RELIGIOUS MEANING AND CONTROL IN THE MIDST OF CANCER

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Abstract: The interrelated processes of finding meaning and making control attributions are examined among cancer patients ($N = 168$) for whom religion is either a non-central (aschematics, $n = 55$) or central (schematics, $n = 76$) aspect in their self definitions. Various quality of life indices, in addition to cognitive and behavioral measures of religiosity, display complex relations to the prediction of the individual's level of reported experience of finding meaning and control attributions, depending upon schematicity. No single unifying factor is discerned concerning how the two groups experience meaning; initial perceptions of threat appear to be a common theme in relation to how they attribute control. Additionally, aschematics, as opposed to schematics, report less improvement in their relationships with family and friends as well as less confidence in how they have personally coped with the cancer related experience.

Key words: religion, coping, control, meaning, cancer, attribution

Religious Meaning and Control in the Midst of Cancer

A wealth of research and theory has argued that a crucial portion of effective coping with trauma hinges upon finding meaning and establishing a sense of control (cf. Baumeister, 1991; Fiske, Taylor, 1991; Park, 2010; Wortman, 1976). When tragedy strikes, previous styles of attending to, organizing and interpreting life events are already well developed (Fiske, Taylor, 1991; Kelly, 1963). These personal data managers or "schemas" are as diverse as how to interact with our significant others, how to behave while driving through town, or what to do when the bank calls to inform us that our checking account is overdrawn (Markus, 1977). They serve as guides in the process of establishing meaning and control.

It has been argued that a religious belief system can be understood as a cognitive schema that helps people to interpret and react to multiple aspects of life (McIntosh, 1995; Ladd, 2007). This includes dealing with serious illnesses such as sudden infant death syndrome (McIntosh, Silver, Wortman, 1993), or cancer (Park et al., 2008). Both theoretical (Spilka, Shaver, Kirkpatrick, 1985) and empirical work (Hood, Hill, Spilka, 2009; Pargament et al., 1988) emphasize that a primary benefit of these religious schemas is their ability to provide contextual meaning and a sense of control.

Yet, even if maintaining a religious orientation was shown to be a true panacea for all of life's vicissitudes, some people still avoid adopting the belief system. Noting that we make no claim for religion as a complete cosmic curative, it is obvious that many people stand intentionally outside of any religious

community. These individuals still manage to effectively cope with adverse situations, without utilizing any specifically theological schema to decipher meaning or enhance control perceptions.

It is important to recognize in this context that a schema is far more than a simple belief; it is an entire system of densely interwoven beliefs. While an individual might quickly respond to a question of whether or not she or he is "religious" or "not religious", such answers have two fundamental difficulties for interpretation. First, it is not immediately clear what the respondent means by "religious". Does this include affects, behaviors, and cognitions or is it more limited in scope? Second, the directionality of "religious" is not easily discerned. Is this stance adopted for personal or for social reasons? In this paper, by employing the terms "schematic" and "aschematic" with regard to religion, it is our intention to keep the focus very explicitly on cognitive processes that are of importance to self-definitions. Being "schematic" on religion means that it is not only the case that you think about and view the world in religious terms but your sense of who you are as an individual is also largely derived from the perspective of these religious cognitions. On the other hand, being "aschematic" on religion reveals that religious cognitions are important neither for your understanding of the world nor for yourself.

Religious or otherwise, schemas function by creating a framework inside of which attributions are constructed (Fiske, Taylor, 1991; Ladd, 2007; Weiner 1980; 1986). These frames of reference are assembled primarily via personal experience (Markus, 1977) and it has been demonstrated that they provide divergent attributional perspectives on the task of coping with severe illness (Ladd,

David, Spilka, 1992; Spilka, Schmidt, 1983); whether one is mainly religious or, instead, more naturalistic in her or his understanding of life is related to the type of attributions elicited during turmoil. In other words, while these two groups of individuals ultimately arrive at a similar place (i.e., effective coping with affliction), it is a strong logical possibility that they travel along different pathways (McIntosh, 1995).

When investigating how religion affects this process of attribution-making, it is clear that the researcher is confronted with a multifaceted construct (Hood, Hill, Spilka, 2009). For example, McIntosh et al. (1993) described how cognitive and behavioral aspects of religion were mutually and independently influential in finding meaning after experiencing the death of a child due to sudden infant death syndrome.

The present study assesses ways in which people experiencing cancer report finding meaning and perceiving control. In particular, the extent to which certain religious and non-religious quality of life variables predict attributions of control to the self, God, and nature is examined. The strength of these specific and differing paths to making attributions is established separately for religious and non-religious individuals. Additionally, the influence of these attributions on relationships with family and friends and also on subjective evaluations of how the individual has coped with the illness are evaluated.

METHOD

Sample

Participants were 168 persons with a variety of different cancers solicited through a regional cancer center. The average age was

53 years (range = 22 to 88) and males and females were evenly represented (71 and 93 respectively). Most were Christian (39% Protestant, 18% Catholic) while 8% identified themselves as Jewish. Non-Hispanic Whites represented 93% of the sample, 3.6% Hispanic, and 1.8% Black. Post high school education was reported by 86% of the people. Eighty-three percent were currently married.

Instruments

A ten point Likert scale (1 = low, 10 = high; $\alpha = .96$) composed of two items ("How religious are you?" $M = 6.75$, $SD = 2.55$, and "How important is your religiosity to you?" $M = 7.13$, $SD = 2.80$) was used to measure schematicity, or the degree to which a religious belief system was fundamental to the person's cognitive process (see Markus, 1977). Individuals roughly one-half of a standard deviation below the mean on both questions (i.e., below 6 in each case) were categorized as aschematics ($n = 55$); those scoring roughly one-half standard deviation above the mean (i.e., above 8 in each case) were identified as schematics ($n = 76$).

Cella and colleague's (1993) Functional Assessment of Cancer Therapy General Measure (FACT-G) was used to evaluate the participants' quality of life. This Likert instrument (0 = low, 4 = high) obtains information regarding: physical well-being (7 items, $\alpha = .93$), social well-being (6 items, $\alpha = .81$), emotional well-being (5 items, $\alpha = .87$), functional well-being (7 items, $\alpha = .96$), and the relationship with the physician (2 items, $\alpha = .73$)¹. Each of the scales additionally includes a single Likert item (0 =

low, 10 = high) assessing the patients' perceptions of how important the area is in determining the overall quality of life. This value is then used to weight the respective scale scores.

A single Likert item (0 = low, 10 = high; "To what degree have you found a meaning or purpose in your cancer?") provided a direct estimation of the amount of sense the individual was able to make of the illness. Two additional Likert items (0 = low, 10 = high) allowed individuals to self-report on the extent to which they felt their situation was 1) ambiguous and 2) threatening. Religious attendance was evaluated with a six-point single item Likert indicator ranging from never to more than once weekly.

Participants were also asked to indicate the degree to which (1 = low, 5 = high) God, nature, luck/chance,² or they themselves possessed control over: any discomfort associated with their cancer; the type and quality of care they received; and the ultimate course of the disease. The God control and nature control scales³ displayed adequate reliabilities (.90 and .77, respectively). The self control scale had a fairly low alpha (.58).

Note that these sources of control are not viewed as necessarily mutually exclusive. Pargament and colleagues (1988) have demonstrated that some people conceptualize themselves and God as working in a team fashion, in a combination of primary and secondary control; others perceive God and themselves as autonomous agents. In the current study, individuals reported each con-

¹ The "relationship with physician" scale was not used in the present analysis.

² Scales measuring nature and luck correlated .53, $p < .01$ and were combined for remaining analyses.

³ God and self scales were composed of three items; the luck items were included in the nature scale for a total of six items.

trol attribution independent of the scores they assigned to the other styles. The intercorrelations reveal that individuals responded to the scales as independent units.⁴

RESULTS

Religion's Importance & Attendance

Independent regression analyses examined paths contributing to religion's importance and the individual's attendance at religious events (DVs = ambiguity, threat, time since diagnosis, and importance or attendance, as appropriate). For aschematics, the current level of religion's importance was directly associated with attendance (.77)⁵ and marginally with initial perceptions of ambiguity (.24, $p = .056$); $F(8, 44) = 6.51$, $p < .0001$; $R^2 = .54$. Attendance was predicted by importance (.59) and length of time since diagnosis (.39), $F(8, 44) = 10.06$, $p < .0001$; $R^2 = .65$. This suggests that among individuals for whom religion is of marginal concern, behavioral and cognitive components are mutually influential. In particular, behavior (frequency of attending religious functions) tends to increase across time.

