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A TRANSLIMINAL 'DIS-EASE' MODEL OF 'POLTERGEIST AGENTS'

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ABSTRACT

We extend Laythe, Houran, and Ventola's (2018) psychometric study of 'ghost and haunt' percipients by examining transliminality in relation to focus persons in poltergeist disturbances. The classic pathology (or disease) model of presumed agents is barely supported by empirical research and may be inaccurate. However, we identified eight psychological characteristics of focus persons that arguably reflect a loose mental boundary structure in these individuals. We found that seven of these eight characteristics (or 88%) showed positive and low-to-moderate (attenuated) correlations with scores on the Revised Transliminality Scale. The available literature also suggests a link between outcomes on tests of putative psi and transliminality. Altogether, Laythe et al.'s original hypothesis can be amended to a transliminal dis-ease model for poltergeist outbreaks, which accommodates subclinical (pathology-free) states that can coincide with childhood trauma, and which can act as one potential, but not exclusive, stimulant in these episodes.

Introduction

Laythe, Houran, and Ventola (2018) previously scrutinized the individual and collective predictive power of several psychometric variables used in the academic literature to profile *haunters* — individuals reporting personal experiences that they attribute to ghosts or haunted houses. These characteristics included trait Anxiety and Depression, Vulnerability, Intellect, Belief in the Paranormal (New Age Philosophy and Traditional Paranormal Beliefs), Locus of Control, Fear of the Paranormal, Rational Engagement, Experiential Ability, Experiential Engagement, and Transliminality.

Conceptually replicating Laythe and Owen (2012) and contrary to much literature on the correlates of general paranormal belief and experience (e.g., Irwin, 2009), Laythe et al. (2018) found no evidence that self-reported haunt-type experiences were connected to obvious cognitive deficits in their surveyed percipients. Instead, the onset or features of the haunt-type experiences were significantly associated with transliminality across correlational and regression analyses. The New Age Philosophy variety of paranormal belief (Lange, Irwin, & Houran, 2000) was also implicated, but to a lesser extent and only in correlational analyses.

We note that these findings derived from a convenience sample of college students whose self-reported haunt experiences were somewhat conflated (i.e., mostly spontaneous occurrences combined with some that were primed).

Consequently, the incidence rate of the percipients' accounts seems quite high compared with other systematic surveys of paranormal experiences (e.g., MORI Social Research Institute, 2003), and this has consequences for the study's observed differences between haunters and non-haunters. Despite these methodological limitations, Laythe et al.'s (2018) effect of transliminality replicated earlier research on self-reported haunters (Houran, Ashe, & Thalbourne, 2003; Houran, Kumar, Thalbourne, & Lavertue, 2002; Houran, Wiseman, & Thalbourne, 2002).

These results infer a potential model for putative haunts that encompasses both *subjective* (internal or psychological) and *objective* (external or physical) events within a common framework. As we show, transliminality apparently acts as a mediating variable in understanding and predicting the varied types and kinds of anomalous experiences in this domain. This is not to say that either evidence or preference on our part supports an entirely psychological explanation. However, transliminality likely relates to attentional or perceptual processes in haunt-poltergeist cases, as well as potentially to the genesis of objective events in these episodes.

By way of explanation, Thalbourne and Houran (2000) defined *transliminality* as the "hypothesized tendency for psychological material to cross thresholds into or out of consciousness" (p. 853). The general construct of loose or permeable mental boundaries has a long tradition in consciousness studies (see, Lange, Houran, Evans, & Lynn, 2019), but the specific mechanism for transliminality is currently discussed in terms of *neuroplasticity*, or enhanced interconnectedness between brain hemispheres, as well as among frontal cortical loops, temporal-limbic structures, and primary or secondary sensory areas or sensory association cortices (Thalbourne, Houran, Alias, & Brugger, 2001; Thalbourne & Maltby, 2008). Accordingly, Laythe et al.'s (2018) "Transliminal Model" implies that haunt-type experiences are linked to a particular psychometric profile and derive from, at least partly, hypersensitivities to and amalgams of internally- and externally-generated stimuli.

For the sake of completeness, a psychological review of haunters might also encompass the concept of poltergeist *agents* (or *focus persons*), i.e., living individuals around whom anomalous and localized physical or psychological events tend to occur. Researchers often differentiate haunts and poltergeists (e.g., Dixon, 2016; Gauld & Cornell, 1979/2017) or suggest they involve a constellation of different phenomena (Cardeña, Lynn, & Krippner, 2014; Houran & Lange, 1996), but we argue that a firm distinction between these episodes is problematic given that their characteristics overlap substantially (Rogo, 1986; Williams & Ventola, 2011).

Specifically, each has episodic manifestations that simultaneously focus around certain places (or objects) and people (Roll, 1977). Moreover, sometimes features of both episodes occur in tandem within individual cases (e.g., Dixon, 2016; Dixon, Storm, & Houran, 2018; Roll & Tringale, 1982). In fact, anomalous events that typify haunts and poltergeists can be Rasch (1960/1980) scaled as a *unidimensional* and *probabilistic hierarchy* or continuum (Houran & Lange, 2001, 2009; Houran, Wiseman, & Thalbourne, 2002). These patterns suggest that a common phenomenon or set of

mechanisms might underlie both episodes, consistent with some previous speculations (Evans, 2001; Houran, 2000). Therefore, this study leveraged a multidisciplinary team (Houran, 2017) in an examination of the psychometric correlates of so-called poltergeist 'agents' (or focus persons) to determine if findings align to the trends for haunters reported by Laythe et al. (2018).

