

RELIGION AND THE PARANORMAL:

Assessing Freudian Hypotheses

A RELIGIÃO E A PARANORMALIDADE: uma avaliação das hipóteses freudianas

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ABSTRACT

Although Freud noted that religious (REL) and paranormal (PAR) belief systems differed in social acceptance and content, he did not explore those differences in his writings. Instead, he equated the two ways of thinking, arguing that both functioned to satisfy neurotic needs or extreme desires for an artificially structured environment. As an alternative to the “untestable” REL and PAR beliefs, Freud offered the empirically based scientific (SCI) approach. Study One validates the importance of evaluating the discrete contents of REL and PAR, although there is evidence of some shared beliefs (e.g., astrology and reincarnation). Study Two confirms these findings and offers partial credence to Freud’s notions about the function of these belief systems. REL associates with higher needs for cognitive structure than do either SCI or PAR. Contrary to Freud’s expectations, however, PAR and SCI display comparably low structure needs, suggesting that they are both receptive to the presence of ambiguity. **KEY WORDS:** Need for structure. Paranormal. Religious schema. Freud.

RESUMO

Mesmo depois de Freud ter observado que os sistemas da crença religiosa (REL) e da paranormalidade (PAR) diferem tanto na aceitação social quanto no conteúdo, ele não explorou essas diferenças em seus escritos. Ao invés disso, ele equiparou essas duas formas de pensar, argumentando que ambas funcionavam para satisfazer as necessidades neuróticas ou desejos extremos dentro de um ambiente artificialmente estruturado. Como uma alternativa às crenças “não verificáveis” REL e PAR, Freud ofereceu uma abordagem com base empírica e científica (SCI). O primeiro estudo valida a importância de se avaliar os conteúdos discretos

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de REL e PAR, apesar da evidência de algumas crenças compartilhadas [pelos dois sistemas] (e.g., astrologia e reencarnação). O estudo número dois confirma esses achados e oferece credenciais parciais às noções freudianas acerca da função [que descreve] os sistemas de crença. REL necessita de um mais alto nível para cognição que SCI ou PAR. Contrariando as expectativas de Freud, no entanto, PAR e SCI mostram comparativamente a necessidade mesma de mais baixos níveis de estruturas cognitivas, sugerindo que ambos são receptivos à presença de ambiguidade.

PALAVRAS-CHAVE: Necessidade neurótica. Paranormalidade. Sistema da crença religiosa. Freud.

Freud's interest in and attempts to clarify paranormal topics, especially numerology and telepathy, originated in his childhood (Jones, 1957). Moving steadily toward an acceptance of telepathy as the kernel of truth within paranormal beliefs (Freud, 1941/1955b; 1922/1955a; Gay, 1988; Jones, 1957) he eventually stated that this particular "physiological gift" (Jones, 1957, p. 385; see also Freud, 1933b/1966b) could fit usefully within the scientific paradigm of psychoanalysis. Other paranormal notions, such as reincarnation and communication with the dead, Freud rejected. He further claimed that these repudiated paranormal ways of thinking shared a common function with more widely held religious belief systems: Both approaches fulfilled neurotic needs for unwarranted structure and stability (Freud, 1933a/1966a).

Although he contended that the *function* of paranormal and religious beliefs was similar, Freud also recognized that their levels of social acceptability and their actual *contents* were quite different (Freud, 1933a/1966a): Religious ways of thinking were socially normative while paranormal ideas were non-normative. In other words, the content of the two, functionally similar styles of thinking was notably divergent. Beyond noting its existence, however, Freud does not address this clear discrepancy in content, instead focusing on how the belief systems functioned as different manifestations of a common unconscious wish fulfillment process. The difference in normative status between these beliefs does imply, however, that they contain meaningful, measurable distinctions in content.

STUDY ONE: ISSUES OF CONTENT

As noted, Freud did not address to any great extent the content differences he observed between paranormal and religious belief systems. It is most likely that he simply grouped them together as irrational and felt no

further need to investigate. Contemporary interpretations of his contribution, however, require a closer look.

