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Relationships Among Literacy, Church Activity and Intrinsic/Extrinsic Religiosity in a Utah Sample of Latter-day Saints

Cover Page Footnote
Richard Cluff
Why should a client’s church attendance be of concern to a psychologist or psychotherapist? One reason is that church activity has been identified in epidemiological studies, meta-analyses, and consensus reports as a predictor of numerous physical and mental health variables (Gillum, King, Obisesan, & Koenig, 2008; Hackney & Sanders, 2003; McCollough, Hoyt, Larson, Koenig, & Thoresen, 2000; Matthews, Koenig, Thoresen, & Friedman, 1998). Musick, House and Williams (2004) analyzed the mortality rates of 3,617 respondents over an eight-year period and found church attendance to be associated with a 30-35% lower rate of mortality than non-attendance. After analyzing a wide range of mediating and moderating variables, they concluded that their estimates and those of others concerning the positive effects of church attendance on mortality were not unrealistically high—that church attendance could be shown to benefit physical and mental health. They stated,

Whatever the rationale for the effect, these findings suggest that failure to adjust for private religious activity and other religious factors may underestimate the effect of service attendance on mortality. We must consider whether there are special attributes of attendance at religious services per se that are protective against mortality (pp. 208-209)

Musick et al. (2004) proposed several aspects of church worship that might contribute to the documented health benefits. One hypothesis was that church services in which congregants participate actively and actually

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produce the service rather than merely observe it result in greater sense of community, self-esteem, and well-being. Such a hypothesis has particular application to a church with a lay ministry like the LDS church in which every member is expected to accept designated responsibilities within their ecclesiastical unit.

It is probable that the variable church attendance is a complex construct consisting of multiple mechanisms and pathways that enhance health. Research findings generally suggest that church attendance predicts good mental health, but the relationship is not always so simple—an observation apparent for the past 40 years. Early research on church activity was very confounding. For example, Allport and Ross (1967) were puzzled to find that churchgoers were more prejudiced toward African Americans and Jews than were non-churchgoers (Adorno, Frenkel-Brunswik, Levinson, & Sanford, 1950; Allport & Kramer, 1946; Gough, 1951; Rosenblith, 1949). Additional studies revealed that these findings were not related to education level (Demereth, 1965; Stouffer, 1955; Struening, 1963).

Activity in a church where equality, brotherhood, compassion, and human-heartedness are taught seemed incongruous with prejudice. Allport and Ross’ first contribution to resolving the paradox was to note the curvilinear nature of the relationship: Non-churchgoers and frequent churchgoers who attended more often than once per week were less likely to be prejudiced. It was the irregular churchgoers who were more likely to be prejudiced. Allport and Ross defined frequent churchgoers as those “people who receive something of special ideological and experiential meaning.” They explained the contrast, “Irregular, casual fringe members, on the other hand, regard their religious contacts as less binding, less absorbing, less integral with their personal lives” (p.434).

From that construction, Allport and Ross then introduced the concepts of extrinsic and intrinsic motivation to attend church. The term extrinsic motivation was used to indicate motivations which are instrumental and utilitarian, possibly serving as a bridge to the core values and ultimate interests of the person. “Persons with this orientation may find religion useful in a variety of ways—to provide security and solace, sociability and distraction, status and self-justification” (p.434). The contrasting motive, intrinsic motivation, is characteristic of people who “find their master motive in religion.” Allport and Ross explained:

Other needs, strong as they may be, are regarded as of less ultimate significance, and they are, so far as possible, brought into harmony with the religious beliefs and prescriptions. Having embraced a creed, the individual endeavors to internalize it and follow it fully. It is in this sense that he lives his religion. (p.434)

While church attendance may be generally associated with health, naturally occurring barriers to church activity exist as well. For example, Gruber and Hungerman (2008) very cogently demonstrated that the repeal of blue laws prohibiting Sunday commerce decreased religious attendance, with a concomitant increase in risky substance use among adolescents who had previously been active in church.

Poor literacy may be another naturally occurring barrier to church activity. Literary and religion are historically linked. Sacred texts contain high levels of symbolism, the interpretation of which requires literacy abilities beyond simply reading words on a concrete level. Thus high functional literacy is necessary for full participation by churchgoers in most denominations. In 1993 the National Adult Literacy Survey (NALS) sampled over 26,000 American adults’ literacy in three domains and found that roughly 20% of adults had minimal literacy abilities (as cited by Irwin, Kirsch, Jungeblut, and Kolstad; p.13). Later, in 2007, Kutner, Greenberg, Jin, Boyle, Hsu, & Dunleavy found that prose literacy among adults ages 25-49 had notably diminished since the 1993 NALS.

