

The Ghostly Character of Childhood Imaginary Companions: An Empirical Study of Online Accounts

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Abstract: Reports of childhood imaginary companions (IC) sometimes contain “creepy or spooky” perceptions or themes that suggest such occurrences could be overlooked or disguised forms of a “ghostly episode” or “entity encounter experience.” This idea was explored via a content analysis of vetted narratives from the Reddit website involving ICs with haunt-type features ($n = 143$). We tested whether the phenomenology of these experiences: (a) show an “Age \times Gender \times Anxiety” effect consistent with the assumed psychology of focus persons in poltergeist-like experiences; (b) map to Houran et al.’s (2019b) Rasch hierarchy of anomalies associated with ghostly episodes per the Survey of Strange Events (SSE); and (c) correspond to a specific type of “haunt condition” (i.e., spontaneous, primed, lifestyle, fantasy, or illicit). Results indicated that ICs attributed to “ghosts” corresponded to higher SSE scores. Experiencers’ gender and inferred anxiety likewise showed significant and positive associations with SSE scores. Finally, the SSE features of ghostly IC experiences most strongly correlated to the phenomenologies of “spontaneous” and “induced” haunt conditions as reported in Houran et al. (2019b). We discuss the results in terms of some ICs being anomalous or exceptional human experiences that might require approaches beyond developmental and clinical psychology to understand fully their contents, structure, and ultimate nature.

Keywords: content analysis, ghost, imaginary companion, encounter experiences, phenomenology

A news article by journalist Rosemary Counter (2019) explored an intriguing question, “Why do so many kids ‘see ghosts?’” (para. 1). The literature indeed contains many accounts of children and putative psi experiences (Drewes & Drucker, 1991; Drucker, Drewes, & Krippner, 2001), including apparitional encounters (Bielski, 2010; Houran, 2004). In fact, an entire class of anomalous experiences — poltergeist disturbances — are traditionally characterized as displays of “recurrent spontaneous psychokinesis” (RSPK) that focus on the presence of particular adolescents (notably girls) who are presumably relieving or expressing some type of anxiety (for a critical analysis of these assumptions, see Ventola et al., 2019). However, Counter’s write-up downplayed paranormal interpretations in favor of the idea that children’s “ghostly episodes” (i.e., apparitions, haunts, and poltergeists) are relevant to, if not directly parallel to, the psychological phenomenon of *imaginary companions* (IC).

Also called “pretend” or “imaginary friends,” ICs are defined simply as invisible characters with

whom children converse and interact (Svendsen, 1934; Taylor, 1999; Taylor et al., 2004; Vostrovsky, 1895). These characters have an air of reality to the child but seemingly lack an objective basis. Additionally, for many young children they are a meaningful and stable aspect of their daily lives with well-defined personalities and physical appearances (for a review, see: Armah & Landers-Potts, 2021). Clinical authorities initially believed that ICs correlated with psychopathology or were used as a coping mechanism for mental illness, dementia, or abuse (Klausen & Passman, 2007; Lydon, 2011). Klausen and Passman (2007) further explained that supernatural explanations for ICs were extremely common in the early 20th century and even persist to this day (see, e.g., Hallowell, 2007). This agrees with Armah and Landers-Potts' (2021) finding that ICs are sometimes reported to have special powers, extraordinary appearances (including animals, angels, or ghosts), and the ability to speak to children. In fact, Taylor (2003) reported that 5% of ICs documented across her research surveys were specifically personalized as “ghosts” by experiencers. This characterization carries loaded connotations of paranormal agency (Hill et al., 2018, 2019; Houran et al., 2020), which appear to be bolstered by anecdotal reports of ICs that seemingly “come alive” and behave in ways that correspond to Houran et al.'s (2019a, 2019b) set of subjective and objective anomalies that typify ghostly episodes (for an overview and discussion, see Little, Laythe, & Houran, 2021).

On this point, qualitative and quantitative studies alike indicate that outwardly disparate (*entity*) encounter experiences — e.g., spirits, angels, gods, demons, poltergeists, extraterrestrials, power animals, and folklore-type “little people” — often share similar narrative themes and structures (Evans, 1987, 2001; Houran, 2000; Hufford, 1982; Kumar & Pekala, 2001). In fact, Houran et al. (2019a, 2019b) have found that ghostly episodes can be reliably modelled as a probabilistic hierarchy of different types of encounter experiences. These patterns arguably suggest a “family tree” of systematically connected S/O anomalies that is rooted in a core process, but which can change its appearance with the sociocultural or situational context in which it manifests (Evans, 2001; Houran, 2000). Encounter experiences often can be induced via techniques that alter waking consciousness, e.g., psychedelics (Davis et al., 2020), transcranial magnetic stimulation (Persinger, Tiller, & Koren, 2000), trance and meditative states (Flor-Henry, Shapiro, & Sombrun, 2017), or facilitated exercises like mirror- and eye-gazing (Caputo, Lynn, & Houran, 2021), séance sessions (Laythe, Laythe, & Woodward, 2017), and sitter-group work (McClenon, 2018). But these occurrences are also known to happen unexpectedly or within everyday settings, and recent research in this respect suggests a link between ICs and “ghostly” encounter experiences.

Particularly, Little et al.'s (2021) quali-qualitative analysis identified important similarities between the general features of ICs and trends in the onset and contents of ghostly episodes (or encounter experiences) as derived primarily from our recent psychological studies. For example, ICs are often described using two sub-categories, *invisible friends* (IF) and *personified objects* (PO, i.e., imaginary beings embodied in toys or objects) (Moriguchi & Todo, 2018). These monikers echo the distinctions between *subjective* (S) versus *objective* (O) anomalies in ghostly episodes (for discussions, see Houran et al., 2019a, 2019b). More importantly, specific correspondences identified by Little et al. (2021) include the ostensible demographic and psychometric profile of percipient types (i.e., people across age spans and with high transliminality or “thin” mental boundaries), the likely role of anxiety or “dis-ease” (i.e., one's state of “ease” being imbalanced or disrupted) in spurring or sustaining both episodes via heightened transliminality, and the many overlapping contents of their respective experiences. These can involve sensing invisible “presences,” hearing audible voices, experiencing visions

with and without additional sensory stimuli, and communicating or interacting with entities that exhibit apparent volition.