Freud did sharply distinguish the paranormal and religious approaches from scientific thought. He stated that while scientific persons reject credulity *per se* (e.g., both religion and the paranormal), they simultaneously aver that empirical methods are useful and necessary for investigating credulous phenomena (Freud, 1933b/1966b).

In a demonstration of his sensitivity to *content* discrepancies, Freud obtained “proof” of telepathy via “experiments” with his daughter Anna (Jones, 1957). He realized, however, that his “scientifically” based acceptance of telepathy was socially non-normative, and he hoped people would not say to themselves, “Here’s another case of a man who has done honest work as a scientist all through his life and has grown weak-minded, pious and credulous in his old age” (Freud, 1933a/1966a, p. 54). He conceded that it would be much more socially acceptable were he to “adopt a moderate theism and reject all things occult” (Freud, 1933a/1966a, p. 54). Instead of courting scholarly favor of the day (Coon, 1992), however, he accepted telepathy as a potentially useful psychoanalytic tool and eschewed religion, equating the latter with all other manner of paranormal beliefs that lacked empirical validation. In short, he recognized the content and function of the paranormal phenomena of telepathy as both non-normative and rational.

From this brief overview, various hypotheses result. First, (H1) as compared to individuals who do not heartily endorse religion, those who do place faith in religion should more firmly reject paranormal ideas. In their competition for the same intellectual territory, religious and paranormal tend toward exclusivity, in part based on their significant differences in content. Taking an alternative position, those who do not support either religion or paranormality may be neutral toward both perspectives, awaiting supportive or disconfirming data.

Second, Freud’s argument that individuals committed to religion should maintain a negative attitude toward the paranormal is weakened in light of contemporary understandings of the multidimensionality of religious orientations (Spilka, Hood, Hunsberger, & Gorsuch, 2003). Religion clearly fills different needs at different times for people. In some cases, religious and paranormal beliefs may be at odds while in other instances they may

be quite compatible. For example, (H2) it is plausible that only those with a deep commitment to religious beliefs as an end unto themselves (i.e., an intrinsic orientation; Gorsuch & McPherson, 1988) repudiate paranormal interpretations. In other words, a strong alliance with one way of thinking may preclude acceptance of potentially competing ideologies.

Alternatively, (H3) a utilitarian approach to religion (i.e., an extrinsic orientation; Gorsuch & McPherson, 1988), since it is more pragmatic in nature, may not display a consistently negative disposition toward the paranormal. From this perspective, orthodoxy may be less important than arriving quickly at some tenable answer regardless of its theological ramifications.

Finally, (H4) an individual who views religion as a vehicle for questioning and seeking answers as widely as possible may not automatically reject paranormal beliefs (i.e., a quest orientation; Batson, et al., 1993; personal communication, C. D. Batson, 13 February 1997). Instead, these people may critically engage the different explanatory options on an equal level, neither accepting nor rejecting ideas at their face value.

METHOD SAMPLE

A total of 216 individuals (121 females; 88 males; 7 unreported) from undergraduate courses at a Midwestern in the United States participated. Ranging in age from 16 to 61 years ($M = 22.0$), participants were primarily Caucasian (97%). Religiously, Protestants (32%) and Catholics (31%) predominated, while African, Asian, and Hispanic Americans each comprised approximately 10% of the sample.

ASSESSING RELIGION

A seven-point, single item, Likert scale assessed religious importance. In order to equalize its weight with the remaining 6-point scales, responses were multiplied by .8571428 (6/7). The adjusted mean for the sample was 4.0 ($SD = 2.06$). The single question evaluating attendance at religious services showed a mean of three to five times per year. Thus, while religious salience was at a moderate level, religious behaviors were not as strong.