Further, they cited the National Assessment of Adult Literacy (NAAL), which sampled over 19,000 American adults and concluded that 5% of those sampled were ‘non-literate’. Poor literacy may be a particularly notable barrier to church attendance in denominations with lay ministries that require significant participation by their members. By limiting an individual’s ability to function fully within the church, minimal literacy or non-literacy may impede access to the mechanisms that enhance health.

A few studies have investigated the relationship between religious activity and literacy. Stark (1963) found a negative relationship between perceiving oneself as being an intellectual and attending church among graduate students in America. In contrast, Marty, Rosenberg and Greely (1968) found that in their American sample 41% of those with a college education attended church every Sunday, while only 33% of
those with less than an eighth grade education did so. Albrecht and Heaton (1984) investigated the question among Latter-day Saints and reported a significant positive relationship between higher education (which is associated with literacy) and LDS church activity. Albrecht and Heaton concluded:

The idea in the Mormon Church [LDS] is for every capable member to have a calling. Successful performance in these callings requires a great variety of skills including bookkeeping, teaching, organizational management, and interpersonal relations. Some of these skills are acquired through the educational system. All things being equal, we would expect education to be positively associated with the acquisition of these types of skills. As a result, people with more education may be among the first to be considered for any given calling, and they may also have greater success in their callings. Since success in one’s calling is such a central aspect of church participation, the link between education and participation comes as no surprise. (p.56)

It has been questioned whether poor literacy might impede full participation in LDS religious activities. Allred (1997) investigated that question and concluded that the religious behaviors of LDS church members in a low literacy group were consistently on a lower level than those in the rest of the sample. However, Allred was unable to obtain a robust sample of the critical low-literacy group. Because only 4% of respondents were in the target group, she questioned whether she had measured lower levels of literacy very well. Given the methodological concerns involved with Allred’s study, the purpose of this investigation was to more accurately ascertain the relationship between literacy and LDS church activity. Two studies were conducted to clarify the relationships.

**STUDY 1**

Study 1 was conducted to obtain an estimate of the correlation between literacy and LDS church activity.

**Method**

**Participants.** Springville, Utah was selected as the site for the initial sampling because it has a high proportion of LDS citizens, with a wide range of socio-economic levels, educational attainments, and employment categories. Using an area probability technique, the city map was sectioned into a grid of 125 numbered blocks. A random table of numbers was then used to select blocks for sampling with the goal of surveying 200 respondents. Undergraduate research assistants went door-to-door in each selected block during the daylight hours (for purposes of safety). While the researchers did not tally how many subjects refused to participate, their anecdotal report was that the majority of people contacted in each block were willing to respond to their questionnaires.

The 200 participants included 121 females (65.5%) and 79 males (39.5%). In this community, door-to-door daylight-hours sampling was probably the cause of the imbalance. The age of participants ranged from 18 to 90, with a mean of 42.7 and a standard deviation of 19.9.

**Procedures.** Following a script, the research assistants introduced themselves as conducting a 30-minute survey for the College of Religious Education at BYU. They followed a prescribed pattern. (1) They introduced themselves as student researchers from BYU and showed an identification badge and letter of introduction on university letterhead. (2) They asked if the respondent at the door was a member of the LDS church. (3) They attempted to alternate between male and female respondents at each home if at all possible. (4) They explained the religious nature of the survey, the reading skills test, and the time required to complete the survey. (5) They explained that responses would be anonymous and that no one else from the church or university would be contacting them after completion of the survey. (6) Respondents who agreed to participate were each given a copy of the survey. (7) The student researchers read every survey question orally, and respondents marked their answers privately on the hard copy. (8) Researchers then administered the reading test. (9) They placed the reading test and survey in an envelope and sealed it.

**Measures.** Researchers administered a questionnaire that included demographic information and 14 questions regarding church activity to be marked on a five-point (1-5) Likert scale. Activity items included such questions as “I attend Priesthood Meeting or Relief Society” (Very Often, Often, Sometimes, Rarely or Never). Activity items were summed to create a total activity score, with
higher scores representing higher church activity.

The Wide Range Achievement Test (WRAT3) reading subtest was also administered to each of the 200 participants. The WRAT3 reading subtest is a standardized word recognition test that is commonly used in research settings as a measure of general reading ability (Wilkinson, 1993). During the WRAT3 reading subtest respondents were handed a card with 42 words ranging in difficulty from the word in to the word terpsichorean. Respondents then orally read each word while the researchers assessed the accuracy of their decoding and pronunciation. The total number of words decoded and pronounced correctly was converted to a standard score for each respondent.

Results
All 200 participants completed the WRAT3 and the demographic section of the questionnaire. Because they omitted one or more of the activity questions, 15 of the respondents were excluded from some analyses. An adequate range of literacy was represented in the sample. Participants’ reading scores on the WRAT3 ranged from 27 (second grade equivalent) to 57 (post high school equivalent), with a mean of 47.4 (high school equivalent) and a standard deviation of 5.9. The average reading ability in this sample is similar to the WRAT3 norm of 48.9 for the median age group of 35 years (Wilkinson, 1993: p 93). Activity values ranged from a minimum of 14 to a maximum of 60, with a mean of 44.97 and a standard deviation of 11.84.

To test for possible bias in reading ability according to age, a Pearson Product Moment Correlation Coefficient was calculated and found to be not significant \[ r (198) = 0.05, p = 0.48 \], indicating no systematic bias.

To test whether there was a correlation between reading ability and church activity, another Pearson Product Moment Correlation Coefficient was calculated. This resultant coefficient was strong and positive \[ r (183) = 0.45, p < 0.001 \], indicating significant association between reading ability and church activity. Better readers were significantly more likely to have higher church participation and vice versa.

Conclusions
The results of Study 1 were consistent with the findings of Albrecht and Heaton (1984) and Allred (1997). Literacy was shown to be strongly related to church activity. Poor literacy could certainly be interpreted as a barrier to church attendance. The high demand to read privately in preparation for church services or aloud during services could lead to resistance to attend. The likelihood of embarrassment could easily lead to decreased attendance. It would be difficult to interpret the correlation in the other direction, that low attendance was a barrier to literacy. The authors then questioned whether religious motivation (intrinsic and/or extrinsic) would be significant covariates that might further clarify the findings in Study 1.

STUDY 2

Study 2 was conducted to assess the relationship between literacy and LDS church activity in the presence of intrinsic and extrinsic religious motivation.

Methods

Participants. Rather than resample blocks or skew the areas sampled, the researchers reviewed the cities in Utah County to identify a city that would have demographics similar to Springville. After they had evaluated several cities, Spanish Fork, Utah emerged as the best match. The same procedure for randomly identifying blocks and interviewing LDS volunteer participants that was used in Study 1 was employed also in Study 2.

Because the questionnaire had been extended with a new variable, religious motivation, not all participants completed every item on the survey. Using a conservative list-wise deletion of data, only the 157 participants who completed every item were eventually included in the final analysis. Of the 157 participants, 106 were female (67.5%) and 51 were male (32 %). As with the earlier study, the daylight-hours sampling procedure probably resulted in over-representation of females in this community. The ages of participants ranged from 18 to 82, with an average of 35.41 and a standard deviation of 14.69.

Measures. Using classical item analysis procedures, researchers evaluated the questionnaire to refine the activity variable. Of the original 14 activity items, 12 clustered together with good item-to-total correlations. Thus, two items were discarded as not fitting with the others. The items removed were “I read the scriptures by myself” and “I pray privately.”
Respondents were administered the demographic questionnaire, the revised 12-item church activity instrument, and the Wide Range Achievement Test (WRAT3) reading subtest, as in Study 1. In addition, all participants completed the Religious Orientation Scale (ROS; Allport & Ross, 1967), a widely recognized measure of religious motivation. The ROS results in two scores: intrinsic orientation and extrinsic orientation. Respondents can score high or low on either or both the intrinsic and extrinsic scales. A two-by-two matrix of types can be produced, but most research considers the scores separately. Intrinsic religiosity is characterized by an interest in religion for its own sake, reflecting an individual’s response to the spiritual meaning of life’s experiences without regard to any particular doctrine per se. Extrinsic religiosity is characterized by religious observance motivated by a sense of social obligation or viewed as a means to further one’s social or political interests. Extrinsic religiosity tends to be more instrumental in achieving some non-religious goal. The ROS intrinsic subscale has been shown to be psychometrically sound, with internal consistency coefficients ranging from .79 to .84. The ROS extrinsic subscale is less psychometrically sound, with internal consistency coefficients ranging from .54 to .62 (Richards, 1994). Concurrent validity studies of the ROS have resulted in validity coefficients as high as .76 (Donahue, 1985; p. 405).

Results

Respondents in this study showed an adequate range of literacy. Participants’ reading scores on the WRAT3 reading subtest ranged from 32 (third grade equivalent) to 58 (post high school equivalent), with a mean of 49.9 (high school grade equivalent) and a standard deviation of 4.2. The average reading ability in this sample was similar to the WRAT3 reading norm for the median age group of 35 years. Activity scores ranged from a minimum of 12 to a maximum of 60, with a mean of 45.72 and a standard deviation of 11.64. Participants’ intrinsic scores ranged from 11 to 45, with a mean of 36.55 and a standard deviation of 6.15. Participants’ extrinsic scores ranged from 14 to 47, with a mean of 27.76 and a standard deviation of 6.03.