Presumed Psychology of Focus Persons

In contrast to the notion of discarnate agency (Betty, 1984; Roll, 2006; Stevenson, 1972), Roll (1977) promoted what might be called the *disease model* or clinical profile of agents. This view postulates that focus persons in poltergeist outbreaks (often teenagers) are expressing marked psychophysical anxieties via manifestations of *recurrent spontaneous psychokinesis* (RSPK). Paranormal hypotheses aside, the role of psychodynamic tensions in these cases is a widespread and virtually uncontested supposition in parapsychology (Rogo, 1974, 1982). We refer to this as the "Carrie myth" — an allusion to the title of author Stephen King's (1974) famous horror story about a shy, unpopular teenage girl who is sheltered by her domineering, religious mother, and subsequently unleashes her psychokinetic abilities after being humiliated by classmates at her senior prom.

Yet, at this time we argue that the "repressed teen" characterization of poltergeist-like occurrences might be more an overly simplistic cultural-meme than a well-specified scientific model. Strong evidence against the idea of a teenage focus person can be seen in cases from the Psychical Research Foundation in which ages of putative agents range from eight to 70 years old (Williams & Ventola, 2011). Additionally, Huesmann and Schriever (1989) studied the age bands of individuals experiencing poltergeists and found that these occurrences spanned all age groups, although the frequency peaked at 9- to 16-yrs old. This kind of data might be how the "Carrie myth" has been perpetuated since its roots with early psychical researchers like Frank Podmore (Dingwall & Hall, 1958) and Harry Price (1945).

Furthermore, the notion of pathology seems to be based on scant and circumstantial evidence in the academic literature (see Table 1). Specifically, we found only 10 published reports in peer-reviewed sources in which the focus person(s) was attended by a mental health professional or administered a psychometric measure (mostly personality or projective tests). Unfortunately, extremely small sample sizes or lack of detail in these reports make it difficult to clarify the profiles of apparent focus persons. Moreover, some researchers (e.g., Martínez-Taboas & Alvarado, 1981) have duly criticized studies typical of those in Table 1 on grounds that the consulting psychologists were not clinically-blind or that the projective testing had questionable reliability and validity.

On this latter point, we also emphasize that serious measurement problems often plague questionnaires or assessments developed with Classical Test Theory (Bond & Fox, 2015; Lange, 2017). Therefore, one should consider very carefully the stigma that a disease model can place on focus persons, especially when encountering evidence that conflicts with it.

For instance, a longitudinal self-study authored by a putative RSPK experient and a clinician (Black & Carpenter, 2014) charted her emotional

journey as poltergeist-like occurrences gave way to controlled attempts to elicit ostensible psychokinesis (PK). Mood scores on the Positive and Negative Affect Schedule (PANAS: Watson, Clark, & Tellegen, 1988) and documented attempts to produce ostensible PK in the form of a pinwheel spinning inside a sealed jar were used to demonstrate the relationship between measures of emotion and presumed PK manifestations.

Positive affect, joviality, self-assurance, and surprise were all associated with the occurrence of PK-like effects. An inverse correlation with PK-like effects was found for *negative* affect, fear, and guilt when the entire study period was considered. However, the differences in correlation between PK/ RSPK and positive/negative affect could be due to possible differences in the mechanism(s) or emotion(s) responsible for each type of manifestation. This is one example of how some spontaneous case observations contradict the ostensible clinical themes reported in the "RSPK" literature summarized in Table 1.

We propose that this limited literature can be condensed to eight commonly-cited clinical or psychological characteristics of "poltergeist" agents: (i) Imagination/ Magical Thinking/ Fantasy-Proneness, (ii) Rebellious attitude/ Impulsivity/Aggression/ Hostility, (iii) Somatic complaints/Anxiety/ Irritability, (iv) Low self-esteem or self-concept/ Ego-weakness/Insecurity, (v) Unhappiness/Shame/Jealousy, (vi) Dissociation, (vii) Temporal Lobe Lability, and (viii) Introversion.

However, it is unclear to what degree these might represent state or trait factors, or how broadly these characteristics generalize to cases that are unreported or understudied. Also, we might presume that not all the psychological characteristics proposed in Table 1 need to be exhibited by focus persons. Instead, these features or traits could work either in a cumulative or hierarchical fashion, with some being more crucial than others. Assuming our collective inferences are valid, we hypothesise that the perceptual-personality variable of transliminality is likely a common factor underlying the available cases.

Towards a Transliminal 'Dis-ease' Model of Focus Persons

Table 2 suggests that seven out of the eight (88%) assumed characteristics of poltergeist agents show, to an extent, positive and low-to-moderate sized correlations with transliminality. Several of these effect sizes appear small and hence trivial in a theoretical or practical sense. Yet, according to Gignac and Szodorai's (2016) meta-analysis of effect sizes, correlations (*r*) of .10, .20, and .30 in the individual differences literature can be considered relatively small, medium, and large, respectively. Thus, while some of the correlations reported here are comparatively small, others are large in this context. Put differently, our effect sizes are typical for this type of research. Moreover, if anything, the magnitudes of the correlations are artificially suppressed (or "attenuated") due to measurement error (Evans, Lange, Houran & Lynn, 2018).

Moreover, as shown in Table 3, our re-analysis of data from Parra's (2015a, 2015b, 2015c, 2017, 2018a, 2018b; Parra & Argibay, 2016) previous studies conceptually replicated several trends in Table 2. Note that *introvertive*

TABLE 1.