To incorporate both cognitive and behavioral indices of religion, the reported importance of religion (adjusted) was multiplied by the frequency of attendance ($M = 14.7$, $SD = 11.80$). This approach has the specific benefit of

defining what it means to “be religious” in a broad sense, highlighting instances where self-reported behaviors and cognitions are in alignment. Henceforth this will be referred to as general religiosity. Individuals scoring above the overall objective mean on this computed measure (18.5) were deemed “more religious” while those falling below that point were labeled “less religious.”

The scales developed by Gorsuch and McPherson (1988) evaluated the degree to which a person’s religious beliefs are intrinsic (I), and extrinsic (E). The extrinsic scale includes extrinsic-social (ES) and extrinsic-personal subscales (EP). Additionally employed was the 12 item quest (Q) scale (Batson, Schoenrade, & Ventis, 1993).

ASSESSING PARANORMAL BELIEFS

Tobacyk and Milford (1983) factor analytically derived six scales outlining paranormal beliefs and one tapping general religious beliefs. A central difficulty with their scale centered on issues of interpretation. One item, for instance, asked respondents to indicate the extent to which they believed witches existed; an affirmative response was counted as a belief in the paranormal. The dilemma is that there are a number of people, who, existing in a quite normal human sense, self-designate as witches. Participants who knew a self-proclaimed witch would be hard pressed to ignore that person’s existence. Recognition of the person’s existence, however, does not provide any hint of the extent to which the respondent supports or rejects the metaphysical claims made by the witch.

To streamline the instrument, items with strong face validity from the Tobacyk and Milford (1983) scales were included in the present work. Other items generated for this study addressed the concepts of clairvoyance, mythical beings, communication with the dead, astrology, extrasensory perception, telepathy, popular superstitions (e.g., breaking mirrors), poltergeists, flying saucers, ghosts, and reincarnation.

The entire pool of items underwent a principal axis factoring procedure with varimax and oblimin rotations. The two approaches produced similar results, however, the correlated factors assumption of the oblimin procedure was preferred for factor reduction and interpretation. Use of the structure matrix helped to avoid overly sample dependent results (Gorsuch, 1983).

Given the moderate ratio of subjects to items, a conservative factoring strategy ensued following the procedure described by Ladd and Spilka (2002).

This method resulted in five factors with all structure matrix item loadings of .60 or greater. The final solution accounted for 64.9% of the observed variance (see Table 1 for individual items and loadings).

The first factor (powers) consisted of six items sharing the theme of supernatural powers (e.g. “Some people have the ability to predict the future.” “Voodoo is a real method to use paranormal powers.”). This compares roughly to the Tobacyk and Milford (1983) scales of “witchcraft” and “precognition.” Three items defined the second factor (omens), focusing on popular superstitions or bad luck omens (e.g. “The number 13 is unlucky.”). This appears to be a very robust measure, with items identical to the superstition scale of Tobacyk & Milford (1983). Factor three (beings), with three salient items, represented beliefs concerning the Abominable Snowman, Loch Ness monster, and Big Foot. This replicates a Tobacyk and Milford scale. A fourth factor (rebirth), with only one Tobacyk and Milford item, was dominated by three reincarnation statements (e.g. “Reincarnation does occur.”). Astrological convictions (e.g. “Our fate is determined by the position of stars and planets.”) described in four items are central to the fifth factor (astrology). This belief was not represented in the Tobacyk and Milford study. Scales for each factor were formed using items with significant loadings (see Table 1). The mean across responses to the 19 items provided an omnibus index of the participant’s endorsement of paranormal beliefs ($M = 2.7$, $SD = .92$).