Among schematics, attendance (.60) and threat (.23) led directly into importance, $F(8, 65) = 8.98$, $p < .0001$; $R^2 = .53$. Importance (.69) alone was predictive of attendance; $F(8, 65) = 6.81$, $p < .0001$; $R^2 = .46$. As with aschematics, cognitive and behavioral measures are closely allied. With schematics,

greater initial perceptions of threat tend to increase the contemporary evaluation of religion's importance.

The above results demonstrate the fundamental nature of the two groups within this particular sample. Aschematics and schematics clearly employ religious cognitions and behaviors in discrete manners. These observations form the foundation for the next stage of investigation, namely the exploration of issues concerning the finding of meaning and the establishment of beliefs about control.

PART I: FINDING MEANING

Initial Differences

Aschematics ($M = 1.80$, $SD = 1.02$) indicated significantly less meaning than did schematics ($M = 2.85$, $SD = 1.17$), $t(129) = 5.37$, $p < .001$, but note that both groups fell below the midpoint, suggesting a general *lack* of meaning found. When divided at the objective scale midpoint (3.5), only 24% of the aschematics but 61% of schematics reported finding meaning at a rate above the midpoint. While aschematics tend to claim less meaning than do schematics, meaning is clearly not totally elusive to aschematics; likewise, being schematic on religion does not automatically guarantee that the individual will find meaning while coping with cancer.

Predictors

Using IVs outlined above (importance, attendance, threat, ambiguity, time since diagnosis, and well-being indices for emotion, function, social, and physical facets), no sig-

⁴ Intercorrelations were as follows: God / nature, $-.12$, ns ; God / self, $.05$, ns ; nature / self, $.25$, $p < .01$.

⁵ All results are standardized betas derived from simultaneous regression equations; betas are significant at $p < .05$ unless otherwise noted.

nificant paths were found in relation to the reporting of meaning by aschematics.

Schematics, however, displayed several pathways predicting meaning, $F(9, 58) = 2.91$, $p < .007$; $R^2 = .31$. Emotional well-being (.51) and functional well-being (-.35) were both significant contributors. The importance of religion (.29, $p = .08$) approached significance. Those who were emotionally comfortable and unable to function in their former manner reported finding the highest amounts of meaning.

PART II: ATTRIBUTIONS OF CONTROL

Initial Differences

When the overall level of attribution making is examined, aschematics and schematics do not differ in their perceptions of control, $F(1, 129) = 1.99$, $p = .161$; $M = 2.66$, $SD = .47$ and $M = 2.51$, $SD = .55$ respectively. Schematicity appears to not influence the overall amount of control experienced while dealing with cancer.

Within Group Preferences

Within their respective groups, however, aschematics and schematics do show preferences for different types of control attributions. Aschematics prefer self attributions ($M = 2.78$, $SD = .71$) to either nature ($M = 2.28$, $SD = .73$) or God ($M = 2.02$, $SD = .91$) attributions, $t(52) = 3.68$, $p < .001^6$ and $t(50) = 5.09$, $p < .001$, respectively. They do not indicate partiality between nature and God attributions, $t(50) = 2.05$, $p < .046$.

Schematics have more detailed differences among types of attributions. They prefer God ($M = 3.52$, $SD = .78$) to either self ($M = 2.78$, $SD = .57$) or nature ($M = 1.88$, $SD = .73$) attributions, $t(73) = 6.14$, $p < .001^7$ and $t(71) = 10.19$, $p < .001$, respectively. They also prefer self attributions to those concerning nature, $t(71) = 12.29$, $p < .001$.

Between Group Preferences

Examining specific types of control attributions between the two groups, a main effect of schematicity appears, multivariate $F(3, 116) = 36.45$, $p < .001$. Univariate tests reveal differences in how the groups are likely to make God and nature attributions. Not surprisingly, schematics ($M = 3.54$, $SD = .77$) make more God attributions than do aschematics ($M = 2.05$, $SD = .92$), $F(1, 118) = 93.19$, $p < .001$. In turn, aschematics ($M = 2.31$, $SD = .76$) make more nature attributions than do schematics ($M = 1.88$, $SD = .73$), $F(1, 118) = 7.71$, $p < .006$.

