Journal of Scientific Exploration, Vol. 31, No. 1, pp. 522–540, 2016 0892-3310/16

RESEARCH ARTICLE

Anomalous/Paranormal Experiences Reported by Nurses in Relation to Their Patients in Hospitals

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Submitted July 8, 2016; Accepted TK; Published TK

Abstract—Using existing reports of Anomalous/Paranormal Experiences (APE) by nurses in hospital and health center settings, the aim was to determine the extent of occurrence of certain types of anomalous perceptual experiences and their relationship to the nurses' job stress, proneness to hallucination, and psychological absorption. From the total number of 130 participants recruited from nursing departments, we received 100 usable questionnaires from eight hospitals and health centers in Argentina. Using the Anomalous/Paranormal Experiences in Nurse & Health Workers Survey (which measures frequency of paranormal/anomalous experiences) (see Appendix), 54 experiencer nurses (APE) and 46 control (non-experiencer nurses) were reclustered. All of them also filled out the Maslach Burnout Inventory, the Hallucinations Experiences Questionnaire, and the Tellegen Absorption Scale. While nurses reporting such experiences did not tend to experience greater job stress, those who reported a combination of hallucination perceptual experiences and a high level of psychological absorption tended to score higher for anomalous/paranormal experiences compared with those who did not report such experiences.

Keywords: nursing—anomalous/paranormal experiences—job stress—hallucination—dissociation—absorption

Introduction

Existing reports of Anomalous/Paranormal Experiences (APE) by nurses (Barbato, Blunden, Reid, Irwin, & Rodriguez 1999, Fenwick, Lovelace, & Brayne 2007, O'Connor 2003) and doctors (see Osis & Haraldsson 1977, 1997) consist of apparitions, "coincidences," death-bed visions, and other anomalous phenomena, sometimes in relation to patients. Visions

involve the appearance of dead relatives who have come to help patients and residents through the dying process, providing comfort to them and their relatives. Coincidences are experienced by someone emotionally close to the dying person but physically distant, who is somehow aware of their moment of death, or says the person "visited" them at that time to say goodbye, again providing comfort. Others describe seeing a light, associated with a feeling of compassion and love. Other phenomena include a change of room temperature; clocks stopping synchronistically; accounts of vapors, mists, and shapes around the body at death; and birds or animals appearing and then disappearing (Brayne, Farnham, & Fenwick 2006, Katz & Payne 2003).

More recent anecdotal accounts from nurses and doctors suggest that APEs consist of a much wider range of phenomena than purely deathbed visions (Barret 1926, Osis & Haraldsson 1997, Kubler Ross 1971). They may include coincidences around the time of death involving the dying person appearing to a relative or close friend who is not present at the time of death, and a need to settle unfinished business such as reconciling with estranged family members or putting affairs in order before death (Baumrucker 1996).

O'Connor (2003) conducted research with care nurses suggesting that they find APEs neither rare nor surprising, which our own research has found corroborated even among palliative care professionals (Katz & Payne 2003, Kellehear 2003). Many people now die in hospitals, where, unfortunately, nurses have neither the time nor the training to deal adequately with this very important aspect of the dying and grieving process. Imhof (1996) points out that, since death is not taught as a medical subject, and 'dying right' is not part of medical studies, this special awareness of the dying process is often ignored by those who care for the dying. Thus coincidences that occur around the time of death, involving the appearance of the dying person to a close relative or friend who is not physically present (Kubler Ross 1971, Fenwick & Fenwick 2008), may be missed. Phenomena occurring around the time of death such as clocks stopping, strange animal behavior, or lights and equipment turning on and off (O'Connor 2003, Betty 2006; for review see Fenwick, Lovelace, Brayne 2010), similarly may be overlooked.

One of the problems associated with such experiences by nurses is that there are no studies about possible associated psychological variables. However, there are numerous studies that suggest possible correlations between occupational stress in nursing and proneness to hallucination and absorption as a variable that could modulate stress and hallucination proneness.