Table 1

Structure Matrix Factor Loadings of Paranormal Belief Scales

POWERS

Some people have the ability to predict the future.	.80
Voodoo is a real method to use paranormal powers.	.77
Dreams can provide information about the future.	.75
If one sincerely desires to contact evil spirits, there is a good chance that such contact will occur.	.72
Black magic really exists.	.71
There is much more going on in the world than what is commonly called reality.	.70

OMENS

If you break a mirror, you will have bad luck.	.96
Black cats bring bad luck.	.82
The number 13 is unlucky.	.60

BEINGS

The Loch Ness monster of Scotland exists.	.91
Big Foot exists.	.89
The abominable snowman of Tibet exists.	.78

REBIRTH

A person who died may be reborn as another person.	.89
Reincarnation does occur.	.87
In hypnosis, one can be made to remember past lives.	.69

ASTROLOGY

Our fate is determined by the position of stars and planets.	.86
It is wise to be aware of the astrological pattern of the stars and planets when you intend to do something big like take a trip.	.82
The time of the month when you were born established a pattern of biorhythms that influences your moods for the rest of your life.	.77
People do not yet fully realize how their lives are determined by the astrological signs under which they were born.	.69

In only one instance was the objective scale midpoint (3.5) slightly exceeded on the paranormal indices. This shows an overall low to moderate acceptance of paranormal beliefs (see Table 2). In other words, these results may speak more directly to the rejection of paranormal beliefs than to their acceptance.

Table 2

MANOVA of Paranormal Beliefs Scales Between Religious and Less Religious Groups

Sample One	More Religious (n = 64)		Less Religious (n = 152)		F(1, 214)	p
Scale	M	SD	M	SD		
Powers	3.4	1.02	3.6	1.28	1.01	.30
Omens	1.5	.66	1.8	1.07	4.83	.03
Beings	2.0	1.00	2.2	1.25	1.20	.27
Rebirth	2.5	1.26	3.2	1.46	10.88	.001
Astrology	2.1	1.04	2.5	1.27	4.40	.01
OVERALL MANOVA					F (5, 210) = 2.79	.02
Sample Two	More Religious (n = 38)		Less Religious (n = 215)			
	3.4	1.43	3.2	1.03		
Powers	3.4	1.43	3.2	1.03	1.33	.25
Omens	1.3	.70	1.6	.76	5.05	.03
Beings	1.7	.85	2.1	1.10	3.58	.06
Rebirth	1.6	.83	2.6	1.27	18.98	.001
Astrology	1.6	.82	2.0	.97	7.98	.005
OVERALL MANOVA					F (5, 246) = 6.50	.001

Note. Lower scores indicate less acceptance of paranormal belief scale.

RESULTS

A MANOVA tested Freud's (1933b/1966b) hypothesis that less religiously oriented people (including those who maintain an exclusively non-religious orientation) are less likely than are highly religious individuals to summarily reject paranormal beliefs. Results indicated that a significant overall difference existed (see Table 2). Univariate differences emerged for factors 2 (omens), 4 (rebirth), and 5 (astrology). In each instance, as Freud predicted, more religious individuals rejected the paranormal beliefs more adamantly than did their less religious counterparts (see Table 2, Sample One). Freud's hypothesis receives partial support since those who are less or thoroughly non-religious are less forceful than are religiously oriented people in objecting to various paranormal notions.

Since intrinsic (I), extrinsic-social (ES), extrinsic-personal (EP), and quest (Q) are indices of religious orientation, the sample was restricted during the following tests to those displaying at least a moderate degree of religious salience (i.e., > 9). Pearson correlations were largely in keeping with predictions (see Table 3, Sample One). Religion as an end in itself (H2; intrinsic) correlated negatively with ideas of bad luck, reincarnation, supernatural powers, and mythical beings. Perceptions of religion as a means of meeting personal or social needs (H3; extrinsic) did not correlate significantly with any of the paranormal belief indices. Orientations toward religion in terms of questioning, doubting, and potentially shifting beliefs (H4; quest) relate positively and significantly with supernatural powers and astrology.

Freud's hypothesis that religiously committed people reject paranormal beliefs receives additional confirmation while contemporary understandings of the multidimensional nature of religious beliefs clarify this finding. Individuals of various religious orientations are predictably either ambivalent or tolerant toward paranormal viewpoints, with only a few exceptions.