These results are modified by an interaction between schematicity and gender, multivariate $F(3, 116) = 2.91$, $p = .037$. Univariate results note that this only reliably takes place in reference to nature attributions, $F(1, 118) = 4.39$, $p = .038$. T-tests⁸ show that male aschematics ($n = 32$, $M = 2.47$, $SD = .85$) utilize more nature attributions than either male schematics ($n = 24$, $M = 1.77$, $SD = .68$; $t(54) = 3.34$, $p = .002$) or female schematics ($n = 48$, $M = 1.93$, $SD = .75$; $t(78) = 3.02$, $p = .003$). No other test was significant (female aschematics, $n = 20$, $M = 2.03$, $SD = .50$).

⁶ After a Bonferroni correction (.05/3), the alpha critical value becomes .017.

⁷ After a Bonferroni correction (.05/3), the alpha critical value becomes .017.

⁸ A Bonferroni correction of the alpha critical level was used (.05/6 = .008).

Predictors

Regression analyses on each group (i.e., aschematics and schematics) examined possible predictors of God, nature, and self attributions. Independent variables tested included: time since first diagnosis, initial perceptions of both threat and ambiguity, and the FACT-G measures of current levels of physical, emotional, functional and social well-being.⁹ Current importance of religion and attendance at religious gatherings served as potential single item mediating variables.

Nature Attributions

Three paths directly led to the making of nature attributions by aschematics, $F(9, 35) = 2.66$, $p < .02$; $R^2 = .41$. Both time since diagnosis (.33) and emotional well-being (.73) were significant predictors while physical well-being (-.30) bordered on significance ($p = .07$). This implies that nature attributions increase as time passes and as the individual becomes more emotionally satisfied; those who are in poor physical condition may also make more nature attributions of control than those who are in better physical health.

Among schematics, no significant associations were found with nature attributions.

Self Attributions

No paths were observed for aschematics in connection to the making of self attributions.

For the making of self attributions, importance (-.48) and threat (.24, $p = .06$) were in-

fluential among schematics, $F(9, 57) = 2.86$, $p < .008$; $R^2 = .31$. If religion is important, attributions to the self are lower than in the case where religion is less important. Self-attributions are marginally increased by the initial perceptions of threat.

God Attributions

Aschematic patterns indicated that God attributions were predicted solely by the current level of religion's importance (.79); $F(9, 34) = 6.21$, $p < .0001$; $R^2 = .62$. Attributions that God was in control of the situation were likely only when religion was viewed as an influential part of life.

Current importance of religion (.75), perceptions of threat (-.33), and the frequency of attendance (-.28, $p = .06$) were predictive of schematics' God attributions; $F(9, 57) = 3.59$, $p < .001$, $R^2 = .36$. Less threatening perceptions of the cancer diagnosis, higher levels of religion's relevance and greater attendance frequency all support the making of God attributions.

PART III: RELATIONSHIPS & PERSONAL COPING

Initial Differences

Aschematics and schematics were significantly divergent on the two outcome indices. Aschematics reported less improved familial and friends relationships ($M = 2.98$, $SD = .58$) ($F(1, 128) = 13.23$, $p < .001$) as well as less confidence in how they had personally coped with their illnesses ($M = 3.24$, $SD = .82$) ($F(1, 128) = 6.96$, $p < .01$) when compared with schematics (M & (SD) = $3.34(.56)$; $3.57(.64)$ respectively).

⁹ The first three variables were single items.

The Relation to Meaning

The indicator of finding meaning was not predictive of either relational quality or subjective perception of coping for either aschematics or schematics.

The Relation to Control Attributions

Regressions with control attributions as IVs indicate that for aschematics, more self (beta = .33) attributions contribute to greater degrees of positive relationships, $F(3,46) = 2.94$, $p < .05$; $R^2 = .16$. No attributional styles offered any predictive information regarding overall self-perceptions of the individual's coping efforts.