Following the above, we aim to corroborate Little et al.'s (2021) conclusion that some childhood ICs are a variant of encounter experiences. We speculate that certain instances constitute an interesting hybrid between "spontaneous" and "induced" manifestations. That is, IC experiencers might unwittingly or knowingly possess an ability to generate such encounters (or ghostly episodes) virtually on demand, in naturalistic settings, and seemingly during normal waking states. We tested this idea via a thematic study of retrospective and open-access accounts of childhood ICs with haunt-type contents. Our specific goals were to explore whether such accounts: (a) show an Age \times Gender \times Anxiety interaction effect consistent with the presumed psychological profile of focus persons in poltergeist-like experiences, (b) have perceptual contents that reliably map to the set of S/O anomalies that define ghostly episodes, and (c) plainly correspond to a specific "haunt condition," i.e., an ordering of S/O anomalies that is distinctive either to "spontaneous, primed, lifestyle, fantasy, or illicit" narratives as defined below (cf. Houran et al., 2019b, pp. 174-175).

Method

Dataset

The ethics committee of the Institute for the Study of Religious and Anomalous Experience (I.S.R.A.E.) approved this study, which adhered to commonly accepted guidelines for internet research (e.g., British Psychological Society, 2017). Data derived from purportedly first-hand accounts that were voluntarily shared on the popular Reddit website — an open-access, social news aggregator. This forum contains a network of communities called "subreddits" based on people's interests. As of 2018, there were more than 330 million monthly active users of Reddit who were part of 1.2 million+ communities, with over 150,000 of these being active (Pardes, 2018). Reddit also currently ranks as the 19th-most-visited website in the United States and in the world (Alexa Internet, 2019), with 55% of its user base coming from the United States, followed by the United Kingdom at 7.4% and Canada at 5.8%. Accordingly, Shatz (2017, p. 537) characterized the website as a "fast, free and targeted" platform for recruiting participants online, and indeed these types of samples are commonly used in psychology for their ease of access and low cost (Jamnik & Lane, 2017; Pollet & Saxton, 2019). Consequently, many studies across the social and biomedical sciences have used Reddit to collect behavioral data (e.g., Adams, Artigiani, & Wish, 2019; Nunes & Filho, 2017; Pilkington & Rominov, 2017).

We sourced accounts via a keyword search using the terms: "imaginary friends," "paranormal imaginary friends," "creepy imaginary friends," "scary imaginary friends," "demonic imaginary friends," "angelic imaginary friends," and "imaginary friend tulpas." This was conducted from the Reddit main site (July 10th to 29th, 2020). We vetted the accounts matching these keywords by selecting only those from subreddits that mandated the stories be "true" in order to be posted. Thus, we deliberately avoided IC accounts that seemed to be fan fiction or literary descriptions. This process returned 150 initial written accounts that we qualitatively inspected for their relevance and details using a purposeful cri-

terion sampling strategy (Creswell, 2013), whereby all accounts in the dataset represented people who self-reported ICs with readily apparent “ghostly” contents or themes. We then excluded reports that referenced either (a) an admission of ongoing mental illness related to the experiences, or (b) duplicate accounts by different authors that we judged to be urban fiction. Our screening criteria yielded a total of 143 accounts for content analysis. This dataset represents a selective sample of ICs with potentially parapsychological qualities and thus is not a representative sample of childhood IC accounts. For illustrative purposes, the Appendix provides a sample account used in the present research.

Measures

(1). *Coding of Accounts.* To study qualitative data scientifically, content analysis is often used to simplify complex text-based information into quantifiable data suitable for standardized comparisons or statistical analyses (Krippendorff, 2013; Namey et al., 2008; Ryan & Bernard, 2000). Specifically, this method involves mapping some given qualitative data (i.e., text) into descriptive categories to understand the presence, meaning, and relationships among words, themes, or concepts. This approach has been used in prior IC studies (e.g., Seiffge-Krenke, 1997).

We assessed each IC experience for several demographic variables: *Gender* (Female; $n = 28$, Male; $n = 43$, Transgender; $n = 5$, unspecified; $n = 73$), *Age* (3 to 4, $n = 51$; 5 to 6, $n = 26$; 7 and older, $n = 22$; unspecified, $n = 41$), *Number of Additional Witnesses* to the reported events (individual only, $n = 70$; one additional witness, $n = 53$; two additional witnesses, $n = 17$; and unspecified, $n = 2$), *Religious Themes* present (e.g., accounts couched within a religious framework, $n = 23$), and *Religious Beliefs* expressed (i.e., the witness accounting personal religious beliefs intertwined within the account, $n = 13$). Our breakdown of the age brackets was admittedly not optimal, but it represents a limitation of the data. Particularly, age was easily referenceable within most early childhood accounts, but noticeably absent in accounts of pre-teen to teenage years. This fact did not allow us to distinctly code the age ranges for the teenage and young adult experiences.

The *Narrator* of the account also varied between an adult relating their own childhood IC experiences ($n = 102$) or a parent or relative giving a first-hand account of a child ($n = 40$). *Attribution* was also used to distinguish accounts described as normal IC experiences (i.e., a non-Ghost attribution, $n = 53$) as opposed to the belief that the child was interacting with some form of paranormal agency (i.e., a Ghost attribution, $n = 90$). The distinction between IC classification and paranormal agency was generally defined by SSE item endorsement, whereby accounts that only contained an IC entity (of any type which may or may not have been visually present) which engaged in communication with the child (with few to no other features or events) was defined as an IC, whereas ongoing phenomena experienced by the child and other individuals was coded as a “ghost” account.

