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Reassessing the bounded affinity theory of religion and the paranormal: formative and ongoing religious rituals

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ABSTRACT

Drawing on the bounded affinity theory – a theory emphasising the shared commonality of religious and paranormal experiences, data from a cross-section of Australian Facebook users were tested. Results reveal that religious Christian individuals who express a strong level of Christian religious practice display less paranormal belief and engage in less paranormal practice than Christian non-practitioners. Since the instrument used in a previous study by Joseph O. Baker, Christopher Bader and F. Carson Mencken may not have accurately measured the multi-dimensional content of paranormal belief (or separately, the physical and meta-physical constructs of paranormal experience) we reassessed the bounded affinity theory using an alternative instrument, with findings generally supporting the previous assumptions of the theory. Study results suggest that strong levels of religious practice significantly diminished belief in a variety of paranormal belief dimensions, and entities, but not all of them. This article addresses this issue applying a Durkheimian approach and provides a more detailed and nuanced support for the bounded affinity theory. It differentiates the beliefs gained from current church attendance (ongoing religious rituals) and past church attendance (formative rituals), which would have socialised Christian believers who are not currently churchgoers through their formative rituals.

KEYWORDS Bounded affinity theory; paranormal beliefs; religious rituals

Baker, Bader, and Mencken's (2016) *Bounded Affinity Theory* formalises the relationship between *religiosity* and *paranormalism* within an ontological realist framework.¹ Specifically, bounded affinity theory asserts that paranormal beliefs and experiences are a function of how religious belief is practiced. These authors determined that religious (Christian) individuals who express stronger levels of religious *practice* such as frequent church attendance report low levels of paranormal *belief* (e.g. belief in ghosts), paranormal *practice* (e.g. taking part in a séance) and paranormal *experience* (e.g. witnessing a ghost). Alternately, Christian believers who are not religious practitioners are more

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inclined to hold paranormal beliefs. This is because the two belief systems are compatible in the absence of rules and knowledge of the 'correct' ways to practice religion that are gained through church attendance or other religious rituals. Due to this lack of practical involvement, they are more likely to attend paranormal events and experience paranormal phenomena.

Empirical support for the bounded affinity theory derives from the administration of items contained in the 2005 *Baylor Religion Survey* (BRS) (Baker, Bader, and Mencken 2016), which are conceptualised in relation to religious experience, religious practice, and paranormalism. Religious experiences are determined by Baker, Bader, and Mencken's (2016) using the following eight items: 'I witnessed or experienced a miraculous physical healing'; 'I spoke in tongues at a place of worship'; 'I personally had a vision of a religious figure while awake'; 'I felt called by God to do something'; 'I heard the voice of God speaking to me'; 'I had a dream of religious significance'; 'I have felt in a state of ecstasy', and 'I have been filled with the spirit' (p. 344). Several other studies (e.g. Ellison et al. 2014; Williams and Watts 2014) have shown that religious practice is also based on the frequency of attendance at religious worship services, the frequency of Bible reading, the frequency of prayer, and Biblical literalism.

Regarding paranormalism, Baker, Bader, and Mencken's (2016) measured paranormal beliefs using seven items: 'Astrologers, palm-readers, tarot card readers, fortune tellers, and physics can foresee the future'; 'Astrology impacts one's life and personality'; 'It is possible to communicate with the dead'; 'Places can be haunted'; 'Dreams sometime foretell the future or reveal hidden truths'; 'Some UFOs are probably spaceships' from other worlds'; and 'Creatures such a Bigfoot and the Loch Ness Monster will 1 day be discovered by science' (p. 345). Paranormal practice and paranormal experience were also captured by Baker et al. using these five items: 'Have you ever consulted a horoscope to get an idea about the course of your life'; 'Have you ever consulted a medium, fortune teller, or psychic'; 'Have you ever visited or lived in a house or place believed to be haunted'; 'Have you ever consulted a Ouija board to contact a deceased person or spirit'; 'Have you ever witnessed an object in the sky that you could not identify (UFO)' (p. 344).