Given that professionals in mental health have the power to define experiences as symptoms of illness, the views and experiences of nurses

would appear to be particularly important. Millham and Easton (1998) observed a prevalence of auditory hallucinations in nurses in mental health. Eighty-four per cent of the 54 experiencer nurses who returned the questionnaire described having experiences that might be described as auditory hallucinations. Studies have demonstrated the existence of hallucinations in the general population (Bentall 2000a, 2000b, 2003, Larøi, Marcezewski, & Van der Linden 2004, Larøi 2006, Parra 2014), but we found no study that had examined the prevalence of auditory hallucinations in mental health nurses, who are the workers who most often have contact with people who hear voices.

Another variable potentially related to anomalous/paranormal experiences in nurses could be job stress. Stress is usually defined from a 'demand-perception-response' perspective (see Bartlett 1998 Lazarus & Folkman 1984, Lehrer & Woolfolk 1993, Rick & Perrewe 1995). The transition to severe distress is likely to be most detrimental for nurses, closely linked to staff absenteeism, poor staff retention, and ill-health (Healy & McKay 2000, McGowan 2001, Shader, Broom, West, & Nash 2001).

In fact, nursing provides a wide range of potential workplace stressors, as it is a profession requiring a high level of skill, teamwork in a variety of situations, provision of 24-hour delivery of care, and input of what is often referred to as 'emotional labour' (Phillips 1996). French, Lenton, Walters, & Eyles (2000) identified nine sub-scales of workplace stressors that might impact on nurses; one of them is dealing with death, dying patients, and their families (for review, see McVicar 2003). At the same time a number of authors have also pointed to the role of stress-induced arousal in hallucinations, although Rabkin (1980) has noted a number of methodological weaknesses in this kind of work. Not surprisingly, there is evidence linking hallucinatory experiences to specific stressful events such as the loss of a spouse (Matchett 1972, Reese, 1971, Wells, 1983) and potentially life-threatening situations such as mining accidents (Comer, Madow, & Dixon 1967), sustained military operations (Belensky 1979), and terrorist attacks (Siegel 1984; for review, see Bentall 2000a).

A third variable of interest in this context is absorption, which is the capacity to focus attention exclusively on some object (including mental imagery) to the exclusion of distracting events; it refers to a state of heightened imaginative involvement in which an individual's attentional capacities are focused in one behavioral domain, often to the exclusion of explicit information processing in other domains (Tellegen & Atkinson 1974). High absorption indicates the ability to momentarily inhibit reality monitoring, often including a high incidence of subjective paranormal experiences, such

as apparitions (Parra 2006) and aura vision (Parra 2010a,b, Parra & Argibay 2012). The object seems to have a heightened sense of reality, as do APEs. A capacity for absorption, by itself, may not be sufficient; perhaps people must also have a motivation or need for the experience of absorption, as well as a situation suitable for inducing workplace stressors, such as a hospital setting. Although the limited number of studies suggests no difference in capacity for absorption, there is some indication that experiencers and non-experiencers may differ in their need for absorption (Irwin 1985, 1989). Furthermore, when Glicksohn and Barrett (2003) investigated whether the personality trait of absorption is a predisposing factor for hallucinatory experience, they found signs indicating a common, pseudo-hallucinatory experiential base, suggesting that absorption can indeed serve as the predisposing factor for hallucinatory experience.

The purpose of this study, therefore, was to determine the extent of occurrence of certain types of APEs in hospitals and their relationship to job stress, hallucination proneness, and absorption. We hypothesized that:

(H1) nurses who report APEs will tend to score higher on job stress;
(H2) nurses who report APEs will tend to score higher on absorption;
(H3) nurses who report a combination of APEs and higher absorption will tend to score higher also on job stress than those who do not report such experiences.

Methods

Participants

From a total of 130 nurses recruited from nursing departments, we received 100 usable questionnaires (76%), including females and males ranging in age from 22 to 64 (Mean = 40.17; SD = 10.45). They were recruited from eight hospitals and health centers in Argentina through the cooperation of the Research and Teaching Area of the Nursing Department of each (the Principal Nursing Officers of each area were invaluable to us), who gave us permission to do the interviews and administer the set of questionnaires. Participation was voluntary, and the nurses received no pay. The professionals scored a mean of 6 years in their work as nurses (Range = 1 to 20 years; SD = 5.60). Nurses who answered "yes" to items 3, 4, 5, 6, 8, 9, 11, and 12 of the *Anomalous/Paranormal Experiences in Nurse & Health Workers Survey* were grouped as "experiencers," while nurses who answered "No" were grouped as "non-experiencers" (along with nurses who answered yes to items 1, 2, 7, and 10).