From characteristics examined in Little et al. (2021) we also coded cases for “Transition” aspects, i.e., cases where initial childhood ICs led to ongoing haunt-type features representing 39 cases reported at later ages and for extended periods (27.6%). We also addressed Hoff’s (2005) concept of “deep vs shallow” ICs by coding “Agency,” i.e., ICs seemingly displaying independent agency or not, respectively. Seemingly “deep ICs” represented 130 cases (92%), or the bulk of the sample. Finally, we coded for

broad “Anxiety” by combing each account for clear indicators of distress, unease, or fear as a result of the IC experience relative to child experients of ICs (89 cases, or ~63%) and family members or witnesses to the ICs (90 cases, or ~63%). To minimize potential biases from the familiarity with other features of the IC narrative, the coders based their anxiety ratings solely on adjectives or signifiers that were independent from the SSE’s descriptions of S/O events, e.g., “negative feelings,” “unpleasant odors,” or “threatening touches.”

(2). The *Survey of Strange Events* (SSE: Houran et al., 2019b) was used to code the perceptual contents of the ICs. This is a 32-item, “true/false” Rasch (1960/1980) scaled measure of the overall “haunt intensity” (i.e., perceptual depth) of a ghostly account or narrative via a checklist of base *subjective* and *objective* (S/O) events or experiences inherent to these anomalous episodes. The SSE’s Rasch item hierarchy represents the probabilistic ordering of these S/O anomalies according to their endorsement rates but rescaled into a metric called “logits.” Higher logits denote higher positions (or greater rarity of occurrence) of events on the Rasch scale (Bond & Fox, 2015). Rasch-scaled scores range from 22.3 (= raw score of 0) to 90.9 (= raw score of 32), with a mean of 50, $SD = 10$, and a Rasch reliability = 0.87. Higher scores correspond to a greater *number* and *diversity* of anomalies that define the perceptual depth of a ghostly episode — basically analogous to the concept of “depth” in Greyson’s (1983, 1985, 1990) Near-Death Experience Scale. We refer readers to Houran et al. (2019a, 2019b) for details on the development of this instrument, as well as note that follow-up studies with the SSE back its value for content analyses of qualitative reports (Lange et al., 2020; O’Keeffe et al., 2019).

Supporting the SSE’s content and predictive validities, Houran et al. (2019b) found that the phenomenology (i.e., SSE score and associated hierarchy of S/O anomalies) of “spontaneous” accounts (i.e., ostensibly “sincere and unprimed”) differed significantly from four “control” narratives: (a) *Primed*, respondents who had anomalous experiences during commercial ghost tours, which are thus likely attributable to expectation or suggestion or clear-cut demand characteristics; (b) *Lifestyle*, respondents with active memberships in self-styled ghost-hunting or ghost-tour groups and thus likely under the influence of strong context effects like pervasive confirmation biases; (c) *Fantasy*, respondents with no prior ghostly experiences who merely imagined what a vivid and personal experience would be like; and (d) *Illlicit*, respondents with no prior ghostly experiences asked to concoct a bogus but seemingly convincing account. This slightly resembles the Fantasy group above, except that here, narratives would arguably cater more to social approval or cultural norms, especially as related to paranormal themes characterized in popular culture.

Procedure

For each written account, raters trained on the coding materials (BL & CL) documented the respective demographics and applicable perceptual contents and themes per the most relevant SSE items. These judgments were made collectively by an “expert panel” to maximize the accuracy of the final classifications (Bertens et al., 2013; Langfeldt, 2004). Generally speaking, the SSE items mapped effectively to the perceptual contents of the reported ICs. However, our method of classifying an IC as an “apparition” deserves more explanation.

The purported nature of the ICs varied wildly, and, in many cases, towards the macabre. To separate these accounts, any IC/ghost that was humanoid but with “monstrous or gory” features (i.e., undead looking) was coded as SSE item #11 (an “obvious apparition”). On the other hand, IC/ghost descriptions that were deemed to be regular-looking human beings were coded as SSE item #12 (an “alive-looking apparition”). IC/ghost accounts that directly referred to the entity as demonic were coded as SSE item #29 (“mystical-type beings,” e.g., angels or demons). Finally, accounts that referenced tiny individuals or smaller “spirits” were coded to SSE item #3 (“folklore-type entities”). To address the almost universal interaction of the percipient with the IC, any account that contained conversation or communication with an entity was coded as item #17 (“communication with the dead”).

Results

Descriptive Analyses

To our knowledge, no prior studies have assembled a dataset of ICs with haunt-type characteristics. We wanted therefore to provide a preliminary descriptive analysis to highlight the nature and circumstances of these reports. Table 1 gives means, standard deviations, and discrete probabilities for Narrator type (Adult vs. Guardian), Attribution type (IC vs. Ghost), and child-related IC ghost accounts, along with the original probabilities of the SSE reported by Houran et al. (2019b, pp. 173-174). While the IC accounts reliably mapped to items on the SSE, all four IC conditions noted above yielded below-average Rasch scaled scores (< 40) on the SSE. Thus, our sample of IC accounts showed a lower intensity of experiences compared to previously published norms for spontaneous haunts.

Moreover, t tests explored potential differences across Narrator type (Adult vs Guardian) or Attribution type (IC vs. Ghost). Results indicated there was no statistically significant ($t = .487, p = .627$) difference in SSE scores between Adult accounts ($M = 38.21$) and Guardian accounts ($M = 38.23$). Not surprisingly, experiences attributed to ICs ($M_{IC} = 37.33$) were significantly ($t = 2.329, p = .02$) lower in “haunt intensity” than accounts attributed to paranormal agencies ($M_{Ghost} = 38.94$). This was not unexpected, as the latter accounts often contained elements of “paranormal entities or communications.” These findings suggest that the Narrator type does not skew total SSE scaled scores, although accounts attributed to ICs showed significantly lower “haunt intensity” than accounts attributed to ghosts.

Transition, Agency, and Anxiety Effects on SSE Scores

To examine effects of Transition, Agency, and Anxiety on overall aggregate SSE scores, we conducted a dummy-coded regression that tested for mean differences. As shown in Table 2, the overall model was significant ($F = 11.25, p < .001$), with an adjusted R^2 of .23. Results also indicate significant differences in SSE scores from Transition cases and Non-Transition cases ($M_T = 41.25$ v $M_{NT} = 37.38; t = 4.024, p < .001$), as well as indications of Anxiety from the child experiencing the IC ($M_{ANX} = 39.78$ v $M_{NA} = 36.25, t = 3.75, p < .001$). Neither Agency nor family Anxiety differed significantly ($p > .05$).

