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Individual Prayer Behavior in Times of Personal Distress: Typological Development and Empirical Examination with a College Student Sample

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Despite its ubiquity and religious importance, individual prayer in times of personal distress has not received much research attention. The current study presents a conceptual analysis and typology of individual prayer behavior in times of distress, and examines the influence of denomination, religiosity, and perceptions of God on these types of prayer. College student participants (N = 596) completed measures of religiosity (belief in God, church attendance, and intrinsic religiosity), perceptions of God (lovingness and controllingness), and denomination, along with the Individual Prayer about Problems Inventory (IPPI), which was developed for this study. Results indicate that some types of individual prayer about problems are more widely utilized (e.g., asking for coping assistance, disclosing about the problem) than are others (asking for enlightenment, bargaining) and that denomination, religiosity, and the perceived lovingness of God influence how people approach God in times of personal difficulty.

Keywords: Prayer, distress, denomination, religious coping

For many people, prayer is an important religious practice. One recent survey showed that 84% of U.S. adults prayed within the past week (The Barna Group, 2006) while another found that 45% reported daily worship or prayer (Winseman, 2002). Although there are many motivations or purposes for praying, one central motivation is coping with personal difficulties (Pargament, 1997). Religious beliefs and practices, including prayer, are viewed as especially relevant in times of distress (Bjorck & Cohen, 1993; Janssen, DeHart, & Den Draak, 1990), and the frequency or likelihood of prayer has been shown to increase with the severity of negative events (Ellison & Taylor, 1996). However, the close association between personal distress and prayer has not produced much empirical attention to *how* people pray when communicating with God about their problems.

There are scores of books that give advice about how to pray (e.g., Foster, 1992; Munroe, 2002), many from denominational perspectives (e.g., Felder, 2001; Lovasik, 1999), but these do not necessarily represent what people actually do. There is also a growing psychological literature on types and outcomes of religious coping, yet this literature treats prayer as one behavior among many that people use to express their broader “coping styles” (e.g., Pargament, Kennell, Hathaway, Gravengoed, Newman, & Jones, 1988; Pargament, Koenig, & Perez, 2000; for a review, see Pargament, 1997). And, although there is a small body of scholarship that focuses on describing how people actually pray, most scholars (both ancient and modern) have classified prayer into broad categories (such as contemplative, ritual, or colloquial; Baesler, 1999; Chamberlain & Hall, 2001; McCullough & Larson, 1999; Poloma & Pendleton, 1991) or, alternatively, examined prayer as enacted by particular religious groups (Bland, 1990). None of this work has focused on prayer in times of personal distress.

The way people pray about their problems is an aspect of religious communication worthy of greater attention for several reasons. As previously noted, prayer and personal distress are strongly associated (Ellison & Taylor, 1996); indeed, times of

personal difficulty may account for most instances of prayer (Janssen et al., 1990). In addition, for Christians, Jews, Muslims, and other monotheistic faiths, prayer to God is not just any “coping strategy,” but is regarded as direct communication with the Being at the core of one’s faith. Finally, it is critical to recognize that individual prayer allows people to speak “the words of their own hearts,”¹ perhaps especially when done in private and in a colloquial manner (though ritual forms may also convey personal thoughts and feelings). For all of these reasons, individual prayer behavior in times of difficulty provides a unique window on human relationships with the Divine, especially with regard to the role God is expected to play in addressing human problems. Further, from a practical perspective, knowing more about how people approach God could inform efforts by clergy to influence how their congregations pray, or help religiously-affiliated counselors understand and assist their clients.

Accordingly, the present paper provides a preliminary examination of individual prayer in times of personal distress. This examination has two components. First, we draw on work concerned with supportive communication, religious coping, and prayer to provide a conceptual analysis and typology of relevant prayer behaviors. Second, we present an empirical study of denomination and individual factors (religiosity and perceptions of God) as influences on prayer behavior in a college student sample. The following sections of the rationale present our analysis of different approaches to prayer in times of personal distress, followed by the hypotheses and research questions that guided our empirical research.

Literature Review

Prayer Behavior in Times of Personal Distress

Although there are numerous descriptions and typologies of prayer behavior, none are specific to individual prayer in times of personal distress (for a review of several ancient and modern typologies, see Baesler, 1999). For example, one commonly-referenced typology (Poloma & Pendleton, 1991) includes prayer

types that are relevant across life circumstances (e.g., contemplative prayer, ritual prayer, colloquial prayer). More recently, Laird, Snyder, Rapoff, and Green (2004) developed a self-report survey measure to assess the frequency of prayers of adoration, confession, thanksgiving, supplication, and reception. In these typologies, prayers about personal problems would likely be classified as "petition" or "supplication," but this classification does not illuminate the specific communication behaviors that people use in their prayers about distressing events. Consequently, the first stage in our research endeavor was to develop a detailed conceptualization and typology of prayer behavior that would be relevant in times of distress.

Supportive communication. One contributor to our conceptual analysis was research in the area of supportive communication (for a review, see Burleson & MacGeorge, 2002). This research describes different types of behaviors that people use to provide and seek support, along with the antecedents and consequences of such behaviors. A conceptual distinction is frequently made between support or support-seeking behaviors focused on the problem a person is experiencing and behaviors focused on the emotional distress associated with the problem (e.g., Burleson, 2003). Analogously, we reasoned that some prayer behaviors in times of distress would focus on the problem being experienced, and others would focus on the emotions associated with the problem. The supportive communication literature also suggests more specific distinctions between ways of praying about problems. For example, problem-focused behavior can take many forms (see MacGeorge, Graves, Feng, Gillihan, & Burleson, 2004) including problem analysis (helping to understand the problem), advice (recommendations for action to resolve the problem), or offers of tangible help (assistance in resolving the problem, or ameliorating its effects). Similarly, we reasoned that people could ask God for enlightenment to understand their problems, assistance to carry out problem-solving actions, or Divine intervention to remove or resolve the problem. Finally, the focus of the supportive communication literature on support between human beings led us to consider important ways in which seeking support from God

is a qualitatively different activity. In particular, we noted that God is often believed to judge and discipline humankind (this is certainly central to mainstream Judeo-Christian theology). Thus, at least with respect to some kinds of self-inflicted problems, seeking support from God may be seen as necessitating confession of sinful behavior, seeking forgiveness, or repentance.

Religious coping. The second contributor to our analysis of prayer about personal problems was the literature on religious coping, which describes different types of orientations toward the “use” of religion for coping. In particular, we made use of the distinction between Collaborative and Deferring styles of religious coping originally suggested by Pargament and colleagues (Pargament, Kennell, Hathaway, Gravengoed, Newman, & Jones, 1988). In the Collaborative style of religious coping, responsibility for managing problems is shared with God, whereas the Deferring style of coping places the ultimate responsibility with God.² This distinction suggests that some prayer behaviors might assign God the responsibility to improve the situation (e.g., asking for direct intervention), whereas others would suggest shared responsibility (e.g., asking for assistance to resolve the problem for oneself). In addition, the Deferring style suggests the specific prayer behavior of submission, or indicating one’s acceptance of the problem (as something for which God is ultimately responsible). Typologies of religious coping (e.g., Pargament et al., 2000) also informed the inclusion of specific prayer behaviors, especially bargaining (in which one promises to do or stop doing something in exchange for God’s help).