Reflecting on the nature of the above-mentioned items, it would appear that the *experiential* aspect of paranormalism is not effectively measured by the survey questions. Consulting a horoscope or medium, or use of the Ouija board, are paranormal practices, as is having visited or lived in a 'haunted' house. They do not imply experience of extraordinary phenomena. Indeed, only one item in the BRS can be said to measure a legitimate expression of paranormal experience: the witnessing of anomalous aerial object (a 'UFO'). Therefore, the conclusions that religious practice is negatively related to paranormal experience, and religiosity in the absence of religious practice is

positively related to paranormal experience, are based solely on data associated with a UFO sighting.

The most popular explanation of a UFO is a 'nuts-and-bolts' alien spacecraft (Geppert 2012). This concept is distinct from the wider interpretation of paranormal phenomena (and religious phenomena) as possessing a non-material nature (e.g. psi, evidence of life-after-death, angels and demons). Therefore, the authors' (Baker, Bader, and Mencken 2016) claims of a relationship among religious belief, practice, and paranormal experience is tenuous. To fully support the bounded affinity theory, it is necessary to present stronger evidence that strong religious practitioners renounce a wider variety of material *and* non-material paranormal experiences.

A second issue is that paranormal belief items in the BRS are limited to three dimensions such as astrology/prophecy, life-after-death, and cryptozoology/aliens (Baker, Bader, and Mencken 2016). However, paranormal belief is also associated with other additional dimensions including psi, witchcraft, superstition and spiritualism (Tobacyk 2004). Therefore, reassessment of bounded affinity warrants the use of Tobacyk's Revised Paranormal Belief Scale (R-PBS) where support for the theory is contingent on strong religious practitioners rejecting a wider variety of non-material paranormal beliefs than is currently recognised.

The proposed study aims to reassess the theory of bounded affinity.² Should Baker et al.'s bounded affinity theory be an accurate model of the relationship among religious belief, practice and paranormal belief, it is predicted that in comparison to religious individuals who are not active religious practitioners, religious individuals who express strong religious practice will express a significantly lower level of paranormal belief. However, in the expanded range of paranormal belief dimensions included in the current study, there is potential for religious practitioners to demonstrate elevated belief in *specific* paranormal topics beyond those contained in the BRS, such as witchcraft, which are not necessarily in theological conflict with robust religious practice.

Method

Participants

Participants consisted of a convenience sample ($N = 755$) of Australian Facebook users. The religious denominations were as follows: No religion (54.44%); Other (15.36%) Catholic (9.14%); Anglican (7.55%); Pentecostal (3.31%); Uniting (2.65%); Baptist (2.38%); Presbyterian or Reformed (1.72%); Buddhist (1.32%); Jewish (0.79%); Muslim (0.53%); Orthodox Christian (0.40%); Lutheran (0.26%); and Hindu (0.13%).

In order to compare responses from strong and weak religious practitioners to be aligned with Baker, Bader, and Mencken's (2016) research, only participants who scored 5 or 6 for all questions on the Conventional Religious Belief (CRB) subscale of the 'Supernatural Entities in Minds' (SEM) were considered. Returning to this specific research on strong Christian believers, from this sub-sample of 172, the highest 51 and the lowest 51 scorers from the SEM Religious Practice subscale were selected as the final sample. Of the final sample ($N = 102$; 72 females, 30 males; Mean Age = 50 years, $SD = 17$ years, Age Range = 19 to 75), 90.7% were from Christian denominations, a percentage resembling the sample used in Baker, Bader, and Mencken's (2016). Consequently, conventional religious practice (CRP) or religious practice will refer to Christian-based (conventional) religious practice. The lowest 51 scorers on the SEM Religious Practice subscale were assigned to the low CRP cell ($N = 51$; 36 females, 15 males, Mean Age = 48 years, $SD = 18$ years, Age Range = 21 to 75). The highest 51 scorers on the SEM Religious Practice subscale were assigned to the high CRP cell ($N = 51$; also 36 females, 15 males, Mean Age = 52 years, $SD = 16$ years, Age Range = 19 to 74).