Experiencers. The sample consisted of 54 participants (82% female and 18% male). Twenty-four (44%) of them worked on the afternoon shift and

27 (50%) worked on the night shift (just 3 worked on both, 5.6%). The work areas were Rooms (51%), Guard (24%), Intensive Care (13%), and Neonatology (11%).

Non-experiencers (control). The sample consisted of 46 participants (82% female and 18% male). Twenty-one (45%) of them operated in the Afternoon Shift and 22 (48%) operated in the Night Shift (just 3 operated in both, 6%). The areas were Rooms (50%), Guard (24%), Intensive Care (11%), and Neonatology (15%).

Instruments

Anomalous/Paranormal Experiences in Nurse & Health Workers Survey. This is a 13-item self-report (rated 0 = never to 5 = very often) that we created, inspired by accounts of many nurses in our interviews and by the literature (see Fenwick, Lovelace, & Brayne 2007, 2010, Fenwick & Fenwick 2008, Osis & Haraldsson 1977, O'Connor 2003). It measures frequency of paranormal/anomalous experiences during hospitalization, such as near-death experience, out-of-body experience, sense of presence, an apparition, floating lights, or luminescence; or unexplained object movements, hearing strange noises, voices, or dialogues, crying or moaning, seeing energy fields, lights, or "electric shock" around or out of an inpatient. Other indications might include having had an extrasensory experience, a malfunction of equipment or medical instrument in certain patients, or a spiritual/paranormal form of intervention (e.g., prayer groups, laying on of hands, rites, images being blessed) (Cronbach's Alpha of 0.71). The survey questions could also be split into two types: (1) Nurses as listeners to the paranormal/anomalous experiences from patients and other (reliable) nurses (items 1, 2, 7, and 10), and (2) Nurses as experiencers themselves of the paranormal/anomalous experiences (items 3, 4, 5, 6, 8, 9, 11, and 12).

Maslach Burnout Inventory (MBI) (Maslach, Jackson, & Leiter 1996, Gil-Monte 2002, 2005). Recognized for more than a decade as the leading measure of burnout, the Maslach Burnout Inventory (MBI) addresses three general scales: (1) Emotional exhaustion measures, or feelings of being emotionally overextended and exhausted by one's work; (2) Depersonalization measures, an unfeeling and impersonal response toward recipients of one's service, care treatment, or instruction; and (3) Personal accomplishment measures, or feelings of competence and successful achievement in one's work. The original measure that was designed for professionals in the human services is the MBI-Educators Survey: an adaptation of the original measure for use with educators. The MBI-General Survey is a new version of the MBI designed for use with workers in other occupations. The internal reliability of the MBI is good, with a Cronbach's

alpha coefficient of 0.75 (see Gil-Monte 2002, 2005). The Chilean/ Argentine version adapted from the Mexican-Spanish language version was used for this study (Christian Pérez, Parra, Fasce, Ortiz, Bastías, & Bustamante 2012).

Hallucination Experiences Questionnaire (Barrett & Etheridge 1992, 1994). This questionnaire collects 38 different types of hallucinatory experiences, such as hearing one's own name when nobody is present, hearing one's own thoughts aloud, hearing voices coming from a place where there is nobody, or hearing voices belonging to dead friends or relatives. The frequency with which these phenomena are experienced are rated on a scale from 1 (never) to 5 (very often). In its original version, a Likert-type scale was used, from 1 ("just once or twice ever") to 7 ("at least once a day"). We adapted this questionnaire to insert 16 additional items (N items = 38) in order to collect more hallucination experiences, as well as hypnagogic/hypnopompic hallucination based on each sensorial modality. The internal reliability of the *HEQ* is good, with a Cronbach's alpha coefficient of .93; the test–retest reliability of the Argentine-Spanish version has also been found to be acceptable (Parra & Espinosa 2009, Parra 2010a,b, 2014).