Psychological findings on "poltergeist" agents attended by mental health professionals

Study	*N*	Tests Administered	Key Words in Analysis
Roll (1968)	1	Rorschach, Thematic Apperception Test (TAT), Wechsler-Bellevue Intelligence Scale, Form 1, a word-association test, and figure drawings.	intelligent, quick-witted, vivid imagination, accuracy and quickness in grasping, analyzing, and integrating situations, passive demandingness, hostility to father figures, impersonal violence, and isolation of affect
Roll (1970)	3	Minnesota Multiphasic Personality Inventory (MMPI), Rorschach, TAT	overtly rebellious, introverted, solid ego strength, lack of psychopathology, somatic symptoms, depressed, highly moralistic, and difficult to live with
Mischo (1971)	2	Bero Test, Color Pyramid Test, Extraversion and Neuroticism Rigidity Questionnaire Hamburg-Wechsler Intelligence Test, Kelly's Personal Construct Test, Lennep Four Picture Test, Maudsley Medical Questionnaire, Progressive Matrices, Rorschach, Rosenzweig Picture-Frustration Test (RPFT), Szeno Test, Szondi Profiles, TAT, Zulliger, and a handwriting specimen	lability, irritability, emotional infantility, ego-weakness, displacement of aggression, repression and aggression, dissimulation and confabulation

Palmer (1974)	1	Bender-Gestalt, CAT, Draw-A-Person Test Rorschach, House-Tree-Person Test (HTP), and TAT	immaturity, dependency, low self-concept, limited intelligence, aggressiveness, tendency to avoid and withdraw, magical thinking, fantasy gratification, and loss of cognitive control when faced with anxiety-arousing situations centering around sexual identity, authority figures, and appropriateness of emotional response
Hastings (1978)	1	Adjective Check List, California Personality Inventory, MMPI, and TAT	introverted, childlike, low self-esteem, and enjoyed provoking others, "prankster personality" and aggressive
Rogo (1982)	3	HTP, Rotter's Incomplete Sentence Blank, RPFT,	Aggression, unhappiness, insecurity, unrealistic fantasy life, repression, anxiety
Roll and Tringale (1982)		Inventory of Childhood Memories and Imaginings (ICMI)	checked only two of the 48 items, however researchers noted that she was prone to dissociative episodes during RSPK events
Roll, Maher and Brown (1992)	1	ICMI, Neuropsychology Questionnaire, and Psychic Experiences Questionnaire	Overachiever, results suggestive of temporal lobe epilepsy
Carpenter (1993)	1	Rorschach and TAT	unhappy, ashamed, jealous, tendency to overgeneralize in thinking, miss complexities and discrepancies, vivid fantasy life, confused about sexual identity, aggressive, and to have experienced life as frustrating, neglectful, and possibly abusive
Nichols and Roll (1998)	4	HTP, ICMI, Kiersey Sorter, Neuropsychology Questionnaire, Psychic Experiences Questionnaire, and RPFT	signs of temporal lobe lability, unhappiness, insecurity, and recourse to an unrealistic fantasy life, aggression, insecurity, inability to handle minor frustrations, and incapacity to engage in helping relationships with others

Table 2.

Correlations between transliminality and presumed traits of "poltergeist agents"

Presumed Clinical Characteristic of "Focus Persons"	Corresponding Psychometric Variable	Correlation with Transliminality	Sample References
Imagination/Magical Thinking/ Fantasy-Proneness	Inventory of Childhood Memories and Imaginings (ICMIC)	.67***	Thalbourne, Bertemucchi, Delin, Fox, and Nofi (1997)
	Magical Ideation Scale (Reduced)	.63***	Thalbourne (1998)
	ICMIC (Reduced)	.77***	Thalbourne (1998)
	Cattell's 16 PF Abstractedness	.36*	Lange, Thalbourne, Houran and Storm (2000)
	Cattell's 16 PF Abstractedness	.46*	Harris, Rock and Clark (2015)
	Creativity	.42**	Thalbourne (2000)
	Sense of Mental Potency	.43-.68**	Thalbourne and Houran (2000)
	Openness to Experience	.33*	Thalbourne (2000)
	Creative Personality Scale	.41**	Thalbourne (2000)

	Cattell's 16 PF Self-control	–.21*	Lange, Thalbourne et al. (2000
	Sensation Seeking Scale	.23*	Thalbourne and Cochrane (2002)
	Oxford-Liverpool Inventory of Feelings and Experiences –Impulsive Nonconformity	.21***	Thalbourne, Keogh and Witt (2005)
Somatic complaints/ Anxiety/ Irritability	Hyperaesthesia	.37 ***	Thalbourne et al., (1997)
	Hyperaesthesia	.39***	Thalbourne (1998)
	Frequency of Panic Attacks	.19*	Thalbourne et al., (1997)
	Whitely Index (hypochondriacal tendencies)	.30*	Houran, Kumar, Thalbourne and Lavertue (2002)
	Bodily weakness	.19**	Houran, Kumar et al., (2002)
	Intolerance of bodily complaints	.16*	Houran, Kumar et al., (2002)
	Autonomic sensations	.29**	Houran, Kumar et al., (2002)
	Somatization symptoms	.25**	Houran, Kumar et al., (2002)
	Anxiety	.14*	Ghorbani, Watson, Aghababaei and Chen (2014)

contd./

TABLE 2 *contd.*

Presumed Clinical Characteristic of "Focus Persons"	**Corresponding Psychometric Variable**	**Correlation with Transliminality**	**Sample References**
Low self-esteem or self-concept/ Ego-weakness/ Insecurity	Oxford-Liverpool Inventory of Feelings and Experiences — Cognitive Disorganization	.28***	Thalbourne, Keogh and Witt (2005)
	Sense of Coherence	–.30***	Bradbury, Stirling, Cavill and Parker (2009)
	STQ Schizotypy Scale — STA Scale	.65**	Simmonds-Moore (2009)
	Cattell's 16 PF Emotional Stability	–.18*	Harris et al. (2015)
Unhappiness/Shame/Jealousy	Inventory of Small Life Events	.34***/.40***	Soffer-Dudek and Shahar (2008)
	Inventory of Small Life Events	.51*	Soffer-Dudek, Shalev, Shiber and Shahar (2011)
	Manic Depressiveness Scale	.26***	Thalbourne (1998)
	Brief Symptom Inventory	.29***/.37***	Soffer-Dudek and Shahar (2008)
	Brief Symptom Inventory	.35***	Soffer-Dudek and Shahar (2011)
	Beck Depression Inventory	.35***	Soffer-Dudek and Shahar (2011)
	Depression	.12*	Ghorbani et al., (2014)

