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# The Effects of Prayer and Prayer Experiences on Measures of General Well-Being

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**Although some 90% of all Americans claim to pray, a review of social science literature will reveal that researchers have shown little interest in the topic. The 1985 Akron Area Survey which focused on religiosity and subjective perceptions of well-being included items measuring the frequency of prayer, prayer experiences, and different forms of prayer, together with more standard measures of religiosity. The results demonstrate significant relationships between the varying measures of prayer and the different well-being measures included in this survey. A factor analysis of 15 prayer activity items identified four types of prayer which relate differently to the well-being measures. Prayer, like its parent concept religiosity, is clearly multidimensional and contributes to a profiling of well-being.**

**A**ccording to Gallup surveys, 9 in 10 Americans say that they pray—the same proportion recorded in regular surveys taken over the last 4 decades. Although the percentage of Americans who pray at least occasionally has been

remarkably stable in surveys since 1948, the Gallup Report (1987) noted sharp swings that have occurred in the frequency of praying. Surprisingly few demographic differences are found among the population who ever prays, but some differences do exist among those who pray three times a day or more. The Gallup Report (1985) summarized the main finding as follows: "While the overall national figure for this group (of frequent pray-ers) is 19 percent, the percentages for woman, older persons, blacks and Protestants are higher" (p.45). Despite the prevalence of prayer in the American population, few sociologists or psychologists have explored the topic beyond such preliminary survey findings. As Capps (n.d.) noted: "Classical psychologists of religion were far more interested in prayer than psychologists of religion are today" (p.2).

Finney and Malony's (1985) excellent review of empirical studies of Christian prayer since 1872 supported Capps' astute observation. Among the 16 empirical studies reviewed were Francis Galton's (1872) inquiry on the efficacy of prayer that dates to the beginning of psychology and two of the most recent reports (Mallory, 1977; Sacs, 1979) which were conducted a century later. These empirical studies of Christian prayer may be divided into four categories: (a) developmental studies, (b) motivational studies, (c) studies on the effects of verbal prayer, and (d) studies on the effects of contemplative prayer. The six studies on the development of the concept of prayer, Finney and Malony (1985) noted, "provide the most

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conclusive findings since their results are convergent" (p.112), that is, they are strongly consistent with Piaget's stages of moral development. The two studies on motivations for praying focused on petitionary prayer and whether petitionary prayer in adulthood was a positive means of adjustment to unusual or baffling situations or just a neurotic flight from frustration. The findings suggested that "petitionary prayer is motivated both by the need to reduce frustration and by the need to adjust to unusual situations"—and is "thus not necessarily just a neurotic flight from the unpleasant" (p.112). The six studies of the effect of verbal prayer and two on the effect of contemplative prayer were explanatory attempts to determine the degree to which verbal and contemplative prayer might enhance psychological health.

James (1902/1963) called prayer "the very soul and essence of religion," and Heiler (1932/1958) referred to it as "the most spontaneous and the most personal expression of religion" (both quoted in Meadow & Kahow, 1984, p.113). Heiler (1932/1958) went on to describe two types of prayer, *mystical* and *prophetic*. Mystical prayer, which Heiler incorrectly assumed was not compatible with Christianity, might be better termed meditative prayer, with its mystical form representing an advanced stage of contemplation. Prophetic prayer, involving a spontaneous expression of emotion, usually is verbal and can accurately be labeled as *verbal* prayer. Heiler's (1932/1958) twofold typology represents an attempt to distinguish more passive prayer (i.e., meditative) from more active forms of verbal prayer.

Another dichotomy in types of prayer was developed by Pratt (1930), who distinguished between objective and subjective prayer. Objective prayer focuses on the object of one's religious devotion (i.e., God), whereas subjective prayer centers primarily on the needs of the person praying. Prayers of intercession and petition are typical forms of subjective prayer, whereas adoration represents a form of objective prayer. Depending upon the motives of the one praying, prayers may be a blend of objectivity and subjectivity. It would appear, however,

that meditative prayer, which seeks intimacy and union with the Divine, is more likely to be *objective* while verbal prayer may be either *objective* or *subjective* in nature. Although these various studies span decades, most lack the rigor demanded of contemporary research. Yet, despite the paucity of scientific research, little interest has been demonstrated in this important topic.