Tellegen Absorption Scale, TAS (Tellegen & Atkinson 1974). This is a 34-item self-report inventory, each item of which requires a 'true' or 'false' response. If a subject answered 'true' to any of these, s/he was instructed to answer two more questions appended to each of the TAS items, which were designed to ascertain: (a) approximately how frequently people engaged in the given TAS activity (creation of opportunity for absorptive activities); and (b) how easy it was for the respondent to do so (capacity for engaging in these kinds of experiences). The internal reliability of the *TAS* is good, with a Cronbach's alpha coefficient of .90; the test–retest reliability of the Argentine-Spanish version has also been found to be acceptable (Parra 2006, 2010a,b).

Procedure

The four questionnaires were given under the pseudo-title *Questionnaire of Psychological Experiences, Forms A, B, C, D* in a counterbalanced order to encourage unbiased responding. (The *Anomalous/Paranormal Experiences in Nurse & Health Workers Survey* was not included here). The set of scales was given in a single envelope to each nurse during a working day. Each was invited to complete the scales voluntarily and anonymously in a single session, selected from days and times previously agreed upon with the nurses. As a part of the recruiting procedure, nurses filled out a consent form.

TABLE 1
Percentage of Nurses Who Report Anomalous Experiences (N = 100)

Anomalous Experiences by Nurses	Percentage
Type 2: Feeling the sense of "presence," an apparition, floating lights or luminescence, or unexplained movements of objects	30
Type 1: Hearing from reliable peers who have witnessed experiences	24
Type 1: Patients with Near-Death Experiences (NDEs)	19
Type 1: After some form of religious intervention (e.g., prayer group), patients recovered quickly and completely from disease	18
Type 2: Hearing strange noises, voices/dialogue, crying or moaning, and finding no source	17
Type 1: Anomalous experiences where children were involved	15
Type 2: "Knowing" intuitively what is wrong with a patient by seeing them, before seeing them, or without knowing medical history	14
Type 1: Having patients with Out-of-Body Experiences	13
Type 2: "Knowing" about anomalous experiences of a patient while *out* of the hospital setting (nurse was home or on vacation)	7
Type 2: Seeing medical equipment failing consistently with certain patients while not with others	6
Type 2: "Mystical" or special "connection" with patients	6
Type 2: Seeing energy fields, lights, or "shock" around, or coming from, a hospitalized patient	4
Type 2: Extrasensory experiences between nurses and patients	2

Results

Regarding APEs collected, survey questions were split into two types: Type 1 are Nurses hearing about APEs from patients and other (reliable) nurses, and Type 2 are Nurses as APE experiencers themselves (see Table 1).

A two-sample KS test was used for correlations. Then nonparametric statistics (Mann-Whittney *U* and Spearman´s *Rho*) were used, since the scores were not normally distributed. The resulting *U* statistic was transformed into a *z* score for the purposes of assigning probability values. A Bonferroni correction method was used to counteract the problem of multiple comparisons, because it was considered the simplest and most

TABLE 2
Comparison of Nurses with Anomalous Experiences and Control Group [1]

	Experiencers [2] ***(n = 54)***			***Control (n = 46)***			
Measures	***Range***	***Mean***	***SD***	***Mean***	***SD***	***z****	***p***
Maslach Burnout Inventory	14–96	58.89	13.08	58.70	12.79	1.48	n.s.
1. Emotional exhaustion	0–41	16.93	8.98	15.30	11.48	.36	n.s.
2. Depersonalization	0–20	4.44	4.37	5.30	5.94	.49	n.s
3. Personal accomplishment	9–42	32.39	7.08	33.26	6.55	.50	n.s.
Tellegen Absorption Scale	0–34	17.46	7.35	12.35	8.25	3.38	.001
F1. Responsiveness to engaging stimuli	0–7	4.24	2.04	2.89	2.19	3.05	.002
F2. Synesthesia	0–7	3.69	1.52	2.74	1.71	2.96	.003
F3. Expanded awareness	0–10	3.26	1.80	2.43	1.99	2.34	.019
F4. Dissociation	0–5	2.39	1.45	1.76	1.50	2.12	.034
F5. Vivid memories	0–4	2.04	1.30	1.30	1.24	2.82	.005
F6. Expanded consciousness	0–4	1.85	1.13	1.22	1.19	2.78	.005
Hallucination Experiences Questionnaire	0–59	12.22	12.40	7.76	12.69	3.36	.001
1. Auditive	0–30	4.17	5.37	3.00	5.50	3.05	.002
2. Visual	0–14	1.94	2.67	1.28	2.24	2.16	.031
3. Gustatory	0–10	1.93	2.24	1.26	2.19	2.12	.034
4. Tactile	0–11	2.02	2.39	.96	2.12	3.99	< .001
5. Olfactory	0–13	2.17	2.66	1.26	2.55	2.51	.012
6. Hypnagogic/hypnopompic	0–16	2.48	3.37	1.41	2.97	2.64	.008