Criteria for selection. Because we wanted to develop a typology of individual prayer behavior in times of distress that would support subsequent empirical work, we supplemented our review of the supportive communication and religious coping literatures with the development of several criteria for including or excluding behaviors. In particular, we noted and excluded some prayer behaviors that could be employed when praying about personal problems (e.g., giving thanks or praise to God), but that lacked a direct link with personal difficulty or distress. In addition, while recognizing that praying about one’s own

problems and the problems of others may share many common features (and that the dividing line between “my problems” and “your problems” may be thin or nonexistent), we concentrated on describing prayer behaviors as they would likely occur in self-focused prayer. In addition, because of our concern with individual prayer, we limited the types of prayer we considered to those that did not require other people or a religious setting. Finally, anticipating an empirical study with participants drawn primarily from the Jewish and Christian faiths, we sought to ensure that the behaviors we included in the typology were broadly consistent with those traditions, yet not overtly tied to specific religious beliefs or practices, and not dependent on the ability to conceptualize or perform prayer in ways that may be atypical (such as meditation; see Baesler, 1999).

We ultimately selected twelve prayer behaviors for inclusion in the typology, each of which was suggested by the literature on supportive communication, or religious coping, or both. For example, the differentiation of problem disclosure and emotion disclosure was prompted by the distinction between problem-focused and emotion-focused supportive communication. The twelve behaviors are listed below, and illustrations of each behavior from Biblical texts are provided in Table 1.³

Problem disclosure: Describing the problem to God.

Emotion disclosure: Describing the emotional experience of a problem to God.

Enlightenment: Asking God for help in making sense of the problem.

Coping assistance: Seeking God’s aid to manage the distress arising from the problem.

Assistance: Asking God for guidance to help with solving the problem for oneself.

Intervention: Asking God to intervene in the situation, resolving or removing the problem.

Prevention: Requesting that God prevent similar problems in the future.

Confession: Admitting wrong-doing that may have contributed to the problem.

Repentance: Promising God to stop whatever wrong-doing contributed to the problem.

Forgiveness: Asking God to forgive the wrong-doing that contributed to the problem.

Submission: Indicating acceptance of the problem, acknowledging God's omniscience and omnipotence.

Bargaining: Promising to do something or stop doing something in return for help from God.

Influences on Prayer Behavior: Type of Behavior, Denomination, Religiosity, and Perceptions of God

Because this project represents an initial effort to analyze and empirically examine individual prayer behavior in times of distress, our core research question concerned the relative use of the different types of prayer behavior identified in our typology. To the extent that there are differences in the frequency with which different behaviors are employed, this information can provide not only a characterization of prayer behavior in times of distress, but suggestions about how people generally perceive God in times of difficulty. (Is God more of a sounding board, or a source of help? Does God intervene, or assist? Is God someone with whom to bargain?) Accordingly, we addressed the following research question:

RQ1: Are there differences in the frequency of use for the different types of prayer behavior?

We also anticipated that prayer behavior in times of distress could be influenced by a wide range of factors, including characteristics of the individual (e.g., socio-demographic or personality variables), the distressing situation (e.g., seriousness of the situation, responsibility for the problem), and the nature of the individual's connection with God. In the current study we elected to focus on the latter type of influence, with specific attention to denomination, religiosity, and perceptions of God. The findings with respect to these variables will help to provide a preliminary picture of variability in prayer behavior as a function of religious factors.

Denomination. The religious beliefs and practices that people undertake, prescribe, encourage, reward, or prohibit are

frequently determined by the denomination with which they affiliate (Blech, 1999; O’Gorman & Faulkner, 2000). However, there appear to be relatively few findings with respect to the influence of denomination on prayer or religious coping. In a 1960 study with a national sample, Protestants spontaneously mentioned prayer as a way of handling worries more frequently than did Catholics (Gurin, Veroff, & Feld, 1960). More recently, Ebaugh, Richman, and Chafetz (1984) found that Catholic Charismatics were more likely than Christian Scientists or Bahais to adopt a passive or deferring approach to coping (i.e., putting the problem “in God’s hands”). Similarly, Osborne and Vandenberg (2003) recently reported finding that Catholics used the religious coping strategy of “pleading with God” more frequently than Disciples of Christ but did not differ with respect to several other strategies. Bearon and Koenig (1990) reported that elderly Baptists were more likely to pray about their physical problems than members of other Protestant denominations. However, Laird et al. (2004) found no differences between Catholics and Protestants in how much they utilized several broad categories of prayer: adoration, confession, thanksgiving, supplication, and reception (contemplation).

Given the paucity of findings, further direction for hypothesizing about the influence of denomination on prayer behavior in times of distress must come from each denomination’s teachings and practices. There is considerable theological variety across specific types of Judaism (e.g., Orthodox, Conservative, Reform) and Protestantism (e.g., Baptist, Methodist, Episcopal), and there is variability of belief and practice within Catholicism (O’Gorman & Faulkner, 2000; D’Antonio, Davidson, Hoge, & Meyer, 2001). Ideally, one might base very specific hypotheses about prayer behavior on the details of denominational variation. However, as a preliminary examination in this area, we considered how broad differences between Jewish, Protestant and Catholic religious beliefs and practices suggest differences in individual prayer in times of distress.

One such difference concerns the likelihood of adopting a deferring approach to prayer, placing responsibility for the

problem largely or entirely in God's hands. Some scholars of comparative religion have observed that Judaism, compared to Christianity, puts more emphasis on human capacity to make independent choices, and responsibility to take charge of one's life. Sin, for example, is seen as something that human beings should conquer for themselves, rather than relying on a "savior," as in Christianity (Blech, 1999; Weiss-Rosmarin, 1943). This reasoning suggests that Jews, as compared to Christians, may be less likely to engage in prayer behavior that reflects a strong deferring orientation. Consequently, we hypothesized:

H1: Christians will report more use of intervention, prevention, or submission prayer behaviors than will Jews.

Within the Christian traditions, differences between the religious practices of Catholics and Protestants suggest additional differences with respect to deferring types of prayer. Although both Catholic and Protestant Christians recognize the importance of being forgiven for one's sins (and the role of Jesus' death and resurrection in providing that forgiveness), Catholics believe that the sacrament of Reconciliation (i.e., confession) is necessary for salvation (Catechism of the Catholic Church, 1994). Observing this sacrament requires Catholics to examine their consciences, acknowledge their sins to a priest, do penance as assigned by the priest, and receive forgiveness based on the performance of penance and the sincerity of repentance from the sinful act (O'Gorman & Faulkner, 2000). Although regular (e.g., weekly) observance of the confession sacrament has declined substantially since the 1960s (O'Toole, 2000), a recent survey found that 43% of U.S. Catholics still go to confession at least once a year (D'Antonio et al., 2001). Thus, although confession to a priest is distinct from individual prayer about personal problems, we expected that Catholic emphasis on this sacrament would influence Catholic use of confession and forgiveness behaviors during individual prayer. Accordingly, we hypothesized:

H2: Catholics will report more use of confession, repentance, and forgiveness behaviors than will Protestants (and Jews).