Procedure

Cross-sectional data were collected to analyse and understand paranormal beliefs in supernatural entities in the minds of Facebook users living in a multi-cultural and multi-faith Australian society. This study was approved by the Western Sydney University Human Research Committee (approval number H11442) before the data collection. Study survey was uploaded on the Qualtrics site and Facebook was used to invite participants. As the sample was non-probability based, posting the survey online was ideal (Couper and Bosnjak 2010; Fricker 2008). Data were collected between 31 January and 21 June 2017 through the use of a Facebook advert that promoted the Qualtrics survey to English speaking Australian Facebook users. Wright (2005) encourages the use of online survey research as this technique helps to provide access to groups and individuals who would be difficult to reach through other channels, especially when they have paranormal beliefs.

The online survey was used to retrieve self-report data from a cross-cultural sample of Australian Facebook users. Participants completed the different scales listed below. Participation was voluntary and confidential.

Measures

Religious belief

The Conventional Religious Belief (CRB) subscale of the 'Supernatural Entities in Minds' (SEM) (Authors, unpublished) survey measured conventional religious belief with 10 items ($\alpha = .80$) (e.g. 'my religious beliefs are what really lie

behind my whole approach to life') on a 7-point Likert Scale (Strongly Disagree, Disagree, Somewhat Disagree, Neither Agree nor Disagree, Somewhat Agree, Agree, Strongly Agree).

Religious practice

The Religious Practice (RP) subscale of the 'Supernatural Entities in Minds' (SEM) survey consisted of nine items ($\alpha = .96$). Two items measuring Conventional Religious Practice (CRP) over the past 12 months (e.g. 'How often do you attend a religious ceremony or other religious meetings?') were measured on multiple checklists (e.g. Never; Once a year or less; A few times a year; A few times a month; Once a week; More than once/week). Four items measuring CRP (e.g. 'Spent time in private prayer') were measured on a graphical rating scale (Never, Once, A couples of times, Occasionally, Often, Regularly). Three items measuring CRP (e.g. 'I ask for God's help in the midst of daily activities') were measured on a graphical rating scale (Many times a day, Every day, Most days, Some days, Once in a while, Never or almost never).

Paranormal belief

Paranormal Belief items were derived from the *R*-PBS (Tobacyk 2004). Only five of the seven subscales of the *R*-PBS (precognition, psi, witchcraft, superstition, spiritualism) were included in the current survey. Cronbach's alpha reliability for the total *R*-PBS was high ($\alpha = .94$). For the five subscales employed, alpha reliability was appropriate for psi ($\alpha = .89$), witchcraft ($\alpha = .92$), spiritualism ($\alpha = .84$), superstition ($\alpha = .82$) and precognition ($\alpha = .84$).

Belief in Extraordinary Life-Forms (ELF) was measured using the novel Paranormal Entities Belief (PEB) scale ($\alpha = .74$) (Authors, unpublished). This scale was developed as an alternative to the ELF subscale of the *R*-PBS, which consists of only three items. The PEB scale consisted of 22 items. To ensure validity of responses for each of the 22 entities, participants responded with 'Yes' or 'No' dichotomous responses regarding if s/he had heard the supernatural entity (e.g. 'Have you heard of a Poltergeist?'). A brief description of each paranormal entity was provided (e.g. 'In some locations unexplained entities called poltergeists have caused objects to be thrown around rooms'). A 7-point Likert scale measuring how much the participant agreed or disagreed with the existence of the respective paranormal entity was used.

Results

Missing data

We first ran the Missing Completely At Random (MCAR) test which revealed random missing data, and the percentage of missing values ranged from 1%

Table 1. Sidak pairwise comparisons for PB total, paranormal practice, and R-PBS total.

Variable	Mean Diff. CRP (Weak - Strong)	SE	95% CI	
			LL	UL
PB Total	2.01**	.63	.85	3.35
Paranormal practice	.37	.27	-.16	.90
R-PBS Total	18.67***	4.60	9.54	27.71

CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit; Mean Diff. = Mean Difference. ** $p = .001$. *** $p < .001$.

to 5.9% (1 to 6 missing values per variable; Sex, CRP, and Age did not have any missing values). However, missing data were replaced by the expectation maximisation (EM) method (Tabachnick et al. 2007).