* Mann-Whitney *U* was used.

[1] *p* adjusted to multiple analysis (Bonferroni correction, cutoff point $p = .003$).

[2] Items 3, 4, 5, 6, 8, 9, 11, and 12 were used to create an Index or count or total of APEs, that is nurses as paranormal/anomalous experiencers themselves. Nurses as listeners to APEs from patients and other nurses were excluded.

conservative method to control the familywise error rate of these analyses. All comparisons were one-tailed.

H1 was not confirmed: That nurses reporting these experiences tended to experience greater job stress was ruled out. According to H3, nurses who reported a combination of perceptual experiences and psychological

TABLE 3
Correlation between Burnout and Psychological Absorption in Nurses with Anomalous/Paranormal Experiences and a Control Group [1]

	Absorption (Control n = 46)		Absorption (Experiencers n = 54)	
	Rho	***p***	***Rho***	***p***
1. Emotional exhaustion	.112	n.s.	.285	n.s.
2. Depersonalization	–.126	n.s.	.050	n.s.
3. Personal accomplishment	–.107	n.s.	.092	n.s.
Maslach Burnout Inventory	–.022	n.s.	.175	n.s.

[1] *p* adjusted to multiple analysis (Bonferroni correction, cutoff point p = .003).

absorption (high level) tended to rate greater work stress compared with those who did not report such experiences. Nurses reporting these experiences also tended to report greater psychological absorption, in relation to which hypothesis H2 was confirmed. Also confirmed was H3: Nurses reporting these experiences tended to report greater proneness to hallucinate. Nurses reporting these experiences also tend to report greater psychological absorption (not hallucinating). In relation to absorption, H2 was confirmed as well as H3—that is, nurses reporting these experiences tended to report greater proneness to hallucinate (see Table 2).

A correlation between experiencers (n = 54) and a control group (n = 46) in terms of work stress, psychological absorption, and proneness to hallucinate was carried out. H1 was that nurses who reported these experiences tended to experience greater work-related stress, which was *not* confirmed, and H3 was that nurses who reported a combination of perceptual experiences and psychological absorption (high level) tended to score greater work stress compared with those who did not report such experiences. H2 was that nurses who report these experiences tended to score higher on psychological absorption, which was confirmed: Nurses who have anomalous experiences tend to have higher absorption capacity ($p_{dif} < 0.001$) and scored higher in absorption on all the subscales. H3 was that nurses who reported these experiences tended to score higher in proneness to hallucinate, which was confirmed: Nurses who have anomalous experiences tend to have higher proneness to hallucinate ($p_{dif} < 0.001$) and

TABLE 4
Correlation between Burnout and Hallucination Proneness in Nurses with Anomalous Experiences and a Control Group [1]

	Burnout (Control n = 46)		Burnout (Experiencers n = 54)	
	Rho	***p***	***Rho***	***p***
Auditive	.15	n.s.	.08	n.s.
Visual	.05	n.s.	.21	n.s.
Gustatory	-.16	n.s.	.17	n.s.
Tactile	.34	n.s.	.12	n.s.
Olfactory	.009	n.s.	-.01	n.s.
HG/HP	.19	n.s.	.03	n.s.
Hallucination (Total)	.04	n.s.	.15	n.s.

[1] *p* adjusted to multiple analysis (Bonferroni correction, cut-off point $p = .003$).

scored higher in the six subscales for hallucination (see Table 3).

