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Self-Regulation: An 'Active Ingredient' in the Spirituality-Health Relationship

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An 'Active Ingredient' in the Spirituality-Health Relationship

A Thesis

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Abstract

Recent research suggests that spirituality promotes physical well-being. Explaining this relationship proves difficult. This cross-sectional study was conducted to test whether self-regulatory ability acts as a mediator between spirituality and health. It has been proposed that high levels of spirituality are related to strong self-regulation, which in turn should be related to better physical well-being. To address this hypothesis, a questionnaire containing validated measures of the targeted constructs was administered to a sample of 78 Butler students. Additionally, some ancillary data were collected concerning participants' level of religiosity. Regression-based mediational analyses indicated that self-regulatory ability does indeed function as a partial mediator of the spirituality-health relationship. The information resulting from the current study sheds much needed light on the processes that may allow spirituality to promote health.

Key words: Health, Spirituality, Self-Regulation

Self-Regulation: An 'Active Ingredient' in the Spirituality-Health Relationship

Background

Spirituality has become a topic of great interest in health research. Although there is not a clear consensus on how to define spirituality, most definitions involve a connection with a higher or transcendent power capable of affecting an individual's life (Kapuscinski & Masters, 2010; Zullig, Ward, & Horn, 2006; Buxant, Saroglou, & Tesser, 2010). The "spiritual way" can be learned from others or on one's own, but is generally regarded as something distinct from being religious, which involves codified beliefs, set rituals, and places of worship. More generally, Zinnbauer and Pargament (2005) conceive of spirituality as a multidimensional part of human experience. They suggest that spiritually focused persons are motivated to attempt to reach a sacred or existential life goal. This goal could be many different things, such as finding "meaning, wholeness, inner potential, and interconnections" with other individuals in the world or something as straightforward as searching for universal truth. Similarly, Pargament and Sweeney (2011) define spirituality as an individual's journey to reveal and recognize their "essential selves and higher order aspirations". Most scholars appear to believe that spirituality involves recognizing or pursuing a transcendent connection with a divine power that will aid in the individual's search for truth and meaning.

One of the primary reasons that spirituality has attracted so much recent attention from researchers is because of its ability to predict physical health. Numerous studies consistently show positive correlations between spirituality and health (Thoresen & Harris, 2002; Edmondson, Lawler, Jobe, Younger, Piferi, & Jones, 2005; Hill, Burdette, Ellison, & Musick, 2006). For example, Nelms, Hutchins, Hutchins, and Pursley (2007)

found a statistically significant positive correlation between self-reported spirituality and specific health risks and behaviors among college students. They found that healthy students were more likely to practice spirituality and to incorporate it into their daily activities. These students reported more life satisfaction and less stress, suggesting enhanced emotional health due to spirituality. Use of alcohol, tobacco, and other substances was also diminished in these same participants. Similarly, Musick, Traphagan, Koenig, and Larson (2000) reviewed hundreds of articles and found spirituality consistently predicted: (1) lower mortality rates, (2) better self-reported health, (3) fewer cardiovascular or cancer risks, (4) higher levels of functioning, and (5) increased abstinence from caffeine, tobacco, and other potentially harmful substances.

In a different review article, Larson and Larson (2003) concluded spirituality promotes health and extends life. They suggested that spirituality could provide the practicing individual with coping resources and claimed that such resources can powerfully affect health. For example, they suggested that such resources could be used to reduce substance abuse, depression, and suicide, and could even speed up surgical recovery. As such, spirituality could conceivably serve as a target for health interventions. However, despite some interesting speculations (e.g., Larson & Larson, 2003), how and why spirituality may promote health remains largely unknown (Kapogiannis, Barbey, Su, Zamboni, Krueger, & Grafman, 2009). In other words, it is currently unclear what factors mediate the relationship between spirituality and health.

A Potential Mediator: Self-regulation

Self-regulatory ability has recently been identified as a potential mediator of the spirituality-health relationship (Koole, McCullough, Kuhl, & Roelofsma, 2010). Self-

regulation refers to the ability to control one's impulses and remain focused on the selection, pursuit, and management of one's goals (McCullough & Willoughby, 2009). In this context, self-regulatory ability is often equated with the concept of self-control or will power. Although self-regulatory ability can be conceptualized as a trait, at least some research has indicated that it can be changed or increased. For example, Muraven, Baumeister, and Tice (1999) have found that practicing simple acts such as sitting up straight over the course of several weeks can actually strengthen will power and build self-regulatory resources.