The Hebrew Bible (Tanach) presents multiple examples of

Jewish forefathers “arguing” with God (e.g., Abraham’s challenge to God’s intention to destroy Sodom and Gomorrah; Genesis 18). In addition, both Jewish and Catholic traditions place greater emphasis than Protestant traditions (especially, the Calvinistic traditions) on religious practices that involve doing or giving up certain behaviors (e.g., in Catholicism, the practice of “giving something up” for Lent). In contrast, Protestant traditions place more emphasis on the inability of humankind to live up to God’s standards and somewhat less emphasis on influencing God through specific deeds. Accordingly, we hypothesized that Protestants would make fewer attempts to bargain or negotiate with God (“I’ll do this if you’ll help me...”) than would Jews or Catholics.

H3: Protestants will make less use of bargaining prayer than Jews or Catholics.

We also expected that Protestants would differ from Jews and Catholics in another way: engaging in more disclosure (both emotion-focused and problem-focused) during prayer. Both Catholic and Jewish traditions rely more heavily than Protestant traditions on ritual prayer, either memorized or read. In addition, Protestant denominations may more strongly emphasize the personal relationship between God and each individual. Although Catholics can pray to God directly, many Catholics also rely heavily on mediated communication through priests and saints (O’Gorman & Faulkner, 2000; D’Antonio et al., 2001). In contrast to Christian traditions, Judaism rejects the idea of God as a “person” or “man,” thereby more strongly emphasizing differences between man and God (Weiss-Rosmarin, 1943). We expected that these influences would combine to produce greater openness and conversationality in the way that Protestants (as opposed to Jews or Catholics) approached God about their problems. Accordingly, we hypothesized:

H4: Protestants will report using more problem-disclosure and emotion-disclosure prayer behaviors than Catholics or Jews.

Religiosity. Religiosity, defined as the extent or depth of involvement in religious belief and practice (Koenig, Parkerson,

& Meador, 1997), is an important influence on both secular and religious behavior. Multiple studies have demonstrated positive relationships between various measures of religiosity and use of religious coping, frequency of prayer, or the extent to which prayer is used to cope with problems (Ellison & Taylor, 1996; Gurin, Veroff & Feld, 1960; Park & Cohen, 1993; Maltby & Day, 2003; for a review, see Pargament, 1997). Collectively, these findings suggest that greater belief in God, church attendance, and intrinsic religiosity (defined as to the extent to which religion is an integral part of one's life) will each have a positive influence on the use of prayer behavior of all types in times of distress. Accordingly, we hypothesized:

H5: Belief in the existence of God, church attendance, and intrinsic religiosity will be positively associated with all types of prayer behavior in times of distress.

Perceptions of God. As Pratt (1987, p. 4) states, "our ordinary conversations reflect our attitudes toward the listener, and the same is true in prayer. Our thoughts and attitudes about God largely determine how we speak to him." Thus, individual perceptions of God should exert influence on prayer behavior. Two perceptions of God that may be relevant to prayer behavior in times of distress are the perception of God as loving (or not loving) and the perception of God as controlling (or not controlling), where control refers to the quantity and strictness of expectations for human behavior (Benson & Spilka, 1973). The perception of God as loving has been positively associated with frequency of devotions (including prayer; Benson & Spilka, 1973) and the use of religious coping (Park & Cohen, 1993).

A positive relationship between perceiving God as loving and most types of prayer is suggested by the observation that, in general, we are more comfortable interacting with, working with, and requesting help from those for whom we have positive feelings. One possible exception is bargaining. Close, loving relationships are typically characterized by less concern for immediate reciprocity than less intimate relationships. People who view God as more loving may therefore have a stronger expectation that God will help them without negotiation or

exchange. The perception of God as controlling seems most likely to have a positive influence on prayer behaviors that involve admission of wrong-doing (failure to live up to God's expectations) or which reflect a deferring orientation to God. Accordingly, we hypothesized:

H6: Perceived lovingness of God will be positively associated with all prayer behaviors, with the exception of bargaining.

H7: There will be a positive relationship between the perception of God as controlling and confession, repentance, forgiveness, submission, intervention, and prevention prayer behaviors.

Method

Participants

Participants for the study were recruited from undergraduate Communication classes at 3 universities: two of these institutions are on the East coast (one medium-sized and private, the other medium-sized and public) and one is in the Midwest (large and public). The private school is not religiously affiliated. Many of the Communication classes enrolled both majors and non-majors, though non-majors were probably more likely to come from Liberal Arts disciplines than from other academic areas. Initial participants in the study were 245 men, 604 women, and 13 individuals who did not indicate their gender (total $N = 862$)[†]. However, a sizeable subset of individuals indicated that they did not pray, and consequently did not complete the prayer behavior items. Excluding these individuals from subsequent analyses left a sample of 596 (147 men, 441 women, and 8 individuals who did not indicate their gender). Of these participants, 105 were from the Midwestern school and 493 were from the Eastern schools (366 from the public school, 81 from the private school, and 44 that did not indicate which school they attended).

Participants' average age was 19.8 ($sd = 1.61$). European ethnicity was reported by 484 participants (81.2%), 45 (7.6%) reported African ethnicity, 13 (2.2%) reported Hispanic ethnicity,

10 (1.7%) reported Asian ethnicity, and the remainder 44 (7.5%) reported other ethnicities or did not provide this information. Denominational affiliations are reported in Table 2. As shown in the table, some participants were not identifiably Protestant, Catholic, or Jewish. Consequently, for testing this study's hypotheses and research questions about denominational differences between Catholics, Protestants, and Jews, the analyzable sample was 443.

Procedure

Participants completed questionnaire packets at the end of a class period, or in a laboratory setting outside of class. At the two Eastern universities, data for the present study were collected simultaneously with data for other research projects. Thus, participants were given a packet containing 10 questionnaires, 4 of which are pertinent to this study. At the Midwestern university, participants completed a shorter packet containing only these 4 questionnaires. In both packets, the first of the questionnaires relevant to this study obtained demographic information: gender, ethnicity, age, school attended, and religious affiliation. The second assessed participants' belief in God, church attendance, and intrinsic religiosity. The third measured perceptions of God (loving and controlling). The fourth assessed prayer frequency and prayer behavior in times of distress. The order of these questionnaires was not randomized in either questionnaire packet, but in the longer packet they were interspersed with the other, non-related questionnaires (about perceptions of terrorism, mental and physical health, social support, media use, and academic performance), helping to decrease the likelihood that participant responses were inappropriately influenced by questionnaire order. The short packet took participants less than 10 minutes to complete, whereas the longer packet took participants approximately 25 minutes. All study procedures were approved by the Internal Review Boards at the universities where the data were collected. Participants received a small amount of extra credit for participation.

Instruments

Denomination. To assess denominational affiliation, participants were asked "With what religious faith, if any, are you affiliated?"