Dissociation	Dissociative Experiences Scale	.47***	Thalbourne (1998)
	Dissociative Experiences Scale	.33***/.47***	Soffer-Dudek and Shahar (2008)
	Dissociative Experiences Scale	.55****	Bradbury et al., (2009)
	Dissociative Experiences Scale	.47***/.57***	Soffer-Dudek and Shahar (2011)
	Clinician Administered Dissociative States Scale	.43***/.47***	Soffer-Dudek and Shahar (2011)
	Dissociative Experiences Scale	.36*	Harris et al. (2015)
Temporal Lobe Lability/ Symptomatology	General Temporal Epilepsy Scale	.72**	Thalbourne, Houran and Crawley (2003)
	Complex Partial Epileptic Signs	.71*	Thalbourne et al., (2003)
	All Temporal Lobe Signs	.70**	Thalbourne et al., (2003)
	Temporal Lobe Scale	.67***	Thalbourne and Maltby (2008)
	Complex Partial Epileptic Signs	.70**	Simmonds-Moore (2009)
Introversion			N/A

Note: *$p < 0.05$, **$p < 0.01$ and ***$p < 0.001$

TABLE 3.

Spearman rank-order correlations (two-tailed) between Revised Transliminality Scale and other measures of permeable mental boundary structure from Parra's published datasets.[1]

Measure		**Transliminality**
Neuroticism (EPQ-R) Score: 1 = lowest; 5 = highest	*r*	.160*
	p	.029
	N	184
Extraversion (EPQ-R) Score = 1 lowest (Introversion); 5 = (Extraversion)	*r*	.190**
	p	.010
	N	184
Psychoticism (EPQ-R) Score: 1 = lowest; 5 = highest	*r*	.160*
	p	.031
	N	184
Unusual Experiences (O-LIFE) Score: 1 = lowest; 5 = highest	*r*	.420***
	p	<.001
	N	175
Cognitive Disorganization (O-LIFE) Score: 1 = lowest; 5 = highest	*r*	.180*
	p	.019
	N	175
Introvertive Anhedonia (O-LIFE) Score: 1 = lowest; 5 = highest	*r*	.070
	p	.367
	N	175
Impulsive Nonconformity (O-LIFE) Score: 1= lowest; 5 = highest	*r*	.050
	p	.518
	N	175
Total O-LIFE Score: 1 = lowest; 5 = highest	*r*	.270***
	p	<.001
	N	175
Dissociation (DES) Score: 1 = lowest; 5 = highest	*r*	.380***
	p	<.001
	N	174
Negative Empathy Score: 1 = lowest; 5 = highest	*R*	.110
	P	.113
	N	211

Positive Empathy Score: 1 = lowest; 5 = highest	*R*	.050
	P	.491
	N	211
Total Empathy Score: 1 = lowest; 5 = highest	*R*	.190**
	P	.006
	N	211
Visual vividness (Total) Score: 1 highest; 5 = lowest (reversed)	*R*	–.200**
	P	.005
	N	197

*Note: *p < 0.05, **p < 0.01, ***p < 0.001.*

[1] Data collated and re-analysed from Parra (2015a, 2015b, 2015c, 2017, 2018a, 2018b; Parra & Argibay, 2016).

anhedonia (or lack of emotion) was unrelated to transliminality (see Table 3, p. 11), and only total empathy as related to both positive and negative aspects significantly correlated with transliminality, as opposed to either negative *or* positive empathy alone. However, all other measures corroborate the associations in Table 2.

We argue that the cumulative patterns in Tables 1 to 3, combined with studies like Black and Carpenter (2014), undermine the notion of "disease" per se, in favour of a transliminal perspective that accommodates various psychological disruptions or tensions as potential, but not exclusive, stimulants. Accordingly, we to strive here to ameliorate the pathological dimension commonly associated with focus persons by suggesting the more accurate and preferred term "dis-ease" (cf. Capra, 1982; Johnson, 1986).

Our proposal also seems in line with related literature on affect and outcomes on tests of putative PK, as summarized by Kruth (2018). For example, Broughton and Perlstrom (1986) examined scores on self-reported measures of anxiety and the practice of a mental discipline in relation to participants' performance on a computer game that cloaked an intentional RNG-based PK task. The only significant finding was a negative correlation between higher anxiety measures and the intentional "PK" tasks. In other words, when the participants were more anxious, they appeared to affect the RNG output in the direction opposite to their intention. Anxiety caused them to "lose the game," which was interpreted as a form of psi-missing. Likewise, a field investigation of an 11-year old boy by Kruth and Joines (2015) documented consistent and apparently unintentional "PK" activity that negatively affected telephones, electronic locks, electrical appliances, computers, and printers. They further found that this activity appeared to be moderated with anxiety and stress reduction exercises.