A separate correlation between job stress and psychological absorption in experiencers and nonexperiencers (the control group) was carried out. No statistically significant result was found, except marginally between absorption and work stress ($r = .22$, $p = .044$). Absorption was also found to be correlated with emotional exhaustion. No statistically significant result was found (see Table 4).

A separate correlation between proneness to hallucinate and psychological absorption in nurse experiencers and a control group (without experience) was carried out. Significant correlations between the control group and the experimental group of nurses were found, although the latter showed a significant result ($p < 0.001$) (see Table 5).

Finally, a correlation between proneness to hallucinate and psychological absorption in nurses on the night shift and the afternoon shift was carried out (see Table 6). Significant differences for the night shift in absorption (NS Mean = 15.47 vs. AS Mean = 14.49, $p_{dif} < 0.001$) and proneness to hallucination (NS Mean = 20.31 vs. AS Mean = 9.76, $p_{dif} < 0.001$) emerged.

As post hoc analysis (predictive for N = 100), a Binary Logistic Regression (Wald method), was used to determine the best predictor among nurses with experience vs. no experience in absorption, job stress, and proneness to hallucinate. The results indicated that the best predictor was

TABLE 5
Correlation between Psychological Absorption and Hallucination Experience in Nurses with Anomalous Experiences and a Control Group [1]

	Absorption (Control n = 46)		Absorption (Experiencers n = 54)	
	Rho	***p***	***Rho***	***p***
Auditive	.53**	< .001	.39**	.003
Visual	.39**	.007	.19	n.s.
Gustatory	.32*	n.s.	.25	n.s.
Tactile	.28	n.s.	.40**	.002
Olfactory	.3[4]*	n.s.	.28*	n.s.
HG/HP	.39**	.007	.29*	n.s.
Hallucination (Total)	.43**	.002	.43**	.001

[1] *p* adjusted to multiple analysis (Bonferroni correction, cut-off point *p* = .003).

absorption in experiencers [β = 0.33, *df* = 3, *p* = 0.005; R2 = 0.12] compared with the control group.

Discussion

The aim of this study was to determine the degree of occurrence of certain

TABLE 6
Comparison between Nurses on Afternoon and Night Shifts [1]

	Afternoon Shift (n = 45)		Night Shift (n = 49)			
Measures	***Mean***	***SD***	***Mean***	***SD***	***z****	***p***
1. Emotional exhaustion	17.80	10.31	14.41	10.34	0.85	.394
2. Depersonalization	4.73	4.59	4.24	5.17	0.40	.689
3. Personal accomplishment	33.20	6.70	32.24	7.19	0.18	.851
Maslach Burnout Inventory	60.87	14.50	55.84	10.90	0.11	.907
Tellegen Absorption Scale	14.49	8.64	15.47	8.14	3.61	< .001
Hallucination Experiences Questionnaire	9.76	14.34	10.31	11.37	3.59	< .001

[1] *p* adjusted to multiple analysis (Bonferroni correction, cut-off point *p* = .003).
* Mann-Whittney *U* was used.

unusual perceptual experiences in hospital settings and their relationship to job stress and psychological absorption. The study was based on a comparison of the degree of job stress and absorption in nurses having these experiences with nurses not having these experiences. Results showed that of the 100 nurses surveyed, 55 of them reported having had at least one anomalous experience in the hospital setting, the most common being the feeling of "presences," hearing strange noises, voices, or dialogues, noticing the tears or groans of patients, and intuitively "knowing" what disease patients have.