Spirituality and Self-Regulation

In a comprehensive literature review, McCullough and Willoughby (2009) suggested that spirituality builds self-regulatory resources. For example, individuals who are spiritual are likely to follow certain practices, including those related to diet, exercise, meditation, and prayer (Musick et al., 2000). Consistently adhering to these practices may increase self-regulatory ability. Although few studies have directly addressed this hypothesized relationship, several investigations provide support for this idea. After reviewing the literature, McCullough and Willoughby (2009) reported that self-monitoring and self-control are correlated with spirituality, as is goal accomplishment. Wenger (2007) reported a study in which subjects participated in two experiments. Both involved assessing the participants' spiritual and religious beliefs after which participants attempted to achieve some specific goals. The results demonstrated more pronounced goal pursuit in the strongest of believers, which Wenger (2007) interpreted as evidence of stronger goal activation and better self-control.

Beliefs in a higher power may also facilitate self-regulatory tendencies that are “flexible, efficient, and largely unconscious” (Koole et al., 2010). Koole et al. (2010) proposed that self-regulation is increased in individuals who internalize their faith/spirituality and strive for high standards. Although adhering to specific practices (e.g., meditating twice a day) should build self-regulatory ability, it could also be the case that constantly trying to lead a spiritual life might lead to similar outcomes. For example, consistently exerting self-discipline to control extreme emotions, to focus on positive aspects of life, or to be on the lookout for ways to connect with the divine might also build self-regulatory capacity.

Self-Regulation and Physical Health

The foregoing suggests that being spiritual builds self-regulatory ability. Perhaps there is evidence that greater self-regulation could result in better health. Multiple investigations have provided support for this link.

By “altering the self to fit the world”—via self-regulation—one can live a healthier life (Tangney, Baumeister, & Boone, 2004). Tangney et al. (2004) developed the Total Self-Control Scale, which was distributed to participants along with the Brief Self-Control Scale. Both measured dispositional self-control (i.e., self-regulatory ability). The survey asked about performance in various life domains requiring self-regulatory ability. Tangney and her colleagues predicted high self-control would lead to better performance (i.e., grade point average or GPA) and better “impulse regulation.” Both hypotheses were supported: Higher self-control led to less procrastination, improved GPA, and fewer impulse control problems. For example, high self-regulators were more apt to manage their impulses and to keep to their diets and exercise routines. These

findings suggest that self-regulation can improve health and well-being by overriding and interrupting undesired and impulsive tendencies, such as binge eating and drinking, smoking, or avoiding exercise (Tangney et al., 2004). Greater self-control was also linked to better psychological adjustment and lower rates of psychopathological symptoms.

Researchers such as Muraven et al. (1999) found self-control to be much like a muscle that becomes better developed from consistent exercise. Just as building muscles improves health, so does building self-regulatory ability. For example, building self-control leads to a decrease in vulnerability when faced with immediate demands or cravings (Muraven et al., 1999). Baumeister, Vohs, and Tice (2007) suggested that building self-control should reduce a wide range of behavioral and impulse-control problems, including overeating, alcohol and drug abuse, smoking, crime and violence, overspending, sexually impulsive behavior and unwanted pregnancy. Finally, Carver and Scheier (1982) suggested that self-control should also lead to better health by fostering compliance with medical regimens. Patients who build or have high levels of self-regulatory resources will take their medications as directed, visit the doctor regularly, and engage in other medical behaviors that will improve health.

Does Self-Regulatory Ability Mediate the Spirituality-Health Relationship?

As described above, a large number of studies provide indirect support for the hypothesis that self-regulatory ability mediates the relationship between spirituality and physical health. However, few studies have directly addressed this idea, and none have examined this relationship in young adult samples. Moreover, most prior work in this context has focused on religiosity, as opposed to spirituality. Although this focus on

religiosity has provided some critical insights, the nature of faith in the Divine in the United States is changing, especially among younger individuals. People appear to be moving away from adherence to specific religions and gravitating toward more individual and less institutionalized practices (Nelms et al., 2007; Saucier & Skrzypinska, 2006). Bregman (2006) has described this shift as a longtime quest for “interior human capacity and link to ultimacy and transcendence.” Because of this shift, research that focuses more specifically on spirituality per se, as opposed to religiosity, may provide insights more relevant for younger individuals.