Table 1.
Probabilities of SSE Items by Narrator and Attribution Type

<i>Items</i>	Original SSE			Conditions				
	<i>Logit</i>	<i>Class</i>	<i>SSE</i>	<i>n = 102</i>	<i>n = 40</i>	<i>n = 53</i>	<i>n = 90</i>	<i>n = 143</i>
				<i>ADULT</i>	<i>PARENT</i>	<i>IC</i>	<i>GHOST</i>	<i>TOTAL</i>
1 Deja Vu	-1.65	C	0.839	0.000	0.000	0.000	0.000	0.000
2 Sensed Presence	-1.59	C	0.831	0.157	0.050	0.132	0.122	0.124
3 Unrecognizable Sound	-1.17	C	0.763	0.010	0.000	0.000	0.011	0.007
4 Cold Area	-0.8	C	0.690	0.029	0.000	0.000	0.033	0.021
5 Breeze	-0.73	C	0.675	0.000	0.025	0.000	0.011	0.007
6 Recognizable Sound	-0.62	C	0.650	0.157	0.250	0.094	0.233	0.179
7 Erratic Electronics	-0.62	C	0.650	0.069	0.100	0.038	0.100	0.076
8 Non-descript Visual Form	-0.62	C	0.650	0.078	0.100	0.038	0.111	0.083
9 Negative Feeling	-0.6	C	0.646	0.431	0.275	0.396	0.378	0.379
10 Non-hostile Touch	-0.55	C	0.634	0.020	0.050	0.057	0.011	0.028
11 Obvious Apparition	-0.51	LC	0.625	0.431	0.375	0.302	0.478	0.407
12 Alive-looking Apparition	-0.47	LC	0.615	0.402	0.300	0.170	0.489	0.366
13 Odd Body Sensations	-0.47	LC	0.615	0.088	0.025	0.113	0.044	0.069
14 Object Teleport	-0.1	LC	0.525	0.000	0.050	0.000	0.022	0.014
15 Object Movement	-0.05	LC	0.512	0.137	0.125	0.038	0.189	0.131
16 Recording of Image	-0.05	LC	0.512	0.020	0.000	0.019	0.011	0.014
17 Communication with Dead	0.03	LC	0.493	0.814	0.850	0.906	0.778	0.814
18 Pleasant Odor	0.04	LC	0.490	0.000	0.000	0.000	0.000	0.000
19 Positive Feeling	0.1	LC	0.475	0.235	0.175	0.245	0.200	0.214
20 Recording of Unrecognizable Sound	0.16	LC	0.460	0.000	0.000	0.000	0.000	0.000
21 Recording of Recognizable Sound	0.24	LC	0.440	0.010	0.000	0.019	0.000	0.007
22 Unpleasant Odor	0.42	LC	0.397	0.010	0.050	0.019	0.022	0.021
23 Threatening Touch	0.44	LC	0.392	0.127	0.050	0.094	0.111	0.103
24 Object Breakage	0.51	R	0.375	0.049	0.050	0.019	0.067	0.048
25 Object Levitation	0.65	R	0.343	0.010	0.050	0.000	0.033	0.021
26 Hot area	0.72	R	0.327	0.010	0.000	0.000	0.011	0.007
27 Possession	0.84	R	0.302	0.010	0.025	0.000	0.022	0.014
28 Plumbing Malfunctions	0.9	R	0.289	0.000	0.000	0.000	0.000	0.000
29 Mystical-type Beings	1.07	R	0.255	0.147	0.025	0.189	0.067	0.110
30 Taste	1.08	R	0.254	0.000	0.000	0.000	0.000	0.000
31 Folklore-type Beings	1.61	R	0.167	0.049	0.050	0.057	0.044	0.048
32 Fires	1.71	R	0.153	0.000	0.025	0.000	0.011	0.007
<i>Mean SSE converted score</i>				38.21	38.63	37.33	38.94	38.35
<i>Standard Deviation SSE converted score</i>				4.180	4.780	4.210	4.240	4.33

Notes: Scores after class represent percent probability of occurrence. ADULT = account given by adult about childhood.

PARENT = account given by caregiver about child.

IC = account given as standard imaginary companion.

GHOST = IC with believed features of ghost. TOTAL = total sample of study.

Testing the “Carrie Myth” of Poltergeists

Studies show that ghostly episodes tend to occur around certain individuals; an effect called “person focusing” (see e.g., Laythe, Houran, & Ventola, 2018; Roll, 1977). Ventola et al. (2019, p. 146) re-

Table 2.

Mean Regression of Transition, Agency, and Personal and Witness Anxiety on SSE Scores

	<i>Coefficients</i>	<i>S.E.</i>	<i>t</i>	<i>p</i>
Intercept	35.421	1.210	29.283	0.000
Transition	3.022	0.751	4.024	0.000
Agency	0.417	1.208	0.345	0.731
Anxiety: Personal	2.635	0.702	3.752	0.000
Anxiety: Witness	0.234	0.689	0.340	0.734

ferred to the traditional “Age × Gender × Anxiety” profile of focus persons in poltergeist-like cases as the “Carrie Myth” — an allusion to the title of author Stephen King’s (1977/2002) 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. However, Ventola and colleagues (2019) presented conceptual and empirical evidence that this “repressed teen” characterization was more a cultural meme than a well-specified scientific model. The present data likewise allowed us to further scrutinize this presumed psychology of focus persons.

Specifically, we performed an ANOVA on SSE scaled scores only with cases where both Age and Gender were clearly indicated ($n = 43$), and further inserted Age × Gender, Age × Anxiety, and Age × Gender × Anxiety interaction terms, representing a 2 (“age 3 to 6” vs. “7 or older”) by 2 (“male vs. female”) by 2 (“anxiety vs no anxiety”) ANOVA design. We emphasize for clarity that the sample size was small, so the results should be regarded only as suggestive. As shown in Table 3, the main effects of Age were non-significant ($(1, 38), F = 0.031, ns$). Anxiety approached significance (M 's = 37.57 vs. 39.94; $(1, 38) F = 3.157, p = .083$) indicating a trend towards higher SSE scores in the Anxiety-indicated sample. Finally, there was a significant main effect for Gender (male = 37.57 vs. 39.94; female $(1,38), F = 4.430, p = .042$), whereby females scored higher on the SSE than the males. However, all interaction terms were non-significant (p 's > .58 in all cases).