There are indications that those experiencing high absorption capacity generally also experience various forms of hallucinatory experiences (Irwin 1985, 1989). The state of absorption could be associated with the focal object of attention, even if imaginary, as it becomes totally real to the experiencer. In this study, however, capacity for absorption appears to be only one of a constellation of related factors. It may be that cognitive style is more important than capacity or skill, as in the case of absorption, which refers to the extent to which a person can be so engrossed in a mental experience at a given moment that reality monitoring is temporarily inhibited. In this study, nurses who reported these experiences tended to score higher on psychological absorption, which confirmed H2. Absorption may also indicate a more habitual use of or recurrent desire to engage in absorbed mental activity, such that habitually poor reality monitoring becomes an enduring aspect of one's cognitive style. Although the nurses who had APEs tended to show a higher proneness to hallucinate and scored higher in the six subscales on hallucination, this need not mean that all APEs are pure hallucinatory fantasies produced by job stress, since some could still be potentially veridical. For example, apparitional and other apparition-like experiences are related to higher levels of reports of absorption and imaginative-fantasy experiences in Argentine undergraduate students (Parra 2010a, 2010b) and paranormal believers/psychic claimants (Parra & Argibay 2007, 2012) in previous studies, indicating that visions of ghosts may be related to cognitive processes involving fantasy and cognitive perceptual schizotypy proneness, which are correlated with each other (Parra 2006).

Hence, in the context of this study, the distinction between purely subjective experiences and those considered paranormal (veridical APE) is irrelevant. Even veridical experiences may depend on the same psychological predispositional factors as do non-veridical experiences (see Irwin 2004 for a phenomenological approach). For example, significant differences in absorption and proneness to hallucination were found for nurses on the night shift, which could indicate both that certain APEs need lower "noise" in perceptual terms and that absorption could be a variable

that is sensitive to certain anomalous experiences such as seeing apparitions or hearing voices. In coincidence with this finding, a previous study had shown that nurses working morning shifts showed higher stress levels and poor sleep quality, indicating that stress level was directly correlated to sleep; this outcome suggested that the higher the stress score, the worse the quality of sleep (Pires da Rocha & Figueiredo de Martino 2010).

Most studies are related to job stress within the health sector, but few relate to absorption, a phenomenon which is almost nonexistent in studies associated with anomalous/paranormal experiences in nurses. However, neither of these variables (absorption or hallucination proneness) was found to be related to job stress (H1 unconfirmed), although it could be argued that the psychological pressure of the working conditions of nurses triggers such anomalous perceptual experiences. Nor were there indicators of psychosis proneness found, even in the experiencers with hallucinatory experiences. As was already mentioned, H2 was confirmed: Nurses with higher psychological absorption also had more anomalous experiences.

The most important limitation of the research was the willingness or unwillingness of nurses to participate in this study, followed by the fact that the responses could have come only from the experiencers. Yet the responses showed an equitable distribution. Our work was also restricted by the unwillingness of the nurses to provide information about their unusual experiences in their health institution. Another weakness observed in this study was the use of the *Maslach Burnout Inventory* which measures higher job stress on a psychopathological dimension instead of an appropriate stress scale. Future studies will be conducted using a stress scale for nurses, which could be more sensitive in measuring such a modulator for some anomalous experiences.

Other cases related the sense of presence, the experience of feeling that one was not alone, despite having the certainty that there really was no one else around; these sensations were usually associated with the dark atmosphere occasioned by strange feelings of loneliness and isolation presented in a context that triggers, initiates, and shapes these experiences. It was also revealed that the sense of presence also is associated with sleep paralysis, a state of involuntary immobility. It occurs before sleep or immediately upon waking (Cheyne 1999) and is also associated with periods of sleep, defined as hypnopompic and hypnagogic imagery, in which brief but vivid visions are experienced in different sensory, visual, auditory, and tactile modalities, whether thermal or kinesthetic (Mavromatis 1987, Sherwood 1999). These characteristics may occur in hospitals during the night shift, when nurse staffing is low and the night time can cause sleep deficit leading to states of drowsiness in which one even can be overcome by

sleep; in such situations there is a decrease in the assessment of reality and increased absorption (Foulkes & Vogel 1965, Pires da Rocha & Figueiredo Martino 2010, Rechtschaffen 1994). This research indicates that most of the experiences described occurred on the night shift. Other experiences were related to post-mortem apparitions that happened shortly after a recent death; these could result from unprocessed psychological reactions or may facilitate the grieving process for the loss of the patient (Osis & Haraldsson 1977, Fenwick, Lovelace, & Brayne 2007, Brayne, Lovelace, & Fenwick 2007).