In a similar study to Broughton and Perlstrom (1986), Roe, Davey, and Stevens (2004) found that intentional focus and muscle tension, which was considered an indicator of arousal, did not produce significant variance from

the expected mean in a computer based, RNG-controlled PK task. Though not related to anxiety, this small sample ($N = 40$) demonstrated that muscle tension and increased focus are not enough to produce apparent PK results.

More recently, Kruth (2018) examined whether a change in anxiety level (self-reported by participants before and after a session) was associated with an increase in errors detected in a working computer network. The study included a continuous transfer of information between two computers using a standard networking protocol (UDP) via a hard-wired connection between the computers. Using a process that was independent of all other computer operations, a single document was repeatedly sent, line-by-line, over the network, and transient errors in the transmission of the data were recorded and logged. The error logging system produced a database of network errors not only during the sessions involving participants, but also at times when no computer operator or researchers was present in the room. None of the participants knew that the computer network was sending data or that errors were being counted during their sessions.

While the data was continuously being streamed between the two computers, Kruth (2018) asked participants to complete a series of tasks under two conditions. The tasks were identical in both conditions with one notable exception. In both conditions the participants were instructed to complete the tasks as quickly as possible to receive a reward. In the control condition, the participants navigated the simple tasks as they would any normal computer tasks. In the second, experimental condition, the participants were obstructed in the process by intentional computer malfunctions built into the program and designed to induce anxiety. The participants' self-rated anxiety levels were recorded before and after each session.

Of the study's two pre-stated hypotheses, only one was confirmed. The first hypothesis predicted that the mean number of errors detected in the independent network would be greater when operators were using the computer as opposed to the times when the computers were unattended, but this hypothesis was not supported by the data. The second hypothesis was supported indicating that more errors on the independent network were recorded when participants reported higher anxiety during their session. That is, participants who reported experiencing higher anxiety during the sessions were associated with significantly more network errors than those who reported experiencing lower anxiety during the session (Kruth, 2018).

Nevertheless, the studies cited above do not necessarily imply that "dis-ease" states are exclusive to PK-type events or reports. Instead, transliminality again might be the common factor here, and it can help to account conceptually for Black and Carpenter's (2014) findings. That is, individuals can apparently exhibit a wide variety of emotional responses in connection with high levels of transliminality, as determined in part by the person's world-view or coping strategies (Evans et al., 2018; Thalbourne & Houran, 2005).

McCreery and Claridge (1995) even highlighted "happy transliminals," i.e., persons who are functional despite, or perhaps even in part because of, their "anomalous experiences" (p. 142). This line of thinking parallels Hunt, Dougan, Grant, and House (2002) who spoke about growth-enhancing (*positive impact*) versus dissociative (*negative impact*) states of consciousness,

as well as others who have reported that stressors could be categorised as those that tend to be perceived as promoting personal growth and development (*challenge stressors*) versus those that tend to be perceived as barriers to accomplishing tasks and achieving personal growth (*hindrance stressors*) (Cavanaugh, Boswell, Roehling & Boudreau, 2000).

Consequently, markedly positive moods or psychological states (e.g., challenge stressors) accompanying high levels of transliminality might also facilitate poltergeist-like effects or episodes. For instance, a common outcome of Near-Death Experiences (NDEs) is an enhanced sense of personal well-being (see Noyes, Fenwick, Holden, & Christian, 2009), which is curious since another frequently — albeit anecdotally — reported aftereffect is the erratic functioning of electronic equipment around NDE percipients (Atwater, 2007; Fracasso & Friedman, 2012; Nouri, 2008). Likewise, there are reportedly "positive paranormal physical events" and beneficial coincidences — from "good luck" to fortunate coincidences, auspicious meetings, "ailing" machines strangely "recovering," to books falling open to sought passages or useful books even falling off the shelf in front of a person. Perhaps these are the same basic events as poltergeist-like phenomena, simply interpreted differently.

These examples speak to the possible affective or motivational systems in which these manifestations are embedded, both immediately and in terms of their consequences. Accordingly, it might be expected that there is a continuum or matrix of anomalies and their principles of operation — ranging from negative disturbances to "neutral" events to positive facilitation, and across a spectrum of normal lawful behaviour from improbable to "impossible" occurrences.

However, the issue of emotion or affect is likely neither as simple nor straightforward as might seem. In particular, Mauss and Robinson (2009) noted that, "…scientific evidence suggests that measuring a person's emotional state is one of the most vexing problems in affective science" (p. 209). These authors presented a consensual, componential model of emotions that conceptualises them as experiential, physiological, and behavioural responses to personally meaningful stimuli. Therefore, it may not be the broad dimensions of affect (positivity versus negativity) that best defines the psychology of focus persons (i.e., "PK agents"), but rather the intensity, duration, or directedness of emotional expressions. These aspects might be best measured via *distinct state emotions* (i.e., anger, disgust, fear, anxiety, sadness, happiness, relaxation, and desire; Harmon-Jones, Bastian, & Harmon-Jones, 2016), or in terms of specific dimensions of affect, such as *valence* and *arousal* (Mauss & Robinson, 2009). These questions and empirical issues are ripe for future research.