Table 3.

ANOVA of Age, Gender, and Anxiety on SSE Scores

<i>Variables</i>	<i>S.S</i>	<i>df</i>	<i>M.S.</i>	<i>F</i>	<i>p</i>	<i>η²</i>
Age	0.510	1	0.510	0.031	0.861	0.001
Gender	72.442	1	72.442	4.430	0.042	0.094
Anxiety	51.627	1	51.627	3.157	0.083	0.067
Age × Gender	5.113	1	5.113	0.313	0.579	0.007
Age × Anxiety	1.661	1	1.661	0.102	0.752	0.002
Gender × Anxiety	0.726	1	0.726	0.044	0.834	0.001
Age × Gender × Anxiety	0.959	1	0.959	0.059	0.810	0.001
Residuals	637.689	39	16.351			

Although the lack of significant effects seems congruent with Ventola et al.'s (2019) conclusions about the inaccuracy of the Carrie Myth, we must note that putative Anxiety related to child experients of ICs was statistically significant in the full sample. This finding is consistent with the “dis-ease” model for poltergeist-like experiences (Ventola et al., 2019). Therefore, due to reduced sample size and potentially unaccounted for variance of Age and Gender not analyzable in the accounts that did not clearly reference these variables, we caution readers that these are preliminary findings. Indeed, cases with both Age and Gender represented only 30% of our total sample.

Correspondence Between the Phenomenology of ICs and Ghostly Episodes

The patterns previously outlined do not address individual item endorsement rates. In order to classify the phenomenology of our IC accounts, Table 4 shows the items with the highest probability of being endorsed, along with the original SSE probabilities for “spontaneous” ghost experiences. Notably, many of the IC features were simultaneously witnessed by additional experients — i.e., 34% of “IC” accounts referenced at least one additional witness, compared to 60% for the “Ghost” accounts. Little et al. (2021) predicted such occurrences of multiple experients, although we have neither seen previous discussion nor any data on this issue in the IC literature.

Table 4.
Incidence Rates of SSE Items for Attribution Type

<i>Items</i>	Original SSE			<i>n</i> = 53	<i>n</i> = 90	<i>n</i> = 143
	<i>Logit</i>	<i>Class</i>	<i>SSE</i>	<i>IC</i>	<i>GHOST</i>	<i>TOTAL</i>
17 Communication with Dead	0.03	LC	0.493	0.906	0.778	0.814
9 Negative Feeling	-0.60	C	0.646	0.396	0.378	0.379
11 Obvious Apparition	-0.51	LC	0.625	0.302	0.478	0.407
19 Positive Feeling	0.10	LC	0.475	0.245	0.200	0.214
29 Mystical-type Beings	1.07	R	0.255	0.189	0.067	0.110
12 Alive-looking Apparition	-0.47	LC	0.615	0.170	0.489	0.366
2 Sensed Presence	-1.59	C	0.831	0.132	0.122	0.124
13 Odd Bodily Sensations	-0.47	LC	0.615	0.113	0.044	0.069
6 Recognizable Sound	-0.62	C	0.650	0.094	0.233	0.179
23 Threatening Touch	0.44	LC	0.392	0.094	0.111	0.103
10 Non-hostile Touch	-0.55	C	0.634	0.057	0.011	0.028
31 Folklore-type Beings	1.61	R	0.167	0.057	0.044	0.048
7 Erratic Electronics	-0.62	C	0.650	0.038	0.100	0.076
8 Non-descript Visual Form	-0.62	C	0.650	0.038	0.111	0.083
15 Object Movement	-0.05	LC	0.512	0.038	0.189	0.131
24 Object Breakage	0.51	R	0.375	0.019	0.067	0.048

Note: C = commonly reported, LC = less commonly reported, R = rarely

The probabilities in Table 4 are first for the “IC” features, followed by the “Ghost” features. It can be seen that “Communication with the Dead” is the most prominent feature across both Attribution types,

representing between 78 to 91% of accounts, followed by “Negative Feelings” (38 to 40%), and an “Obvious Apparition” (30 to 47%). Note that “Alive-looking Apparitions” (17 to 49%), “Mystical-type Beings” (19 to 7%), and “Folklore-type Beings” (6 to 4%) when aggregated represent a 69% apparition-type occurrence rate for IC conditions, while representing 100% for accounts attributed to “Ghosts” in which the child both physically and verbally interacted with some form of “entity.”

The above features are followed by “Positive Feeling” (25 to 20%), “Sensed Presences” (13 to 12%), “Odd Bodily Sensations” (11 to 4%), “Recognizable Sounds” (9 to 23%) and “Threatening Touch” (9 to 11%). PK-like physical anomalies were also noted, with clear references to “Object Movements” (4 to 19%) and “Object Breakages” (2 to 7%). Finally, “Non-Hostile Touch” (6 to 11%), “Erratic Electronics” (4 to 10%) and “Non-Descript Visual Forms” (4 to 11%) round out the most frequent features across *both* Attribution types for our sample of IC reports. Little et al. (2021) again predicted these types of co-occurrences of S/O anomalies in IC experiences, although to our knowledge the IC literature has never referenced such effects.

Mapping the Phenomenology of ICs to Specific Haunt Conditions

A key question concerning IC accounts with haunt-type contents is whether their phenomenology best corresponds to one of the five hierarchical structures of S/O phenomena in ghostly episodes documented with the SSE across spontaneous, primed, lifestyle, fantasy, and illicit conditions (cf. Houran et al., 2019b, pp. 174-175). In other words, the stronger that two probabilistic hierarchies are positively correlated, the more their respective phenomenologies (i.e., SSE item orders) align. Thus, as used in previous studies (Lange et al., 2020; O’Keeffe et al., 2019), these correlational analyses can serve diagnostic purposes when one strives to evaluate the likely source of IC accounts that seem ghostly in nature.

Table 5.