Approximately 24% of the 100 respondents knew of such experiences by others, but had not had any themselves. The most common experiences reported by patients were near-death experiences (NDE, 19%). About 18% also mentioned an anomalous recovery through a religious intervention (18%). Clearly, spiritual and religious beliefs are a relevant factor (see Osis & Haraldsson 1977). In relation to anomalous experiences with children (15%), these experiences in general play an adaptive and protective function, which can decrease the level of anxiety around death and loss, and can relieve tension related to a memory (Knudson & Coyle 1999, Rojcewicz & Rojcewicz 1997).

A high prevalence of APEs in nurses working in mental health could lead them toward acceptance of the voices sometimes reported by clients. Nurses may listen to these experiences and seek to understand them by perceiving them as similar to their own, rather than fundamentally different, incomprehensible, or even schizophrenic. It could lead nurses to explore where, when, and how the experiences took place. As nurses have APEs, too, professionals can begin to understand the experience as not inherently bad and in need of elimination—rather, it is a common experience that we can accept and try to make sense of.

Generally speaking, the information that most people have about these experiences and their association with psychiatric disorders leads to prejudice and resistance to providing data. Thus there are a number of drawbacks connected with this research in hospital settings as they are conservative institutions, unlikely to be open about their population and even more so with respect to providing information relating to the subject of this investigation. The nurses did reveal their personal and professional experiences and those of their patients, noting that they considered experiences of paranormal phenomena within a hospital setting not to be infrequent or unexpected. They were not frightened by their patients' experiences, or their own, and exhibited a quiet confidence in the reality of the experiences for themselves and the dying person. Acceptance of these experiences, without interpretation or explanation, characterized their

responses. By reassuring them that the occurrence of paranormal phenomena was not uncommon and was often comforting to the dying person, we may assist nurses to be instrumental in normalizing a potentially misunderstood and frightening experience.

In fact, the purpose of conducting a qualitative study in the future will be to explore palliative care nurses' experiences of APEs, to reflect on the influence of these experiences on the care of dying patients and their families and friends, and to contribute to the limited nursing literature on the topic. The response of health professionals, specifically nurses, to APEs is an area not widely reported. Even palliative care literature is mostly silent on this topic. Indeed, the study of APEs is an area of much contention in many fields (Kellehear 2003).

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APPENDIX: PARANORMAL EXPERIENCES NURSING SURVEY

1. Patients admitted to my clinic have reported near-death experiences (or similar) during hospitalization or during clinical interventions (e.g., surgery), that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

2. Patients in my health center have reported out-of-body experiences during their hospitalization that contains details that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

3. During intensive therapy, I witnessed events of a kind of a sense of "presence," an apparition, floating lights or luminescence, or unexplained movements of objects, that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

4. In my clinic (or elsewhere), I witnessed events such as a sense of "presence," an apparition, floating lights or luminescence, or unexplained movements of objects, that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

5. In my clinic, I witnessed events such as hearing strange noises, voices or dialogues, crying or moaning, finding no source for them when checking, that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

6. In my clinic, I had the experience of seeing energy fields, lights, or "shock" around, or coming from, a hospitalized patient.

Yes/No.

If your answer is YES, please expand your story here:

7. Patients admitted to my clinic have reported extrasensory experiences (for example, knowing things about people or situations that they could not know because they were interned and isolated), that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

8. I have had a strange experience such as knowing about the situation of a patient I had previously seen in my office or at work, while being at home or on vacation.

Yes/No.

If your answer is YES, please expand your story here:

9. I have had the experience of seeing medical equipment failing consistently with certain patients while not with others, that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

10. I observed that, after some form of intervention (e.g., prayer groups, laying

on of hands, rites, or other objects, images, beatified saints, rosaries), some patients recovered quickly and completely from disease and/or trauma that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

11. I have had the experience of "knowing" intuitively what is wrong with a patient just by seeing him/her, or even before or without knowing his/her medical history, that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

12. I had an experience that could be defined as "mystical" or a special "connection" in the context of my clinic that I cannot explain as a health professional.

Yes/No.

If your answer is YES, please expand your story here:

13. I have heard of, or met, reliable peers who have witnessed experiences like the ones above, IN A MEDICAL CONTEXT ONLY, that they cannot explain as health professionals.

Yes/No.

If your answer is YES, please expand your story here: