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An Examination of the Relationship Between

Prayer and Subjective Well-Being

(TITLE)

BY

Brandon L. Whittington

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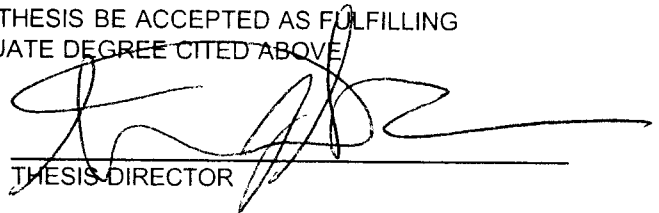
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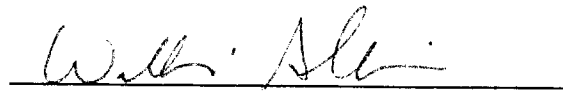
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Abstract

The present study examined the relationship between types of prayer (adoration, confession, thanksgiving, supplication, reception, and obligation) and self-esteem, life satisfaction, and life meaning, while testing optimism, belief in prayer, and spiritual support as mediators. Linear regression analyses were conducted to examine relationships. Optimism was confirmed as a mediator between adoration and life satisfaction, thanksgiving and life satisfaction, and thanksgiving and self-esteem. Spiritual support was confirmed as a mediator between reception and life meaning. As hypothesized, optimism played a large role in predicting well-being, especially in adoration and thanksgiving, prayer focused on positive themes. Overall, prayer was shown to predict various forms of well-being, validating the hypothesis that prayer is a beneficial activity for those who do so.

The topic of religion has an extensive history within the field of psychology. Psychologists have struggled to define religion (Hood, Spilka, Hunsberger, & Gorsuch, 1996), debated the usefulness of religion (Lewis, Francis, & Enger, 2004), and discussed the complexities of studying religion scientifically (Batson, Ventis, & Schroeder, 1991).

One aspect of religion that makes it difficult to study is that it means many different things to different people (Pargament, 1997). For some individuals, religion is the foundation of existence. For others, religion might mean very little in their day-to-day lives. Moreover, religion can be manifested in a variety of ways. It has been noted (Wilson, 1978) that religion is multidimensional; individuals who are religious in one aspect might not be in another. Therefore, a psychological inquiry of religious phenomena must appreciate the complexity and diversity of religion.

Nonetheless, religious faith represents a central component of being to a substantial number of Americans. Ninety-five percent of Americans express a belief in God (Hoge, 1996; Gallup & Lindsay, 1999). Additionally, 85% of Americans say that religion is very important or fairly important in their lives (Gallup Poll, 2001).

Furthermore, there is an increasing body of literature that suggests a positive relationship between faith and well-being. Although some studies suggest that religious experience correlates with prejudice and guilt, most of the literature demonstrates that active religiosity is correlated with higher measures of mental health (Myers, 2000). Actively religious people are less likely to become delinquent, to abuse drugs and alcohol, to divorce, and to commit suicide (Batson, Schoenrade, & Ventis, 1993; Colasanto & Shriver, 1989). Actively religious people tend to be physically healthier and live longer, although this is largely explained by less frequent smoking and drinking

(Koenig, 1997; Mathews & Larson, 1997). People of faith also display a tendency to retain or recover greater happiness after suffering divorce, unemployment, serious illness, or bereavement (Ellison, 1991; McIntosh, Silver, & Wortman, 1993). Finally, a meta-analysis by Okun and Stock (1987) revealed that the two principal predictors of life satisfaction amongst the elderly are health and religiosity.

Although the aforementioned literature presents a compelling case that religious faith is strongly correlated with well-being, faith variables need to be further examined in order to obtain a better understanding of the precise components of faith that explain the association between faith and well-being (Hill & Pargament, 2000) and to illuminate the path from religious faith to well-being.

Prayer is one area of religiosity that has recently received increasing attention and needs further understanding. Prayer serves a vital function in nearly all religious worldviews. It provides a means of connecting with a perceived higher power, which can be manifested in a variety of ways. Prayers can be offered privately or publicly, individually or collectively. In many worldviews, prayer provides individuals with a means of direct conversation with a deity figure. Since prayer serves such a vital role in religion, there is a substantial need to understand the relationship between prayer and well-being.

Private prayer is one of the most salient indicators of religious faith. James (1902/1961) describes prayer as "the very soul and essence of religion" (p. 361). Additional polls report that nearly 90% of adult Americans pray (Poloma & Gallup, 1991) and that 72% pray on a daily basis (Gallup Report, 1993). Furthermore, Greeley (1996) discovered that nearly one in five nonreligious atheists and agnostics reported

praying daily, which demonstrates the significant role prayer plays for many individuals, even those who do not consider themselves religious.

Recent studies have found that prayer plays an important role in coping and leads to higher levels of subjective well-being. The use of prayer was associated with positive attitudes among cardiac patients both before and after surgery (Ai, Peterson, Bolling, & Koenig, 2002). Salsmon et al (2005) found that prayer fulfillment was associated with higher levels of optimism and life satisfaction. Ai, Tice, Peterson, and Huang (2005) revealed that using prayer as a coping mechanism led to higher levels of positive attitudes and lower levels of psychological distress. These findings are further supported by Koenig (2001), who provides a review of several studies that have found positive relationships between religiosity and optimism, suggesting that religious people are likely to have a more favorable outlook on life.

The past literature examining prayer has found ample evidence suggesting a positive relationship between prayer and positive attitudes (i.e., optimism) which leads to better psychological adjustment. However, prayer has often been measured as a general concept and in poor detail. Therefore, there remains a need to examine the relationship between prayer and well-being with a more nuanced conception of prayer. The present study examined prayer through Laird, Snyder, Rapoff, & Green's (2005) five-factor model of prayer, which also assesses individuals' belief in the efficacy of prayer. The model is based on the historic Christian conceptualization of prayer based on the "ACTS" acrostic, which divides prayer into four types: adoration, confession, thanksgiving, and supplication. Although this dimensional model of prayer was originally conceptualized within Christianity, the different types of prayer can be offered to any God or higher

power, and are implemented in other faiths (e.g., Judaism, Islam). Prayers of adoration offer praise and worship to God without any other ulterior motives. Prayers of confession seek forgiveness for sinfulness or wrongdoing on the part of the individual. Prayers of thanksgiving offer expressions of gratitude to God for life circumstances. Prayers of supplication are requests made to God on the individual's behalf. Laird et al (2005) have added another dimension to the ACTS framework: prayers of reception. These prayers are described as a passive waiting for wisdom, understanding, or guidance, similar to the concept of meditation (Laird et al, 2005). The present study will also attempt to empirically validate another dimension of prayer: prayers of obligation, which will be defined as prayers that are offered to fulfill obligations to God or religious creed.

Types of Prayer and Hypotheses

Prayers of Adoration & Thanksgiving.

Prayers of adoration are generally described as a type of prayer in which focus is on the worship of God, without any reference to circumstances, needs, or desires (Foster, 1992; Laird et al, 2004; Lewis, 1964). Prayers of thanksgiving are similar in nature as they are characterized by the expression of gratitude towards God; however, prayers of thanksgiving are made in reference to a positive life experience, such as thanking God for finding a job. Prayers of adoration are pure offerings of worship to a higher power – simply praising God for being God. Therefore, the differentiating factor between the two types of prayer is the absence of reference to specific situational factors.

Laird et al.'s (2004) differentiation of adoration and thanksgiving is similar to the way in which Foster, (1992) conceptualizes two dimensions for prayers of adoration: thanksgiving and praise. Foster states, "in thanksgiving we give glory to God for *what*

He has done for us; in praise we give glory to God for who He is in himself" (p. 83, italics in original). Similarly, Hallesby (1959) declares, "When I give thanks, my thoughts still circle about myself to some extent. But in praise my soul ascends to self-forgetting adoration, seeing and praising only the majesty and power of God, His grace and redemption" (p. 141). Foster (1992) views thanksgiving as an element of adoration whereas Laird et al (2004) view thanksgiving as a distinct type of prayer. Foster (1992), in reference to thanksgiving and praise states, "The distinction is valid, but we must not make too much of it. In experience the two weave themselves in and out of one another and become part of an organic whole" (p. 83).

Although the present study conceptualizes prayers of adoration and thanksgiving separately, the two are hypothesized to have similar effects. Baesler (2001, 2002) found that prayers of thanksgiving and adoration foster relational intimacy with God, which is similar to the concept of spiritual support that will be measured in the present study. Additionally, all of the varying definitions of prayers of thanksgiving and adoration are centered on positive themes including praise, worship, blessings, love, grace, and redemption. Therefore, the present study hypothesizes that prayers of adoration and thanksgiving will lead to higher levels of optimism and social support among participants, and that these will lead to greater life satisfaction and self-esteem (See Figure 1).

Prayers of Supplication

Supplication is a type of prayer that "taps requests for God's intervention in specific life events for oneself or others" (Laird et al., 2004, p. 252). Foster (1992) divides the prayer of supplication into two dimensions: petition and intercession. The

prayer of petition is requesting God's intervention for ourselves whereas the prayer of intercession requests God's intervention on the behalf of others. Both types of prayer, however, involve the same rudimentary process – asking for something from God.

Supplication is reportedly the most commonly employed type of prayer (Johnson, 1959). Laird et al (2004) propose that individuals are likely to offer prayers of supplication amidst unpleasant circumstances and suggest that supplication is possibly an immature form of prayer that religiously immature individuals use primarily in negative situations. However, Foster (1992) refutes this notion and argues that making requests to God should remain primary throughout the lives of individuals due to dependence upon God.

Nonetheless, prayers of supplication present a troubling issue: the perplexity of unanswered prayer. How do individuals understand or explain the dynamics at play when requests made to God are not granted? In Mark 11:24 (New International Version), Jesus stated, "I tell you, whatever you ask for in prayer, believe that you have received it, and it will be yours." However, an individual who believes that every request made to God should be granted will likely be disappointed. As C.S. Lewis (1964) stated, "Every war, every famine or plague, almost every death-bed, is the monument to a petition that was not granted" (p. 58).

Therefore, an essential aspect of how prayers of supplication affect an individual's psychological state is how one explains unanswered prayers. Optimists are more resilient to failure (Seligman, 1991) and would appear to be more apt to offer requests to God, regardless of their perceived rates of past success. Moreover, optimistic individuals would likely perceive prayers as being answered, regardless of whether or not

their petition was granted. Within this perspective, the present study hypothesizes that optimists will have significantly higher levels of belief in prayer and prayers of supplication than pessimists. Furthermore, it is hypothesized that these relationships will subsequently be associated with life satisfaction and self-esteem. In other words, optimists will make more requests to God, will have higher levels of belief in the power of prayer, and as a result will be more satisfied with life and have higher self-esteem (See Figure 2).

Prayers of Confession

Prayers of confession are those in which “faults, misdeeds, or shortcomings (i.e. sins) are acknowledged” (Laird et al, 2004, p. 252). Confessional prayers have received little examination in the literature. Therefore, there is a great need to examine the processes at play in confessional prayer and the effects of confessional prayer on individuals’ spiritual and psychological state. The present study hypothesizes that confessional prayers will be associated with self-esteem, mediated by optimism.

Similar to the hypothesis within prayers of supplication, the present study proposes that levels of optimism will explain the effect prayer of confession has on individuals. As previously demonstrated in the literature (Seligman, 1991), optimists are more resilient to failure, and failure appears to be a rudimentary component of confessional prayers. Optimists are likely to perceive failure less often, and to accept forgiveness more readily after confessing their sins than pessimists. Within this framework, higher frequency of prayers of confession amongst pessimists is hypothesized to lead to lower levels of self-esteem (See Figure 3). It should be noted, that the analyses performed on confession are different from those on the other variables.

Instead of testing for a mediating variable, both confession and optimism are independent variables and tested for an interaction effect on the dependant variable self-esteem.

Prayers of Reception

Laird et al (2004) identify an additional dimension of prayer beyond the ACTS acrostic. The literature often describes contemplative or receptive types of prayer (Finney & Maloney, 1985). Laird et al (2004) label this type of prayer reception and define it as “a type of prayer in which one more passively awaits divine wisdom, understanding, or guidance” (p. 252). Baesler (2002) describes receptive prayer as “characterized by a contemplative attitude of openness, receptivity, and surrender, resulting in experiences ranging from peaceful/quiet to rapture/ecstasy” (p. 59). Foster (1992) defines such prayers as contemplative and asserts that “contemplative prayer immerses us into the silence of God” (p. 155).

Prayers of reception/contemplation are often described in the literature as types of prayer that move from the self-centered attitudes of active prayers to God-centered attitudes of passive acceptance (Baesler, 2002; Foster, 1992; Poloma & Pendleton, 1991). Religious institutions appear more likely to teach and stress active types of prayer that are generally easier to conceptualize and practice (Baesler, 2002). The process of asking God to fulfill a request, or thanking God for a positive life event appears a simpler one than passively awaiting wisdom from the divine. Within this frame of mind, Foster (1992) asserts that “contemplative prayer is for those who have exercised their spiritual muscles a bit and know something about the landscape of the spirit” (p. 156).

Moreover, one might hypothesize that receptive prayers will be more developed and more frequently implemented amongst the spiritually mature. Baesler (2002)

proposed and confirmed that believers developed more receptive forms of prayer as they age, and that these prayers would be the most salient predictor of intimacy with God. Historically, religious leaders and theologians have made claims for the necessity and value of silent, receptive prayers. Isaac of Nineveh, a Syrian monk, claimed, "Those who delight in a multitude of words, even though they say admirable things, are empty within" (as cited in Foster, 1992; p. 155) Ammonas states, "I have shown you the power of silence, how thoroughly it heals and how fully pleasing it is to God....Know that it is by silence that the saints grew, that it was because of silence that the power of God dwelt in them, because of silence that the mysteries of God were known to them" (as cited in Foster, 1992; p. 155) Finally, Foster (1992) states, "Progress in intimacy with God means progress towards silence (p. 155).

Therefore, the present study hypothesizes that prayers of reception will increase with age and will nurture spiritual support, which will lead to greater meaning in life. Baesler's (2002) prediction that receptive prayers would be the most predictive of intimacy with God was not confirmed. Instead, prayers of adoration were found to be most predictive of relational intimacy with God. Baesler (2002) proposes that this finding could be explained by the lack of multiple measures for receptive types of prayer in his study as only one item was used to measure receptive prayers. It is possible that there are additional types of receptive prayer, or different paths to reception that were not assessed in Baesler's (2002) single-item inquiry of receptive prayer. Laird et al's (2004) inventory provides a more encompassing and psychometrically sound assessment of receptive prayers that should provide a more clear depiction of receptive prayer and the effects it has on an individual's spiritual and psychological state (See Figure 4).

Prayers of Obligation

Although Laird et al's (2004) framework presents an excellent and much needed inventory with which to assess the prayer lives of individuals, it is possible that another factor of prayer can be empirically validated: prayers of obligation. In some worldviews, prayer is an obligatory act to be offered at prescribed times. Oftentimes, such obligatory prayers are liturgical prayers to be recited verbatim.

For example, in Orthodox Judaism, followers pray three times daily, after the passage in *Deuteronomy* 6:4-9, which commands followers to love God supremely, keep the laws within one's heart, impress the laws upon their children, and "talk about them when you sit at home and when you walk along the road, when you lie down and when you get up." The final aspect of this scripture was taken to mean prayer (Segal, 1996). Therefore, those who subscribe to the Jewish tradition traditionally pray before sleeping, after awakening, and during the day (i.e. in the evening, morning, and afternoon).

Likewise, prayer is a required and essential component in Islam. Prayer is one of the five pillars (Ayoub, 1996) of Islam, a well-attested Prophetic tradition upon which the religious system of Islam rests. Obligatory prayers (*salāt*) comprise the second pillar - regular worship. Individuals are required to worship and serve God through prayers offered five times daily. These prayers are obligatory commissions to be performed by all Muslims. The *salāt* prayers are largely liturgical and consist primarily of fixed, formulaic prayers that are repeated in each *salāt* worship. *Salāt* prayers are offered at dawn, noon, mid-afternoon, sunset, and night.

Although followers of Christianity are generally not required by creed to pray at prescribed times to fulfill religious obligation, it is still possible that followers of the Christian tradition might pray with a sense of obligation. The New Testament contains numerous instructions for believers to pray, many of them directly from Jesus. One of the most noted instances of instruction can be found in the eleventh chapter of the book of Luke, where Jesus teaches the disciples the well-known Lord's Prayer. Some branches of Christianity encourage followers to recite the Lord's Prayer on a daily basis, which might create a feeling of obligation to pray. Additionally, Christians are often taught to pray before meals, or to kneel at their bedside before retiring, which might create sensations of obligation to pray among followers.

Therefore, the present study will add questions to Laird et al's (2004) inventory to assess the level of obligatory prayers amongst participants. This concept is similar to Poloma and Gallup's (1991) ritualistic prayer, which they define as "the recitation of prepared prayers available through reading or from memory" (p. 47). However, in the present study, prayers of obligation are viewed as encompassing more than reciting prepared prayers; obligatory prayers can be original prayers offered from individuals out of a sense of obligation.

Poloma and Gallup (1991) found that ritualistic prayers were positively associated with negative affect and claimed, "those who engage solely in this type of prayer are more likely to be sad, lonely, depressed and tense" (pp. 49-50). This could be partially explained because their conceptualization only measure recited prayers. The present study views prayers of obligation as a type of prayer rooted in deep meaning and

devotion. Therefore, it is hypothesized that prayers of obligation will be positively associated with life meaning, mediated by belief in prayer (See Figure 5).

Method

Participants

Four hundred and thirty participants filled out questionnaires for the present study. One of the primary issues in the current literature is a bias towards Christianity when studying religiosity. As predicted, recruiting participants online allowed for a diverse sample of religious backgrounds. Therefore, one strength of the current study is the inclusion of participants from a variety of religious backgrounds, including atheists and agnostics. Including participants from a variety of religious backgrounds allows for a more thorough examination of how individuals from different faiths pray, and how those differences relate to subjective well-being.

Participants reported religious beliefs are as follows: Catholic 11.5%, Baptist 9%, Episcopalian 1.3%, Methodist 9.2%, Mormon 2.3%, Lutheran 1.8%, Presbyterian 1.8%, Conservative Jewish 1.5%, Reform Jewish 4.6%, Orthodox Jewish 2.8%, Other Jewish 1%, Buddhist 1.3%, Hindu .8%, Muslim 16.4%, New Age, 1.3%, Wicca 1%, Atheist 7.9%, Agnostic 3.6%, and Other 17.9%. All other demographic data can be seen in Table 1.