Analysis 1

To examine the relationship among conventional religious practice (CRP) and *total* level of Paranormal Belief (PB), a between-group MANOVA was performed, with CRP (weak and strong) as the Independent Variable (IV), and PB total (total score on the R-PBS) as the Dependent Variable (DV). Results demonstrated that the DV was moderately intercorrelated (see Table 1), with no evidence of multicollinearity or singularity. There were no univariate or multivariate outliers, although assumptions of normality were violated. Homogeneity of covariance matrices and homogeneity of variance were not met for PB (total). Linearity was deemed satisfactory for this analysis. The assumption of cell size was met, and thus minimised the impact of the violation of normality and homogeneity of variance-covariance of matrices. The results revealed a significant multivariate effect for conventional religious practice, Pillai's Trace = .16, $F(3, 98) = 6.41$, $p = .001$.

Given the significance of the overall multivariate test, the univariate main effects were examined using an adjusted alpha of .001 to maintain family-wise (FW) error across the three tests performed. With conventional religious practice as the independent variable, significant univariate main effects were obtained for paranormal belief (total), $F(1, 100) = 16.45$, $p = .001$, $\eta_p^2 = .14$, $\beta = .98$.

Significant pairwise comparisons (Sidak adjusted)³ were obtained for PB total between weak and strong CRP. The direction of the effects supported bounded affinity theory. Mean PB (total) in strong conventional religious practitioners was significantly reduced in comparison to weak conventional religious practitioners (54.75 vs. 73.41). The effect size for the standardised mean difference in between CRP on the R-PBS total ($d = .80$) was found to match Cohen's (1988) convention for a large effect size ($d = .80$).

Table 2. Sidak pairwise comparisons for Psi, precognition, superstition, witchcraft, and spiritualism.

Variable	Mean Diff. CRP (Weak - Strong)	SE	95% CI	
			LL	UL
Psi	4.45**	1.26	1.95	6.95
Precognition	5.10***	1.03	3.05	7.14
Superstition	3.02***	0.56	1.90	4.14
Witchcraft	-1.16	1.52	-4.16	1.85
Spiritualism	0.43	1.45	-2.44	3.30

CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit; Mean Diff. = Mean Difference.

* $p = .05$, **.

$p = .001$, *** $p < .001$.

Analysis 2

A more comprehensive analysis of the relationship between conventional religious practice (CRP) and belief in paranormal phenomena was achieved using a second between-group MANOVA, with CRP (weak and strong) as the IV, and the *R*-PBS dimensions of *psi*, *precognition*, *superstition*, *witchcraft*, and *spiritualism* as the DVs. Results demonstrated that the DVs were moderately intercorrelated (see Table 2), with no evidence of multicollinearity and singularity. Linearity was deemed satisfactory for this analysis. No univariate or multivariate outliers were found, although assumptions of normality were violated. Homogeneity of covariance matrices was not met, while homogeneity of variance was met with the exception of superstition and precognition. Fortunately, the assumption of cell size was supported which minimised the impact of the violation of normality and homogeneity of variance-covariance of matrices. Results revealed a significant multivariate effect for CRP, Pillai's Trace .420, $F(5, 96) = 13.92$, $p = .001$.

Given the significance of the overall multivariate test, the univariate main effects were examined using an adjusted alpha of .001 to maintain FW error across the five tests performed. With CRP as the IV, significant univariate main effects were obtained for

- *psi*: $F(1,100) = 12.49$, $p = .001$, $\eta_p^2 = .110$, $\beta = .94$;
- *precognition*: $F(1,100) = 24.46$, $p = .001$, $\eta_p^2 = .20$, $\beta = 1.00$;
- *superstition*: $F(1,100) = 28.85$, $p = .001$, $\eta_p^2 = .22$, $\beta = 1.00$.

The univariate main effects of *witchcraft* and *spiritualism* were not significant.

