<b>Mean</b>	<b>SD</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>
1. Gender	1.85	.37						
2. Education	5.92	1.17	-.29**					
3. Religion	2.79	2.58	-.00	-.15*				
4. Rationale	3.84	1.03	-.02	.00	-.02			
5. Autonomous motivation	3.71	.72	-.03	.08	-.06	.12		
6. Job satisfaction	3.38	.53	.00	.11	.03	.47**	.25**	
7. Spirituality	3.57	.55	-.115	.26**	-.46**	.04	.10	.03

Note. n=247; Rationale = managers' provision of rationales; \* p < 0.05, \*\* p < 0.01

**Table 3.***The Factor Loadings of Each Item in the First Measurement Model.*

<b>Variable/ Item</b>	<b>Loading</b>
Motivation 1	.602
Motivation 2	.597
Motivation 3	.770
Motivation 4	.746
Motivation 5	.767
Motivation 6	.727
Motivation 7	.806
Motivation 8	.759
Motivation 9	.652
Job Satisfaction 1	.501
Job Satisfaction 2	.396
Job Satisfaction 3	.384
Job Satisfaction 4	.444
Job Satisfaction 5	.672
Job Satisfaction 6	.401
Job Satisfaction 7	.478
Job Satisfaction 8	.595
Job Satisfaction 9	.558
Job Satisfaction 10	.456

Job Satisfaction 11	.462
Job Satisfaction 12	.646
Job Satisfaction 13	.469
Job Satisfaction 14	.752
Job Satisfaction 15	.173
Job Satisfaction 16	.536
Job Satisfaction 17	.534
Job Satisfaction 18	.575
Job Satisfaction 19	.716
Job Satisfaction 20	.323
Job Satisfaction 21	.624
Job Satisfaction 22	.279
Job Satisfaction 23	.526
Job Satisfaction 24	.428
Job Satisfaction 25	.430
Job Satisfaction 26	.554
Job Satisfaction 27	.622
Job Satisfaction 28	.617
Job Satisfaction 29	.389
Job Satisfaction 30	.631
Job Satisfaction 31	.163

Job Satisfaction 32	.647
Job Satisfaction 33	.591
Job Satisfaction 34	.541
Job Satisfaction 35	.730
Job Satisfaction 36	.562
Spirituality 1	.272
Spirituality 2	.606
Spirituality 3	.248
Spirituality 4	.550
Spirituality 5	.836
Spirituality 6	.617
Spirituality 7	.795
Spirituality 8	.065
Spirituality 9	.267
Spirituality 10	.253
Spirituality 11	.710
Spirituality 12	.722
Spirituality 13	.087
Spirituality 14	.025
Spirituality 15	.401
Spirituality 16	.559

Spirituality 17	.638
Spirituality 18	.797
Spirituality 19	.897

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**Table 4.***The Fit Indices of And Comparisons Among Each Measurement Model.*

<i>Model</i>	$\chi^2$	<i>df</i>	$\Delta\chi^2 (\Delta df)$	<i>CFI</i>	<i>TLI</i>	<i>RMSEA</i>	<i>SRMR</i>
Three-factor model	4566.25	1949	Baseline	0.64	0.63	0.08	0.091
Two-factor model	5438.54	1951	873.2 (2)**	0.52	0.51	0.087	0.107
One-factor model	6854.35	1952	1415.8 (1)**	0.33	0.31	0.103	0.136

*Note.*  $\chi^2$ : the chi-square goodness-of-fit statistic, *df*: degree of freedom, CFI = comparative fit index, TLI = Tucker Lewis Index, RMSEA = root mean-square error of approximation; SRMR = standardized root-mean-square residual. \*  $p < 0.05$ , \*\*  $p < 0.01$ .