Thesis Description

The goal of this study was to examine the relationship between spirituality, self-regulation, and overall physical health using survey methodology. The resulting data were used to test whether self-regulation mediates the relationship between spirituality and physical health. It was hypothesized that high levels of spirituality would be positively associated with strong self-regulation, which in turn would positively predict physical health.

Method

Participants

Seventy-eight participants were recruited from psychology classes offered by the Department of Psychology at Butler University in Indianapolis. All potential participants were asked if they would like to partake in a questionnaire study regarding their lifestyle and health. Participants were offered extra credit for participation.

Participants' ages ranged from 18 to 23 (average age = 20); the majority of participants were in their fourth year of college. Seventy-six percent were female. Of the

78 participants, 91% were Caucasian, 8% were African American, and 1% were Hispanic.

Procedure

The current survey study employed a cross-sectional design, using a combination of previously validated and newly developed self-report measures to assess the study's primary variables, which were: 1) spirituality, 2) self-regulatory ability, and 3) physical health. All items are listed in the Appendix. Prior to any data collection, Institutional Review Board (IRB) approval was requested and acquired in order to study human participants. Most questionnaires were distributed to students in class and returned the following class period.

Spirituality

Because spirituality is operationalized and measured in a great variety of ways (Seybold & Hill, 2001), a critical part of the current study was identifying measures that were theoretically appropriate for the investigation (Miller & Thoresen, 2003). Reviewing the literature revealed three possible approaches to assessing spirituality, resulting in three different measures. First, a measure of general spirituality was identified. Jöreskog and Sörbom (1993) developed a scale that contains items such as "My spiritual beliefs affect every aspect of my life." The items are answered using a 10-point Likert scale. In order to reduce the amount of time it would take to complete the questionnaire, I selected five items from the full scale to use in the current investigation.

Next, to measure how often individuals spend time practicing spiritual activities, I developed three new items. A sample item from the spiritual activities scale is "I set aside

time each day for reflection, meditation or other spiritual practices.” Items are answered on a 10-point Likert scale and are intended to assess behaviors related to spirituality.

Finally, because spiritual/divine forces are often perceived as directing or guiding by those who define themselves as spiritual, I also wanted to measure this aspect of spirituality, hereafter referred to as spiritual force. After failing to find an appropriate measure in the literature, I again developed my own scale. Three items answered on a 7-point, Likert scale assesses spiritual force. An example item is “A higher power ensures that all things happen for a reason.”

Self-Regulatory Ability

Self-regulation was assessed using the Brief Self-Control Scale (BSCS; Tangney et al., 2004). The BSCS is a 13-item, previously validated measure of self-regulatory ability that uses a Likert response scale. In a recent sample of Butler University students, it exhibited a high level of internal reliability ($\alpha = .83$). A sample item is “I am able to work effectively toward long-term goals.”

Physical Health

The four physical health items used in the current investigation have been extensively used in prior work by members of Dr. Brian Giesler’s health-psychology lab at Butler University. They include the following:

1. **Interference Due to Illness** – How often sickness/health concerns interfered with desired activities during the past month was assessed using a single, eight-point Likert item anchored by “Never” and “Always” (theoretical range 1 – 8).
2. **Doctor Visits** – Participants self-reported the number of health care provider visits during the past month.

3. **Symptom Count** - Participants reported the presence of 11 common illness symptoms (e.g., runny nose, cough, etc.) during the past two weeks and received one point in each reported symptom (theoretical range = 0 - 11).
4. **Global Physical Health** - Global physical health was assessed using a single, 11-point item anchored by "Poor" and "Absolutely Perfect" (theoretical range = 0 - 10).

Typically, these four measures correlate with one another and are usually standardized and then combined to form a composite measure of health.

Ancillary Measures of Religiosity

Religiosity was assessed in order to investigate whether any effects attributable to spirituality could be accounted for by religiosity since the two are often highly correlated. To assess religiosity, Hoge's (1972) measure of intrinsic religiosity was used. The nine items comprising this measure assess general commitment to one's religious faith. Scores from Hoge's scale tend to correlate with health measures. A sample item from this scale is "My faith sometimes restricts my actions." Additionally, frequency of attendance at religious services was also used as a second measure of religiosity. This latter variable was assessed with a single item on a nine-point scale anchored with "Never" and "Several times a week."

Several other exploratory measures were also included in the questionnaire but are not germane to the research question addressed by this thesis.