DISCUSSION AND EXTENSION

People who embrace religion in both cognitive and behavioral fashions tend to reject paranormal thinking more than do those not closely identifying with religion. This may represent an attempt by more religious individuals to clearly distinguish the content of their ideas from those associated with

paranormal phenomena. It is also in line with Freud's view that institutional religion provides relatively inflexible guidelines; there is a certain unwillingness to embrace alternative explanations.

When explicitly considering religion as a multidimensional variable, it is clear in hindsight that Freud generalized too broadly in his writings. While some orientations do align with his expectations (e.g., intrinsic), others do not (e.g., quest).

Although findings related to an intrinsic religious orientation appear to support Freud's theory that religion provides a citadel against competing forms of belief, there are other viable explanations. Intrinsically oriented people may adopt the notion of a socially normative religion (McIntosh, 1995) that encourages them to reject non-normative paranormal concepts.

In addition, ideas associated with an extrinsic orientation may not be as well defined in terms of the religion-paranormal relation. Pragmatic needs could make these persons unwilling to eliminate any possibilities for comfort and aid whether the sources are normative or non-normative.

Previous work (Batson, et al., 1993) suggests that questors are rather nonconforming in outlook, allowing room for non-normative ideas that fall beyond the reach of science. This helps to explain their ambivalence toward the existence of certain paranormal views of a more or less physical nature (e.g., beings, corporeal rebirth after death, tangible omens) and their relative affinity toward the more metaphysical supernatural powers and astrology ideas.

In other words, the ways in which religion provides a sense of structure to people, for good or ill, is multifaceted.

STUDY TWO: ISSUES OF FUNCTION

Freud claimed that both paranormal and religious belief systems relate to an unrealistic, neurotic need for an orderly environment (Freud, 1907/1959; 1933b/1966b). This concept of functional similarity receives support from studies demonstrating that both mindsets are forms of cognitive coping and control (McIntosh, Silver, & Wortman, 1993; Pargament, 1997; Tobacyk & Milford, 1983; Williams, Taylor, & Hintze, 1989). Freud further argues that the scientific, non-credulous way of thinking is an alternative attitude of realism. It is devoid of the need to construct pathological interpretations that impose one's wishes on objective reality (Freud, 1933b/1966b).

The work of Neuberg and Newsom (1993) provides content free indices of the degree to which a person has a general need for structure (GNS) as an outcome of cognitive processing and also the manner in which a person responds to lack of the desired level of structure (RLS). If, as Freud contended, people adopt religious or paranormal beliefs to gratify their needs for structure, such persons should score significantly higher on the GNS and RLS measures than those who reject such belief systems.

METHOD SAMPLE

Recruited from a variety of undergraduate classes at a Midwestern in the United States, 305 participants (181 females; 124 males), ranging in age from 17 to 73 ($M = 27$) years, completed surveys. The majority (98%) self-identified as Caucasian. Most indicated Christian associations; 26% Catholic, 53% Protestant, and another 12% selected "other".

MATERIALS

ASSESSING BELIEFS

The same measures and scoring system used in Study One were employed. As in the first study, the mean level of attending religious services was three to five times per year. Religious importance averaged 2.8. The average index of religiosity (attendance multiplied by importance; $M = 8.8$, $SD = 7.62$) was lower than in Study One.

The instrument developed in Study One evaluated paranormal beliefs. The omnibus index of the participant's endorsement of paranormal beliefs was calculated by deriving the mean across responses to the 19 items ($M = 2.6$, $SD = .88$).

ASSESSING NEEDS FOR COGNITIVE STRUCTURE

A 12 item measure of the personal need for structure, previously shown to possess high reliability and validity (Neuberg & Newsom, 1993), was administered. This scale contains the two subscales discussed above: a general need for structure (GNS) and a response to the lack of structure (RLS).

PROCEDURE

To test the hypothesis that both religious and paranormal believers have a greater need for structure than do scientific thinkers, independent groups were constructed. Those scoring above the objective mean on the general religiosity index (18.5) and below the objective mean on the paranormal measure (3.5) were deemed “more religious.” Those above the mean on the paranormal scale and below the mean on the religiosity scale were designated “more credulous.” Those falling below the objective mean on both religiosity and paranormal scales constituted the third, “non-credulous” group.