Schematics' relational quality was not predicted by any of the different attributional styles. The overall subjective sense of coping held by schematics was predicted by nature (beta = -.35) attributions, $F(3,68) = 2.99$, $p < .05$; $R^2 = .12$. In other words, more nature attributions made by a schematic resulted in self-perception of less adequate coping.

DISCUSSION

The above results highlight several important points. First, the degree to which one is schematic with respect to religion need not influence how much *control* is perceived during times of stress, but being schematic does appear to help some, but not all, people find *meaning*. This is of interest because it highlights the heavily processed cognitive feature of meaning as it stands in direct relation to notions of the self. Control, on the other hand, may be either personal or located outside one's realm of concern. Such findings join with the description by Spilka and

Ladd (2013) of the religious activity of prayer as a purposeful cognitive coping strategy and beg an argument for the renaming of "secondary" control with a less subordinate label.

It should also be kept in mind that regardless of schematicity, respondents on average reported *not* finding meaning. Even among schematics, who reported more meaning found, a full third still had not found meaning in their cancer. Yet even when not detecting meaning, these people have not succumbed to dysfunction. Park (2010) briefly mentions this counterintuitive type of finding in the literature. In pursuing an explanation, we (Ladd, Ladd, 2013) have observed that while religion may help some find meaning, religious traditions themselves do not guarantee that their practitioners will attain understanding. Instead, they offer sets of guidelines or ways to structure one's life even in the absolute absence of meaning. We suggest that religion per se is primarily focused on this notion of structure, with meaning being a bonus that some may obtain while others never experience. Nonetheless, religion as either structure or meaning can play an influential role in how people understand their lives.

Second, aschematics and schematics have preferred attributional styles both within their own groups and in comparison to each other. Religious aschematics favor self attributions, or primary control explanations, to other varieties. On the other hand, religious schematics hierarchically order their preferences from most to least, God to self to nature. Among schematics, it is not clear from these data the extent to which God attributions represent a deferring type of secondary control (let God take care of it alone) or a more collaborative melding of primary and

secondary control (God and I work together). The work of Pargament et al. (1988; see also McIntosh, Spilka, 1990) suggests that this more subtle distinction is worthy of examination.

Between the two groups, aschematics tend to make attributions of primary control (i.e., self in control) while schematics tend to see a form of secondary control in action (i.e., God in control). It appears that the ability to rely on God is linked to the extent to which schematics actively engage in attempts to directly control their environment. This is not to imply that aschematics are any more active overall, however, the types of activity in the groups are notably different.

Why male aschematics might be more naturalistic than any other group in their orientation is not immediately obvious. This may represent the antithesis of previous research which indicates that females typically report greater general religiosity¹⁰ (e.g., Donahue, Benson, 1995), yet such an explanation does not appear as plausible since a direct demonstration of greater amounts of female God attributions is lacking in the present data. Recalling the different within-group patterns of distinguishing between attributions, it may be that aschematics and schematics have different ways of understanding "nature". Such differences may only be sorted out by a closeness of examination not possible in the current sample.

A third implication is that the process of constructing attributions takes on different initial forms depending on the individual's religiosity. The amount of time elapsed since the original diagnosis is influential in asche-

matics' attendance; elevated perceptions of threat contribute to increased importance of religion among schematics. Despite these formative disparities, however, the end result of the cognitive-behavioral connection is that regardless of the individual's schematicity, the amount of importance ascribed to religion is positively related to the making of God attributions. This suggests that religion does not have to be the sole or even a primary schema in order to have some level of effect when coping with cancer.

On the other hand, when a religious view on life *is* very central (as it is for schematics), then it may have a distinctly more powerful relation to the making of attributions and meaning outside its purview. This might help to explain why self attributions are negatively related to religion's importance among schematics. Seeing one's self in control may be viewed as tantamount to usurping the role reserved for religious attributions. Alternatively, highly schematic people may simply lack the cognitive framework or desire to craft effective non-religious attributions.

While a variety of influences are found to contribute to God and self attributions in aschematics, far fewer influences predict these same control explanations in schematics. The full structure for schematics appears, at first, paradoxical. Threat increases religion's importance which subsequently lowers self attributions and strengthens God attributions; threat increases self attributions; threat decreases God attributions. In reality, however, this neatly unifies previous findings such as the observation that initial perception of threat leads a schematic away from blaming God (Spilka, Schmidt, 1983) and toward blaming the self (cf. discussion of Bulman, Wortman, 1977 in Hood et al., 2009).