Transliminality and Putative Psi

From a parapsychological perspective, Roll's (1977) RSPK model inherently assumes that a core "psychometric" characteristic of agents is putative psi ability. Therefore, working from Laythe et al.'s (2018) Transliminal Model of person-focusing, it is reasonable to expect that transliminality should correlate with positive outcomes on empirical tests of psi. Table 4 summarizes

TABLE 4

*Accumulative Record: Correlates of Transliminality with Psi Experiences/Outcomes (19 analyses)**

Reference	**Study Variable**	**r**	**p****
1. Crawley, French and Yesson (2002); *N* = 98	Hitting on unprimed trials	.15	.065
2. Del Prete and Tressoldi (2005); *N* = 12	Free-response in a self-relaxed state	.19	n.s.
3. Del Prete and Tressoldi (2005); *N* = 12	Free-response in a hypnagogic state	.71	< .01
4. Houran (2002); *N* = 20	Number of different modalities of reported haunt experience	.21	n.s.
5. Houran (2002); *N* = 20	Number of discrete haunt experiences	.15	n.s.
6. Houran, Wiseman and Thalbourne (2002); *N* = 134	Number of different modalities of reported haunt experience	.21	.05
7. Houran, Wiseman and Thalbourne (2002); *N* = 234	Number of discrete haunt experiences	.22	.01
8. Parker and Sjödén (2010); *N* = 51	Difference between negatively-loaded pictures previously exposed and not previously exposed	.27	.03
9. Parker and Sjödén (2010); *N* = 51	Difference between neutral pictures previously exposed and not previously exposed	n/a	n.s.

10. Sanders, Thalbourne and Delin (2000); $N = 88$ (Receivers)	Forced-choice interpersonal psi	.17	< .05
11. Sanders et al., (2000); $N = 88$ (Senders)	Forced-choice interpersonal psi	.35	< .001
12. Storm (2002); $N = 43$	Hitting on *I Ching* hexagrams	–.01	n.s.
13. Storm (2002); $N = 43$	Hitting on *I Ching* Changing Lines	–.12	n.s.
14. Storm and Rock (2009); $N = 106$	Concealed picture identification	.001	n.s.
15. Storm and Thalbourne (1998-1999); $N = 93$	Hitting on *I Ching* hexagrams	.26	.012
16. Storm and Thalbourne (2001); $N = 107$	Hitting on *I Ching* hexagrams	.003	n.s.
17. Storm and Thalbourne (2001); $N = 107$	Hitting on *I Ching* Changing Lines	–.01	n.s.
18. Thalbourne (1996); $N = 99$	Forced-choice precognition	–.13	n.s.
19. Thalbourne and Storm (2014); $N = 200$	Hitting on *I Ching* hexagrams	–.08	n.s.

* Parker (2000) and Roe (2003) are not included because r values were not given; ** all p values are one-tailed; n.s. = not significant; n/a = not available

19 peer-reviewed studies, conducted over a 13-year period (1998 to 2010), that have tested this prediction, and the findings collectively suggest that transliminality may be an *index* of the classic Sheep-Goat effect (Thalbourne & Houran, 2003; Thalbourne & Storm, 2012).

Commenting on Thalbourne and Houran's (2003) earlier review, Lange and Houran (2013) stated that, "the main transliminality and psi research up to that time found that transliminality showed significant positive correlations [with psi variables] in only 50% of previously published analyses" (p. 10) and described this trend as "less-than-perfect" (p. 10). This figure of 50% has decreased to 37% in a later comprehensive review by Thalbourne and Storm (2012), which featured the studies listed in Table 4. They showed that out of 12 transliminality studies featuring 19 analyses, seven (37%: 3, 6, 7, 8, 10, 11, & 15) produced significantly positive correlations (eight studies [42%] are significant or marginally significant)[1].

Of course, some readers might challenge the notion of "marginally significant" effects. We argue that it is a perfectly acceptable term, since the context here is numbers as opposed to mutually exclusive states. It references an effect that "approaches significance (p = .05)," so it figures in a count for that reason. This empirical point is underscored by Rosnow and Rosenthal (1989, p. 1277) who stated that, "surely, God loves the .06 nearly as much as the .05. Can there be any doubt that God views the strength of evidence for or against the null as a fairly continuous function of the magnitude of p?"

We likewise note the broader scientific community's emphasis on *replication* over *alpha levels* when evaluating the meaningfulness and generalizability of effects (Amrhein, Greenland, & McShane, 2019; Cohen, 1994) — an issue discussed previously by some of the present authors (Houran, Lange, & Hooper, 2018; Laythe et al., 2018).

Moreover, of these 19 analyses, 13 (68%) gave correlations in the direction hypothesized which is significant for the database if we set critical $\alpha = .10$ due to the small sample size ($N = 19$; Exact binomial $z = 1.38$, $p = .068$). Note here that Fisher (1956) has justified setting α at .10 for small samples (see also, Moore & McCabe, 2003).

Also, for the 19 separate measures of the transliminality/psi relationship, we find mean $r = .13$; mean $z = 0.90$; Stouffer $Z = 3.96$, $p = 3.70 \times 10 - 5$. The database produces a significant effect overall. We conclude that, on average, transliminality tends to correlate with putative psi outcomes. These associations tend to be weak but skew in the direction hypothesised; however, the 8-year hiatus in research leaves us in the dark as to its ostensible efficacy as a psi predictor. In fact, there are indications that the relationship between transliminality and putative psi is more nuanced or multifaceted than it appears, as exemplified in the studies by Lange and Houran (2013; Houran & Lange, 2009).

[1] Table 4 is a slightly modified version of Table 2 from Thalbourne and Storm (2012, p. 75), used with permission. The date on the last entry was originally Thalbourne and Storm (2002–2005) which was changed to Thalbourne and Storm (2014) due to delayed publication, but the study was completed pre-2010.