Results

Preliminary Analyses

Preliminary data screening analyses uncovered an outlier more than three standard deviations below the mean on the single-item measure of global health. That individual's results were removed from the data, leaving a sample of 77 participants. Some additional decisions were made to reduce the number of variables examined and to simplify the planned mediational analyses, as described below.

Measuring Spirituality

General spirituality, spiritual activities, and spiritual force demonstrated adequate levels of internal reliability, Cronbach's alpha = .58, .90, and .69, respectively. Although the internal reliability of general spirituality was somewhat lower than desired, I opted to keep this scale because its items were from a previously validated measure.

Correlations between the three spirituality measures were also computed. General spirituality was positively correlated with spiritual activities, $r(75) = .79, p = .00$, as well as spiritual force, $r(75) = .63, p = .00$. Spiritual activities was also highly correlated with spiritual force, $r(75) = .66, p = .00$. Although all three scales are somewhat correlated, which supports their convergent validity, I opted to analyze them separately because they each assess theoretically distinct aspects of spirituality.

Measuring Self-Regulation

The self-regulation scale proved internally reliable, with Cronbach's alpha = .79.

Measuring Health

The global health item, symptom count, interference item and doctor visits item were standardized using z-score transformations and then subjected to a scale reliability

analysis. This analysis indicated that combining all four measures would produce a scale with poor internal reliability. Removing global health improved the reliability of the scale to acceptable levels; thus, global health was kept separate. The other three items were averaged together to form a composite health measure (Cronbach's alpha = .54). Because of the way the health measures are scaled, higher values always indicate *worse* health.

Bivariate Correlations Between Target Variables

As hypothesized and demonstrated in Table 2 (see Appendix), the spirituality and health measures were (mostly) correlated with each other. General spirituality was correlated with global health $r(75)=-.37, p=.00$ and marginally correlated with health composite $r(75)=-.22, p=.06$. The spiritual activities variable was significantly correlated with global health $r(75)=-.38, p=.00$, but not with the health composite $r(75)=-.17, p=.13$. Force was the opposite, correlating with health composite $r(75)=-.36, p=.00$, but not with global health $r(75)=-.17, p=.14$. In general, spirituality correlated with health; even when the correlations were not significant, they were in the correct direction. As a reminder, these correlations were negative because health items were scaled such that higher scores indicate worse health. Also as hypothesized, self-regulatory ability was correlated with all measures of spirituality and health in the hypothesized direction.

Self-Regulation Mediates the Spirituality-Health Relationship

Although the pattern of correlations supports the general hypotheses, the regression procedures described by Baron and Kenny (1986) were used to establish mediation more definitively. Mediation analyses were performed separately for the three significant correlations found between spirituality and health reported above. Self-

regulatory ability was tested to determine whether it functioned as a mediator in each relationship.

More specifically, analyses were performed to examine whether self-regulatory ability mediated, respectively, the effects of: (1) general spirituality on global health, (2) spiritual activities on global health, and (3) spiritual force on composite health. Because the correlations indicated self-regulatory ability was associated significantly with all measures of spirituality, this step was skipped in the mediational analyses reported below (see Table 2 in Appendix).

1. General Spirituality on Global Health

First, I regressed global health onto general spirituality. Consistent with the correlational findings, general spirituality was a significant ($b = -.37, p = .001$) predictor of global health. Next, I added self-regulatory ability to the model, regressing global health onto general spirituality and self-regulatory ability. Consistent with its hypothesized mediational function, self-regulatory ability was a significant predictor of global health ($b = -.25, p = .03$). Just as importantly, the beta weight associated with general spirituality ($b = -.28, p = .01$) decreased when self-regulatory ability was added. A Sobel z-test conducted on the difference indicated the reduction was marginally significant (Sobel $z = 1.84, p = .06$), suggesting that self-regulatory ability at least partially mediated the relationship between general spirituality and global health.

2. Spiritual Activities on Global Health

As before, I regressed global health onto the spirituality predictor variable, in this case, spiritual activities. Consistent with the correlational findings, the

variable, spiritual activities, was a significant ($b = -.38, p = .001$) predictor of global health. Next, I added self-regulatory ability to the model, regressing global health onto spiritual activities and self-regulatory ability. Consistent with its hypothesized mediational function, self-regulatory ability was a significant predictor of global health ($b = -.25, p = .03$). Just as importantly, the beta weight associated with spiritual activities ($b = -.29, p = .01$) decreased when self-regulatory ability was added. A Sobel z-test conducted on the difference indicated the reduction was marginally significant (Sobel $z = 1.84, p = .07$), suggesting that self-regulatory ability at least partially mediated the relationship between spiritual activities and global health.

3. Spiritual Force on Composite Health

For this analysis, I first regressed the health composite onto spiritual force. Consistent with the correlational findings, spiritual force was a significant ($b = -.35, p = .002$) predictor of the health composite. Next, I added self-regulatory ability to the model, regressing global health onto spiritual force and self-regulatory ability. Unfortunately, self-regulatory ability was not a significant predictor of global health ($b = -.16, p = .18$) in this regression model. The beta weight value was not significant, which indicates that one of the key conditions for establishing mediation (i.e., that the mediator must predict the outcome variable after controlling for the initial predictor variable) was not met. Therefore, self-regulatory ability cannot mediate the relationship between spiritual force and health.

Ancillary Analyses

To determine whether religiosity might be accounting for the observed effects, the following analyses were conducted. In one set of analyses, intrinsic religiosity was added to the regression models described above; in the other set, religious attendance was added. The p-values associated with spirituality, self-regulatory ability and health remained significant and did not substantially change, suggesting that religion did not account for spirituality's impact on self-regulatory ability and health. Therefore, it can be concluded that the above results are probably due to some unique aspect of spirituality, and that there is something special about being spiritual, apart from being religious.

Discussion

Evaluation of Findings

As the correlational results indicated, participants who were more spiritual reported greater self-regulatory ability and (generally) better health. Each measure of spirituality was associated with at least one of the two measures of health used in the current investigation. These same analyses also indicated that self-regulatory ability consistently predicted health. Together, this pattern of correlational findings provided initial support for my hypothesis that self-regulation mediates the spirituality-health relationship.

Subjecting the data to more rigorous, regression-based mediational analyses revealed that self-regulation does indeed appear to at least partially mediate the spirituality-health relationship. It should be noted that, although the Sobel test was only marginally significant in two of the three analyses, the Sobel test is very conservative. Using a larger sample or more precise measures may have provided the additional power

needed to attain conventional levels of significance. The fact that I used a shortened version of a validated scale to assess general spirituality and developed my own measures to assess spiritual activities and spiritual force may have contributed to this tendency, as suggested by the lower-than-ideal alpha levels associated with some of the scales.

Another finding of note was that religiosity does not appear to account for the previously described relationships. Adding religiosity to the regression models essentially had no effect, indicating that spirituality likely exerts unique effects on self-regulatory ability and health. This is important to demonstrate given the shift that is occurring in the religious beliefs of young adults in this country. Younger adults seem to be gravitating away from institutionalized religions to more spirituality based approaches to faith (Bregman, 2006; Nelms et al., 2007; Saucier & Skrzypinska, 2006).

Finally, it is unclear why marginally significant evidence for the role of self-regulation as a mediator is found in the first two mediational analyses (i.e., those examining the general spirituality-global health relation and the spiritual activities-global health relation) but not in the third analysis, which addresses the spiritual force-composite health relation. One explanation, alluded to earlier, is that the measures chosen for some of these constructs were not optimal, spirituality items more so than health (as seen by low Cronbach alphas). More reliable measures may provide a more consistent pattern of findings. Alternatively, only certain aspects of spirituality may be important when considering spirituality's impact on health. The fact that spiritual activities predicted self-regulatory ability, which in turn, predicted health, suggests that the mechanism I proposed in the Introduction may be correct. Being spiritual may cause one to practice spiritual activities (e.g., meditating/praying regularly, monitoring and

controlling behavior to ensure it meets spiritual standards, etc.). Adhering to these activities may build self-regulatory resources that, in turn, help maintain and improve health. If this is true, then the practicing of spiritual activities may be the 'active ingredient' that builds self-regulatory resources and drives the spirituality-health connection.

Limitations

The lack of full mediation could have resulted in part from the fact that spirituality remains a difficult concept to define or measure. History has proven the difficulties of defining spirituality. Ironically, spiritual believers themselves often find it difficult to define spirituality (Miller & Thoresen, 2003), a finding that was highlighted by the fact that much of the time devoted toward this research was spent exploring the spirituality literature in order to discover an appropriate definition. Therefore, a potentially large limitation of the current study is an inaccurate or incomplete operationalization of spirituality, although I attempted to offset this weakness by employing multiple measures of spirituality.