Significant pairwise comparisons (Sidak adjusted) were obtained for belief in *psi*, *precognition*, and *superstition* between weak and strong CRP. The mean belief in each of these topics displayed by strong conventional religious practitioners was significantly reduced in comparison to weak conventional religious practitioners (*psi*: 11.88 vs. 16.33; *precognition*: 9.69 vs. 14.78, and *superstition*: 3.73 vs. 6.75). Therefore (and as predicted), high CRP participants did not endorse specific non-religious PBs of *psi*, *precognition* and *superstition*, however displayed

elevated belief (albeit non-significant in relation to low CRP participants) in paranormal concepts of witchcraft and spiritualism that possess stronger connections with religiosity. The effect size for the standardised mean difference between CRP on *psi* ($d = .71$) was found to exceed Cohen's convention for a medium effect ($d = .50$) (Cohen 1988), while the effect size for the standardised mean difference between CRP on *precognition* ($d = .98$) and *superstition* ($d = 1.06$) were found to exceed Cohen's convention for a large effect ($d = .80$).

Analysis 3

Potential differences between conventional religious practice and belief in paranormal entities were examined using a between-group MANOVA with CRP (weak and strong) as the independent variable and 22 entity DVs. The results revealed a significant multivariate effect for CRP, Pillai's Trace = 640, $F(22, 74) = 5.98$, $p = .001$. Given the significance of the overall test, the univariate main effects were examined using an adjusted alpha of $\leq .0001$ to maintain FW error across the 22 tests performed (see Table 3). Since there were 22 DVs, the adjusted alpha should have been set at .002. Only p values that were displayed as extremely significant (i.e. $< .0001$) were classified as

Table 3. Sidak pairwise comparisons for; nephilim; vampires; good witches; evil witches; shadow people; incubi and succubi; grey aliens; reptilian aliens; fairies; ghosts; chupacabra; other dimensions; mysterious black dog; doppelgangers; hairy hominids, MIBs; loch ness monster; annunnaki; BIKs; poltergeists; shapeshifters; and merpeople.

Variable	Mean Diff. CRP (Weak - Strong)	SE	95% CI	
			LL	UL
Nephilim	-0.41	.39	-1.18	.36
Vampires	0.83*	.34	.16	1.50
Good Witches	2.44***	.36	1.72	3.16
Evil Witches	-0.83	.43	-1.68	.03
Shadow People	1.03	.52	-.01	2.06
Incubi and Succubi	1.62*	.52	.59	2.64
Grey Aliens	1.44*	.49	.47	2.41
Reptilian Aliens	1.94***	.53	.90	2.99
Fairies	2.57***	.46	1.66	3.48
Ghost	1.31*	.46	.40	2.22
Chupacabra	1.38*	.56	.27	2.49
Other Dimensions	1.32*	.49	.34	2.30
Mysterious Black Dogs	0.95	.57	-.18	2.09
Doppelgangers	0.71	.50	-.28	1.71
Hairy Hominids	1.03*	.47	0.10	1.95
MIBs	0.88	.54	-.20	1.96
Loch Ness Monster	0.69	.47	-.24	1.61
Anunnaki	1.56*	.54	.49	2.64
BIKS	.082	.56	-.28	1.93
Poltergeists	0.91*	.45	.03	1.79
Shapeshifters	1.68**	.50	.69	2.67
Merpeople	2.51***	.41	1.69	3.33

CI = Confidence Interval; LL = Lower Limit; UL = Upper Limit; Mean Diff. = Mean Difference. * $p = .05$. ** $p = .001$; *** $p < .001$.

significant. With CRP as the IV, significant univariate main effects were obtained for

- *good witches*: $F(1,95) = 45.39, p = .001, \eta_p^2 = .32, \beta = 1.00$;
- *reptilian aliens*: $F(1,95) = 13.67, p = .001, \eta_p^2 = .13, \beta = .96$;
- *fairies*: $F(1,95) = 31.49, p = .001, \eta_p^2 = .25, \beta = 1.00$;
- *merpeople*: $F(1,95) = 36.93, p = .001, \eta_p^2 = .28, \beta = 1.00$.