Materials

The Multidimensional Prayer Inventory (MPI; Laird, Snyder, Rapoff, & Green, 2004) was used to separate and quantify prayer into five distinct types of prayer: adoration (worship and praise of a God, without reference to specific circumstance or needs), confession (prayer in which faults, misdeeds, or shortcomings are acknowledged),

thanksgiving (involves expressions of gratitude for life shortcomings), supplication (taps requests for God's intervention in specific life events for oneself or others), and reception (a type of prayer in which one more passively awaits divine wisdom, understanding, or guidance). The measure is composed of 21 items that measure frequency of prayer, type of prayer, and belief in prayer. Items are assessed on a likert scale ranging from 1 to 7 (See Appendix). Factor analyses conducted by Laird et al. revealed the predicted five-factor solution and demonstrated acceptable internal reliability. Cronbach's alpha in the present study for each of the subscales are as follows: Adoration = .86; Confession = .83; Thanksgiving = .82; Supplication = .83; Reception = .90..

Additionally, the present study will add the following four questions, assessed using a 0-7 likert scale, to the MPI in an attempt to measure levels of obligatory prayer: "I prayed to fulfill obligations as required by my religion;" "I prayed at set times during the day as dictated by my religion;" "I recited composed prayers based on religious guidelines;" "I followed a prayer schedule as dictated by my religion" (Chronbach's alpha = .95)

Spiritual support was assessed using the 12-item spiritual support scale (Ai, Tice, Peterson, Huang, 2005). Items are based on a likert scale ranging from 1 to 4. Cronbach's alpha in the present study was .975. Example questions include: "I have an inner resource from my spiritual relationship with God that helps me face difficulties" and "My religious or spiritual faith has provided me with comfort in uncertainty" (See Appendix).

Optimism was measured by the Life Orientation Test, a ten item measure designed to assess levels of optimism and pessimism (Scheier, Carver, & Bridges, 1994).

Items are scored on a likert scale with values ranging from 0 to 4. Cronbach's alpha in the present study was .731. Example items include: "In uncertain times, I usually expect the best" and "Overall, I expect more good things to happen to me than bad" (See Appendix).

Meaning in life was measured using the Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006). The measure consists of ten items scored on a likert scale with values ranging from 1 to 7. Cronbach's alpha in the present study was .873. Example questions include: "My life has a clear sense of purpose" and "I have a good sense of what makes my life meaningful" (See Appendix).

Satisfaction with life was measured by the 5-item Satisfaction With Life Scale (SWLS) (Diener, Emmons, Larsen, & Griffin, 1985). Items are scored on a likert scale ranging from 1 to 7. Cronbach's alpha in the present study was .835. Example questions include: "In most ways my life is close to ideal" and "The conditions of my life are excellent."

Self-esteem was measured by the 10-item Rosenberg Self-Esteem Scale (Rosenburg, 1965). The scale was designed to assess global feelings of self-worth. Responses are given on a 4-point likert scale. Cronbach's alpha in the present study was .731. Sample questions include "On the whole, I am satisfied with myself" and "At times, I think I am no good at all."

Procedure

Participants were recruited from religiously-oriented message boards on the internet. Participants were given a link to follow which led them to a website, where they completed the questionnaires. The questionnaires were programmed into an online

database at surveymonkey.com, which collected and stored the data received from participants. At this site, participants completed the Multidimensional Prayer Inventory, the Spiritual Support Scale, the Life Orientation Test, the Meaning in Life Questionnaire, the Satisfaction With Life Scale, and the Rosenberg Self-Esteem Scale. Demographic information including Age, Marital Status, Income, Education, Gender, and Ethnic Background was also collected.

Results

A correlation analysis was run for all of the variables measured: adoration, confession, thanksgiving, supplication, reception, obligation, belief in prayer, optimism, life meaning, life satisfaction, spiritual support, and self-esteem. Results of the correlation matrix along with means and standard deviations are displayed in Table 2.

Prayer and Religious Affiliation

In order to gain insight into the way in which individuals from different religious orientations pray, religious affiliation was separated into the following groups: Catholic, Protestant, Other Christian, Jewish, Muslim, Atheist/Agnostic, and Other. Means and standard deviations were then obtained for each type of prayer and belief in prayer. Results are displayed in Table 3.

Prayers of Adoration

Linear regression analyses were conducted on the indices measuring prayers of adoration, optimism, spiritual support, life satisfaction, and self-esteem to test the aforementioned model (see Figure 1). First, a linear regression analysis was conducted to test the hypothesis that prayers of adoration ($M = 5.08$, $SD = 5.58$) would predict higher levels of life satisfaction ($M = 26.12$, $SD = 5.58$), with spiritual support ($M = 36.70$, $SD =$

6.67) serving as a mediator (see Figure 6). Using Barron & Kenney's (1986) criteria for mediation, the first analysis revealed that prayers of adoration significantly predicted higher levels of life satisfaction ($\beta = .169, p < .005$). Prayers of adoration were also revealed to significantly predict higher levels of spiritual support ($\beta = .497, p < .001$). However, the linear regression analysis did not reveal a significant relationship between spiritual support and life satisfaction ($\beta = .104, p > .05$), thereby not validating the third step of mediation criteria.

A similar analysis was conducted to test optimism ($M = 22.42, SD = 3.85$) as a mediator between prayers of adoration and life satisfaction (see Figure 7). Linear regression analyses revealed that prayers of adoration significantly predicted higher levels of life satisfaction ($\beta = .144, p < .05$) and optimism ($\beta = .184, p < .005$). Optimism was also revealed to significantly predict higher levels of life satisfaction ($\beta = .411, p < .001$). After controlling for optimism, the previously significant relationship between prayers of adoration and life satisfaction was no longer significant ($\beta = .067, p > .05$). Additionally, Sobel's test for mediation revealed optimism as a significant mediator between prayers of adoration and life satisfaction ($z = 2.95, p < .005$).

Linear regression analyses were also conducted to test spiritual support and optimism as mediators between prayers of adoration and self-esteem. However, the linear regression equation revealed a non-significant relationship between prayers of adoration and self-esteem ($\beta = .055, p = .351$), rendering the remainder of the hypothesized model unable to be tested.

Prayers of Thanksgiving

Due to similar positive themes that occur in both prayers of adoration and thanksgiving, the two types of prayer were hypothesized to have equivalent results. Linear regression was conducted to test spiritual support and optimism as mediators between prayers of thanksgiving and the outcome variables self-esteem and life satisfaction. The first regression analysis tested spiritual support as a mediator between prayers of thanksgiving and self-esteem (see Figure 8). Prayers of thanksgiving significantly predicted higher levels of self-esteem ($\beta = .201, p < .01$) and spiritual support ($\beta = .195, p < .01$); however, spiritual support was not a significant predictor of self-esteem ($\beta = -.05, p = .419$), failing to confirm the mediation model.

A similar analysis was conducted to test optimism as a mediator between prayers of thanksgiving and self-esteem (see Figure 9). Linear regression revealed prayers of thanksgiving to significantly predict higher levels of self-esteem ($\beta = .201, p < .01$) and optimism ($\beta = .22, p < .001$). Additionally, optimism was found to significantly predict higher levels of self-esteem ($\beta = .468, p < .001$). After controlling for optimism, the previously significant relationship between prayers of thanksgiving and self-esteem was no longer significant ($\beta = .073, p = .167$). Sobel's test revealed significant results ($z = 3.53, p < .001$), confirming optimism as a mediator between prayers of thanksgiving and self-esteem.

Another linear regression analysis was conducted to test optimism as a mediator between prayers of thanksgiving and life satisfaction (see Figure 10). Prayers of thanksgiving were found to be significant predictors of life satisfaction ($\beta = .215, p = .02$) and optimism ($\beta = .22, p < .001$). Optimism was also found to significantly predict

higher levels of life-satisfaction ($\beta = .399, p < .001$). After controlling for optimism, the previously significant relationship between prayers of thanksgiving and life satisfaction was significant ($\beta = .125, p = .022$), albeit reduced. Sobel's test was significant ($z = 3.42, p < .001$) revealing optimism as a partial mediator between prayers of thanksgiving and life satisfaction.

Linear regression was also employed to test spiritual support as a mediator between prayers of thanksgiving and life satisfaction (see Figure 11). Prayers of thanksgiving were found to be significant predictors of life satisfaction ($\beta = .223, p < .001$) and spiritual support ($\beta = .314, p < .001$). However, spiritual support was not a significant predictor of life satisfaction ($\beta = .101, p = .102$) failing to validate spiritual support as a mediator between prayers of thanksgiving and life satisfaction.

Prayers of Confession

Prayers of confession were hypothesized to predict higher levels of self-esteem amongst individuals with higher levels optimism and lower levels of self-esteem amongst individuals with lower levels of optimism. First, linear regression analyses were conducted to test prayers of confession as a predictor of self-esteem, with optimism being tested for mediation. Prayers of confession significantly predicted lower levels of self-esteem ($\beta = -.116, p < .05$); however, prayers of confession were not a significant predictor of optimism ($\beta = -.007, p > .05$).