Religiosity. Belief in God was assessed with a single-item measure, "Which of the following statements comes closest to your belief about the existence of (a) God?"⁵ This item was anchored at 1 by "does not exist," at 4 with "uncertain," and at 7 with "definitely exists." Frequency of church attendance was measured with the single-item measure from the Duke Religion Index (DUREL; "How often do you attend church or other religious meetings?"; Koenig, Parkerson, & Meador, 1997), and intrinsic religiosity was measured with the three item DUREL scale: "In my life, I experience the presence of the Divine (i.e., God)," "My religious beliefs are what really lie behind my whole approach to life," and "I try hard to carry my religion over into all other dealings in life" (Koenig et al, 1997). All of the DUREL items were reverse coded so that larger numbers would indicate higher levels of religiosity. Reliability for the DUREL intrinsic religiosity scale was high ($\alpha = .87$), so the index of intrinsic religiosity was created from the sum of the items.

Perceptions of God. Perceptions of God's lovingness and controllingness were measured with the Loving and Controlling God Scales (Benson & Spilka, 1973). In order to assess measurement reliability, we conducted a principal axis factor analysis with oblique rotation on responses to the 10 items in this scale. The factor analysis produced the expected two-factor solution, but three items did not meet a .50/.30 criterion for inclusion in either factor.⁶ Removing items that loaded weakly or cross-loaded left a 4-item scale for lovingness (unforgiving-forgiving, damning-saving, rejecting-accepting, and loving-hating [reverse coded]) with an *alpha* reliability of .78. Accordingly, the lovingness scale was created from the sum of these four items. Similarly, removing items that loaded weakly or crossloaded left a 3-item scale for controllingness (strict-lenient [reverse coded], demanding-not demanding [reverse coded], and permissive-rigid) with an *alpha* reliability of .69. The controllingness scale was created from the sum of these three items.

Prayer behavior. We created the Individual Prayer about Problems Inventory (IPPI) as a self-report measure of frequency for the 12 prayer behaviors described in our typology. Three items were created for each of the 12 behaviors, resulting in a total of 36 items. The complete item set is presented in Table 3. Prior to completing the items participants were instructed that the items focused on “the way that you pray when you are experiencing some kind of problem, stress or difficulty in your life,” and that the researcher’s interest was in “typical prayer behaviors when you are upset about something that is happening in your life.” Participants responded to each item on a 7-point Likert-style scale (1 = *Never*, 2 = *Rarely*, 3 = *Occasionally*, 4 = *Sometimes*, 5 = *Frequently*, 6 = *Almost always*, 7 = *Always*). Items corresponding to different behaviors were randomized.

We anticipated that some prayer behaviors, while possessing conceptual distinctness, would be perceived as related to each other and thus employed with similar frequency (e.g., confession and repentance). Accordingly, we conducted an exploratory factor analysis on the items. A principle axis analysis produced a six-factor solution accounting for 69.10% of the variance. Applying a .50/.30 criterion to the item loadings resulted in a highly interpretable set of factors. The first factor, which accounted for 43.94% of the variance, and was termed *coping assistance*, consisted of all three items written to measure coping assistance and two items written to measure assistance. The second factor, which accounted for 8.80% of the variance, consisted of the three items written to measure bargaining prayer behavior, and was named *bargaining*. The third factor, which explained 5.66% of the variance, was termed *confession/forgiveness*. This factor consisted of all three items for confession, two items for forgiveness, one item for repentance, and one item for submission. The fourth factor, labeled *disclosure*, accounted for 4.63% of the variance. Three of the items loading on this factor were written to measure problem disclosure and two of the items were written to measure emotion disclosure. The fifth factor, which explained 3.29% of the variance, consisted of the three items written to measure enlightenment prayer behavior,

and was named *enlightenment*. Finally, the sixth factor, called *intervention/prevention*, accounted for 2.81% of the variance, and consisted of the six items written to measure intervention and prevention. The factor loadings and the reliability coefficients for the 6 scales are listed in Table 3. Reliabilities for all scales were acceptable (ranging from .75 to .91), so the six scales were created from the means of the respective items.

Prayer frequency. Prior to the items focused on prayer behaviors in times of distress, we also assessed general prayer frequency (not necessarily individual or specific to distress) with the single item, "I pray _____ times per (*circle one*) hour / day / week / month / year." Participant responses were subsequently converted into times per day.

Revised hypotheses and research questions. Because the factor analysis resulted in a reduced set of prayer behaviors, we formulated the following set of revised hypotheses. The original RQ1, H5, and H6 did not require revision.

RH1: Christians will report more use of intervention/prevention and confession/forgiveness prayer behaviors than will Jews.

RH2: Catholics will report more use of confession/forgiveness behavior than will Protestants (and Jews).

RH3: Protestants will report more use of disclosure and less use of bargaining behavior than Catholics or Jews.

RH4: There will be a positive relationship between the perception of God as controlling and report of using intervention/prevention and confession/forgiveness prayer behaviors.

Results

Preliminary Analyses

Means and standard deviations for all of the variables examined in this study are presented in Table 4 for (1) the entire sample, (2) the "combined denominational" sample consisting of participants who identified as Protestant, Catholic, or Jewish, and (3) these denominations separately. The means for the entire and combined denominational samples on the religiosity variables were very similar. This is consistent with the fact that

many of the participants who could not be classified into one of the three denominations identified themselves as "Christian." In addition, although a large group of participants identified themselves as affiliating with no specific denomination (i.e., answering "none"), this frequently does not indicate a lack of religiosity (see Hout & Fischer, 2002).

Inspection of the means for the religiosity variables indicated a low to moderate degree of religiosity in the entire or combined denominational samples. Participants were somewhat sure that God exists, attended church between "a few times a month" and "a few times a year," prayed somewhat less than once a day, and incorporated religion into their daily lives to a modest extent (average score on intrinsic religiosity slightly above 10 out of a possible 15). The average frequency of prayer for the combined denominational sample was less than the average for the entire sample (.78 vs. .99), reflecting the somewhat lower frequency of prayer among Jews (which was able to have a stronger influence on the average in the smaller combined denominational sample than in the entire sample). The means for the perception of God scales indicated a strong perception that God is loving (average of 25 out of a possible 28) and considerably less perception that God is controlling (average of 11 out of a possible 21). The prayer behavior of bargaining was reported as least used (approximately 3.5, or between "occasionally" and "sometimes" on the 7 point scale), followed in order by enlightenment, intervention/prevention, confession/forgiveness, disclosure, and the most used behavior of coping assistance (approximately 5 or "frequently" on the 7 point scale); this ordering was the same for the entire sample and the combined denominational sample, with small differences in the averages (typically slightly higher averages for each prayer behavior for the denominational sample).