The dearth of empirical research on prayer is reflected in social science texts on religion. Leading books dealing with social science and religion have made either no mention of prayer (e.g., Batson & Ventis, 1982; Johnstone, 1988; McGuire, 1987; Roberts, 1984) or have presented only passing mention of some aspects of prayer (e.g., Chalfant, Beckly, & Palmer, 1987; Spika, Hood, & Gorsuch, 1985). Of the popular texts reviewed, only Meadow and Kahoe (1984) devoted part of a chapter to prayer. Noting the inconclusive findings of some of the studies that do exist on the topic, Meadow and Kahow (1984), despite their obvious interest, suggested that such research may not prove productive:

If a deity can meaningfully answer a believer's prayer, and if prayer is to remain a spiritual rather than a magical exercise, then surely that same deity would make sure that all empirical studies of the efficacy of prayer will turn out inconclusive! The evidence of the effectiveness of prayers, as they touch events in the material world, remains outside the domain of science. The faithful who want to believe can believe, and the skeptic who chooses not to believe could not be convinced. (p.120)

Whether this reluctance represents a fear of touching a sacrosanct subject, a fear of confusing or inconsistent results, or simply a lack of interest, we concur with Finney and Malony (1985) who stated, "The subject is of such importance that prayer research should proceed" (p. 113). It is toward that goal of moving prayer toward its place among the regularly measured dimensions of religion that this article is intended.

Interfaced with the lack of interest in prayer is a benign neglect of the larger topic of religiosity in well-being research. Most no-

table studies of well-being have neglected the inclusion of religiosity dimensions or have measured religiosity in a haphazard fashion (c.f., Campbell, Converse, & Rogers, 1976; Emmons & Diener, 1984; Heady, Glowacki, Holmstrom, & Wearing, 1985; Horley & Little, 1985; McNeil, Stones, & Kozma, 1986). Even though Moberg and Buresek (1978) noted the deficiency of including the religious domain in studies on well-being more than a decade ago, and Witter, Stock, Okun, and Haring (1985), in their review of the literature on well-being, identified religion as an important explanatory source for well-being, little has been accomplished in studying the multidimensional nature of religiosity and well-being (see also Diener, 1984). Notable exceptions to the paucity of empirical research include Peterson's and Roy's (1985) construction of indices to measure religious salience, comfort, and orthodoxy and Willits and Crider's (1988) investigation of middle-aged people from an extensive 37-year panel study. Both reached the conclusion that dimensions of religiosity have important effects on one's perceptions of well-being. Most recently, we (Poloma & Pendleton, 1989) found eight indicators and scales of religiosity to be important predictors of general life satisfaction, existential well being, and overall happiness.

### Method

#### Sample

Each fall, since 1982, subjective quality of life ratings have been collected through telephone interviews with a large random sample of persons in Summit County, Ohio (the greater Akron area). The 11 quality of life domains included in this annual Akron Area Survey (AAS) are satisfaction with each of the following: (a) living in Akron, (b) employment status, (c) work at home, (d) religion, (e) education, (f) friends, (g) household members, (h) marital status, (i) standard of living, (j) schooling, and (k) health. Each year's survey also has an additional substantive focus, determined by the senior author in 1985 to involve a variety of religious dimensions in response to the dearth of research on religiosity

in quality of life research.

Respondents are randomly selected for the telephone interviews from households chosen by the random digit dialing method which enables households with unlisted numbers to be included (see, Bailey, 1982; Klecka & Tuchfarber, 1978). Trained graduate and undergraduate students conducted the telephone interviews from a centralized telephone laboratory at The University of Akron (McClendon & O'Brien, 1984) incorporating a Computer Assisted Telephone Interviewing (CATT) system. The 1985 AAS netted 560 completed interviews, representing a response rate of 89% of all households who started this very long survey. Because a rather intricate screening process is employed at the beginning of the survey to identify the sex and head-of-household status needed for the respondent, certain households contacted were not interviewed. Even when these are included in an overall response rate, 54% of all households initially contacted completed all or part of the survey, surpassing the 50% overall response rate needed to establish generalizability (Babbie, 1986).

Of the respondents, 95% claimed a religious affiliation. Of these, 25% were Catholic, 1% Jewish, 1% Orthodox, 54% Protestant and 13% were "other" (i.e., Jehovah's Witness, Christian Science, Unity, and a few Eastern religions). Sixty-eight percent currently are members of a particular church, 86% attended church within the past year, and 92% pray. The AAS-85 sample is very similar to the 1985 Gallup Report in which 91% claimed a religious preference (57% were Protestants, 28% Catholics, and 2% were Jewish), 70% were church members, and 87% said they prayed.