RESULTS

REPLICATIONS OF STUDY ONE

Strong support appeared for the stability of the paranormal scales (see Table 3, Sample Two). Results bolster the first study’s finding that religious individuals tend to reject paranormal beliefs regarding omens, rebirth, and astrology more strongly than do less religious people (see Table 2, Sample Two).

Table 3
Scale Correlations, Means, Standard Deviations, and Reliabilities

	INT	E/P	E/S	Q	PWR	OMN	BNG	RBTH	AST	M	SD	ALPHA
Intrinsic		.26**	.06	-.02	-.06	-.26**	-.02	-.32**	-.14	3.7	1.33	.86
Extrinsic/Personal	.19		.29**	.07	.04	.09	.17	-.01	.05	3.5	1.47	.83
Extrinsic/Social	.05	.30**		.05	-.06	.09	.01	-.04	.11	1.8	1.00	.75
Quest	-.23*	.07	.16		.23**	-.04	.14	.11	.21*	3.4	1.02	.82
Powers	.10	.01	.11	.03		.33**	.41**	.53**	.55**	3.6	1.21	.88
Omens	-.30**	.07	.15	.30**	.28**		.28**	.33**	.46**	1.7	.97	.83
Beings	-.14	-.02	.20*	.29**	.46**	.27**		.43**	.38**	2.2	1.16	.89
Rebirth	-.21*	-.20*	.10	.39**	.50**	.37**	.46**		.58**	3.0	1.44	.86
Astrology	-.26**	.20*	.15	.22*	.39**	.52**	.33**	.53**		2.4	1.22	.84
M	5.2	4.0	2.1	3.3	3.2	1.6	2.0	2.4	2.1			
SD	1.76	1.04	1.11	.85	1.10	1.07	1.25	.91	1.10			
ALPHA	.85	.78	.89	.88	.97	.98	.98	.95	.97			

Note. Study 1 results are above and Study 2 below the diagonal. * $p < .05$ ** $p < .01$

In terms of religious and paranormal belief system content, results coincided with the first study. A Pearson correlation indicated that the general measures of religious and paranormal beliefs related negatively ($r = -.24, p =$

.001). Additional correlations among religious orientations and paranormal scales are similar in pattern and significance to those obtained in the first study (see Table 3, Sample Two). A notable difference, however, exists in that both EP and ES display relatively strong patterns of positive correlations with various paranormal scales.

TESTS OF FUNCTION

MANOVA results approached significance, reaching the .09 level. Univariate statistics showed that an intergroup difference existed only for the general need for structure and not for the strength of their responses to the lack of structure (see Table 4). Subsequent *t*-tests indicated that the most ardent religious adherents were significantly higher in their general need for structure than were the “non-credulous” people who rejected both religious and paranormal belief systems (see Table 4). The difference between religious individuals and the paranormal believers approached significance ($p = .07$). Finally, supporters of paranormal beliefs and those who reject both belief systems were not significantly different in their general needs for structure (see Table 4).

Table 4
MANOVA and *t* Tests of Belief's Relation to Structure Needs

Group	n	M	SD
1. More religious	38	4.5	.90
2. More credulous	25	4.0	1.09
3. Non-credulous	215	4.0	1.00
	F	df	p
OVERALL MANOVA	2.02	4, 548	.09
Response to Lack of Structure	.62	2, 275	.53
General Need for Structure	3.83	2, 275	.02
t tests	t	df	p
1 vs. 2	1.82	61	.07
2 vs. 3	.11	238	.91
1 vs. 3	2.78	251	.006

People with the highest structure needs are those who maintain religious beliefs (as measured in terms of self-reported importance and attendance). This is in accordance with Freud's expectations. Counter to his ideas, however, both believers in paranormal phenomena and those who reject both religion and the paranormal desire an equivalent degree of structure.