As shown in Table 4, one-way ANOVA and Duncan post hoc tests revealed unanticipated denominational differences in religiosity and frequency of prayer. Protestants and Catholics were each higher than Jews on belief in the existence of God, but were not different from each other, $F(2, 433) = 25.03, p < .001$. Protestants

and Catholics were also more intrinsically religious than Jews, but not different from each other, $F(2, 418) = 22.99, p < .01$. Jews attended religious meetings less frequently than Protestants or Catholics, who did not differ from each other, $F(2, 434) = 11.23, p < .001$. Protestants prayed more frequently than Catholics, who in turn prayed more frequently than Jews, $F(2, 442) = 16.96, p < .001$. In addition, there were denominational differences in the perceived lovingness and controllingness of God: Jews perceived God as less loving than Catholics or Protestants, who were not significantly different from each other, $F(2, 417) = 49.31, p < .01$. Jews also perceived God as more controlling than Catholics, whereas Protestants did not differ significantly in this perception from either Jews or Catholics, $F(2, 417) = 3.74, p < .05$.

Hypotheses and Research Questions

Denomination and prayer behavior. As previously noted, there were unanticipated denominational differences in all of the religiosity variables (belief in the existence of God, church attendance, intrinsic religiosity, and prayer frequency). In order to examine the effects of denomination on prayer behavior independent from any differences in religiosity between denominations in this sample, we utilized a series of ANCOVA analyses, entering the religiosity variables as covariates and thereby controlling for their effects on the dependent variables (prayer behaviors). When the ANCOVAs revealed significant effects of denomination, Duncan post hoc tests were employed to determine the nature of the denominational differences.

The ANCOVAs indicated that, after controlling for the influence of belief in the existence of God, church attendance, intrinsic religiosity, and frequency of prayer, denomination had a significant influence on the prayer behaviors of coping assistance, $F(2, 402) = 6.43, p < .01$, bargaining, $F(2, 399) = 7.19, p < .001$, disclosure, $F(2, 299) = 6.65, p < .001$, and enlightenment, $F(2, 399) = 9.66, p < .001$.⁷ The means for prayer behavior for each denomination after controlling for the religiosity variables are reported in Table 5. Protestants and Catholics reported using more coping assistance, disclosure, and

enlightenment prayer behavior than Jews, but did not differ from each other. Jews and Catholics reported using more bargaining behavior than Protestants, but did not differ significantly from each other. Denomination did not have a significant effect on confession/forgiveness, $F(2, 399) = 1.52, p > .05$, or intervention/prevention, $F(2, 402) = 2.71, p > .05$. These findings supported Hypothesis 6, which stated that Protestants would make less use of bargaining prayer than Jews or Catholics, and partially supported Hypothesis 7, which stated that Protestants would engage in more disclosure prayer than Jews or Catholics (supported for Jews, but not Catholics). The findings did not support Revised Hypotheses 4 or 5, as there were no denominational differences in the use of intervention/prevention or confession/forgiveness prayer behaviors.

Religiosity, prayer frequency, and prayer behavior. Bivariate correlations between the religiosity variables, prayer behaviors, and prayer frequency are presented in Table 6 for the entire sample and for the combined denominational sample. Consistent with Hypothesis 1, belief in the existence of God, church attendance, and intrinsic religiosity were significantly and positively associated with all of the prayer behaviors for the entire sample, with the exception of bargaining, which was not significantly associated with church attendance. For the denominational sample, bargaining was not associated with either belief in the existence of God or church attendance, but had a slight positive association with intrinsic religiosity; otherwise, consistent with Hypothesis 1, all of the other prayer behaviors were positively associated with all of the religiosity measures. Finally, in the entire sample, there were significant, positive associations between prayer frequency and coping assistance, confession/forgiveness, and enlightenment. In the combined denominational sample, the correlations were positive and significant for frequency of prayer and all of the prayer behaviors except bargaining, which was not associated with prayer frequency.

Perceptions of God and prayer behavior. Bivariate correlations between the God concept variables and prayer behaviors are presented in Table 6 for the entire sample, and for the combined

denominational sample. Contrary to Revised Hypothesis 2, the perception of God as controlling was not associated with intervention/prevention or confession/forgiveness prayer behaviors in either the entire sample or the combined denominational sample. The only significant correlation between the perception of God as controlling and prayer behavior was a small negative correlation with coping assistance that was significant in the combined denominational sample ($r = -.12, p < .05$) and marginally significant in the entire sample ($r = -.08, p < .07$). However, Revised Hypothesis 3 was supported. Perceived lovingness of God was positively associated with enlightenment, coping assistance, and disclosure prayer behaviors as well as with confession/forgiveness and intervention/prevention in both the entire and combined denominational samples. Lovingness was not significantly associated with bargaining prayer in either sample.

Discussion

The current study examined private prayer in times of personal distress, with a focus on religiosity, perceptions of God, and denomination as influences on how people communicate with God. The findings are discussed in subsequent sections, with attention to extending past findings, limitations, and directions for future research.

Sample Characteristics and Limitations

Because this study was a preliminary investigation, we elected to obtain data from an easily accessible, college student sample, with potential consequences for the generalizability of our findings. Although we did not measure such variables as socio-economic status, life stressors, or health, it is probable that these college students represent a relatively healthy and economically privileged group, and one that had not yet experienced many major life stressors. Since reliance on religious coping increases with the intensity of negative events (Ellison & Taylor, 1996), we might expect to find higher use of various prayer behaviors in a sample that is more representative of the population. More generally, youth and education are associated

with lower religiosity (e.g., Newport, 2004; Winseman, 2005) and several studies have found a tendency for college students to become more negative toward religion and less likely to participate in religious activities over time (Astin, 1993; Bowen, 1997). Consequently, religiosity is likely to have been lower, prayer less frequent, and denominational influence weaker than would have been the case with an older or less educated sample. Still, it is worth noting that religious differences between youth and adults, or between the more and less educated, are not necessarily extreme. A national, longitudinal study that tracked a cohort of freshmen from 1994 to 1998 found that only 13.7% reported a weakening of faith by their senior year; 37.9% reported strengthening of faith (Lee, 2002). Further, in recent national studies 75% of young adults in their 20s said they had prayed in the past week (as compared to 84% in the larger population; Barna Group, 2003, 2006).

One specific concern about our sample and method arises from the finding that Jewish participants reported a lower level of belief in God and intrinsic religiosity. One possible explanation for this finding is that some Jews regard themselves as culturally or ethnically Jewish (and might therefore list their religious affiliation as Jewish) even if their connection with Jewish religious beliefs or practices is quite weak. It is also possible that our Jewish sample was unrepresentative in some unknown way that influenced these findings.

The sample in our current study was not sufficiently large to permit examination of differences between specific groups within the broad categories of Protestant, Catholic, and Jewish (e.g., evangelical vs. mainline Protestant, Reform vs. Conservative Jew). Given the sometimes considerable differences in the beliefs and practices of different Protestant, Catholic, and Jewish groups (e.g., Blech, 1999; D'Antonio et al., 2001), this is an interesting direction for future inquiry. Overall, it is important to interpret the current study's findings with the recognition that the participants were a convenience sample of college students, and that replication with alternative samples is desirable.

Prayer Behavior

The current study presented a typology of prayer behavior in times of distress, and a self-report measure of the prayer behaviors described by the typology. These conceptual and measurement efforts provide several contributions to the existing literature on prayer.