This study also focused on physical health, but relied upon fairly simple, self-report measures to assess this complex construct. More diverse measures may have provided more accurate assessments of participants' health. For example, physical measurements such as height and weight could have been obtained in order to compute the body mass index (BMI) of each participant. Although the measures employed in the current study have been shown to work well in prior research, the fact that the four measures of health did not all correlate suggests that they may require improvement.

The relatively small sample included in this study is also a limitation. A larger sample would have provided more power to detect relationships. Moreover, because the sample was a convenience sample, the results may not generalize beyond Butler University undergraduate psychology majors. However, Butler psychology majors are not particularly different from most Butler students or undergraduates, in general.

Finally, the cross-sectional nature of the research limits the making of causal statements. Although the results support the mediational role of self-regulatory ability, longitudinal studies will be needed to make more definitive assertions about how or whether being spiritual builds self-regulatory resources and, consequently, health. The data are consistent with this hypothesized process but do not provide definitive support.

Conclusion

The current investigation is the first of its kind to provide evidence that self-regulatory ability mediates the relationship between spirituality and health in young adults. The next step will be to conduct a longitudinal investigation capable of providing a stronger test of this hypothesis. This investigation would ideally include a larger and more diverse sample, including older adults, and a greater variety of spirituality and physical health measures. These improvements should allow more definitive statements to be made concerning whether self-regulatory mechanisms impact the ways in which spirituality affects health.

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Appendix

Table 1

Means and Standard Deviations Table

Variable	<i>M</i>	<i>SD</i>
Race	4.71	0.92
College Year	2.64	1.26
Gender	1.28	0.60
Age	20.01	1.44

Table 2

Summary of Pearson Correlations Among the Tested Variables

Measure	1	2	3	4	5	6
1. General Spirit	---	.79**	.63**	.35**	-.37**	-.22
2. Spirit Activities	.79**	---	.66**	.36**	-.38**	-.17
3. Spiritual Force	.63**	.66**	---	.31**	-.17**	-.36**
4. Self-Regulation	.35**	.36**	.31**	---	-.35**	-.23*
5. Global Health	-.37**	-.38**	-.17	-.35**	---	.14
6. Health Composite	-.22	-.17	-.36**	-.23*	.14	---

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Demographic Items

1. In years, what is your current age? _____ (Please write your age on the blank)

2. How would you describe yourself?

- Latino/Hispanic/Mexican American1
 - Black/African-American2
 - Asian/Oriental/Pacific Islander3
 - American Indian/Native Alaskan4
 - White/Caucasian5
 - Other6
- (Circle all that apply)

3. What is your highest level of education?

- Less than a high school degree.....1
 - High school degree or equivalent.....2
 - Associates degree.....3
 - Bachelors degree.....4
 - Masters degree.....5
 - Terminal degree (MD, PhD., etc.)6
- (Circle one number)

4. If you are an undergraduate in college, what year are you in?

- First1
 - Second.....2
 - Third.....3
 - Fourth4
 - Fifth or greater.....5
- (Circle one number)

5. How would describe yourself? FEMALE MALE (Circle one)

Spirituality-as-a-Force Items

* indicates reverse score

Please circle the number that shows how much you agree with each statement.	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree
1. A higher power has a predetermined path/plan for me.	1	2	3	4	5	6	7
*2. A higher power exists but does not directly influence the path I follow through life.	1	2	3	4	5	6	7
3. A higher power ensures that all things happen for a reason	1	2	3	4	5	6	7

Self-Regulation Items

* indicates reverse score

Please circle the number that indicates how much each statement describes you.

	Not at all			Very much	
	1	2	3	4	5
1. I am good at resisting temptation.	1	2	3	4	5
2. I have a hard time breaking bad habits.	1	2	3	4	5
*3. I am lazy.	1	2	3	4	5
*4. I say inappropriate things.	1	2	3	4	5
*5. I do certain things that are bad for me, if they are fun.	1	2	3	4	5
6. I refuse things that are bad for me.	1	2	3	4	5
*7. I wish I had more self-discipline.	1	2	3	4	5
8. People would say that I have iron self-discipline.	1	2	3	4	5
*9. Pleasure and fun sometimes keep me from getting work done.	1	2	3	4	5
*10. I have trouble concentrating.	1	2	3	4	5
11. I am able to work effectively toward long-term goals.	1	2	3	4	5
*12. Sometimes I can't stop myself from doing something, even if I know it is wrong.	1	2	3	4	5
*13. I often act without thinking through all the alternatives.	1	2	3	4	5