#### Variable Measurements

Four semantic differential scales with values ranging from one to seven were used to measure the respondent's subjective satisfaction with each of the 11 well-being domains noted above. The questions in each domain asked respondents to evaluate how miserable/enjoyable, boring/interesting, disappointing/rewarding, and dissatisfying/

satisfying they found each domain. The responses to the four items within each set were averaged together to form a single well-being measure for each domain. To measure satisfaction with religion (RELSAT), for example, the respondents were asked, "Which number from 1 to 7 best describes how miserable or enjoyable your religious life is?" (with 7 representing the enjoyable end of the continuum). This was followed by questions about disappointment/reward, boredom/interest, and satisfaction/dissatisfaction.

This same semantic differential was used to allow respondents to describe their life in general, resulting in a composite life satisfaction indicator. In addition to life satisfaction, three other measures of well-being were constructed: negative affect, existential well-being, and a single-item question on happiness. The indices were formed conceptually—life satisfaction by Campbell, et al. (1976), negative affect by Krause (1982) and Radloff (1977), and existential well-being by Poloma (1986) and Poloma and Pendleton (1989). The single-item question on happiness, regarded as the most common and available measure of psychological well-being, has been used extensively for over 40 years (McNeil et al., 1986; Smith, 1979). For all scales except negative affect, a higher number corresponds to positive life descriptions (enjoyable, interesting, rewarding, or satisfying). A larger value for negative affect reflects greater sadness, loneliness, tenseness, and fearfulness.<sup>1</sup>

The religiosity measures used in this study included both objective indicators and subjective perceptions (e.g., Chalfant et al., 1987). The subjective measures included two indexes—one of religious experiences in prayer (prayer experiences) and one measuring satisfaction with the respondent's state of religiosity (religious satisfaction). A single item rating the respondent's closeness to God represented the third subjective measure. The objective indicators included church attendance, church membership, whether the respondent reported being "born again," frequency of prayer, and whether the respondent engaged in small group prayer with family or friends. Recognizing that prayer

is not an ambiguously defined phenomenon, 15 questions tapping private prayer activities also were included in the survey.

## Results

### *Types of Prayer*

As noted previously, various types of prayer have been conceptually delineated, but in recognition that these types of prayer should be empirically related, oblimin rotation was chosen for the factor analysis on the 15 prayer activity items contained in the AAS-85. The SPSSX statistical package was used (SPSSX, 1988). AAS-85 respondents were introduced to the questions on the different types of prayer with the following statement: "Different people pray in different ways. I am going to mention some things you may do when you pray. Not counting the time you pray in a church (synagogue) service, how often do you . . . (followed by the prayer activity item)?" Four types of prayer factors and their respective loadings are displayed in Table 1. All loadings on other factors were below .40; no item was multidimensional across two or more factors.

Obviously, the nature of prayer cannot be captured by the dichotomous descriptions found previously in the literature. The continuous effects of types of prayer and other religion and sociodemographic variables on measures of well-being will now be explored.

### *Bivariate Relationships*

Reported in Table 2 are the Pearson correlations for the 22 well-being, religious, and sociodemographic scales and the unidimensional indicators.

All of the significant correlations between life satisfaction, existential well-being, happiness, and religious satisfaction and the religious measures were positive, as would be expected. Only two of the relationships between negative affect and measures of religiosity were significant; surprisingly, both of these were with types of prayer measures (petitionary and ritualistic prayer) and were in a positive direction. In other words, those who engage exclusively in rote and mechanical

Table 1  
Four Types of Prayer Factors from Factor Analysis of 15 Prayer Activities