Additionally analyses were conducted to test an interaction effect of prayers of confession and optimism on self esteem. As noted earlier, this analysis is different from the other models in that it does not test for mediation. In this analysis, there are two independent variables, confession and optimism, which are multiplied together to test for

an interaction effect on the dependent variable of self-esteem. The interaction was not significant ($\beta = -.211, p > .05$) and did not add to the amount of variance explained by a main-effects only model ($R^2 = .247, \Delta R^2 = .001, F_{\text{Change}}(1, 286) = .514, p > .05$).

Prayers of Supplication

Prayers of supplication were hypothesized to predict higher levels of life satisfaction, with optimism and belief in prayer serving as mediators. A linear regression analysis indicated that prayers of supplication did not significantly predict life satisfaction ($\beta = -.014, p > .05$). Due to the insignificant result, belief in prayer could not be tested for mediation. However, another linear regression model was conducted to test belief in prayer as a predictor of prayers of supplication, following the notion that individuals who believe in prayer would be more likely to make requests (see Figure 12). In this analysis, belief in prayer significantly predicted higher amounts of prayers of supplication ($\beta = .428, p < .001$). Optimism was then placed in the model to be tested for mediation. In these analyses belief in prayer significantly predicted higher levels of optimism ($\beta = .112, p < .05$); however, optimism was not a significant predictor of prayers of supplication ($\beta = -.024, p > .05$).

Prayers of Reception

Linear regression analyses were conducted to test prayers of reception as a predictor of life meaning, with spiritual support mediating the relationship (see Figure 13). Prayers of reception significantly predicted higher levels of both life meaning ($\beta = .366, p < .001$) and spiritual support ($\beta = .501, p < .001$). Spiritual support was also found to significantly predict higher levels of life meaning ($\beta = .341, p < .001$). After controlling for spiritual support, the previously significant relationship between prayers

of reception and life meaning was reduced; however, it was still significant ($\beta = .194, p < .01$). Sobel's test indicated that spiritual support partially mediated the effect of prayers of reception on life meaning ($z = 4.74, p < .001$).

A linear regression analysis was also conducted to test if reception increases with age. The analysis revealed that age ($M = 38.99, S.D. = 14.58$) was not a significant predictor of higher levels of reception ($\beta = -.093, p = .106$).

Prayers of Obligation

Linear regression analyses were conducted to test prayers of obligation as a predictor of life meaning, with belief in prayer mediating the relationship (see Figure 14). Prayers of obligation significantly predicted higher levels of life meaning ($\beta = .164, p < .01$) and belief in prayer ($\beta = .11, p = .05$). Belief in prayer was also found to significantly predict life meaning ($\beta = .272, p < .001$). After controlling for belief in prayer, the previously significant relationship between prayers of obligation and life meaning was still significant, however reduced ($\beta = .133, p < .05$). Sobel's test was not significant ($z = 1.80, p > .05$) failing to confirm belief in prayer as a mediating variable.

Partial correlations were also conducted to examine obligation while controlling for the other five types of prayer. After controlling for prayers of adoration, confession, thanksgiving, supplication, and reception, obligation was found to have a negative association with optimism ($r = -.147, p < .05$). There were no significant correlations between obligation and self-esteem, life meaning, life satisfaction, or spiritual support in the partial correlations.

These results reveal that optimism served most often as a mediating variable between prayer and well-being. Participants' levels of optimism were empirically

validated as an explanation of the path between prayers of adoration and life satisfaction, prayers of thanksgiving and self-esteem, and a partial explanation of the path between prayers of thanksgiving and life satisfaction. Spiritual support was validated, as a partial mediator, in the path of prayers of reception and life meaning.

Discussion

An examination of mean levels of prayer separated by religious affiliation revealed that Jewish and Muslim participants offered higher levels of prayers of obligation than individuals from other religions. This finding comes as no surprise. As discussed previously, these two worldviews require followers to pray at set times. Jews are required to pray three times daily and Muslims five times daily. Another interesting finding was that Muslims levels of reported prayer were higher than all other religions. This finding could be explained by the daily requirement of prayer within the Muslim tradition.

Linear regression analyses revealed that prayers of adoration significantly predicted higher levels of life satisfaction; however, they did not predict higher levels of self-esteem. Spiritual support failed to meet criteria for mediation and optimism was validated as a mediator between prayers of adoration and life satisfaction. Prayers of adoration were hypothesized to predict higher levels of spiritual support and optimism, which would lead to higher levels of life satisfaction and self-esteem.

Although spiritual support was not validated as a mediator, adoration did predict higher levels of spiritual support. This finding is similar to Baesler's (2002) study, finding that adorational prayers are the most salient predictor of relational intimacy with God. Intimacy with God and spiritual support are similar variables, in that they both

measure the level of perceived intimacy and support one believes to receive from a higher power. Therefore it is not surprising that individuals who spend more time offering prayers that are solely focused on the positive qualities of a perceived higher power feel a closer connection to that higher power.

Optimism was discovered to play an important role as a mediator when examining the paths between prayers of adoration and thanksgiving and the outcome variables of life satisfaction and self-esteem. Optimism mediated the paths between prayers of adoration and life satisfaction, prayers of thanksgiving and self-esteem, and partially mediated that relationship between prayers of thanksgiving and life satisfaction. These findings are congruent with hypotheses based on the idea that individuals who offer prayers of adoration and thanksgiving at a higher frequency would in turn have higher levels of optimism. These prayers are rooted in positive themes such as expressing gratitude, offering praise, and focusing on admirable qualities of God. It is not surprising that these prayers predicted higher levels of optimism, which subsequently predicted higher levels of life satisfaction and self-esteem.

It is noteworthy to mention, however, that prayers of adoration did not predict higher levels of self-esteem, whereas prayers of thanksgiving did. This finding presents an intriguing inquiry into the difference between the two types of prayer that would lead to this phenomenon. As previously discussed, the distinguishing factor between the two types of prayer is the reference to positive life events in prayers of thanksgiving. Therefore, the question appears to be what is the difference between offering gratitude to a deity for positive circumstances and offering praise to a deity without circumstantial references? Furthermore, what role might this play in relation to self-esteem?

It is possible that this finding is explained by the selfless nature found in prayers of adoration. As Hallesby (1959) noted, thoughts of self are still present in thanksgiving whereas adoration transcends beyond that, focusing only on God. Therefore, adoration might be less likely to predict higher self-reports of self-esteem, because those who pray in that manner more often might have less focus on themselves. Those who offer thanksgiving more often might have more focus on their selves, making it more likely for thanksgiving to predict higher self-esteem. Also, it could be that those who offer more prayers of thanksgiving simply have more to be thankful for and consequently have higher self-esteem.

However, the distinction between the two prayers is not viewed as absolute by everyone. As previously discussed, Foster (1992) stated that "we must not make too much" of the distinction between prayers of adoration and thanksgiving (p. 83). Furthermore, the similarities between the two types of prayer are more apparent than their differences. Both are filled with positive themes, and optimism was the mechanism through which both types of prayer led to higher levels of reported well-being. However, it cannot be ignored that the study did find significant differences between the two types of prayer. Future studies should consider this difference and replication would be beneficial to see if similar results are achieved.

Prayers of confession were hypothesized to predict higher levels of self-esteem amongst individuals with higher levels of optimism and lower levels of self-esteem amongst individuals with lower levels of optimism. This was based on the rationale that optimistic individuals would more readily accept forgiveness and pessimists would be more likely to dwell on their failures. However, these hypotheses were not confirmed.

Optimism was not found to play a significant role as a mediator between confession and self-esteem.

Prayers of confession did, however, predict lower levels of self-esteem. This finding comes as no surprise as the rudimentary concept behind confession is failure and wrongdoing. Those who confess to failure more often are likely spending more time processing negative events. It is also possible that those who confess to wrongdoing more often are doing so because they fail more often, or perceive that they fail more often. The perception of failure within an individual can easily be conceptualized to lead to negative attitudes and a negative self-concept.

The hypothesis which predicted prayers of supplication to lead to higher levels of life satisfaction with optimism and belief in prayer serving as mediators was not confirmed. This hypothesis was based on the notion that optimistic individuals and those who believed in the power and validity of prayer would view the requests they make to God as heard and answered, even if they did not receive what they asked for. As discussed previously, unanswered prayer could possibly be frustrating and doubt invoking for the individual who desires for his request to be answered.

In an attempt to gain further insight into the prayers of supplication, the model was altered so that belief in prayer was tested as a predictor of prayers of supplication, and optimism was tested for mediation. Belief in prayer predicted higher levels of both prayers of supplication and optimism. Therefore, it was confirmed that those who believe in prayer are more optimistic and more likely to make requests to God. However, optimistic individuals are not more likely to make requests to God.

These findings reveal that the primary mechanism involved in presenting requests to God is how much one believes in prayer. This is not surprising as individuals who believe in prayer would likely be more apt believe that they will receive what is asked for in their prayers. Put differently, individuals who believe in prayer would have more faith that their prayers might matter or make a difference in the topic of concern. While individuals who make requests are more optimistic, optimism in itself does not play a significant role in predicting how often individuals make requests to God. It might be that optimistic individuals do not see as much need for improvement, or view life events and circumstances in a manner that does not create sensations to make more requests to God.