Transliminality, Age, and Gender

Well-known "ghost-hunter" Harry Price (1945) summarized insights related to age and gender from his lifetime of interest and understanding of poltergeist cases:

> Poltergeists are domestically-inclined, and their chief haunts are private houses, comfortable homes, family circles (especially if a young girl is present), small houses in preference to large ones, and they prefer the country and quiet places to the town and noise. They are fond of farms and can hardly keep away from rectories! And they love the homes of holy men. Poltergeists infest new homes as well as old, cottages have attractions for them, but they shun hotels and boarding-houses like the plague! Poltergeists like company — young company for preference. And they like girls better than boys, and if they are infesting a place one can be sure that the focus of the disturbances is in or near a girl's bed…For every interference with a boy's bed, there are a hundred girls' beds disturbed (p. 36).

The transliminality literature to date presents mixed results when applied to such synopses on poltergeists. First, correlations with gender or age have not always been systematically canvassed. Gender has usually not been related to transliminality when this variable was considered (e.g., Lange, Thalbourne, Houran, & Storm, 2000; Thalbourne, 1998), but on at least one occasion men were found to have significantly higher scores than women (Houran, Kumar, et al., 2002). Adding to the confusion, Houran and Lange (2009) re-analysed data from two published studies that examined transliminality and anomalous experiences to determine if there was an "optimal level" of transliminality associated with putative psi. The results curiously suggested that outcomes on tests or inferences of psi were best facilitated in women with high-transliminality and men with low-transliminality.

Age has shown some significant relationships with transliminality, although more often the correlation is negative (Thalbourne et al., 1997, p. 310; Lange, Thalbourne et al., 2000) versus positive (e.g., Thalbourne et al., 2005), which seemingly agrees with Price's (1945) assertions. It is notable that the negative relationships have emerged in samples where there tends to be a wide spread of ages across participants, and not the skewed distribution typical of student samples.

Our understanding of transliminality in relation to age and gender is obviously incomplete or imprecise and therefore must be better clarified. Ostensible age and gender effects are also complicated by the fact that transliminality has been described as both a *trait* and *state* variable (cf. Evans et al., 2018; Lange et al., 2019). Thus, gender and developmental factors are likely not the only determinants.

Transliminality and Childhood Trauma

Although we think that our "dis-ease" terminology for poltergeist agents most appropriately describes their apparent array of subclinical (i.e., pathology-free) states referenced in Tables 1 and 2, this does not negate anxiolytic functions to some or all poltergeist outbreaks or kindred episodes. Discussions about wellness and anomalous experiences have become popular (e.g., Holt, 2012; Irwin, 2018). For instance, Nisbet (1979) speculated that

experiences of "spirit infestation" are symptoms of some type of illness — perhaps in the same way that psychological distress is expressed through somatisation (Hotopf, Wadsworth, & Wessely, 2001). In fact, the phenomenology of poltergeist episodes has been equated to outbreaks of contagious "mass psychogenic illness" (Lange & Houran, 1998, 1999, 2001).

Likewise, anthropological field work by Hess (1990) suggested that outbreaks of haunt-poltergeist episodes function as idioms of distress, and we note interesting case studies and questionnaire research in the clinical literature that speak to this basic idea (e.g., Houran, Kumar et al., 2002; Lange & Houran, 2001). The parapsychological literature also gives compelling examples of apparent distress or "dis-ease" in agents, such as Healy and Cropper (2014) who reported many cases indicating problematized or troubled focus persons involved in fire-starting, movements of objects, and the like.

Finally, the directly relevant work of von Lucadou (2011) appears consistent with our basic conclusions. He does not regard 'focus persons' as diseased but as exhibiting natural, adaptive reactions. In particular, he speculated that poltergeist-like effects in the environment have inherent meaning, since they are exteriorizations of unconscious problem states that serve to avoid psychosomatic harm. Ghosts, broadly conceptualized, can similarly be interpreted in informational terms (for a related thesis, see Radin, 2018).

Laythe et al.'s (2018) Transliminal Model can accommodate these types of negatively-toned, subclinical states, and particularly as these might manifest during childhood, since poltergeist agents are often (but not exclusively) reported to be adolescents. Specifically, Thalbourne, Houran, and Crawley (2003) found that total scores on the Survey of Traumatic Childhood Events (STCE: Council & Edwards, 1987) showed a moderate association with scores on the Revised Transliminality Scale. Several correlations between transliminality and specific forms of trauma on the STCE had comparable effect sizes and significance levels, e.g., "Having your home robbed or vandalized", "Another person made you or asked you to engage in a sexual activity when you did not want to", and "Being struck or hit by your parents, other family members or caregivers".

These associations cannot be dismissed as distortions by adults responding to a retrospective measure of trauma. For example, French and Kerman (1996) compared a group of adolescents with *documented* histories of childhood trauma (i.e., having experienced sexual, physical or emotional abuse during their early childhood) with a closely matched control sample. They found that traumatized adolescents scored significantly higher than their controls on measures of subjective paranormal belief/experience and fantasy proneness. Less sustained trauma may also have at least a transient effect on children's fantasy proneness or paranormal beliefs (Terr et al., 1997). Further study by Cooper and Thalbourne (2005) unexpectedly failed to replicate this finding, but this may have resulted from the omission of the six "sexual abuse" items from the survey that was used.

The findings above are not unexpected, as it makes some conceptual sense for childhood trauma to be a potential risk factor for transliminality. Joseph

(1999) noted, for instance, that childhood trauma (prolonged and high-levels of stress, fear, or arousal) facilitates abnormal neocortical and hippocampal activation and arousal, as well as corticosteroid and enkephalin secretion thereby inducing atrophy or seizures within the hippocampus. Microseizures within the amygdaloid-hippocampal structures and adjacent cortices, according to Persinger (1984), help to facilitate anomalous or transliminal-like experiences (cf. Thalbourne et al., 2001). Childhood trauma also might be a causal factor in the development of subjective paranormal belief and experience (Irwin, 1992). Illustratively, Lawrence, Edwards, Barraclough, Church and Hetherington (1995) applied covariance structure modelling to measures of childhood trauma, childhood fantasy, and paranormal belief and experience. They showed a direct link from childhood trauma to paranormal experience, and another link through childhood fantasy, which was also linked to paranormal experience.