Correlations Between Phenomenology of Imaginary Companion Experiences (Ghost and Non-Ghost) and SSE Haunt Conditions

	SSE “Haunt Conditions”				
	Spontaneous	Primed	Lifestyle	Fantasy	Illicit
IC: Non-Ghost	0.106	0.220	0.254	-0.248	-0.165
IC: Ghost	0.209	0.206	0.220	-0.150	0.025
Total	0.176	0.217	0.239	-0.191	-0.046

Note: Bold indicates suggestive findings.

To explore this issue, we conducted correlations on the varying probabilities of the SSE items themselves across our IC and Ghost conditions and compared them to the five SSE conditions mentioned above. Table 5 lists the coefficients, although we note that using correlations in this manner limits sample size to the number of items within the scale (e.g., 32), since participant-level responses are used to create the sum probabilities of each SSE item. In essence, correlations used in this manner act as a rudimentary “fit statistic” to the original SSE hierarchies of items by condition. This method obviously

has reduced statistical power due to low sample size here ($n = 31$), and accordingly all analyses failed to reach statistical significance. Thus, this exercise only considers the direction and size of effects in the interests of aiding model-building and theory-formation.

In this context, correlational patterns clearly show that both non-Ghost and Ghost conditions in ICs are most strongly related to the Lifestyle condition (r 's .22 to .25), although the Primed category was secondary (r 's .20 to .22). Interestingly, both non-Ghost and Ghost attributions for ICs showed positive associations with the phenomenology of “spontaneous” haunts, although this relationship was particularly strong (relatively speaking) in contexts involving Ghost attributions. The zero-order and inverse correlations further suggested that our sample of IC accounts was *unlike* haunt narratives rooted in social expectation (i.e., Fantasy condition, r 's = -.15 to -.25) or outright fabrication (i.e., Illicit condition, r 's = .02 to -.17). Consequently, these cumulative results are consistent with the idea that ICs with haunt-type contents are a hybrid between *spontaneous-* and *induced-* experiences.

Discussion

Consistent with Little et al. (2021), our content analysis of online reports arguably suggests that some childhood ICs can be construed as “disguised or overlooked” forms of a low-intensity ghostly episode or encounter experience (cf. Bielski, 2010; Hallowell, 2007; & Palmer, 2014). Particularly, our sample of accounts consistently referenced anomalies characteristic of hauntings per the SSE mapping, the ICs were often perceived to exhibit independent agency as indicated by SSE items involving external entities, and the experiences sometimes occurred under conditions of dis-ease or anxiety that paralleled previous findings on the psychology of encounter experiencers (Ventola et al., 2019).

In terms of phenomenology, our aggregate sample of ICs appear to be a curious mixture of “haunt conditions” that specifically draws on the roles of attentional *priming* and experiential *immersion*. For experiences explicitly attributed to “ghosts,” this phenomenology becomes increasingly aligned to the features of “spontaneous” haunts. Thus, IC experiencers possibly have the ability to self-induce or -facilitate encounter experiences on demand and in naturalistic settings. There was also some evidence that the onset or mediation of ICs in our sample followed Ventola et al.'s (2019) dis-ease model, although we found no support for the so-called “Carrie Myth” for poltergeist-like experiences, i.e., an Age \times Gender \times Anxiety interaction effect. To be fair, this latter result deserves further scrutiny using larger samples of precise data on experiencers' ages.

Moreover, two of our observations are possibly unprecedented in the literature, namely that deep ICs can: (a) involve an array of S/O anomalies, which might entail that *internal* “imaginary friends” and *external* “personified objects” (or odd physical occurrences within IC experiences) form a single dimension analogous to S/O phenomena in ghostly episodes (Houran et al., 2019b; Houran & Lange, 2001), and (b) apparently be “contagious or memetic” so as to encompass multiple witnesses to S/O anomalies in IC experiences. Attempts to clarify the former finding can use Rasch (1960/1980) scaling with available raw data to explore the factor structure of IC narratives. We plan to pursue this, and other advanced analyses as outlined by Lange and colleagues (Houran et al., 2019b; Lange, 2017; Lange et al., 2019) after first collecting additional data for a conceptual replication and robust comparison with suitable control groups.

Conversely, in-depth interview or survey studies might be required to substantiate and contextualize the latter finding, which seems to undermine the popular conceptualization of ICs as “private or singularly experienced” fantasy constructions (cf. Nagera, 1969; Rucker, 1981; Svendsen, 1934; Taylor, 1999). Such research efforts can also address other important questions pertinent to general model-building and theory-formation. For instance, the macro-PK or RSPK literature might predict that personified objects act as “targets” or focus objects (Roll, 1977) in PK-type displays during ICs, or that IC experiences containing O phenomena may involve instances of ostensibly “responsive PK” (e.g., Fontana, 1991; Laythe & Houran, 2019). Some evidence for this line of thinking might come from the “South Shields Poltergeist” case, for example, which included reports of “toys bursting into life and speaking to investigators” (Hallowell & Ritson, 2008).

We acknowledge that the accounts analyzed here derived from a non-probability sampling method, which took data from a convenient source versus a systematic review or representative survey. It is possible therefore that these were selectively published for their atypical or dramatic content, or that their details were markedly embellished or even wholly manufactured. That said, readers will recall from Table 5 that the phenomenology of IC accounts showed near zero to negative correlations with the features of “illicit” and “fantasy” haunt narratives, respectively.

These patterns appear to support the internal validity of our data, but the use of a convenience sample does limit our ability either to generalize the present results or to infer an incidence rate of ICs with putative parapsychological aspects. Of course, sampling theory would dictate that the mere presence of these accounts implies that “haunt-type ICs” represent a legitimate subset of the broader IC phenomenon. Even still, our interpretations of the content analysis may still reflect some artifacts or biases despite the use of an expert panel procedure and other controls.