**Table 5.**

*The Factor Loadings of Each Item in the Confirmatory Factor Analysis for the Supplementary Analysis.*

<b><i>Variable/ Item</i></b>	<b><i>Loading</i></b>
Spirituality 2	.318
Spirituality 4	.310
Spirituality 7	.799
Spirituality 14	.865
Spirituality 18	.275

## APPENDIX B

### SCALES

## Demographic Information

(Created by Myself)

Your age is: \_\_\_\_\_

Your gender is:

Male \_\_\_\_

Female\_\_\_\_\_

Do not like to disclose \_\_\_\_\_

The highest diploma you have is:

High School Diploma \_\_\_\_

Associate Degree \_\_\_\_\_

Been to College \_\_\_\_

Bachelor's Degree \_\_\_\_\_

Master's Degree \_\_\_\_\_

Doctoral Degree \_\_\_\_\_

Others \_\_\_\_\_

The religion and denomination you follow is: \_\_\_\_\_

## Spirituality Involvement and Beliefs Scale

(Hatch, Burg, Naberhaus, & Hellmich, 1998)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I can find meaning in times of hardship.					
2. A person can be fulfilled without pursuing an active spiritual life.					
3. I am thankful for all that has happened to me.					
4. Some experiences can be understood only through one's spiritual beliefs.					
5. A spiritual force influences the events in my life.					
6. My life has a purpose.					
7. My spiritual beliefs continue to evolve.					
8. Probably will not reexamine my spiritual beliefs.					
9. My spiritual life fulfills me in ways that material possessions do not.					
10. Spiritual activities have not helped me develop my identity.					
11. Meditation does not help me feel more in touch with my inner spirit.					
12. I have felt pressured to accept spiritual beliefs that I do not agree with.					
13. I solve my problems without using spiritual resources.					
14. I examine my actions to see if they reflect my values.					

15. During the last WEEK, I meditated... (check one)

\_\_\_ 10 or more times.

\_\_\_ 7-9 times.

\_\_\_ 4-6 times

\_\_\_ 1-3 times.

\_\_\_ 0 times.

Below you will find some questions on several aspects of life. Each question has seven possible answers on a scale from 1 to 5. Choose one that represents what you think and feel. Please, provide only one answer per question.

16. Do you have the feeling that you don't really care about what goes on around you?

\_\_\_ Very seldom.

\_\_\_

\_\_\_

\_\_\_

\_\_\_ Very often.

17. Life is:

\_\_\_ Full of interest.

\_\_\_

\_\_\_

\_\_\_

\_\_\_ Completely routine.

18. Until now your life has had:

\_\_\_ No clear goals or purpose at all.

\_\_\_

\_\_\_

\_\_\_

\_\_\_ very clear goals and purpose.

19. Most of the things you do in the future will probably be:

\_\_\_ Completely fascinating.

\_\_\_

\_\_\_

\_\_\_

\_\_\_ deadly boring.

20. When you think about your life, you are very often:

\_\_\_ Feel how good it is to be alive.

\_\_\_

\_\_\_

\_\_\_

\_\_\_ Ask yourself why you exist at all.

21. Doing the things you do every day is:

A source of deep pleasure and satisfaction.

A source of pain and boredom.

22. You anticipate that your personal life in the future will be:

Totally without meaning or purpose.

Full of meaning and purpose.

23. How often do you have the feeling that there's little meaning in life in the things you do in your daily life?

Very often.

Very seldom or never.

## Interpersonal Scale

(Hatch, Burg, Naberhaus, & Hellmich, 1998)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Spiritual activities have not helped me become closer to other people.					
2. Participating in spiritual activities helps me forgive other people.					
3. When I wrong someone I make an effort to apologize.					
4. When I am ashamed of something I have done, I tell someone about it.					

5. Last MONTH, I participated in spiritual activities with at least one other person... (check one)

- more than 15 times.
- 11-15 times.
- 6-10 times.
- 1-5 times.
- 0 times.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
6. There is a special person who is around when I am in need.					
7. There is a special person with whom I can share my joys and sorrows.					
8. My family really tries to help me.					
9. I get the emotional help and support I need from my family.					
10. I have a special person who is a real source of comfort to me.					
11. My friends really try to help me.					
12. I can count on my friends when things go wrong.					

13. I can talk about my problems with my family.					
14. I have friends with whom I can share my joys and sorrows.					
15. There is a special person in my life who cares about my feelings.					
16. My family is willing to help me make decisions.					
17. I can talk about my problems with my friends.					

## Transcendence Scale

(Hatch, Burg, Naberhaus, & Hellmich, 1998)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. In the future, science will be able to explain everything.					
2. Prayers do not really change what happens.					
3. Believe there is a power greater than myself.					
4. I have a personal relationship with a power greater than myself.					
5. Spiritual activities help me draw closer to a power greater than myself.					