One important observation about prayer behavior from the present study is that different types of prayer about problems are used more and less frequently, on average, regardless of religiosity, perceptions of God, or denomination. Coping assistance was the most frequently used strategy. Disclosure, confession/forgiveness, and intervention/prevention were utilized at similar frequencies, but less than coping assistance. Enlightenment was used still less frequently, and bargaining was clearly least employed. To the extent that this pattern of usage reflects views of God and prayer, the following observations emerge: (1) Asking God to help you as you manage your own problem and associated emotions (asking for coping assistance) appears to be a central component of prayer about problems, perhaps the defining element. Correspondingly, God seems to be viewed more as a source of coping assistance than as a source of direct action (comparing the rankings of coping assistance and intervention/prevention). (2) Disclosing about the problem and owning up to one's responsibility for creating it seem to be moderately characteristic of prayer about problems. Given the nature of these behaviors, they are probably influenced not only by the factors examined in this study, but by situational characteristics such as the cause and complexity of the problem. This could be examined in future studies. (3) God is less frequently regarded as a source of information or explanation about problems (enlightenment), and still less frequently as amenable to negotiation (bargaining). These may reflect perceptions of God's willingness to communicate directly with human beings, and ideas about respectful behavior toward a powerful God. Subsequent studies utilizing the IPPI should continue to examine the overall ranking of these prayer behaviors. In addition, it would be useful (albeit challenging) to examine the

predictive validity of the IPPI by comparing its self-report data with analysis of written or recorded prayers.

A second observation about the prayer behaviors measured in the present study is that a conceptual distinction between collaborating and deferring prayer received some support from the factor analysis, whereas an emotion-focused vs. problem-focused distinction did not. The pattern of item responses indicated that people disclose about their problems to approximately the same degree that they disclose about their emotions, ask for assistance with their problems to approximately the same degree that they ask for assistance with their emotions, etc. However, items representing prayer behaviors that had a more deferring character loaded on two factors: confession/forgiveness (confession, forgiveness, submission, repentance) and intervention/prevention (intervention, prevention), distinct from prayer types with a more collaborative character: coping assistance, enlightenment, bargaining, and disclosure. Thus, the factor structure obtained in this study appears broadly consistent with the deferring/collaborating distinction of religious coping made by Pargament and colleagues (Pargament et al., 1988). To probe the validity of this distinction as applied specifically to prayer, a subsequent study should present participants with Pargament's Religious Problem-Solving Scale (Pargament et al., 1988) and the IPPI scale to determine if use of the prayer behaviors designated herein as deferring and collaborating are in fact associated with the Deferring and Collaborative styles of religious coping in the predicted manner. In addition, subsequent research should utilize confirmatory factor analysis to determine if there is stable empirical support for the factor structure we observed.

An important matter for future consideration is the types of prayer that were included and excluded during the development of the typology, and thus from subsequent scale development. Because our interest was with individual prayer in times of personal distress, we did not include any prayer behaviors that involved other people (e.g., praying with someone else, or asking someone else to pray for you). Including these types of prayer may be especially important to a fuller understanding of Jewish prayer in times of distress because

of the special emphasis that Judaism places on communal prayer (e.g., Steinsaltz, 2002). We also excluded behaviors that were not tied quite closely to the problem or to the emotional distress being experienced. For example, we did not include the prayer behavior of thanksgiving (see Laird et al., 2004), even though praying about problems may include giving thanks to God for prior blessings, such as assistance with previous problems. In addition, although our items do not specifically exclude ritual prayers (memorized or read), the phrasing of the items suggests a more conversational approach that probably resulted in ritual prayer being under-reported. Because both Judaism and Catholicism have rich traditions of ritual prayer, including prayers that are prescribed for use with respect to specific stressors, researchers interested in a fuller picture of prayer behavior in times of personal distress will need to consider ritual prayer among other prayer behaviors that were not examined in the present research.

Denomination and Prayer

The character of the college student sample in the current study indicates that denominational differences must be interpreted with care. It is also important to observe that denominational influences, at least in this sample, were not especially strong; overall, there was considerably more similarity than difference in how Jews, Catholics, and Protestants reported praying about their problems. However, the findings present an intriguing picture of modest denominational influences on how people approach God in times of distress, and suggest some directions for future study. After controlling for denominational differences in the religiosity variables and frequency of prayer, Protestants and Catholics collectively exceeded Jews in requesting coping assistance or enlightenment, and disclosing to God about their problems. In addition, Jews and Catholics reported doing more bargaining with God than did Protestants. The finding with respect to bargaining is broadly consistent with a greater Protestant emphasis on “creed” rather than “deed.” However, because beliefs about the importance of good works vary across Protestant denominations (e.g., between denominations with Calvinist or Arminian-Wesleyan theologies), future research should directly

examine whether bargaining prayer is related to beliefs about influencing God through good works.⁸ Differences with respect to coping assistance, disclosure, and enlightenment have to be interpreted more speculatively. Jewish emphasis on self-reliance or perceptions of God as more distinct and separate from man (i.e., not having the belief that God took on human form) may cause these types of prayer to be viewed as less appropriate. In addition, the Jewish emphasis on ritual prayer (with many prayers available for specific stressors; Blech, 1999) may tend to reduce more conversational forms of prayer in times of difficulty. In order to further illuminate denominational differences in prayer, future research will need to assess denomination-based beliefs and practices that could result in observed differences.

Religiosity and Prayer

The three indices of religiosity correlated in largely predicted ways with most of the prayer behaviors. Specifically, belief in the existence of God, church attendance, and intrinsic religiosity were positively associated with frequency of use for all of the prayer behaviors except bargaining in the entire sample (including those who designated themselves as “Christians,” “nones,” etc.), and the denominational sample that included only the Protestants, Catholics, and Jews. The relationships between bargaining and the religiosity variables were weaker and sometimes nonsignificant. Relationships between the religiosity variables and enlightenment prayer behavior, though consistently significant, were also weaker, suggesting that factors other than belief in God, church attendance, or intrinsic religiosity are needed to better explain variability in enlightenment and bargaining. General frequency of prayer was also positively associated with use of all the prayer behaviors except bargaining in the denominational sample, and with coping assistance, confession/forgiveness, and enlightenment in the entire sample. Thus, people who believe more strongly in God, who view their religious beliefs as more central to their lives, and who pray more frequently in general report greater use of multiple prayer behaviors in times of distress, probably consistent with greater conviction about the efficacy of prayer, and with greater likelihood

of engaging in prayer as a response to difficulty (thus having more opportunities to engage in various behaviors).

Perceptions of God and Prayer

The perceived lovingness of God was associated with all of the prayer behaviors except bargaining in both the entire and denominational samples. These findings are consistent with two general observations. First, we are more likely to seek help of various kinds from those whom we view as positively disposed toward us. Second, principles of reciprocity are typically relaxed in close relationships, so that even if people feel more comfortable bargaining with a God who is viewed as loving, they may also not see it as necessary to bargain because a loving God is presumed to provide help without “repayment.” Of all the prayer behaviors, perceived controllingness of God was associated only with coping assistance; that association was negative, but weak. Thus, there may be a slight tendency for people who view God as having high expectations for human behavior to seek God’s support less frequently as they cope with their problems. However, given the small size of the single association, it may be more useful to assess other perceptions of God in future studies. Several perceptions that may be more directly relevant to prayer behavior than control are God’s “attentiveness” (i.e., to what extent is God seen as paying attention to individual prayer) and “persuasibility” (i.e., to what extent is God viewed as susceptible to human persuasion). From a practical standpoint, the current study’s findings suggest that clergy who want to encourage prayer about problems will be more successful to the extent that they convince congregants to perceive God as loving.