Methodologically speaking, our study further underscores the utility of Houran et al.’s (2019b) SSE measure to quantify and scrutinize the phenomenology of spontaneous case material with haunt-type contents. In addition, we previously noted that more research is needed to resolve several outstanding ambiguities related to ICs with paranormal themes (Little et al., 2021). The main issue is whether children interpret ghostly episodes (or encounter experiences) as ICs, or if certain IC constructions can evolve into more complex ghostly episodes or encounter experiences¹. Either scenario might be possible or perhaps these two options somehow work in tandem. This question is further compounded by a range of individual differences or biopsychosocial variables that could potentially mediate or moderate a structural relationship between ICs and ghostly episodes.

Drawing on recent psychometric studies of “encounter-prone” individuals (Davis et al., 2019; Jalal, 2021; Langston et al., 2020; Laythe et al., 2018; Maraldi & Krippner, 2013; Ventola et al., 2019), Little et al. (2021) proposed that either “IC ↔ Ghost” scenario above is likely to involve children and adults with higher levels of transliminality or who are exposed to settings that facilitate transliminal perceptions. Transliminality represents “a hypersensitivity to psychological material originating in (a) the unconscious,

¹ For instance, this might result via *creative dissociation* (Grosso, 1997; Maraldi & Krippner, 2013; Pasi, 2016; Seligman, 2005), the hypothesized concept of *haunted people syndrome* (O’Keeffe et al., 2019; Lange et al., 2020; Laythe et al., 2021), or mechanisms that underlie anomalies such as purportedly *rogue thought-forms* (e.g., Guillette, 2019; Palmer, 2014; Parker, 2021), *visionary abilities* (Obeyesekere, 2012), *channeling/mediumship* (Bastos et al., 2015; Cunningham, 2012; Rock, 2013), or the *transliminal dis-ease model for ghostly episodes* (Laythe et al., 2018; Ventola et al., 2019).

and/or (b) the external environment” (Thalbourne & Maltby, 2008, p. 1618; for an overview, see: Evans et al., 2019). This perceptual-personality variable thus parallels both Hartmann’s (1991) mental boundary construct and the notion of “sensory processing sensitivity” (Aron & Aron, 1997).

However, a host of other traits and tendencies might contribute, including aberrant salience, ambiguity tolerance, creativity, curiosity, emotionality, ideology (e.g., religiosity or paranormal belief), ideological adherence, or sensation-seeking (for a discussion, see Laythe et al., 2021). Other approaches along these lines include Brown (2000), Neppe (2011) and Fach et al. (2013, 2015), who each outlined comprehensive questionnaires or coding systems for clinical and contextual information that may yield crucial data within and across individual cases. For instance, we originally intended also to code the ICs for the variables of time of day, experient’s history of sleep paralysis, single vs. serial event(s), likely hypnogogic and hypnopompic imagery, and the presence of marked religious ideology. But very small sizes precluded us from pursuing these analyses at this time.

Aspects of an experient’s physical environment or setting might also help to stoke anomalous ICs or shape their subsequent interpretation (Dagnall et al., 2020; Gukasyan & Nayak, 2021; Jawer et al., 2020). To be sure, Armah and Landers-Potts (2021) found that adults who reported childhood ICs demonstrated an enhanced emotional response to external stimuli and a tendency to become absorbed in detailed recollections of events. This is where systems (or biopsychosocial) theory comes into play when describing the onset or contents of ghostly episodes and encounter experiences as an interplay of variables found in both the experient and the environment (Drinkwater et al., 2019; Hess, 1991; Hill et al., 2018, 2019; Houran et al., 2020; Laythe, Houran, & Ventola, 2018; Maraldi & Krippner, 2013; O’Keeffe et al., 2019).

We hope that the present results will intrigue researchers enough to pursue additional and increasingly sophisticated studies on this topic. Though this effort was partly exploratory, our empirical findings dovetail well with previous work that challenged simplistic definitions and orthodox models for some deep ICs (Little et al., 2021). We do not contend that ICs with or without haunt-type features are necessarily or consistently parapsychological in nature, but the emerging picture is that some accounts certainly encompass more than meets the eye. At the very least, we surmise that selected instances likely involve enhanced somatic-sensory abilities or particular alterations in consciousness as implicated in transliminality and the potentially tangential phenomena of alienated agency and creative dissociation (see Footnote 1). Expanded research from this standpoint could eventually refine or reinterpret the evidence that some ICs are linked to hallucination-like experience or schizotypal thinking across different age groups (Fernyhough, et. al., 2007; Fernyhough et al., 2019; Jones et al., 2015; Kidd, Rogers, & Rogers, 2010; Sánchez-Bernardos & Avia, 2006).

Our considered opinion is that ICs can be more complex or nuanced than perhaps assumed by many traditional social scientists. Model-building and theory-formation on this issue would thus be stifled if future studies only consider orthodox social-cognitive processes in children and adults. Indeed, the ostensible correlation between certain ICs and haunt (or entity encounter) phenomenology suggests to us that such reports are best situated and studied within the domain of anomalous and exceptional human experiences (see: Cardeña, Lynn, & Krippner, 2014; Cardeña, Palmer, & Marcussion-Clavertz,

2015; Palmer & Hastings, 2013). Critical insights and findings from these perspectives might help to pinpoint the exact nature and meaning of the perceptual contents in this subset of deep ICs. We further anticipate that such learnings will interest and inform some of the experiencers themselves, such as with Portuguese poet and philosopher Fernando Pessoa (1998/2002) who curiously remarked, “Only my ghostly and imaginary friends, only the conversations I have in my dreams, are genuinely real and substantial” (p. 48).

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Appendix. *Sample imaginary companion account with haunt-type characteristics (sourced from Reddit.com).*

I remember when I was younger I had this “imaginary” friend named “Trees.” So, whenever somebody would ask me who my imaginary friend was I would say, “He is not imaginary, he is just a ghost.” Yeah, so hearing that from a six-year old definitely will make you sleep with one eye open for a while. Anyway, my mom tells me stories about how I used to talk to nothing but air, and I would come running in her room screaming because somebody was grabbing my feet. Now that I’m older I look back and say how f*cking scary that would be. I think I can connect with the dead, because whenever I go to a new place and feel eerie, I get like a little shiver through my body and something weird happens after. I’m honestly super scared because yesterday I was in my room watching “The 100” and I saw like a almost invisible shadow move, from the corner of my eye. So, I got up and looked around to see what the hell it was, and I couldn’t find anything. But sometimes my TV is off and it’s so clear it looks like a mirror. Sometimes I can see slight movement through my TV screen, and it scares the sh*t out of me. For some reason I think “Trees” is still here with me. I have a lot of paranormal experiences including Trees and other things happening. I will post those a soon or later.”