6. During the last WEEK, I prayed... (check one)

\_\_\_ 10 or more times.

\_\_\_ 7-9 times.

\_\_\_ 1-3 times.

\_\_\_ 4-6 times.

\_\_\_ 0 times.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
7. I can Feel God's presence					
8. I can Find comfort in religion					
9. I Feel deep inner peace					
10. I desire to be closer to God					
11. I can Feel God's love					
12. I feel touched by beauty of creation					

## Work Extrinsic and Intrinsic Motivation Scale

(Tremblay, Blanchard, Taylor, Pelletier, & Villeneuve, 2009)

Using the scale below, please indicate to what extent each of the following items corresponds to the reasons why you are presently involved in your work.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Because this is the type of work I chose to do to attain a certain lifestyle.					
2. For the income it provides me.					
3. I ask myself this question, I don't seem to be able to manage the important tasks related to this work.					
4. Because I derive much pleasure from learning new things.					
5. Because it has become a fundamental part of who I am.					
6. Because I want to succeed at this job, if not I would be very ashamed of myself.					
7. Because I chose this type of work to attain my career goals.					
8. For the satisfaction I experience from taking on interesting challenges					
9. Because it allows me to earn money.					
10. Because it is part of the way in which I have chosen to live my life.					
11. Because I want to be very good at this work, otherwise I would be very disappointed.					
12. I don't know why, we are provided with unrealistic working conditions.					
13. Because I want to be a "winner" in life.					
14. Because it is the type of work I have chosen to attain certain important objectives.					

15. For the satisfaction I experience when I am successful at doing difficult tasks.					
16. Because this type of work provides me with security.					
17. I don't know, too much is expected of us.					
18. Because this job is a part of my life.					

## The Work Climate Questionnaire

(Baard, Deci & Ryan, 2004)

The following question is related to your experience with the manager who your most immediate supervisor is. Managers have different styles in dealing with employees, and we would like to know more about how you have felt about your encounters with your manager. Your responses are confidential. Please be honest and candid.

Please indicate to what degree you agree with the following statement:

I feel that my manager provides me the reasons why I need to do the task when my manger assigns a task to me.

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

## Procedural Justice

(Niehoff & Moorman, 1993)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Job decisions are made by the leader/manager in an unbiased manner.					
2. My leader/manager makes sure that all employee concerns are heard before job decisions are made.					
3. To make job decisions, my leader/manager collects accurate and complete information.					
4. My leader/manager clarifies decisions and provides additional information when requested by employees.					
5. All job decisions are applied consistently across all affected employees.					
6. Employees are allowed to challenge or appeal job decisions made by the leader/manager.					

## LMX Scale

(Graen & Uhl-Blen, 1995)

This questionnaire contains items that ask you to describe your relationship with either your leader or one of your subordinates. For each of the items, indicate the degree to which you think the item is true for you by checking one of the responses that appear below the item.

1. Do you know where you stand with your leader [and] do you usually know how satisfied your leader is with what you do?

- Rarely
- Occasionally
- Sometimes
- Fairly often
- Very often

2. How well does your leader understand your job problems and needs?

- Not a bit
- A little
- A fair amount
- Quite a bit
- A great deal

3. How well does your leader recognize your potential?

- Not at all
- A little
- Moderately
- Mostly
- Fully

4. Regardless of how much formal authority your leader has built into his or her position, what are the chances that your leader would use his or her power to help you solve problems in your work?

- None
- Small
- Moderate
- High
- Very high

5. Again, regardless of the amount of formal authority your leader has, what are the chances that he or she would "bail you out" at his or her expense?

- None
- Small

- Moderate
- High
- Very high

6. I have enough confidence in my leader that I would defend and justify his or her decision if he or she were not present to do so.