Significant pairwise comparisons (Sidak adjusted) were obtained between weak and strong CRP for *good witches*, *reptilian aliens*, *fairies*, and *merpeople*. The mean belief of strong conventional religious practitioners was consistently lower than weak religious practitioners (*good witches*: 1.70 vs. 4.14; *fairies*: 2.17 vs. 4.75; *reptilian aliens*: 2.98 vs. 4.92 and *merpeople*: 4.08 vs. 1.57). The effect size for the standardised mean difference between CRP on *reptilian aliens* ($d = .75$) was found to exceed Cohen's convention for a medium effect ($d = .50$; Cohen 1988). The effect size for the standardised mean difference between CRP on *good witches* ($d = 1.38$), *fairies* ($d = 1.14$) and *merpeople* ($d = 1.25$) was found to exceed Cohen's convention of a large effect ($d = .80$). This finding is also consistent with bounded affinity theory, to the extent that there is a general lowered belief in entities in the high conventional religious practice group, which in turn is expressed significantly for four particular entity types (a finding that will be examined from a theoretical perspective in the subsequent Discussion).

Discussion

The study reassess the bounded affinity theory proposed by Baker, Bader, and Mencken's (2016) using an instrument that more broadly measures the multi-dimensional nature of paranormal belief. The results largely support Baker et al.'s findings that Christian religious practice was negatively related to paranormal belief, although some exceptions were revealed. In support of the bounded affinity theory, strong levels of religious practice were found to diminish *overall* (total) paranormal belief, with the magnitude of the effect size between weak and strong religious practitioners represented by a difference of 0.80 of one standard deviation.

Furthermore, the current study examined a broader array of paranormal beliefs through separate analyses, and found more comprehensive support for the bounded affinity theory whereby strong religious practitioners were *less* likely to believe in psi, precognition and hold superstitions compared to weak religious practitioners. The effect size for psi, precognition, and superstition between weak and strong religious practitioners differed by a sizeable 0.71, 0.98 and 1.06 standard deviations, respectively. Our assessment of paranormal belief was based on the Baker, Bader, and Mencken's (2016)

measurement of two non-material dimensions; life-after-death and astrology/prophecy, and one material dimension; cryptozoology/aliens. These were analysed as a single construct (*belief*).

Interestingly, there was no significant difference between weak and strong religious practitioners with regard to belief in spiritualism (and no 'floor effect' was present), which superficially appears to contradict the bounded affinity theory. The items used in the spiritualism subscale are the following: 'Your mind and soul can leave your body and travel (astral projection)'; 'During altered states, such as sleep or trances, the spirit can leave the body'; 'Reincarnation does exist'; and 'it is possible to communicate with the dead' (Tobacyk 2004, 95). These items resemble 'New Age movement' beliefs (Haraldsson and Houtkooper 1996; Possamai 2005; Possamai, Bellamy, and Castle 2007), which are customarily distinct from conventional Christian religion. Christian organisations discourage involvement and experimentation in competing belief systems (Bader, Baker, and Molle 2012), so it might be expected that strong religious practitioners should reject 'New Age' beliefs more readily than weak religious practitioners. From this finding, it appears that alongside strong religious practice, certain mystical and transcendental beliefs are incompatible with weak religious commitment, which is not currently considered in the bounded affinity theory. We will come back to this below.

There was also no significant difference between weak and strong religious practitioners in belief in witchcraft. While acknowledging that witchcraft and Wicca are nature religions and are growing religious movements (e.g. Possamai 2005), it could, however, be argued that the results of this specific survey is a function of the references to witchcraft in the Bible, although in terms of the condemnation of such practices. For example, Deuteronomy 18:9–12 reads 'Let no one be found among you who sacrifices their son or daughter in the fire, who practices divination or sorcery, interprets omens, engages in witchcraft, or casts spells, or who is a medium or spiritualist or who consults the dead. Anyone who does these things is detestable to the Lord'. Similarly, Galatians 15:19–21 reads 'Witchcraft and its many counterparts promise spirituality but lead only to emptiness and death', and I Samuels 15:23 reads '... for rebellion is as the sin of witchcraft, and stubbornness is as iniquity and idolatry'.