Investigating more closely the general desire for structure among those aligned with religious ways of thinking, independent groups were constructed for intrinsic, extrinsic personal, extrinsic social, and quest orientated people. To be included in a particular group, a person had to score above the objective midpoint on one variable and below the objective midpoint on the other three (e.g., those designated "intrinsic" scored high on intrinsic and low on extrinsic-personal (EP), extrinsic-social (ES), and quest items). The ES measure was dropped from the analysis due to an insufficient number of people in that category.

An ANOVA revealed a significant overall effect of the general need for structure, $F(2, 76) = 3.07, p = .05$. *T* tests showed that intrinsically oriented people ($n = 32, M = 4.89, SD = 1.37$) preferred more structure than did quest individuals ($n = 12, M = 3.81, SD = 1.03$), $t(42) = 2.34, p = .02$, but not more than did those high on EP ($n = 35, M = 4.89, SD = 1.37$), $t(65) = 1.07, p = .29$. In turn the quest participants bordered on desiring less structure than did the EP respondents, $t(45) = 1.96, p = .06$. Once again, Freud was partially correct, but, in hindsight, his generalization was misleading. Not all individuals involved in religion are searching for structure therein.

DISCUSSION

The above study demonstrates that Freud was both right and wrong in his speculations: religion and the need for structure are positively related (Ladd, 2007), however, paranormal believers are more closely related in terms of structure needs to Freud's definition of scientists (i.e., one who rejects blind faith in favor of empirical evidence) than to religionists. The functional consistency Freud hypothesized between religious and paranormal beliefs lacks support.

Freud's idea that religionists are searching for structure is tempered additionally by the fact that this search is characteristic of only certain types of orientations toward religion. Those who relate to religion as an end in and of itself (intrinsic) tend also to desire greater order in their environments.

While this appears to support Freud's notion, by no means is it evident that this preference is pathological in nature as he hypothesized. In actuality, Batson and colleagues (1993) report that across many studies, both intrinsic and quest religiosity relate to positive mental functioning, while an extrinsic belief system links to negative outcomes. It could be that acceptance of a formalized way of thinking (i.e., intrinsic) establishes a consistent way of thinking that helps organize personal experiences providing a sense of meaning and augmenting coping attempts (McIntosh, 1995; Pargament, 1997). Alternatively, maintenance of an open, exploratory framework of religious beliefs (i.e., quest) may allow one to "roll with the punches" and adapt to life's vicissitudes.

These findings further link the scientific mindset with the socially non-normative paranormal stance concerning the desire for structure. Spilka and colleagues (2003) point out that at its inception, scientific psychology was often connected with paranormal phenomena, both apparently being considered non-normative. In forming his hypotheses, Freud may have been reacting to this type of popular understanding. It may be that he deliberately chose to downplay the similarities of function that actually exist between paranormal and scientific orientations (e.g. openness to new evidence and an active search for truth with a wide variety of methodologies) in order to promote greater respectability for the emergent field of psychology.

CAVEAT & CONCLUSION

One limitation of the present work is the operationalization of a "non-credulous" orientation simply as the rejection of both religious and paranormal beliefs. Credulous and scientific approaches are probably multidimensional, as are religious ones, and future inquiries will need to address discrete aspects of what it means to think scientifically.

Most important in these two studies is the demonstration that Freud's treatment of religion does not mesh well with contemporary interpretations of the multidimensional character of religious belief systems. Not all religious orientations automatically repudiate notions of the paranormal. Further, religious and non-religious viewpoints do not always differ in their attitudes toward paranormal phenomenon. In addition, some, but not all, religious individuals demonstrate greater needs for structure than do adherents of either paranormal or non-religious beliefs.

The empirical demonstration of the fact that Freud clearly overgeneralized in his writings about religion has direct bearing on the application of his work. Though his ideas have merit, their explanatory value may be restricted to only certain types of religious thinking.

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Recebido e aprovado em 03/06/2011