- Strongly disagree
- Disagree
- Neutral
- Agree
- Strongly agree

7. How would you characterize your working relationship with your leader?

- Extremely ineffective
- Worse than average
- Average
- Better than average
- Extremely effective

## Job Satisfaction Survey

Spector (1985)

Please answer the following questions by checking your response.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. I feel I am being paid a fair amount for the work I do.					
2. There is really too little chance for promotion on my job.					
3. My supervisor is quite competent in doing his/her job.					
4. I am not satisfied with the benefits I receive.					
5. When I do a good job, I receive the recognition for it that I should receive.					
6. Many of our rules and procedures make doing a good job difficult.					
7. I like the people I work with.					
8. I sometimes feel my job is meaningless.					
9. Communications seem good within this organization.					
10. Raises are too few and far between.					
11. Those who do well on the job stand a fair chance of being promoted.					
12. My supervisor is unfair to me.					
13. The benefits we receive are as good as most other organizations offer.					
14. I do not feel that the work I do is appreciated.					
15. My efforts to do a good job are seldom blocked by red tape.					
16. I find I have to work harder at my job because of the					

incompetence of people I work with.					
17. I like doing the things I do at work.					
18. The goals of this organization are not clear to me.					
19. I feel unappreciated by the organization when I think about what they pay me.					
20. People get ahead as fast here as they do in other places.					
21. My supervisor shows too little interest in the feelings of subordinates.					
22. The benefit package we have is equitable.					
23. There are few rewards for those who work here.					
24. I have too much to do at work.					
25. I enjoy my coworkers.					
26. I often feel that I do not know what is going on with the organization.					
27. I feel a sense of pride in doing my job.					
28. I feel satisfied with my chances for salary increases.					
29. There are benefits we do not have which we should have.					
30. I like my supervisor.					
31. I have too much paperwork.					
32. I don't feel my efforts are rewarded the way they should be.					
33. I am satisfied with my chances for promotion.					
34. There is too much bickering and fighting at work.					
35. My job is enjoyable.					
36. Work assignments are not fully explained.					

## Life Satisfaction

(Diener, Emmons, Larsen, & Griffin, 1985)

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. In most ways my life is close to my ideal.					
2. The conditions of my life are excellent.					
3. I am satisfied with my life.					
4. So far I have gotten the important things I want in life.					
5. If I could live my life over, I would change almost nothing.					

## Openness to Experience

Goldberg (1992)

Please answer the following questions by checking your response.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. Is original, comes up with new ideas					
2. Is curious about many different things					
3. Is ingenious, a deep thinker					
4. Has an active imagination					
5. Is inventive					
6. Values artistic, aesthetic experiences					
7. Prefers work that is routine					
8. Likes to reflect, play with ideas					
9. Has few artistic interests					
10. Is sophisticated in art, music, or literature					

## Mindset

Dweck (2006)

Please answer the following questions by checking your response.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
1. You have a certain amount of intelligence, and you can't really do much to change it.					
2. Your intelligence is something about you that you can't change very much.					
3. You can learn new things, but you can't really change your basic intelligence.					

APPENDIX C  
INFORMED CONSENT

## INFORMED CONSENT

**PRINCIPLE INVESTIGATORS:** You are invited to participate in a study being conducted by Tong Yao and supervised by Dr. Ismael Diaz of the Psychology Department at California State University of San Bernardino.

**APPROVAL STATEMENT:** This study has been approved by the Department of Psychology Institutional Review Board Sub-Committee of the California State University, San Bernardino. The University requires that you give your consent before participating in this study.

**DESCRIPTION:** You will be asked to complete a questionnaire, which includes information about your gender, age, race/ethnicity, education level. Also, there will be questions based on spirituality, managers' provision of rationales, autonomous motivation, and job satisfaction. This will take you 30-40 minutes; no more than 45 minutes.

**RISKS AND BENEFITS:** The risks associated with participating in this study are minimal. There is no direct benefit to you, but we will gain further understanding of how spirituality, and supervisors' provision of rationale influence on autonomous motivation and job satisfaction, also the relationship among these variables.

**COMPENSATION:** The study involves no direct benefit to you as a participant. There is no direct compensation, however, participants may earn 1 online unit, at the discretion of their professors.

**PARTICIPATION:** Your participation in this study is voluntary. You are free to withdraw your participation at any time during the study. You are also free to skip any questions you feel uncomfortable answering.

**CONFIDENTIALITY:** As no identifying information will be connected with your responses in this study, all of your responses are completely anonymous. Only the primary investigator and faculty supervisor will have access to the results of this study and these will only be reported as group data, not individual responses. The data will be evaluated, but no connection between your identity and the results will be made.