**Le Caractère Fantomatique des Compagnons Imaginaires Infantiles :
Une Étude Empirique de Témoignages en Ligne**

Résumé: Les récits de compagnons imaginaires infantiles (IC) contiennent parfois des perceptions ou des thèmes « sinistres ou fantomatiques » qui suggèrent que de telles manifestations peuvent être des formes déguisées ou négligées d’un « épisode fantomatique » ou d’une « expérience de rencontre avec une entité ». Cette idée a été exploré à travers une analyse de contenu de narrations vérifiées en provenance du site internet Reddit impliquant des IC avec des caractéristiques de type hantise ($n = 143$). Nous avons testé si la phénoménologie de ces expériences : (a) montre un effet « âge x genre x anxiété » consistant avec la psychologie supposée des personnes focales dans les expériences de type poltergeist ; (b) correspond au modèle Rasch de hiérarchie des anomalies de Houran et al. (2019b) associé avec les épisodes fantomatiques au travers du Sondage des événements étranges (SSE) ; et (c) correspond à un type spécifique de « condition de hantise » (c’est-à-dire spontanée, amorcée, relative au style de vie, à la fantaisie, ou illicite). Les résultats indiquent que les IC attribués à des « fantômes » correspondent à des scores plus élevés au SSE. Le genre et l’anxiété inférée des expérienceurs montrent des associations positives significatives avec les scores au SSE. Enfin, les caractéristiques SSE des expériences IC fantomatiques se corrélient plus fortement avec les phénoménologies des conditions « spontanées » et « induites » de la hantise, telles que reportées par Houran et al. (2019b). Nous discutons ces résultats en considérant que certains IC sont des expériences humaines exceptionnelles ou anormales qui pourraient réquerir des approches allant au-delà de la psychologie clinique ou développementale pour pleinement comprendre leurs contenus, leur structure et leur nature ultime.

Der Gespenstische Charakter von Imaginären Kindheitsbegleitern: Eine Empirische Studie von Online-Berichten

Zusammenfassung: Berichte über Imaginäre Begleiter (IB) in der Kindheit enthalten manchmal "gruselige oder gespenstische" Wahrnehmungen oder Themen, die darauf hindeuten, dass es sich bei solchen Vorkommnissen um übersehene oder versteckte Formen einer "geisterhaften Episode" oder einer "Begegnung mit einer Wesenheit" handeln könnte. Diese Hypothese wurde mittels einer Inhaltsanalyse von überprüften Erzählungen der Reddit-Website exploriert, die IBs mit spukartigen Merkmalen ($n = 143$) aufweisen. Wir überprüften, ob die Phänomenologie dieser Erfahrungen: (a) einen "Alter \times Geschlecht \times Angst"-Effekt aufweist, der mit vermuteten psychologischen Merkmalen von Fokuspersonen bei spukähnlichen Erfahrungen übereinstimmt; (b) der Rasch-Hierarchie von Houran et al. (2019b) von Anomalien, die mit geisterhaften Episoden gemäß dem Survey of Strange Events (SSE) assoziiert sind, entspricht; und (c) einer spezifischen Art von "Spukzustand" entspricht (d. h. spontan, ausgelöst, Lifestyle, Fantasie oder unerwünscht). Die Ergebnisse zeigten, dass IBs, die "Geistern" zugeschrieben wurden, mit höheren SSE-Werten korrespondierten. Das Geschlecht der Berichterstatter und die vermutete Angst waren ebenfalls signifikant positiv mit SSE-Werten assoziiert. Schließlich korrelierten die SSE-Merkmale von geisterhaften IB-Erfahrungen am stärksten mit der Phänomenologie "spontaner" und "induzierter" Spukzustände, wie sie bei Houran et al. (2019b) berichtet werden. Wir diskutieren die Ergebnisse dahingehend, dass einige IBs anomale oder außergewöhnliche menschliche Erfahrungen darstellen, die möglicherweise Ansätze jenseits der Entwicklungs- und klinischen Psychologie erforderlich machen, um ihren Inhalt, ihre Struktur und ihre grundlegende Natur vollständig zu verstehen.

El Carácter Espectral de los Compañeros Imaginarios de la Infancia: Un Estudio Empírico de Reportes En Línea

Resumen: Los reportes de compañeros imaginarios de la infancia (CI) a veces contienen percepciones o temas "espeluznantes o escalofriantes" que sugieren que tales eventos podrían ser formas disfrazadas de un "episodio fantasmal" o un "encuentro cercano con una entidad". Esta idea se exploró a través de un análisis de contenido de narrativas extraídas del sitio web Reddit, que involucraban CI con características espectrales ($n = 143$). Analizamos si la fenomenología de estas experiencias: (a) muestra un efecto de "Edad \times Género \times Ansiedad" consistente con la psicología asumida de los supuestos agentes en casos poltergeist; (b) corresponde con la jerarquía Rasch de anomalías asociadas con episodios fantasmales de Houran et al. (2019b) según la Encuesta de Eventos Extraños (SSE, por sus siglas en inglés); y (c) corresponde a un tipo específico de "condición espectral" (i.e. espontánea, imprimada, estilo de vida, fantasía, o ilícita). Los resultados indicaron que los CI atribuidos a "fantasmas" correspondían con puntuaciones más altas de la SSE. El género y la ansiedad inferida de los participantes también mostraron asociaciones positivas significativas con las puntuaciones de la SSE. Finalmente, las experiencias fantasmales de CI, relacionadas a las características de la SSE, poseen una correlación mayor a la fenomenología de las condiciones espectrales "espontáneas" e "inducidas" como se reporta en Houran et al. (2019b). Discutimos los resultados en términos de que algunos CI son experiencias humanas anómalas o excepcionales que pueden requerir enfoques más allá de la psicología clínica y del desarrollo para comprender completamente su contenido, estructura y naturaleza final.