Types of prayer	Factor loading	
	$\bar{X}$	$SD$
Factor 1: Colloquial prayer	3.42	.61
How often do you ask God to provide guidance in making decisions?	.78	
Thank God for his blessings?	.71	
Ask God to forgive you your sins?	.79	
Talk with God in your own words?	.65	
Ask God to lessen world suffering?	.70	
Spend time telling God how much you love him?	.43	
(Eigenvalue = 6.13)		
Factor 2: Petitional prayer	2.23	.92
How often do you ask God for material things you may need?	.93	
Ask for material things your friends or relatives may need?	.89	
(Eigenvalue = 1.42)		
Factor 3: Ritual prayer	2.29	.94
How often do you read from a book of prayers?	.77	
How often do you recite prayers that you have memorized?	.80	
(Eigenvalue = 1.18)		
Factor 4: Meditative prayer	2.94	.72
How often do you spend time just "feeling" or being in the presence of God?	.78	
How often do you spend time just quietly thinking about God?	.77	
Spend time worshipping or adoring God?	.53	
Spend time reflecting on the Bible?	.72	
Ask God to speak and then listen for his answer?	.47	
(Eigenvalue = 1.07)		

prayer are more likely to report frequent feelings of sadness, loneliness, tension, and fear than those who are less likely to engage in rote and mechanical prayer. In general, a majority of the bivariate relationships were statistically significant at  $p < .01$ .

### Types of Prayer and General Well-Being

Table 1 shows that prayer takes four different forms. The five types of general well-being were each regressed on six prayer measures, including the four forms of prayer, the frequency of prayer, and prayer experiences. Because we have no logical or theoretical basis for stating causal priorities among variables, simultaneous and hierarchical regression was used (Cohen & Cohen, 1975) to determine whether patterns of absolute or relative differences existed. Results of these regressions are shown in Table 3.

The first equation (EQ1) for each well-being measure included only the sociodemographics. The second equation (EQ2) included the two measures of prayer and the third equation (EQ3) added the types of prayer. Among the sociodemographics, income was the most consistent and strongest predictor of any well-being measure. The index measuring subjective experiences during prayer was a more consistent predictor of the various measures of well-being than frequency of prayer.<sup>2</sup> It appears that it was not necessarily the frequency of prayer that affected well-being, but rather whether the one praying experienced an interaction with God in terms of "being led," answered prayer, and increased peace.

Although prayer experiences generally are better predictors of well-being than any one of the four types of prayer, a close reading of equation three (EQ3) in Table 3 reveals

Table 2  
Zero-Order Correlations Among Measures of Religiosity and Well-Being (N = 560)

	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
Well-Being																						
1. Life satisfaction	.52***																					
2. Existential	-.32***	.61***																				
3. Negative affect	-.24***	.43***	.37***																			
4. Happiness	-.35***	-.06	-.25***	.38***																		
5. Religious satisfaction	.25***	.17***	.16***	.16***	.16***																	
Types of prayer	.48***	.17***	.16***	.16***	.16***	.16***																
6. Colloquial	.58***	.17***	.16***	.16***	.16***	.16***	.22***															
7. Meditative	.72***	.37***	.37***	.37***	.37***	.37***	.33***	.38***														
8. Petitional	.37***	.37***	.37***	.37***	.37***	.37***	.31***	.59***	.54***													
9. Ritualistic	.10*	.32***	.27***	.27***	.27***	.27***	.10*	.32***	.27***	.36***												
Personal religion	.01	.23***	.12**	.28***	.26***	.26***	.01	.32***	.27***	.49***	.41***											
10. Born again		.36***	.49***	.41***	.22***	.43***	.36***	.46***	.46***	.49***	.41***	.45***										
11. Closeness to God			.49***	.41***	.22***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***									
12. Belief				.49***	.41***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***								
Institutional religion					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***							
13. Church attendance					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***						
14. Church membership					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*					
Prayer					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***				
15. Frequency of prayer					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*			
16. Prayer with others					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***		
17. Prayer experiences					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***	-.12*	
Sociodemographics					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***	-.12*	
18. Age					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***	-.12*	
19. Education					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***	-.12*	
20. Sex					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***	-.12*	
21. Income					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***	-.12*	
22. Race					.49***	.43***	.36***	.46***	.46***	.49***	.41***	.45***	.22***	.22***	.30***	.50***	.12*	-.27***	.11*	-.22***	-.12*	

\* $p < .05$  \*\* $p < .01$  \*\*\* $p < .001$

Table 3  
Multiple Regression of Measures of Well-Being on Types of Prayer (N = 560)