**RESULTS:** Access to all of your responses is limited to the investigators and faculty supervisor. If we publish the results of this study, we will report only aggregate (group) data; we will not report individual responses. The following groups may need to review study records, but the records will not be linked to your identity: Institutional oversight review offices at CSUSB and federal regulators. All data will be destroyed five years after publication.

**OPPORTUNITY TO ASK QUESTIONS:** Any questions regarding this study can be answered by contacting Professor Ismael Diaz ([Ismael.diaz@csusb.edu](mailto:Ismael.diaz@csusb.edu) or 909-537-5598). You may also contact the CSUSB Psychology department Michael Gillespie at [mgillesp@csusb.edu](mailto:mgillesp@csusb.edu)

**CONFIRMATION STATEMENT:** I have read the information above and agree to participate

in your study. By selecting the option to continue, I affirm that I understand the above information and that I am taking part in this study voluntarily with the option to end my participation at any time with no penalty or negative consequence for voluntarily ending my participation. I also acknowledge that I am at least 18 years of age.

By clicking "Next" you are voluntarily agreeing to participate in the study.

APPENDIX D  
INSTITUTIONAL REVIEW BOARD APPROVAL

September 24, 2019

**CSUSB INSTITUTIONAL REVIEW BOARD**

Protocol Change/Modification

IRB-FY2019-296

Status: Approved

Yao Tong Ismael Diaz  
CSBS - Psychology, Users loaded with unmatched Organization affiliation.  
California State University, San Bernardino  
5500 University Parkway  
San Bernardino, California 92407

Dear Yao Tong Ismael Diaz:

The protocol change/modification to your application to use human subjects, titled "The Influence of Spirituality on Motivation in the Workplace" has been reviewed and approved by the Chair of the Institutional Review Board (IRB). A change in your informed consent requires resubmission of your protocol as amended. Please ensure your CITI Human Subjects Training is kept up-to-date and current throughout the study.

**Approved change: recruitment of participants through SONA for 1 unit**

You are required to notify the IRB of the following by submitting the appropriate form (modification, unanticipated/adverse event, renewal, study closure) through the online Cayuse IRB Submission System.

- 1. If you need to make any changes/modifications to your protocol submit a modification form as the IRB must review all changes before implementing in your study to ensure the degree of risk has not changed.**
- 2. If any unanticipated adverse events are experienced by subjects during your research study or project.**
- 3. If your study has not been completed submit a renewal to the IRB.**
- 4. If you are no longer conducting the study or project submit a study closure.**

You are required to keep copies of the informed consent forms and data for at least three years.

If you have any questions regarding the IRB decision, please contact Michael Gillespie, Research Compliance Officer. Mr. Gillespie can be reached by phone at (909) 537-7588, by fax at (909) 537-7028, or by email at [mgillesp@csusb.edu](mailto:mgillesp@csusb.edu). Please include your application identification number (above) in all correspondence.

Best of luck with your research.

Sincerely,

*Donna Garcia*

Donna Garcia, Ph.D, IRB Chair  
CSUSB Institutional Review Board

DG/MG

## REFERENCES

- Andrew. (2018, March 15). *You need 16 times the sample size to estimate an interaction than to estimate a main effect*. statmodeling.stat.columbia.edu.
- Bass, B. M. (1985). *Leadership and performance beyond expectations*. Collier Macmillan.
- Bass, B., & Avolio, B. (2004). *Multifactor Leadership Questionnaire Manual (Third Edition)*. Menlo Park, CA: Mind Garden, Inc.
- Baard, P. P., Deci, E. L., Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34*, 2045-2068.
- Brown, J. (1992). Corporation as community: A new image for a new era. *New Traditions in Business, 123-139*.
- Deci, E. L. (1972). The effects of contingent and noncontingent rewards and controls on intrinsic motivation. *Organizational Behavior and Human Performance, 8(2)*, 217-229.
- Deci, E. L., Olafsen, A. H., & Ryan, R. M. (2017). Self-determination theory in work organizations: The state of a science. *Annual Review of Organizational Psychology and Organizational Behavior, 4*, 19-43.
- Deci, E., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. Springer Science & Business Media.