Hypotheses for prayers of reception were confirmed, as spiritual support partially mediated that path between reception and life meaning. Reception did not increase with age, however, as hypothesized and reported in Baesler's (2002) study. These results do indicate that reception is a meaningful form of prayer that provides a deep connection to a perceived higher power. The passive nature of reception places one in a position of waiting and receiving, which appears to be a mature and fulfilling form of prayer. Although reception did not increase with age, this finding does not necessarily refute the notion that reception is a mature and developed form of prayer, because spiritual maturity does not necessarily increase with age. Various individuals could be at different levels of commitment or maturity to their religious beliefs at various ages. The findings do indicate that reception fosters an individual's connection with God, which accounts for higher levels of life meaning.

Prayers of obligation were found to predict higher levels of belief in prayer and life meaning, although belief in prayer was not confirmed as a mediator. These findings indicate that, as predicted, obligation is a type of prayer rooted in devotion and meaning. This refutes Poloma and Gallup's (1991) notion that ritualistic prayers were indicative of negative affect and furthermore their claim that "Those who engage solely in this type of prayer are more likely to be sad, lonely, depressed and tense" (pp. 49-50). Additionally, obligation was predictive of higher life meaning and an examination of correlations reveals that obligation was not negatively associated with any of the measures of well-being. Also, obligation was significantly associated with spiritual support, providing further evidence that it is a meaningful prayer rooted in deep meaning and devotion to God.

However, partial correlations did indicate that after controlling for the effects of the other five types of prayer, obligation was negatively associated with optimism. This leads to the question, "What is unique about obligatory prayers that would contribute to this relationship?" Since partial correlation removes the effects of the other types of prayer, one must look at the properties that are exclusive to obligation. The most glaring aspect of obligatory prayers is that they are required, or at least that individuals feel required to offer them. It is possible that the feeling that one has to pray contributes to lower levels of optimism. Individuals might feel that there are negative consequences if they do not pray as required. Feelings of obligation also take away from self-control and autonomy, pertaining to prayer at least, which might contribute to lower levels of optimism.

Nonetheless, obligation was significantly associated with all five of the alternative types of prayer, indicating that individuals who offer prayers of obligation also pray in other ways. It appears that individuals are not likely to exclusively offer prayers of obligation, but pray in other ways as well, particularly adoration. Another possible explanation is that obligatory prayers are composed of the different types of prayer. Obligation is a different form of prayer in that it does not contain a unique function like the other types of prayer. For example, adoration is focused on honoring positive qualities, reception on waiting for divine wisdom, supplication on making requests. Therefore, it appears that obligatory prayers are composed of the five other types of prayer, the difference being that they are offered out of a sense of obligation or requirement.

When individuals pray in an obligatory fashion, they are implementing other forms of prayer, such as adoration and thanksgiving. It is possible though, that some individuals only pray as a result of a sense of obligation to do so. Results do provide minimal support for Polloma and Gallup's (1991) claim as partial correlations found obligation to be negatively associated with optimism. The study did not measure the level to which those who offer obligatory prayers also pray on their own volition. A comparison of obligatory prayers vs. voluntary prayers would help illuminate the effects of obligatory prayer.

The findings of the present study do appear to indicate that prayer is a beneficial individual activity that is predictive of various measures of subjective well-being. The findings also illustrate the diversity of prayer. Prayer is not a unitary or singular concept as it has often been measured in the past. Prayer is complex and multi-faceted. As

demonstrated in this study, prayer can be a means of making requests, offering thanks for positive life circumstances, honoring the positive qualities of a higher power or deity figure, confessing shortcomings and faults, and passively awaiting for divine wisdom. An examination of the correlation matrix reveals that all of the types of prayers are positively associated, indicating that individuals who pray are likely to pray in different ways.

While results indicate that prayer is a beneficial individual activity, it does not indicate a cause and effect relationship between prayer and well-being, meaning that, the results do not indicate that increased amounts of prayer will increase subjective well-being. In other words, the results could not lead one to infer that an individual who does not pray would display higher levels of subjective well-being if he began to pray. Rather, that amongst individuals who do pray, prayer serves as a predictive factor on the measures of well-being. It is important to recognize the difference between predicting and causing in the present study.

Although the present study does help illuminate the paths between prayer and well-being, especially as it provides more insight into the different ways individuals can pray, there are limits to the present study. Participants were recruited in a non-random fashion and do not form a representative sample. Eighty percent of participants were Caucasian, which indicates a clear bias in the sample. Additionally, over 76% of participants were college graduates, which presents another possible bias in the sample.

However, one problem in the present study is that the way prayer is measured fits only into a God-centric paradigm. Individuals who meditate or participate in functions that are similar to prayer, but are not directed towards a deity would not fit into the

conceptualization of the present study. Laird et al's (2004) tool does not provide a means of assessing other types of prayer and meditation that are not directed towards a higher power. The literature would benefit from future studies that broaden the horizon of prayer conceptualization beyond those offered to a God and to alternative forms.

Additionally, the present study did not consider many religious variables when examining the relationship between prayer and subjective well-being. The literature on prayer would benefit by considering variables of religiosity such as religious maturity, religious commitment, and religious orientation when examining the paths between prayer and well-being. The present study only looked at prayer and did not look at broader religious indices.

Conclusions

Overall, the present study does indicate that prayer is a beneficial individual activity. It is multifaceted and future studies should consider the different ways individuals can pray. In prayers that contain positive themes, optimism was found to be a key mechanism in which these prayers predicted higher levels of subjective well-being. Prayer also was found to nurture spiritual support, indicating that prayer is a salient means of connecting to a perceived higher power. The findings are consistent with previous studies indicating prayer is a beneficial and important religious activity that often predicts more positive attitudes, connection with a perceived higher-power, and positive reports of well-being.

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Appendix

Life Orientation Test

1. In uncertain times, I usually expect the best.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

2. It's easy for me to relax.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

3. If something can go wrong for me, it will.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

4. I'm always optimistic about my future.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

5. I enjoy my friends a lot.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

6. It's important for me to keep busy.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

7. I hardly ever expect things to go my way.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

8. I don't get upset too easily.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

9. I rarely count on good things happening to me.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

10. Overall, I expect more good things to happen to me than bad.

strongly disagree	disagree	neutral	agree	strongly agree
0	1	2	3	4

Meaning in Life Questionnaire

MLQ Please take a moment to think about what makes your life feel important to you. Please respond to the following statements as truthfully and accurately as you can, and also please remember that these are very subjective to questions and that there are no right or wrong answers. Please answer to the scale below:

Absolutely Absolutely Untrue	Mostly Untrue	Somewhat Untrue	Can't Say True or False	Somewhat True	Mostly True	True
1	2	3	4	5	6	7

1. ___ I understand my life's meaning.
2. ___ I am looking for something that makes my life meaningful.
3. ___ I am always looking to find my life's purpose.
4. ___ My life has a clear sense of purpose.
5. ___ I have a good sense of what makes my life meaningful.
6. ___ I have discovered a satisfying life purpose.
7. ___ I am always searching for something that makes my life significant.
8. ___ I am seeking a purpose or mission for my life.
9. ___ My life has no clear purpose.
10. ___ I am searching for meaning in my life.

Multidimensional Prayer Inventory

Directions Part 1: The following questions have been written to better understand private prayer. To assist you in answering these questions, scales are provided which consist of several numbers along with corresponding descriptions. Please circle **ONE** number on each scale that corresponds with the description that best indicates how you have privately prayed **during the past month** (other than during religious attendance). [In the questions that refer to "God", feel free to substitute other words or phrases such as "Higher Power", etc.]

***** If you do not pray in private, please go directly to question #21. *****

1. During the average week of this past month, I prayed approximately:

0	1	2	3	4	5	6	7
No	One	Two	Three	Four	Five	Six	Seven
days/ week	day/ week	days/ week	days/ week	days/ week	days/ week	days/ week	days/ week

***** If you have not prayed during the past month, please go directly to question #21. *****

2. On the day(s) that I did pray, I would estimate that I typically prayed _____ time(s) during the course of the day. (Please fill in **one number** that is your best estimate).

3. My prayers typically lasted for approximately:

1	2	3	4	5	6	7	8
A few	½	1	2	3-5	6-10	11-20	21+
seconds	min	min	min's	min's	min's	min's	min's

Directions Part 2: Now, using the scale provided below, please answer the following questions according to how often **during the past month** your prayers included each of the activities described below. For example, if you circle the number "4", this indicates that "About half the time" your prayers **during the past month** included the described activity. (Note: Some prayers combine these different activities. Also, do not be concerned if some items appear to overlap with one another.)

Never	Little of the time	Some of the time	About half the time	Much of the time	Most of the time	All of the time
1	2	3	4	5	6	7
4. I made specific requests.						
1	2	3	4	5	6	7
5. I offered thanks for specific things.						
1	2	3	4	5	6	7
6. I tried to be open to receiving new understanding of my problems.						
1	2	3	4	5	6	7

7. I worshiped God.

1 2 3 4 5 6 7

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8. I admitted inappropriate thoughts, feelings, and behaviors.