Independent variables	Dependent measures of well-being (Betas reported)											
	EQ1	EQ2	EQ3	EQ1	EQ2	EQ3	EQ1	EQ2	EQ3	EQ1	EQ2	EQ3
<b>Sociodemographics</b>												
Education	.14**	-.12**	-.12*	-.07	-.05	-.05	-.05	-.06	-.06	-.07	-.06	-.05
Sex	.12**	.11*	.09*	.08	.14**	.01	.14**	.14**	.07	.08	.07	.05
Race	.03	.05	.06	-.10*	-.06	-.06	-.05	-.06	.01	-.01	.01	.02
Income	.21***	.24***	.25***	.10*	.15**	.17***	-.23***	-.23***	.23***	-.20***	.23***	.24***
Age	.06	.03	.02	.06	-.02	-.01	-.14**	-.13**	.03	.06	.03	.02
<b>Plus prayer items</b>												
Frequency of prayer			-.09	.11*	.01	.01	.03	.02	-.07	-.14*	-.07	-.14*
Prayer experience			.19**	.24***	.25***	.16**	-.06	-.06	.27***	.21**	.27***	.21**
<b>Plus types of prayer</b>												
Meditative			.05		.16*			-.02				.05
Ritualistic			.01		.04		.14**					-.03
Petitionary			.02		-.03		.05					-.01
Colloquial			.08		.09		-.03					.14*
R	.23	.31	.32	.16	.35	.38	.32	.35	.30	.19	.34	.32
Adj. R <sup>2</sup>	.04	.09	.09	.02	.11	.13	.09	.10	.08	.03	.11	.08
F	5.50***	7.40***	5.00***	2.70*	9.50***	7.40***	10.70***	6.00***	6.70***	3.70**	12.40***	4.90
Increase in R <sup>2</sup>	.05**	.05**	.00	.09***	.09***	.02	.00	.01	.05***	.05***	.21***	.00

\*p < .05 \*\*p < .01 \*\*\*p < .001



some important information about the relationships among types of prayer and well-being. Meditative prayer demonstrated a significant relationship with existential well-being ( $B=.16, p < .05$ ) and religious satisfaction ( $B=.33, p < .001$ ), but none of the verbal types of prayer affected these two measures of well-being. Only colloquial prayer was a predictor of happiness ( $B=.14, p < .05$ ). Ritual prayer alone demonstrated a positive relationship with negative affect ( $B=.14, p < .01$ ), suggesting that those who engage solely in this type of prayer are more likely to be sad, lonely, depressed, and tense.

Equation three (EQ3) for each measure of well-being created the most complete picture of well-being predictors. High general life satisfaction, for example, tended to be related to lower levels of education, relatively higher incomes, and higher frequencies of prayer experiences. Higher existential well-being was related to higher income, more frequent prayer experiences, and the use of meditative prayer. High negative affect scores (reflecting sadness, loneliness, tenseness, and fearfulness) were correlated with younger ages, females, lower income levels, and use of ritual forms of prayer. Higher happiness scores were correlated with the use of colloquial form of prayer, prayer experiences, and less frequency of prayer. Religious satisfaction was positively related to age, frequency of prayer, prayer experiences, and the use of meditative prayer.

### **Religious Dimensions and General Well-Being**

Displayed in Table 4 are the results of regressing each of the five measures of general well-being on the various religious dimensions. Again, hierarchical regression was performed with equation one (EQ1), including the various religiosity measures, and equation two (EQ2), adding the three prayer measures.

Looking at each equation two (EQ2), two of the three measures of prayer, frequency of prayer and prayer experience, were statistically significant in predicting three of the well-being measures. Frequency of prayer was related to general life satisfaction when

other dimensions of religion were controlled ( $B=.17, p < .01$ ), but in a negative direction, whereas prayer experience positively affected both happiness and religious satisfaction ( $B=.18, p < .01$ , and  $B=.16, p < .01$ , respectively).

Existential well-being was predicted only by one's relationship with God ( $B=.12, p < .05$ ); the closer one feels to God the greater sense of purpose one feels about life. Relationship with God alone accounted for 14% of the variance in existential well-being.

Somewhat surprisingly, no religious dimension contributed to an understanding of negative affect. A review of the significance levels showed that no religious dimension was even close to being important, and the overall equation was not significant.

Happiness was related to being a member of a church or synagogue and having had prayer experiences, whereas high religious satisfaction was related to feeling very close to God, attending church or a synagogue, and having prayer experiences. These three dimensions of religion explained more than 44% of the variance in religious satisfaction.