Future Directions

The present study has provided an initial exploration of individual prayer in times of personal distress, presenting a typology and measure of prayer behaviors, and assessing the influence of denomination, religiosity, and perceptions of God on the use of these behaviors. There are several reasons for continuing to focus research attention on the way that individuals pray when they are experiencing personal difficulties. From a theoretical perspective,

examining prayer in times of distress provides a richer description of human-Divine interactions and relationships (Baesler, 1999) and helps to specify religious communication practices that characterize different religious groups. Another reason is that different approaches to praying about one's problems may produce different psychological and physical outcomes, which may be relevant to psychological and medical professionals seeking to improve their patients' well-being. For example, research on the health benefits of disclosure suggests that disclosure about problems via prayer behavior could be health-protective, especially in the face of significant trauma (Pennebaker, 1997). Finally, clergy may be interested in knowing how members of their denominations typically pray in times of distress, for the purpose of encouraging prayer behavior that is consistent with denomination-specific teachings. Individual prayer in times of distress is a key means by which people bring God, religious belief, and religious communication into managing their lives. Thus, continued study of this phenomenon should provide further insight into religious experience.

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Table 1: Biblical examples of individual prayer behaviors in times of distress

Prayer Behavior	Verses	Context	Text
Forgiveness	Psalms 25:18	David praying	¹⁸ Look upon my affliction and my trouble, and forgive all my sins.
Intervention	Genesis 32:11	Jacob returning, fearing Esau will kill him and family	¹¹ "Deliver me, I pray, from the hand of my brother; from the hand of Esau; for I fear him, that he will come and attack me and the mothers with the children.
Prevention	Matthew 6:13	Lord's Prayer	¹³ And do not lead us into temptation, but deliver us from evil.
Confession	Psalms 32:5	David praying	⁵ I acknowledged my sin to You, and my iniquity I did not hide; I said, "I will confess my transgressions to the LORD"; and You forgave the guilt of my sin.
Submission	Matthew 26:39-42	Jesus in Garden of Gethsamane	⁴² He went away again a second time and prayed, saying, "My Father, if this cannot pass away unless I drink it, Your will be done."
Problem Disclosure	Exodus 17:4	Moses; Israelites without water and near riot	⁴ So Moses cried out to the LORD, saying, "What shall I do to this people? A little more and they will stone me."
Enlightenment	Acts 1:24-25	The Apostles, choosing a replacement for Judas	²⁴ And they prayed and said, "You, Lord, who know the hearts of all men, show which one of these two You have chosen ²⁵ to occupy this ministry and apostleship from which Judas turned aside to go to his own place."

Table 1: *Biblical examples of individual prayer behaviors in times of distress*

Prayer Behavior	Verses	Context	Text
Assistance	Judges 16:28	Samson, blinded and in slavery; praying for the ability to avenge himself	²⁸ Then Samson called to the LORD and said, "O Lord GOD, please remember me and please strengthen me just this time, O God, that I may at once be avenged of the Philistines for my two eyes."
Repentance	Job 42:5-6	Job, at the end of his trials, when God appeared and challenged Job's reasoning	⁵ "I have heard of You by the hearing of the ear; but now my eye sees You; 'Therefore I retract, and I repent in dust and ashes.'"
Bargaining	1 Samuel 1:11	Hannah, asking for a son and promising to dedicate him to the Lord's service	¹¹ 'She made a vow and said, "O LORD of hosts, if You will indeed look on the affliction of Your maidservant and remember me, and not forget Your maidservant, but will give Your maidservant a son, then I will give him to the LORD all the days of his life, and a razor shall never come on his head."
Emotion Disclosure	Hebrews 5:7	Writer of Hebrews describing Jesus' prayer shortly before crucifixion	⁷ In the days of His flesh, He offered up both prayers and supplications with loud crying and tears to the One able to save Him from death, and He was heard because of His piety.
Coping Assistance	Philippians 4:6-7	Paul's instruction on prayer	⁶ Be anxious for nothing, but in everything by prayer and supplication with thanksgiving let your requests be made known to God.

Note: Verses quoted from the New American Standard Bible (1995).

Table 2: Descriptive Statistics for Denomination		
	N	%
Protestant	134	22.5
Baptist	18	
Episcopalian	13	
Methodist	29	
Presbyterian	24	
Lutheran	14	
Church of Christ	1	
Assemblies of God	1	
Apostolic	1	
Pentecostal	1	
United Church of Christ	1	
Protestant (i.e., wrote "Protestant")	22	
Catholic	230	38.6
Jewish	79	13.3
Christian (no denomination)	57	9.6
Other Christian (Jehovah's Witness, Christian Scientist, Mormon)	20	3.4
Other Non-Christian (Buddhist, Islam)	6	1.0
None (i.e., wrote "none")	40	6.7
Did not answer question	30	5.0

Note: Total N = 596. Sample analyzed for denominational differences indicated in **bold**, N = 443.

Table 3: Factor loadings for prayer behavior scale

Items	Factors					
	1	2	3	4	5	6
I ask God for help to endure. ^c	.83					
I ask God for the strength to get through. ^c	.69					
I ask God for the ability to cope. ^c	.68					
I express to God my emotions regarding the problem. ^d	.52					
I ask God for the ability to fix the problem through my efforts. ^b	.42					
I ask God for a way that I can improve the situation. ^b	.37					
I agree that I will do or give up something if God takes the problem away. ^k		.89				
I tell God that if He will remove the problem, I will do or give up something in return. ^k		.82				
I try to bargain with God to eliminate the problem. ^k		.70				
I promise to stop doing whatever I did that brought about the problem. ^l		.50				
I admit any responsibility that I have for the problem. ^l			.49			
I "own up" to my role in creating the problem. ^l			.77			
I confess any sin I committed that is part of the problem. ^l			.73			
I ask God to forgive any sin of mine that brought about the problem. ^g			.65			
I ask God to forgive me for contributing to the problem. ^g			.61			
I agree to keep from committing whatever sin of mine created the problem. ^l			.59			
I express my acceptance of the challenge that God has given me. ^l	.25		.59			
I indicate my willingness to abide by God's will, whatever that is for my life. ^l	.28		.54			
I commit to avoiding whatever actions of mine brought about this problem. ^l		.20	.48			
I communicate understanding that the outcome of my situation is in God's hands. ^l			.45			
I ask God to be understanding of my mistakes. ^g	.28		.39			
I explain to God the situation I'm in. ^h			.31			
				-.77		
						-.26