1 2 3 4 5 6 7

9. I expressed my appreciation for my circumstances.

1 2 3 4 5 6 7

10. I tried to be receptive to wisdom and guidance.

1 2 3 4 5 6 7

11. I made various requests of God.

1 2 3 4 5 6 7

12. I confessed things that I had done wrong.

1 2 3 4 5 6 7

13. I praised God.

1 2 3 4 5 6 7

14. I opened myself up to God for insight into my problems.

1 2 3 4 5 6 7

15. I thanked God for things occurring in my life.

1 2 3 4 5 6 7

16. I asked for assistance with my daily problems.

1 2 3 4 5 6 7

17. I acknowledged faults and misbehavior.

1 2 3 4 5 6 7

18. I devoted time to honoring the positive qualities of God.

1 2 3 4 5 6 7

Directions Part 3: Please rate the degree to which prayers have an effect using the following two questions (#s 19 and 20):

19. I believe that my prayers have an effect on my life.

1 2 3 4 5 6 7

Strongly Disagree Disagree Neutral Agree Strongly Agree

20. I believe that my prayers have an effect on other people's lives.

1 2 3 4 5 6 7

Strongly Disagree Disagree Neutral Agree Strongly Agree

Directions Part 4: Please indicate on question # 21, where you would place your beliefs:

21. My religious beliefs are most closely related to (**Check One**):

Catholicism _____

Protestantism:

Baptist _____ Episcopalian _____ Methodist _____

LDS (Mormon) _____ Lutheran _____ Presbyterian _____

Other Protestant (please specify) _____

Judaism:

Conservative _____ Reform _____ Orthodox _____ Other Jewish _____

Buddhism _____

Hinduism _____

Muslim _____

New Age _____

Atheism _____

Agnosticism _____

Other (please specify) _____

Rosenberg Self-Esteem Scale

Instructions: Below is a list of statements dealing with your general feelings about yourself. If you strongly agree, circle **SA**. If you agree with the statement, circle **A**. If you disagree, circle **D**. If you very strongly disagree, circle **SD**.

- | | | | | | |
|-----|----------------------------------------------------------------------------|----|---|---|----|
| 1. | On the whole, I am satisfied with myself. | SA | A | D | SD |
| 2. | At times, I think I am no good at all. | SA | A | D | SD |
| 3. | I feel that I have a good number of qualities. | SA | A | D | SD |
| 4. | I am able to do things as well as most other people. | SA | A | D | S |
| 5. | I feel I do not have much to be proud of. | SA | A | D | SD |
| 6. | I certainly feel useless at times. | SA | A | D | SD |
| 7. | I feel that I'm a person of worth, at least on an equal plane with others. | SA | A | D | SD |
| 8. | I wish I could have more respect for myself. | SA | A | D | SD |
| 9. | All in all, I am inclined to feel that I am a failure. | SA | A | D | SD |
| 10. | I take a positive attitude toward myself. | SA | A | D | SD |

Spiritual Support Scale

1 = Strongly Disagree 2 = Disagree 3 = Agree 4 = Strongly Agree

I have an inner resource from my spiritual relationship with God that helps me face difficulties.

1 2 3 4

I experience the love and caring of God on a regular basis

1 2 3 4

I often sense a secure unification with God at my heart.

1 2 3 4

Care from God provides me with peace and contentment in uncertainty.

1 2 3 4

I have experienced a close personal relationship with God.

1 2 3 4

My profound love for God has encouraged me to survive difficulty and distress.

1 2 3 4

I have received spiritual support from my religious or spiritual association.

1 2 3 4

My religious or spiritual faith has guided me through the time of difficulty.

1 2 3 4

I have been inspired by my religious or spiritual faith in the face of distress.

1 2 3 4

My religious or spiritual faith has helped me cope during the time of difficulty.

1 2 3 4

I have gained inner strength from my religious or spiritual faith in the face of distress.

1 2 3 4

My religious or spiritual faith has provided me with comfort in uncertainty.

1 2 3 4

Satisfaction With Life Scale

Below are five statements with which you may agree or disagree. Using the 1-7 scale below, indicate your agreement with each item by placing the appropriate number on the line preceding that item. Please be open and honest in your responding. The 7-point scale is as follows:

- 1 = strongly disagree
- 2 = disagree
- 3 = slightly disagree
- 4 = neither agree nor disagree
- 5 = slightly agree
- 6 = agree
- 7 = strongly agree

- ___ 1. In most ways my life is close to 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.

Questions for Obligatory Prayers

Possible questions for Obligation, rated from 0-7 with 0 being never and 7 being all of the time:

- I prayed to fulfill obligations as required by my religion.
- I prayed at set times during the day as dictated by my religion.
- I recited composed prayers based on religious guidelines.
- I followed a prayer schedule as outlined by my religion.

Table 1

Demographics

Gender

Male	175	41%
Female	252	59%

Ethnicity

Caucasian	341	80%
African American	10	2.3%
Hispanic	7	1.6%
Asian American	20	4.7%
Other	48	11.3%

Marital Status

Single	127	29.9%
Married	268	63.1%
Divorced	30	7.1%

Income Level

Less than \$25,000	105	25%
\$25-50,000	112	26.7%
\$50-75,000	96	22.9%
\$75-100,000	53	12.6%
Above \$100,000	54	12.9%

Highest Level of Education

Graduate Degree	164	38.7%
Bachelor's Degree	160	37.7%
Junior College	34	8%
Trade/Technical School	10	2.4%
High School	53	12.5%
Less than High School	3	.7%

Table 2

Correlation Matrix

	Mean	Standard Deviation	1	2	3	4	5	6	7	8	9	10	11	12
1. Adoration	5.10	1.68	.859											
2. Confession	3.83	1.59	.500**	.834										
3. Thanksgiving	5.12	1.43	.617**	.488**	.815									
4. Supplication	4.56	1.56	.417**	.548**	.433**	.828								
5. Reception	4.89	1.59	.600**	.520**	.600**	.397**	.903							
6. Obligation	3.09	2.22	.426**	.153**	.141*	.118*	.159**	.946						
7. Belief	5.47	2.03	.459**	.378**	.378**	.412**	.427**	.110	.918					
8. Optimism	22.42	3.85	.184**	-.007	.220**	.027	.212**	-.048	.112*	.731				
9. Life Meaning	27.78	5.69	.327**	.169**	.305**	.231**	.342**	.153**	.239**	.386**	.873			
10. Life Satisfaction	25.96	5.73	.153**	-.018	.220**	-.030	.137*	-.009	.056	.434**	.431**	.835		
11. Spiritual Support	33.46	9.85	.487**	.360**	.314**	.375**	.501**	.175**	.788**	.095	.321**	.093	.975	
12. Self-Esteem	31.90	4.47	.075	-.119*	.195**	-.053	.179**	-.067	-.145**	.494**	.349**	.418**	-.111*	.865

* = $p < .05$, ** = $p < .01$

Note: Cronbach's alpha is on the main diagonal.

Table 3

Mean Levels and Standard Deviations of Prayer by Religious Affiliation

	Adoration	Confession	Thanksgiving	Supplication	Reception	Obligation
Catholic	4.81 (1.54)	3.60 (1.44)	5.12 (1.44)	4.20 (1.43)	4.77 (1.43)	2.63 (1.31)
Protestant	4.82 (1.58)	4.08(1.61)	5.00 (1.36)	4.64 (1.43)	4.83 (1.41)	1.68 (.92)
Other Christian	5.29 (1.59)	3.95 (1.47)	5.43 (1.38)	4.95 (1.40)	4.88 (1.60)	2.23 (1.82)
Jewish	4.68 (1.71)	3.07 (1.40)	4.41 (1.43)	3.70 (1.71)	3.66 (1.57)	4.14 (1.95)
Muslim	6.46 (.84)	4.30 (1.55)	5.77 (1.30)	5.22 (1.43)	5.78 (1.31)	6.46 (.87)
Atheist/ Agnostic	2.67 (1.98)	1.75 (.687)	3.42 (1.66)	2.44 (1.26)	3.08 (2.60)	1.83 (.72)
Other	3.80 (1.99)	3.06 (1.69)	4.69 (1.33)	3.72 (1.69)	5.18 (1.76)	1.69 (1.04)

Note: Standard deviation in parentheses

Figure Caption

Figure 1. Hypotheses for prayers of adoration and thanksgiving.

Figure 2. Hypotheses for prayers of supplication.

Figure 3. Hypotheses for prayers of confession.

Figure 4. Hypotheses for prayers of reception.

Figure 5. Hypotheses for prayers of obligation.

Figure 6. Adoration, spiritual support, life satisfaction path model.

Figure 7. Adoration, optimism, life satisfaction path model.

Figure 8. Thanksgiving, spiritual support, self-esteem path model.

Figure 9. Thanksgiving, optimism, self-esteem path model.

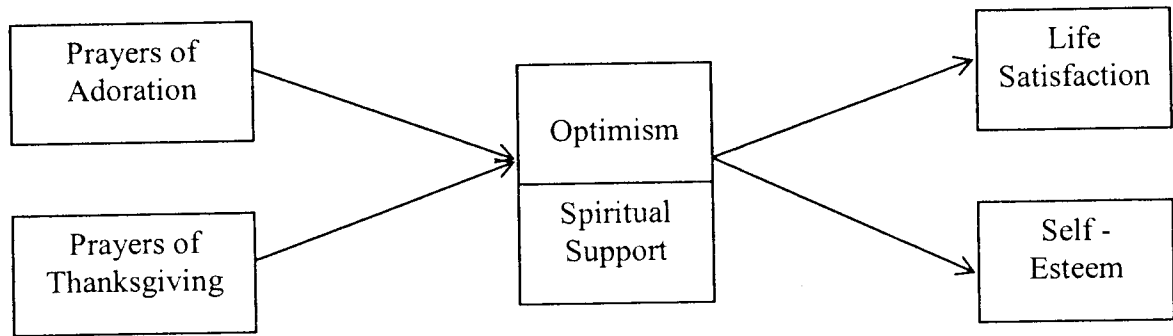
Figure 10. Thanksgiving, optimism, life satisfaction path model.