### **Discussion**

It has been noted many times that the concepts of well-being and religiosity are multidimensional. Used in this article were five measures of well-being: general life satisfaction, existential well-being, negative affect, happiness, and religious satisfaction. All but happiness are indices. Although empirically related to one another, they conceptually tap into different dimensions of well-being.

Measures of religiosity went beyond the traditional, and rather cursory, use of church attendance and frequency of prayer. An important contribution of the article is the empirical designation of four types of prayer, providing partial support for conceptual schemes developed previously.

As theorized by Heiler (1932/1958) and Pratt (1930) and reiterated by Meadow and Kahoe (1984), the meditative prayer index includes components of intimacy and personal relationships with the divine like "being in the presence of God," "thinking

Table 4  
Multiple Regression of Well-Being Measures on Religious Measures

Independent measures	Dependent measures of well-being (Betas reported)											
	Life satisfaction		Existential well-being		Negative affect		Happiness		Religious satisfaction			
	EQ1	EQ2	EQ1	EQ2	EQ1	EQ2	EQ1	EQ2	EQ1	EQ2		
<b>Religious measures</b>												
Born again	.09	.08	.15**	.11	.03	.03	.11*	.07	.09	.03		
Closeness to God	.13*	.15**	.16**	.12*	-.02	-.04	.06	.03	.37***	.31***		
Relief	-.04	.00	-.01	-.01	.11	.08	-.11	-.08	.08	.06		
Church attendance	.16*	.18**	.14*	.09	-.07	-.08	.09	.07	.36***	.31***		
Church membership	.01	.01	.04	.06	-.04	-.04	.10	.11*	-.10*	-.08		
<b>Plus prayer measures</b>												
Frequency of prayer		-.17**		-.02		.10		-.12		.04		
Pray with others		.01		.09		-.05		.03		.01		
Prayer experiences		.09		.11		.01		.18**		.16**		
R	.29	.31	.37	.39	.12	.15	.22	.27	.66	.67		
Adj. R <sup>2</sup>	.07	.08	.13	.14	.01	.01	.04	.05	.42	.44		
F	7.10***	5.40***	12.80***	9.10***	1.20	1.20	4.30***	4.00***	61.70***	41.50***		
Increase in R <sup>2</sup>		.01		.01*		.00		.01*		.02**		

\*  $p < .05$  \*\*  $p < .01$  \*\*\*  $p < .001$

about God," and "adoring, reflecting and communicating." The other three types of prayer colloquial, petitionary, and ritual, all refer to more active, verbal, or intercessional forms of prayer. Colloquial prayer incorporates within its conversational style petitionary elements but of a less concrete and specific form than petitionary prayer. These include asking for God's guidance, forgiveness, blessings, and lessening of the world's suffering. It also includes conversational prayers of thanksgiving and love. Petitionary prayer involves requests to meet specific material needs of self and friends. Ritual prayer signifies the recitation of prepared prayers available through reading or from memory.

The results of this factor analysis provide strong empirical support for the theorized nature of meditative prayer and also clearly demonstrate the multidimensionality of "verbal" prayer by empirically forming three types of verbal prayer. The factor analysis clearly delineated these four prayer types (one meditative and three verbal) and it was found that each type, except petitionary prayer, provides unique contributions to four of the five measures of well-being.

Of particular significance is the finding that two of the three prayer-related dimensions of religiosity, frequency of prayer and prayer experiences (but not praying with others), were consistently among the best predictors of well-being when all other religiosity measures are controlled.

Taking these findings together, certain points may be made. First, frequency of prayer (the item usually used when prayer is measured) appears to be a weak predictor of well-being and is not without ambiguity. Its negative relationship with happiness and positive relationship with religious satisfaction (the two final equations in which frequency of prayer was statistically significant) suggest that those who report higher happiness scores do not pray as frequently. Those who report higher happiness or religious satisfaction scores tend to report more prayer experiences, when all other variables are controlled. When they do pray, they are more likely to use a conversational, verbal prayer style than any other form.

The bivariate relationship between frequency of prayer and happiness is positive and nonsignificant; it becomes negative and significant when controls are enacted, reflecting some ambiguity in its effect on happiness. It may be that when persons are unhappy, they may turn to prayer—but saying prayers without corresponding prayer experiences is not likely to alleviate the unhappy feelings. On the other hand, those who pray frequently or who have prayer experiences are more likely to score high on religious satisfaction. They are also likely to rely on meditative rather than verbal forms of prayer.