- Fernet, C., Gagné, M., & Austin, S. (2010). When does quality of relationships with coworkers predict burnout over time? The moderating role of work motivation. *Journal of Organizational Behavior*, 31(8), 1163-1180.
- Foss, N. J., Minbaeva, D. B., Pedersen, T., & Reinholt, M. (2009). Encouraging knowledge sharing among employees: How job design matters. *Human Resource Management*, 48(6), 871-893.
- Hackman, J. R., & Oldham, G. R. (1975). Development of the job diagnostic survey. *Journal of Applied psychology*, 60(2), 159-170.
- Hatch, R. L., Burg, M. A., Naberhaus, D. S., & Hellmich, L. K. (1998). The Spiritual Involvement and Beliefs Scale: Development and testing of a new instrument. *The Journal of Family Practice*.
- Hatch, R. L., Burg, M. A., Naberhaus, D. S., & Hellmich, L. K. (1998). The Spiritual Involvement and Beliefs Scale: Development and testing of a new instrument. *Journal of Family Practice*, 46, 476-487.
- Ilardi, B., Leone, D., Kasser, T., & Ryan, R. (1993). Employee and supervisor ratings of motivation: Main effects and discrepancies associated with job satisfaction and adjustment in a factory setting. *Journal of Applied Social Psychology*, 23(21), 1789-1789.
- Karakas, F. (2010). Spirituality and performance in organizations: A literature review. *Journal of Business Ethics*, 94(1), 89-106.
- Keaveney, S., & Nelson, J. (1993). Coping with organizational role stress: Intrinsic motivational orientation, perceived role benefits, and

- psychological withdrawal. *Journal- Academy of Marketing Science*, 21(2), 113-113.
- Koenig, H.G., McCullough, M. and Larson, D.B. (2000). *Handbook of Religion and Health*. Oxford University Press, New York, NY.
- Kuvaas, B. (2008). A test of hypotheses derived from self-determination theory among public sector employees. *Employee Relations*, 31(1), 39-56.
- Locke, E.A. (1976). The nature and causes of job satisfaction. In M.D. Dunnette (Ed.), *Handbook of Industrial and Organizational Psychology* (pp.1297-1349). Chicago: Rand McNally.
- Loo, M. K. L. (2017). Spirituality in the Workplace: Practices, Challenges, and Recommendations. *Journal of Psychology and Theology*, 45(3), 182-204.
- Marques, J. F. (2006). Removing the blinders: A phenomenological study of US based MBA students' perception of spirituality in the workplace. *Journal of American Academy of Business*, 8(1), 55-61.
- McCarty, W. B. (2007). Prayer in the workplace: Risks and strategies to manage them. *Business Renaissance Quarterly*, 2(1), 97.
- Mitroff, I. I., & Denton, E. A. (1999). *A spiritual audit of corporate America: A hard look at spirituality, religion, and values in the workplace* (Vol. 140). Jossey-Bass.
- Ottaway, R. N. (2003). Defining spirituality of work. *International Journal of Value-Based Management*, 16(1), 23-35.

- Richer, S. F., Blanchard, C., & Vallerand, R. J. (2002). A motivational model of work turnover. *Journal of Applied Social Psychology, 32*(10), 2089-2113.
- Richer, S., Blanchard, C., & Vallerand, R. (2002). A motivational model of work turnover. *Journal of Applied Social Psychology, 32*(10), 2089-2113.
- Ryan, R. M., & Connell, J. P. (1989). Perceived locus of causality and internalization: Examining reasons for acting in two domains. *Journal of Personality and Social Psychology, 57*(5), 749.
- Spector, P. E. (1985). Measurement of human service staff satisfaction: Development of the Job Satisfaction Survey. *American Journal of Community Psychology, 13*, 693-713.
- Steffler, D. J., Murdoch, K., & Gosselin, J. (2014). Impact of spirituality on meaningful life: A cross-sectional study. In *First Congress on the Construction of Personal Meaning, Vancouver, BC*.
- Tremblay, M. A., Blanchard, C. M., Taylor, S., Pelletier, L. G., & Villeneuve, M. (2009). Work Extrinsic and Intrinsic Motivation Scale: Its value for organizational psychology research. *Canadian Journal of Behavioural Science/Revue Canadienne Des Sciences Du Comportement, 41*, 213-226.
- Van den Broeck, A., Ferris, D. L., Chang, C. H., & Rosen, C. C. (2016). A review of self-determination theory's basic psychological needs at work. *Journal of Management, 42*, 1195-1229.