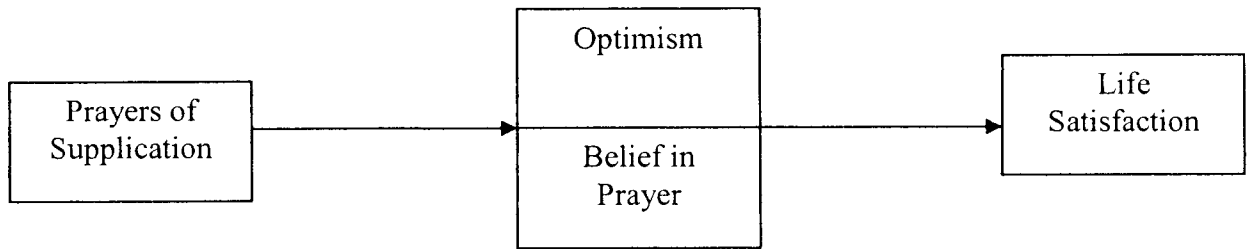
Figure 11. Thanksgiving, spiritual support, life satisfaction path model.

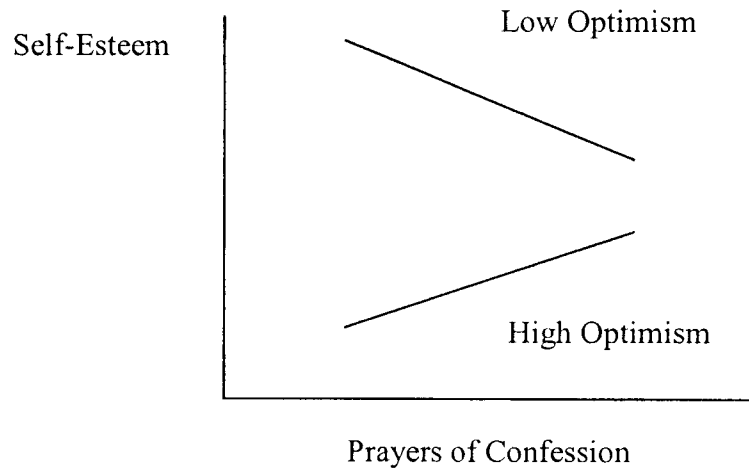
Figure 12. Belief in prayer, optimism, prayers of supplication path model.

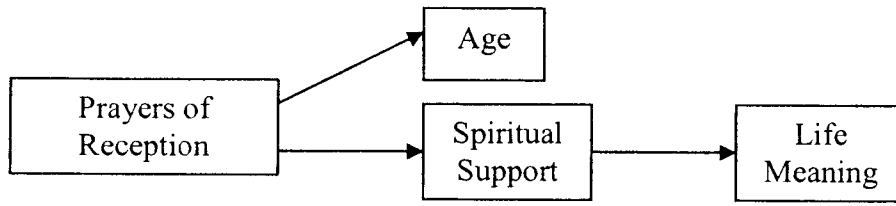
Figure 13. Prayers of reception, spiritual support, life meaning path model.

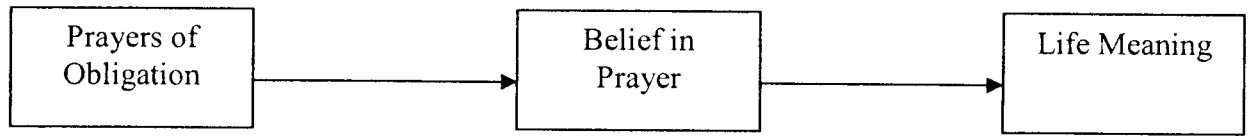
Figure 14. Prayers of obligation, belief in prayer, life meaning path model.

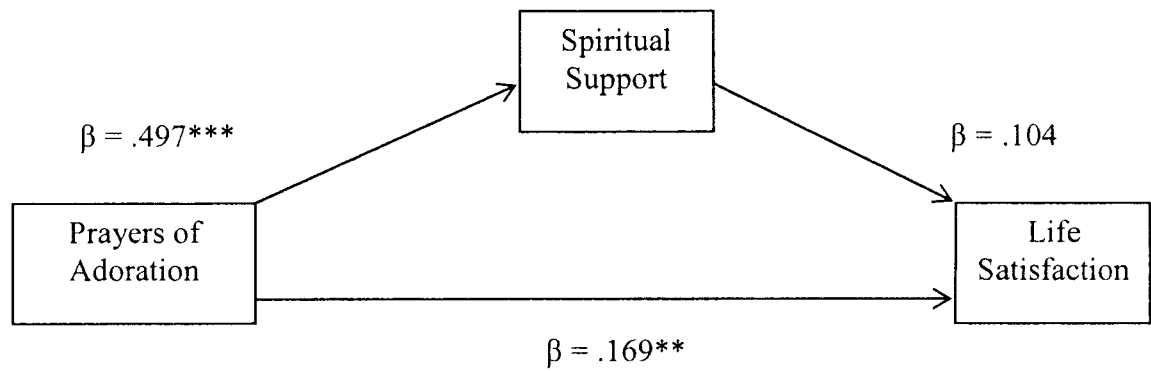






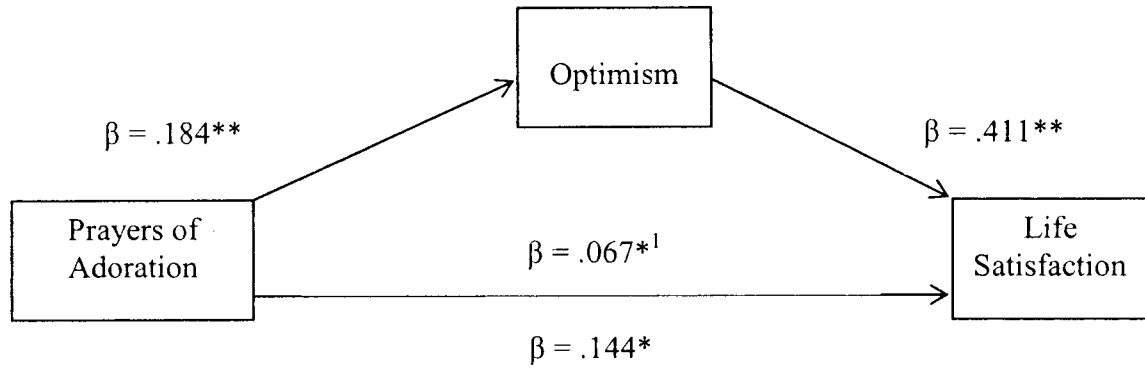






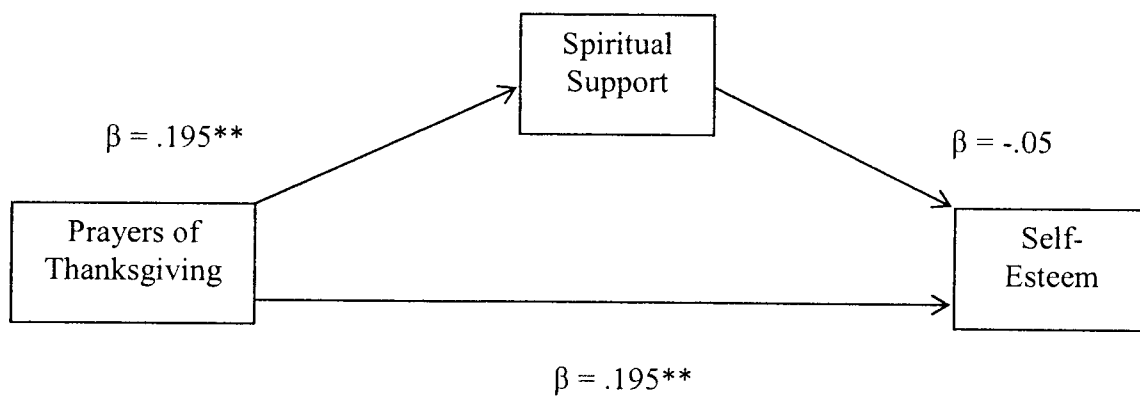
* = $p < .05$, ** = $p < .01$, *** = $p < .001$

Note: On this and all subsequent path diagrams the results displayed directly beneath the bottom line represent the linear regression analysis between the two illustrated variables. The results displayed above the line between the two variables represent the linear regression analysis between those two variables after controlling for the effect of the variable above, at the top of the figure.