¹⁰ Analyses suggest that indeed there are more than expected female schematics $\chi^2 = 10.78$, $p < .001$.

Schematics may believe that God, to a much greater extent than one's self, is specifically involved in situational control, regardless of such factors as functional, emotional, and physical well-being. Certainly they reported significantly more God attributions than did aschematics in general. For these people, religion may serve the role of a complex schema which ultimately provides a cognitive simplification concerning external influences on control perceptions (Ladd, 2007; Markus, 1977; McIntosh, 1995); this appears to be especially true in the arena of God attributions, a cognitive location well mapped in schematics.

In conjunction with the above, it is noteworthy that perceptions of initial threat appear as a common thread binding together the God attribution processes of both aschematics and schematics. Significant amounts of threat, by definition, affect one's sense of control. When perceiving threat, the cancer patients in this study attributed control to God, a readily accessible source of secondary control in contemporary American culture (Spilka et al., 1996). Aschematics show this by way of a single, direct path from threat perceptions to God attributions while schematics deal with threat and the assignment of secondary control in a more complex fashion. The relation between threat and attributions of secondary control obviously deserves more sustained attention.

The fourth set of results reveals that schematics are reliably more likely than are aschematics to report improvements in relationships and display more confidence in how they have personally coped with their illness. While it is possible to note that for aschematics more self attributions predict better relational outcomes, it is not possible to point to a specific variety of attribution

which predicts the even more successful relational outcomes of schematics. Similarly, although it is feasible to show that for schematics nature attributions are related to *decreases* in overall self-perceptions of the quality of one's coping efforts, nothing may be said about what might *increase* such perceptions for either schematics or aschematics. In spite of this lack of precise designation of how control attributions associate with successful coping, the overall finding does remain that in some way the coping process is facilitated in those who claim a personal centrality for religion.

Certainly, the results of this (or any other) cross-sectional study are not to be considered definitive when addressing lifelong issues such as finding meaning and making attributions. The procurement of a more random sample and the use of multiple item measures will enhance future efforts in this area. Subsequent research also faces the task of sorting out the heterogeneity of the aschematic group; the current study only points with some surety to the notion that they are not using religion as a primary organizational framework for coping. Empirical specifications of discrete systems of belief which are not overtly religious may enable an understanding of broadly human ways of dealing with potentially stressful situations.

Even with these caveats, the findings of the present study do offer a glimpse into the formative processes and potential outcomes of three attributional styles as utilized by individuals living out different schemas. In particular, the most is learned about those with well established religious schemas. With a vast majority of Americans reporting that they consider themselves at least marginally religious (Pond, Smith, Clement, 2010) the manner in which these belief systems pro-

vide benefits or create deficits merits continued investigation.

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NÁBOŽENSKÝ ZMYSEL A KONTROLA PRI RAKOVINE

K. L. L a d d

Súhrn: Skúmali sa spolu súvisiace procesy hľadania zmyslu a vytvárania atribúcií kontroly u onkologických pacientov ($N = 168$), pre ktorých je náboženstvo neústredným (aschematici, $n = 55$) alebo ústredným (schematici, $n = 76$) aspektom ich sebadefinovania. Rozličné indikátory kvality života spolu s kognitívnymi a behaviorálnymi mierami religiozity zobrazujú komplexné vzťahy k predikciám úrovne skúsenosti s hľadaním zmyslu a atribúcií kontroly, o ktorých vypovedá jednotlivec v závislosti od schematicity. Nezistil sa žiaden zjednocujúci faktor týkajúci sa spôsobu, akým obe skupiny prežívajú zmysel; zdá sa, že prvotné vnímanie hrozby je spoločným menovateľom vo vzťahu k spôsobu, akým skupiny atribuuujú kontrolu. Okrem toho, aschematici, na rozdiel od schematicov, uvádzali menšie zlepšenie ich vzťahov s rodinou a priateľmi ako aj nižšiu dôveru v spôsob, akým sa vyrovnávali s onkologickými skúsenosťami.