Although witchcraft is in strong theological conflict with Christianity, this does not mean witchcraft is not *legitimate* in a Christian context; it is discussed in the Bible. That said, it would appear that the strong condemnation of witchcraft in Christianity has the effect of lowering acceptance of the topic in both strong *and* weak religious practitioners. In other words, witchcraft is in such theological conflict with Christianity that even weak religious practitioners delineate the belief in witchcraft as unacceptable.

Regarding belief in specific entities, all means were higher for weak practitioners compared with strong practitioners, although only 'good' witches, fairies, reptilian aliens, and merpeople differences were found significant (acknowledging the alpha level was highly conservative at $p < 0.001$ to control familywise error). This substantial magnitude of difference in mean belief across all entity types may not simply be due to the fact that they have no Biblical reference, but that they are also not reputable. For example, only evil witches are mentioned in Bible verses, and while merpeople possess their roots within folklore and mythology around the world (Vizetelly 1901), they are incompatible with a (Christian) religious standpoint. Thus, a strong religious practice would certainly delineate belief in these entities as unacceptable.

The bounded affinity theory is a sophisticated theoretical (and ontological realist) framework to bridge conceptual understanding between religiosity and paranormality. This theory's holistic measurement of religiosity synthesises how material, non-material, ordinary-perceptual, and extraordinarily perceptual paranormal beliefs are a function of how religion is practised, and this is confirmed through the application of more thorough instruments including the SEM survey and *R*-PBS.

With regard to why spiritualism (denoting 'New Age' style beliefs in particular) resembles evil witchcraft in terms of equivalence of belief between weak and strong religious practitioners, we can get insights from other types of research. The relative lack of penetration of New Age beliefs or practices into the Christian churches has already been found in previous research by Bellamy et al. (2002), Heelas et al. (2005) and Possamai, Bellamy, and Castle (2007). While Kemp (2004) makes reference to various Christian commission reports on the New Age, he points out that even if the usual Christian response to the New Age have been hostile, there is not one authoritative Christian response. Studies (e.g. Saliba 2004) on the hostile reaction of Christians to the New Age as well as on the nascent movement of New Age Christians, such as the Christaquarians (Kemp 2001), have already covered enough ground in this field of research.

Our research confirms that the bounded affinity theory explains indeed why religious practitioners, overall, have more restricted views about supernatural occurrences than non-religious practitioners, but that for certain beliefs such as those associated with the New Age that are widely promoted by Christian leaders as out of line with their belief systems, that these boundaries are not strictly maintained by practice such as church attendance. In this sense, while cultural boundaries distinguish 'religious' beliefs from 'paranormal' ones, we find that these cultural boundaries operate at two levels. The first one covers a base for belief system that include religious practitioners and non-practitioners, and a second one involves an extra layer of cultural boundary between churchgoers and non-churchgoers. Our findings thus confirm the new and innovative bounded affinity theory provided by Baker, Bader, and Mencken's (2016) but highlights that it also expresses two different levels of operation.

A refinement of the bounded affinity theory

The strength of the bounded affinity theory (Baker, Bader, and Mencken 2016) is that it links similarities between religious and paranormal beliefs, while previous research tended to keep them separated. The exclusivity conjecture hypothesises that people cannot believe in both conventional religious entities and paranormal ones without cognitive conflict. Religious and paranormal beliefs are determined by cultural boundaries that are created and sustained by religious groups or communities. Variations between cultural context is a reason why this article assumed the beliefs of Christians to be equivalent to the sample found in Baker et al.'s research. We consider that the difference between Australia and the United States for this type of research is minimal. In summary, this theory highlights the similarities between religious and paranormal beliefs, and that organised religions produce cultural boundaries to create these differences.