It also is important to highlight the negative relationship that frequency of prayer has with life satisfaction. A religious profile of those with high life satisfaction, once other religious measures are controlled, would include those who feel very close to God and attend church (or synagogue) frequently, but who pray infrequently. It is plausible that the overt sense of community obtained through frequent church or synagogue attendance coupled with the strong emotion of being close to God provides greater insights to the concept of life satisfaction than measures of "how often do you pray," which are customarily used in bivariate investigations. The correlation between life satisfaction and frequency of prayer was a statistically significant value ( $r = .09$ ,  $p < .05$ ), but when other dimensions of religion were controlled, it was clear that frequency of prayer is actually a misleading proxy for the religious contributions to general life satisfaction.

What appears to be more important than the frequency of prayer is what happens when one prays (prayer experience) and what one actually does during prayer (meditative, ritualist, petitionary, or colloquial). Having prayer experiences was consistently related to four of the scales measuring well-being, failing to demonstrate significance only for negative affect. Only meditative prayer, by itself, was related to two measures of well-being: existential well-being and religious satisfaction, whereas petitionary prayer related to none. However, colloquial prayer was the only prayer form that affected

happiness, and ritual prayer was the lone type of prayer effecting negative affect. It is interesting to note that, with the exception of general life satisfaction which related to none, each of the well-being measures was influenced by only one type of prayer. In other words, no measure of well-being was influenced by more than one type of prayer. Existential well-being was affected by meditative prayer, negative affect by ritual prayer, happiness by colloquial prayer, and religious satisfaction by, again, meditative prayer.

The influence of meditative prayer on existential well-being is predicted by theories of the function of religion. The "meaning of life" component of existential well-being should be influenced by the contemplative nature of meditative prayer. Those high on negative affect, reflecting sadness, loneliness, tenseness and the like, engage in the only kind of prayer they know—ritual. When "feeling down" one tends to engage in the routine of ritual prayer, not in the more demanding forms of verbal or meditative prayer which require skills previously developed by the one praying. Happiness is not really a religious issue; there is no promise of earthly happiness among the major religions represented in this sample ("eternal" happiness is not earthly happiness). Thus, the effect of colloquial prayer on happiness may reflect more of a personality disposition toward an active, expressive mode at the time. The different dimensions of well-being tapped in this study show differing relationships with forms of prayer but a consistent and positive relationship with prayer experience.

Two things are apparent. First, the use of limited measures of religiosity, like "church attendance," "orthodoxy," "church membership," and/or "frequency of prayer," do a severe injustice to the conceptual nature of religiosity. Such measures do not adequately define the degree to which people are satisfied or dissatisfied with their lives. This article clearly delineates patterns by which various measures of religiosity, most notably "relationship with God," "prayer experiences," and "church attendance," provide for greater general life satisfaction, greater existential well-being, happiness, and religious

satisfaction.

Secondly, it is apparent that the often-used item "frequency of prayer" glosses over the important questions of "What do you do when you pray" or "How do you pray," as opposed to "How often do you pray." Prayer, like religiosity and well-being, is multidimensional. There is now empirical support for such a contention.

The failure of researchers to include measures of religiosity in studies of general well-being has been reviewed by scholars (McNamara & St. George, 1979; Moberg & Brusek, 1978; Witter, Stock, Okun, & Haring, 1985) and is slowly being rectified (cf., Benson, 1984; Poloma, 1986; Poloma & Pendleton, 1989). Prayer, the focus of this article, has been omitted in most research, including quality of life research. This article identifies not only the multidimensional nature of prayer but also its importance to profiling well-being. It can be said that religiosity and prayer contribute without question to one's quality of life and perceptions of well-being.

#### Footnotes

<sup>1</sup>Scale items, means, standard deviations, and reliability coefficients are available upon request from the first author.

<sup>2</sup>One of the reviewers raised the issue of multicollinearity at this point and referred to the .50+ correlations between frequency of prayer and other prayer items. Although multicollinearity always is a difficult situation to identify and correct for, we believe the degree to which the independent variables are multicollinear is not detrimental to the analysis. Most authors will use .70 as the cutoff for deciding if multicollinearity might be a problem when bivariate relationships are being reviewed (Cohen & Cohen, 1975; Pedhazur, 1982; Lewis-Beck, 1980). Berry and Feldman (1985) used .80; Edwards (1979) implied .60.

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