To test whether there was any bias in reading ability according to age, a Pearson Product Moment Correlation Coefficient was calculated. The resulting coefficient was not significant [r (198) = -0.13, p = 0.06] and indicated no systematic bias.

Regression analyses were conducted which included zero-order correlations, multiple regression, and partial correlations to understand how literacy and religious orientation might predict church activity separately, together, and in the presence of each other. As seen in Table 1, the zero order correlation between WRAT3 reading scores was consistent with the outcome of Study 1: A significant positive relationship was found between literacy and church activity [r (155) = 0.242, p< 0.001]. Similarly, at zero-order both intrinsic and extrinsic ROS scores were significantly related to church activity. Intrinsic scores were positively related to church activity [r (155) = 0.730, p< 0.001], while extrinsic scores were negatively related to church activity [r (155) = -0.258, p<0.001].

A multiple regression analysis was conducted with WRAT3 reading scores and intrinsic and extrinsic ROS scores entered as a block of predictors. A significant regression equation was found [F (2,154) = 61.76, p<0.001], with an R2 of 0.54. When scores were considered in the presence of each other, however, only the ROS intrinsic score carried any significant predictive ability [Partial r = 0.70, t = 12.28, p< 0.001]. Neither ROS extrinsic scores nor WRAT3 reading scores provided significant predictive weight in the presence of intrinsic religiosity.

Discussion

Church activity has generally been associated with good physical and mental health outcomes. However, there may be naturally occurring barriers that impede church activity and access to the benefits of attendance. The simple zero-order correlations between literacy and church attendance in the present studies seem to indicate that low literacy has been such a barrier. In both of these studies, lower literacy predicted lower church attendance at the zero-order. Because many functions and activities of the LDS Church involve high literacy demands, one might predict that a low level of literacy would be accompanied by a feeling of social discomfort and fear of exclusion from the group. However, including a measure of religious orientation in the second study clarified the picture. The partial correlations revealed that intrinsic religious motivation substantially overshadowed whatever zero-
order correlation existed between literacy and church attendance.

It might be argued that the zero-order correlation of 0.73 between activity and intrinsic religiosity is so strong that the instruments were almost identical in their language. A content analysis of the two instruments, however, revealed that the questions were in fact quite dissimilar. For example, the activity scale included items like “I participate in Church social activities” or “I attend Priesthood Meeting or Relief Society.” The ROS asked participants to respond to statements like “What religion offers most is comfort when sorrows and misfortunes strike” or “Religion is especially important to me because it answers many questions about the meaning of life.” If the instruments are measuring the same constructs, they are doing so from different perspectives. It might be argued that by definition intrinsically religious individuals would be expected to be more active as a result of their religiosity. However, intrinsic religiosity is rationally characterized by private worship and private meaning-making rather than public church participation. People with a primarily intrinsic religious orientation find their controlling motives in religious and spiritual experience. The principles of brotherhood, self-discipline, and communion with the Infinite are central across the ecologies of their lives.

The results of Study 2 suggest that although literacy is involved with aspects of worship and participation in the LDS church, less literate members will maintain their church activity if their religious motivations are intrinsically driven. However, the fact that intrinsic motivation overwhelmed the predictive ability of literacy at the zero-order should not be interpreted to mitigate the need to enhance literacy among church members to facilitate their activity and engagement in the salutary benefits of church attendance. Beyond pragmatic functions like accessing the correlated curriculum, policy and procedures manuals, and the “code” of the group, enhanced literacy also allows access to the sacred texts which may enhance members’ spiritual experiences. In the interest of members’ overall development, advances in literacy are not contraindicated. It is likely that internally motivated members of the church who enhance their literacy will tend to enhance their overall social and religious experience as well.

Given the nature of regression analysis, no causal statements are justified here. However, in efforts to enhance the probabilities of increased health through whatever mechanisms are actually operating, some efforts are reasonable. Perhaps the easiest place for the LDS Church to effect change would be to enhance literacy among its members and thereby enhance access to church activity for those with low literacy skills. This would seem to increase opportunities to those who possess high intrinsic religious motivation and would remove a potential barrier for those who are less intrinsically motivated. It does not appear to be as easy to directly manipulate intrinsic religious motivation. As the Bible states, “The wind bloweth where it listeth, and thou hearest the sound thereof, but canst not tell whence it cometh, and whither it goeth; so is every one that is born of the spirit” (John 3:8). Since efforts to increase literacy enhance access to sacred texts as well as the probability of successful leadership experiences and group membership in a lay church, strengthening literacy may be a way of using something that can be observed and manipulated to influence and enhance something which cannot.
Table 1

Prediction of Church Activity by Literacy and Religious Orientation

<table>
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<th>$R^2$</th>
<th>$F$</th>
<th>$p$</th>
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References