Among Christians, Baker, Bader, and Mencken's (2016) have found that the higher the religious practice (e.g. attendance to church services and its rituals), the more negative it will be related to paranormalism. Those with the weakest ties to organised religion, on the other hand have stronger beliefs in the paranormal. However, while our research confirms this theory, we find that the beliefs in certain paranormal items such as witchcraft and spiritualism are calling for a need to fine tune this theory.

To explain this difference, while staying within the broader paradigm of the impact of religious practice on belief systems, we are proposing to include more specifically the impact of rituals on beliefs as part of these explanations. For this, we are inspired by Durkheim's (2001) *Elementary Forms of Religious Life* and of its followers. We do acknowledge the bias used in Durkheim's work on the strict focus on the rituals of Australian Aboriginal Peoples (as influenced by the work of Gillen and Spencer (e.g. Spencer and Gillen 1899) rather than include their belief system as well (as per the work of Carl Strehlow (e.g. Strehlow 1907). We recommend reading Kreinath's (2012) study of this work for its centenary and especially his findings on how Durkheim privileged ritual over myth and ceremony. Despite this critique, this article will still focus on interpreting the data on how rituals can impact on beliefs to refine the bounded affinity theory, as it applies in this context.

Within this Durkheimian perspective, Marshall's (2002) work expands the analysis on how rituals generate belief and belonging. In the context of this research, to become Christian believers, such as the participants selected for this article who score high on their Christian belief system, they would have been socialised in this religion through various rituals. Coming back to Marshall's (2002), when it comes to people making causal attributions to actions, and more specifically to supernatural ones here, they tend to make the causal connections that their socialisation has predisposed them to see.

These formative rituals (e.g. baptism, confirmation, being born again, religious school assemblies, etc.) would have produced a certain set of beliefs. Still following Marshall's (2002), we can interpret these churchgoers as attending mass in a regular, recurrent, and scheduled fashion, as rituals tend to be today in a modernised, urbanised and western context. These current and ongoing rituals are inducing strong beliefs and belonging. From this survey, we acknowledge the importance of these current rituals on supernatural beliefs, but we also noted the remnant of the impact of the formative rituals. The bounded affinity theory thus starts to work in the believers' formative years through the various religious rituals, and impacts differently between those who remain active in these rituals, and those, who even if they are still strong believers, do not participate anymore. As such we interpret that the cultural impact on the differentiation of what is religious or paranormal, and what should be forbidden happens at two levels through socialisation and through lifelong commitment.

Conclusions

This article had the specific aim to reassess the bounded affinity theory of religion and the paranormal by following a similar design and theoretical framework as Baker et al. (2016). It did not, however, deal with other types of research, which are more qualitative in nature, and which could provide a more fine-grained understanding of how Christians encounter, for example, the New Age. While we admit these limitations, the strength of this article is its specific aim of pushing the theory further from within the same framework and method.

While current research suggests that strong levels of religious practice significantly diminish belief in a variety of paranormal belief dimensions, and entities, our article finds that this does not relate to all of them. Our research, while confirming that the bounded affinity theory explains why religious practitioners tend to have more restricted views about the supernatural, it does not explain certain beliefs associated with the New Age. In this sense, while cultural boundaries distinguish 'religious' beliefs from 'paranormal' ones, we find that these cultural boundaries operate at two levels. We address this issue applying a Durkheimian approach on rituals and provide a more detailed and nuanced support for the bounded affinity theory. As such, our findings differentiate the beliefs about the paranormal gained from current church attendance (ongoing religious rituals) and past church attendance (formative rituals), which would have socialised non-current churchgoers through their formative rituals. This shows that paranormal beliefs should not be homogenised and that they need to be understood with a more nuanced measurement.

Notes

1. Religiosity refers to doctrinal knowledge, religious belief, and religious practice (e.g. church attendance) (Holdcroft 2006). Paranormalism refers to belief in, and experience of, paranormal phenomena, as well as the practice of paranormal activities (Jinks 2012).
2. Other results from this survey have been published in Possamai, Counted, and Jinks (2020) and Counted and Possamai (2020).
3. The Sidak method is used to counteract the problem of multiple comparisons, and assumes that each comparison is independent of the others.

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