Discussion

Our review and analysis seem to lend further credence and viability to Laythe et al.'s (2018) hypothesis that transliminality, in part, mediates "person-focusing" in anomalous experiences attributed to ghosts, haunted houses, and now poltergeist disturbances. Although we cannot claim that our review of the transliminality correlates was exhaustive or that findings contrary to those in Tables 2 through 4 might not exist, our primary conclusion is consistent with many studies that identify an "encounter-prone personality" grounded in a permeable mental boundary structure (e.g., Houran, Ashe, & Thalbourne, 2003; Houran, Wiseman, & Thalbourne, 2002; Kumar & Pekala, 2001). Subclinical (pathology-free) "dis-ease" states are undoubtedly involved in many poltergeist-like episodes, but the available evidence undermines the notion that negatively-oriented situations or clinical states are exclusive catalysts.

Testable implications of this basic premise can guide future research. For example, it might be expected that the kind of biopsychosocial or physical environments that facilitate transliminality will also correspond to the environments where poltergeist-like disturbances are most likely to be experienced or reported. Moreover, additional analyses with respondents from the general population (including pre-teens and adolescents) are required to evaluate more thoroughly the relationships among transliminality, anomalous experiences, age, and gender.

Ideally, more robust psychometric testing will be administered to identifiable focus persons (Houran, 2017), since the soundness of our list of presumed characteristics will be borne out in conceptual replications that use alternative measures. In this vein, we must caution that the validity of temporal lobe measures, such as Persinger's (1984) Personal Philosophy Inventory, is very controversial (e.g., Cardeña & Pekala, 2014). Good poltergeist cases, moreover, seem quite rare. Accordingly, given the paucity of active cases known or accessible to contemporary investigators — e.g., the exceptional examples of Dixon (2016), Healy and Cropper (2014), or Kruth and Joines (2015) — future work might explore correspondences between transliminality and the physical or social settings in poltergeist cases

previously identified by key authorities like Roll (1977) or Gauld and Cornell (1979/2017).

More detailed explorations between transliminality and our proposed eight characteristics of poltergeist agents would also be helpful. We have reasonable confidence in our suppositions and note that the characteristics outlined in Table 2 were also observed in the suspected focus person during the recent Dixon (2016) case. These included:

- Rapid mood swings, arguments with management, hostility at customers, defensiveness, high levels of stress, bouts of mania and an overall change in demeanour (i.e., rebellious attitude/impulsivity aggression/hostility);
- Reports of problems sleeping, obsessive-compulsive hand washing and muttering to oneself (i.e., somatic complaints/anxiety/irritability);
- Compulsion to diet and exercise constantly due to poor body-image (i.e., low self-esteem/low self-concept/ego-weakness/insecurity);
- Depression and loss of full-time employment (i.e., unhappiness/shame/jealousy). Dissociation, temporal lobe lability/symptomatology, and introversion were neither assessed nor recorded during the case.

Interestingly, we also point out that these characteristics broadly agree with Lange and Houran's (1998, 1999, 2001; Houran, Kumar, et al., 2002) hypothesis that biopsychosocial processes in haunts and poltergeist disturbances parallel those operating in cases of mass hysteria or contagious psychogenic illness (e.g., Colligan, Pennebaker, & Murphy, 1982; Wessely, 1987). For example, Chen, Yen, Lin and Yang (2003) reported such an outbreak in Taiwan whereby a group of female classmates ascribed their sudden and anomalous onset of difficulty in breathing and swallowing, dizziness, fainting, and verbal outbursts to supernatural influences. No obvious medical cause was identified, but investigators concluded that interpersonal conflict (including low self-esteem) and neurotic traits (including increased nervousness or anxiety) in those inflicted were significant factors in the generation of symptoms. A related, and more contemporary, form of this type of syndrome might be chronic episodes of "group-stalking (or gang-stalking)", which involve anomalous physical and psychological events that "haunt" witnesses in their daily lives over the span of months or years and which are attributed to a large-scale, coordinated, and covert harassment campaigns by unknown networks of people (see James & Sheridan, 2015).

That said, Laythe et al.'s (2018) Transliminal Model — with an emphasis on subclinical dis-ease states — seems very promising in helping to explain the psychology of focus persons in poltergeist cases. This view aligns to (i) the general psychometric correlates of assumed agents per the available academic literature, (ii) some of the demographic aspects of agents, (iii) the presence and impact of psychological tensions in childhood that can characterize the biopsychosocial settings of agents, and (iv) empirical data suggesting a positive link between transliminality and putative psi.

Unfortunately, we lack enough information to explore potential differences in transliminality, or other psychometric variables, between poltergeist

agents and classic haunters. We reiterate that Rasch scaling analyses suggest a one-factor model of phenomenology (Houran & Lange, 2001, 2009; Houran, Wiseman, & Thalbourne, 2002) that encompasses both the physical and psychological events that characterize these two episodes, respectively. Likewise, at this time, agents and haunters seem more alike than different to us — both apparently representing very human and exceptional, transliminal experiences — regardless if RSPK or other forms of psi are involved or not. Here we agree with Stephen King (2001, p. 17) who poetically observed that, "…Monsters are real, and ghosts are real, too. They live inside us, and sometimes they win".

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