Table 3 (continued): Factor loadings for prayer behavior scale

Items	Factors					
	1	2	3	4	5	6
I tell God the story behind my problem. ^h				-.73		
I describe to God the problem I'm experiencing. ^h				-.68		
I talk to God about how the problem makes me feel. ^d				-.66		
I tell God how I feel because of this problem. ^d	.21			-.65		
I ask God for an explanation for the problem. ^f					.64	
I ask God for the reasons why the problem has occurred. ^f					.62	
I ask God for help in making sense of the problem. ^f	.42				.46	
I ask God for a way that I can improve the situation. ^b						-.83
I ask that God solve the problem. ^a						-.77
I ask God for an answer to the problem. ^a						-.66
I ask God to prevent the problem from occurring in the future. ^e					.25	-.62
I ask God to protect me from similar problems in the future. ^e						-.57
I ask God to keep problems like this one from happening to me again. ^e						-.49
Alpha for items used in indices (items with bold loadings)	.84	.88	.88	.91	.75	.91

Note. Blank cells indicate loadings less than .20. Factor 1 was labeled coping assistance. Factor 2 was labeled bargain. Factor 3 was labeled confession/forgiveness. Factor 4 was labeled disclosure. Factor 5 was labeled enlightenment. Factor 6 was labeled intervention/prevention. Superscripts indicate items corresponding to original prayer behaviors. ^aItem for Intervention. ^bItem for Assistance. ^cItem for Coping Assistance. ^dItem for Emotion Disclosure. ^eItem for Prevention. ^fItem for Enlightenment. ^gItem for Forgiveness. ^hItem for Problem Disclosure. ⁱItem for Repentance. ^jItem for Bargaining. ^kItem for Confession.

Table 4: Means and standard deviations for all study variables and samples

Variables	Entire Sample	Combined Denominational Sample	Protestant	Catholic	Jewish
Belief in God's Existence	6.19 (.15)	6.25 (1.06)	6.47 (0.90)	6.36 (0.97)	5.51 (1.25)
Church Attendance	3.33 (.13)	3.40 (1.00)	3.53 (1.09)	3.49 (0.94)	2.92 (0.88)
Intrinsic Religiosity	10.07 (3.22)	10.17 (3.04)	11.03 (3.05)	10.31 (2.81)	8.16 (2.82)
Lovingness of God	25.23 (3.61)	25.29 (3.51)	26.28 (2.26)	25.78 (3.28)	21.87 (4.13)
Controllingness of God	11.27 (3.66)	11.30 (3.56)	11.64 (3.69)	10.86 (3.58)	12.03 (3.04)
Frequency of Prayer	.99 (2.60)	.78 (1.18)	1.15 (1.62)	.77 (0.96)	.21 (0.41)
Coping Assistance	5.10 (1.27)	5.15 (1.20)	5.39 (1.08)	5.26 (1.07)	4.23 (1.42)
Disclosure	4.62 (1.43)	4.71 (1.36)	5.03 (1.27)	4.74 (1.28)	3.89 (1.51)
Confession/Forgiveness	4.46 (1.18)	4.51 (1.10)	4.72 (1.15)	4.54 (1.05)	3.92 (1.00)
Intervention/Prevention	4.40 (1.32)	4.48 (1.26)	4.52 (1.21)	4.61 (1.20)	3.95 (1.45)
Enlightenment	4.03 (1.39)	4.15 (1.35)	4.23 (1.37)	4.31 (1.26)	3.34 (1.38)
Bargaining	3.54 (1.52)	3.66 (1.49)	3.33 (1.33)	3.84 (1.51)	3.72 (1.64)

Table 5: Means for prayer behavior by denomination, controlling for religiosity variables.

Prayer Behaviors	Protestant	Catholic	Jewish
Coping Assistance	5.25 ^a	5.27 ^a	4.73 ^b
Disclosure	4.92 ^a	4.75 ^a	4.16 ^b
Confession/Forgiveness	4.55 ^a	4.54 ^a	4.32 ^a
Intervention/Prevention	4.42 ^a	4.61 ^a	4.25 ^a
Enlightenment	4.14 ^a	4.35 ^a	3.47 ^b
Bargaining	3.26 ^a	3.85 ^b	3.81 ^b

Note: Within rows, means with different subscripts are significantly different, $p < .05$.

Table 6: *Correlations between prayer behaviors and religiosity variables*

Variables	<u>Coping Assistance</u>		<u>Disclosure</u>		<u>Confession/ Forgiveness</u>		<u>Intervention/ Prevention</u>		<u>Enlightenment</u>		<u>Bargaining</u>	
	ES	CDS	ES	CDS	ES	CDS	ES	CDS	ES	CDS	ES	CDS
Belief in God's Existence	.47**	.41**	.35**	.25**	.49**	.39**	.29**	.19**	.22**	.12*	.13**	.05
Church Attendance	.32**	.25**	.31**	.23**	.36**	.32**	.22**	.15**	.17**	.10*	.00	-.04
Intrinsic Religiosity	.51**	.47**	.43**	.36**	.54**	.52**	.33**	.30**	.24**	.18**	.13**	.11*
Lovingness of God	.38**	.40**	.28**	.29**	.28**	.31**	.17**	.20**	.13**	.12*	.03	.01
Controllingness of God	-.08	-.12*	-.02	-.03	-.05	-.05	.00	-.03	-.02	-.01	.05	.07
Frequency of Prayer	.16**	.26**	.07	.25**	.11**	.36**	.08	.18**	.10*	.17**	-.01	.05

Note: * $p \leq .05$, ** $p \leq .01$; ES = Entire Sample, CDS = Combined Denominational Sample

Endnotes

1 Thanks to Rabbi Audrey Pollack, Temple Israel, West Lafayette, Indiana, for this expression.

2 Pargament also identifies a Self-Directing style of coping, in which people take the entire responsibility for problems on themselves and do not turn to God for assistance. Because praying to God suggests that God is seen as having at least some role in coping, we did not find this style of coping conceptually useful in developing our typology.

3 The development of our typology was also influenced to some extent by informal interviewing with a former pastor (Protestant denomination), a Catholic priest, and friends and acquaintances of Catholic, Protestant, and Jewish faith. It was not our intention to represent any specific teachings about how prayer should be conducted, so we sought Biblical examples as illustrations rather than deriving our typology from scripture. We recognize the likelihood that others might derive a somewhat different set of prayer behaviors (even if working from the same literatures), and do not claim to have represented the entire range of behavior that might occur when people pray about their problems.

4 All descriptive and inferential statistics reported in this study were computed using the Statistical Package for the Social Sciences (SPSS), version 9.0.

5 We used the phrasing "existence of (a) God" because we anticipated that a small number of participants would affiliate with polytheistic faiths (e.g., Hinduism).

6 The .50/.30 criterion is conventional (see DeVellis, 2003).

7 Because the religiosity variables were included in these analyses solely to control for their effects, we elected to report the results for denomination rather than the entirety of the ANCOVA tables. In general, the effects of the religiosity variables on prayer behaviors were consistent with those observed in the correlation analyses. However, shared variance between the religiosity variables sometimes resulted in nonsignificant effects because these variables were entered simultaneously. Complete ANCOVA tables are available from the first author.

8 We appreciate this suggestion from an anonymous reviewer.

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