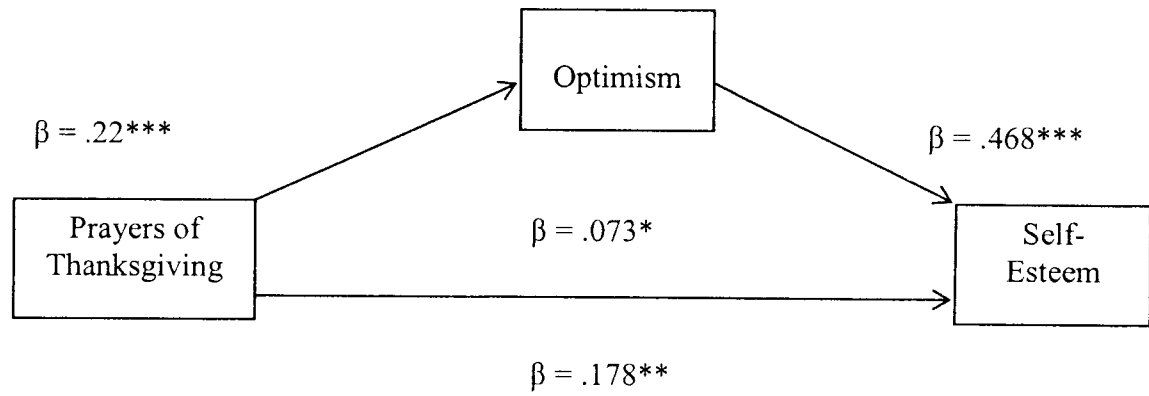


Sobel's Test: $z = 2.95, p < .01$

* = $p < .05$, ** = $p < .01$, *** = $p < .001$

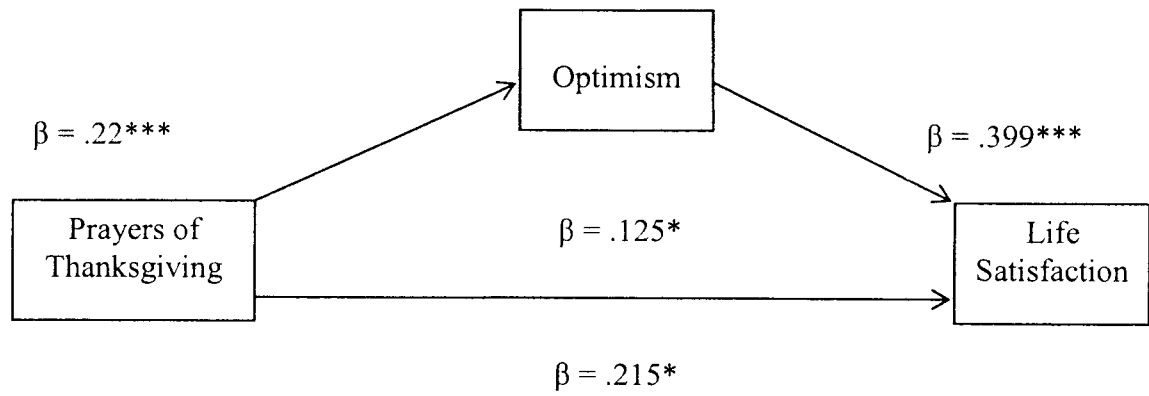


* = $p < .05$, ** = $p < .01$, *** = $p < .001$



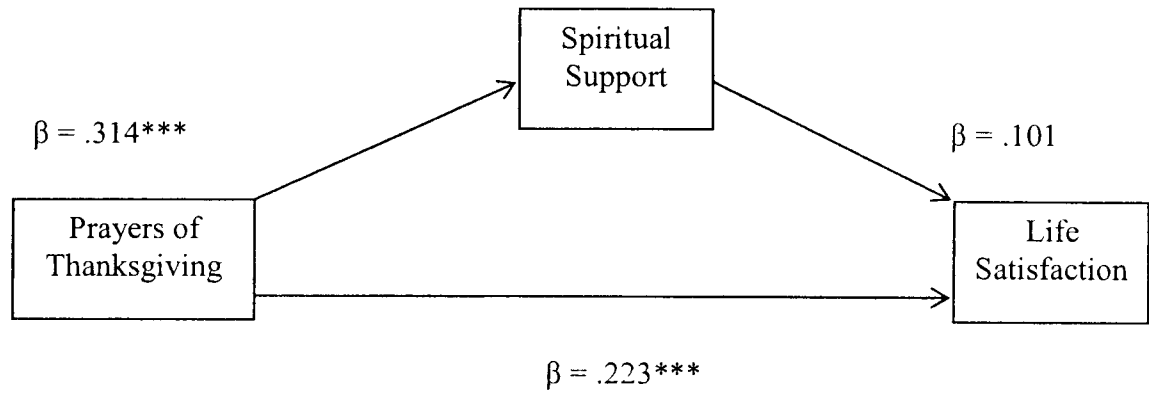
Sobel's Test: $z = 3.53, p < .001$

* = $p < .05$, ** = $p < .01$, *** = $p < .001$

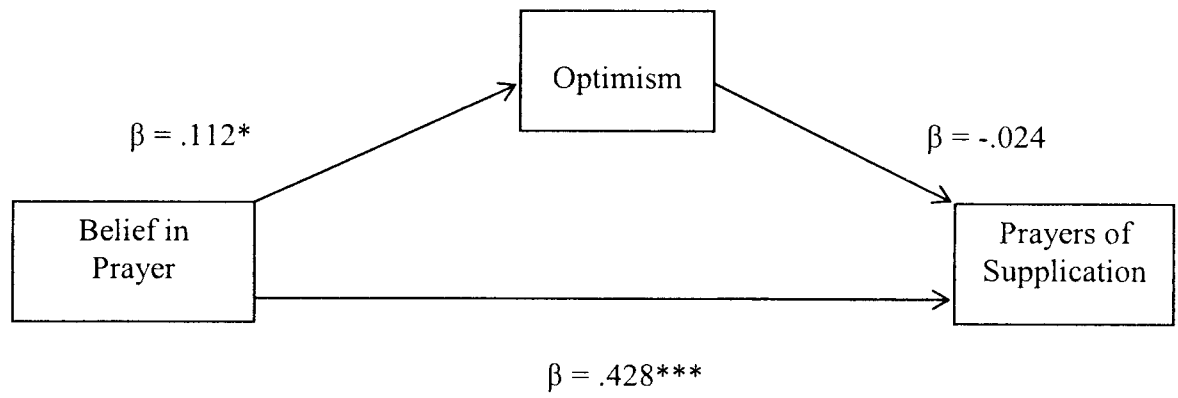


Sobel's Test: $z = 3.42, p < .001$

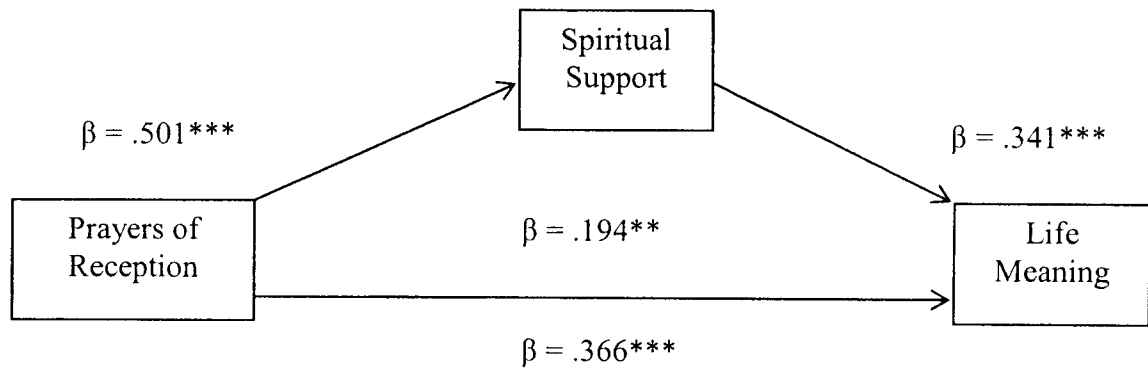
* = $p < .05$, ** = $p < .01$, *** = $p < .001$



* = $p < .05$, ** = $p < .01$, *** = $p < .001$

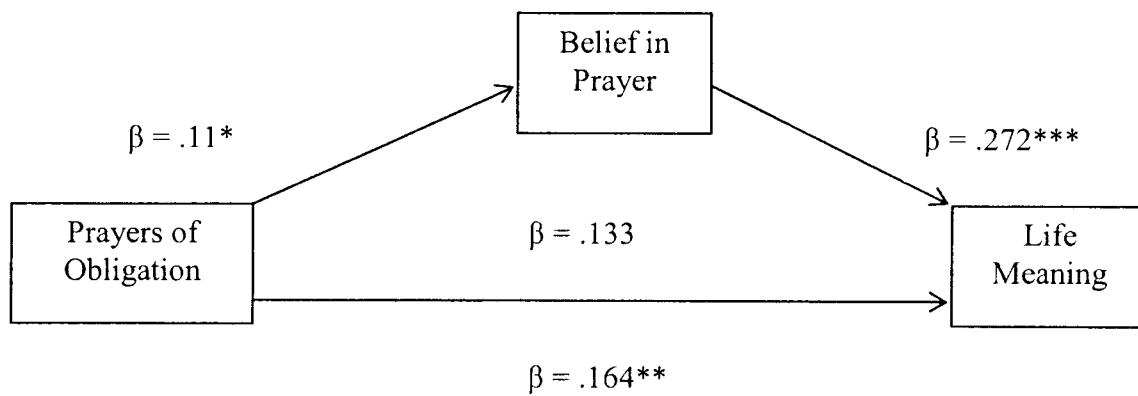


* = $p < .05$, ** = $p < .01$, *** = $p < .001$



Sobel's Test: $z = 4.74, p < .001$

* = $p < .05$, ** = $p < .01$, *** = $p < .001$



Sobel's Test: $z = 1.80, p > .05$

* = $p < .05$, ** = $p < .01$, *** = $p < .001$