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SYNESTHESIA AND CLAIMS OF PSYCHIC EXPERIENCES: AN EXPLORATORY STUDY

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Abstract

Synesthesia, or cross modal processing (e.g., hearing colors, seeing tastes), has been speculated to be related to some claims of psychic phenomena. In this exploratory study I reanalyzed data collected from fifteen students that were taking a parapsychology class a few years ago at the University of Virginia. The students filled a questionnaire asking for selected psychic experiences that emphasized aura vision. In addition, the students were asked to fill Tellegen's Absorption Scale, which has a factor-analytically derived subscale of synesthetic experiences. It was predicted that those participants having psi and psi-related experiences would obtain higher synesthesia scores than the non-experiencers. The results for four experiences with enough replies to conduct meaningful analyses were evaluated through a median test assessed by the Fisher Exact Probability Test. There were positive associations between the synesthesia scores and mystical/spiritual experiences ($p = .07$), apparitions ($p = .05$), out-of-body experiences ($p = .03$), and dream ESP ($p = .03$). These results were associated with the following values of the phi estimated coefficient, respectively: .38, .42, .48, .50. In addition, there were also positive correlations between synesthesia scores, an index of experiences, and frequency of individual experiences. The low number of experiencers and the lack of descriptions of the experiencers in question are a methodological limitation of the present study.

Introduction

Synesthesia, is a phenomenon in which a stimuli in a sensory modality elicits a response in a different modality. Cases of color hearing are one of the most common examples of this cross-modality of perception (Marks, 1975), but there are also reports of experiences in other modalities such as feeling the texture of colors (Simpson & McKellar, 1955). As described by Shereshevskii, the famous patient of Luria (1969): "I recognize a word not only by the images it evokes, but by a whole complex of feelings that image arouses . . . Usually I experience a word's taste and weight . . . What I sense is something oily slipping through my hand . . . or I'm aware of a slight tickling in my left hand caused by a mass of tiny, light-weight points."

The descriptive, theoretical, and research literature on the subject is large, as seen in the pioneering publications of Calkins (1893), Flournoy (1893), and Galton (1883), in the later single case studies of Collins (1929), Lemaître (1904), Myers (1911), and Ostwald (1964), and in more recent and systematic work exploring particular correlates and individual differences of the experience (e.g., Cytowic, 1989; Domino, 1989; Rader & Tellegen, 1981, 1987; Svartdal & Iversen, 1989).

Marks (1975) has cited percentages of the incidence of color-hearing from German studies ranging from 10 to 20%. Other assessments of the incidence of general synesthesia are 7% (Shindell, 1984) and 23% (Domino, 1989). The last two studies used the same questionnaires and definition criteria but relied on different populations, introductory psychology students and upper division and graduate students engaged in creative work and

king courses of art. In addition, synesthesia has been correlated to absorption (Rader & Tellegen, 1987), eidetic imagery (Glickson, Salinger, & Roychman, 1992) and creativity (Domino, 1989). Earlier descriptive single case studies suggested that individuals with synesthesia were endowed with good imagination (Collins, 1929) and intelligence (Riggs & Arkowski, 1934).

Synesthesia has been related to psychic phenomena. According to Frederic W.H. Myers (1903): "The synesthesia . . . may connect in unlooked-for ways man's responses to his physical and to his transcendental environments" (Vol. 2, p. 270). Myers related synesthesia to a more basic and primitive type of perception connecting different types of experiences, a concept similar to the ideas of some synesthesia theoreticians (e.g., Cytowic, 1993/1994; Cytowic, 1975; on ESP see Duplessis, 1966). Later researchers have speculated on relationships between synesthesia and ESP-processing (Duplessis, 1966, 1968; Schwartz, 1963), dermo-optic perception (Duplessis, 1975), auras (Kenneth, 1933), OBEs (Hunt, 1935; Irwin, 1985a), and mystical experiences and other altered states of consciousness (Irwin, 1984). The assumption in these speculations is that the above mentioned phenomena are some of its features are mediated through or depend in part on cross-modal processing.

Speculations and observations of Duplessis (1966, 1968) are particularly interesting in regard. She has discussed synesthesia as a "mode of emission of an agent's image" (Duplessis, 1966, p. 49, my translation), meaning that a synesthetic transformation of a pathic signal is a usual expression of ESP-acquired information. She has reported qualitative ESP tests in which ESP reception was presumably facilitated by the use of sensory difficulties different from those of the perceiver's responses. Duplessis (1966) also lists several similarities between synesthesia and ESP. In her view both phenomena are: simultaneous, maybe hereditary, happen more frequently when the individual is relaxed, more prone regarding emotional content, predominantly visual, related to creativity, and to sensory processes.

In addition, and following Cytowic's (1993/1994) characterization of synesthesia as idiosyncratic, numinous, and memorable, it may be argued that many ESP experiences may be similarly described. However, a notable difference is the apparent consistency of synesthetic associations over time in the same individual in laboratory studies (Baron-Cohen, Wyke, & Binnie, 1987; Cytowic & Wood, 1982; Svartdal & Iversen, 1989) as opposed to the lack, or low level, of consistency generally shown by individuals in ESP testing conditions.

The link between synesthesia and psychic phenomena is absorption. Both experiences have been correlated to absorption in past work (Irwin, 1985b; Rader & Tellegen, 1987). Synesthetic experiences are one of the factors that form the absorption scale (Tellegen, 1992; Tellegen & Atkinson, 1974).

In the exception of OBEs studies conducted and reviewed by Irwin (1985a), no systematic empirical work supporting the relationship between synesthesia and claims of psychic experiences has been reported. The present report is an exploratory attempt to study the relation between synesthesia and psi claims both in terms of particular experiences and in relation to frequency of psi claims. The original study was intended to collect reports of auras and their characteristics, and a few other phenomena, to relate them to absorption. But due to the small number of participants and to other pressing concerns, the data was not analyzed over several years. Although the results of the present study regarding synesthesia are averaging, they are based on a small and unrepresentative sample and represent only a first step designed to see if further exploration of this issue is warranted.

Method

Participants

The participants were undergraduate students in a course on psychic phenomena conducted at the University of Virginia. They may be presumed to have a particular interest in parapsychology because of their enrollment in the course, which was an elective.

Questionnaires and Procedure

The author delivered a lecture about parapsychology to the class, with emphasis on spontaneous phenomena and the research conducted at the University of Virginia's Division of Parapsychology, where the author was a staff member at the time. After the lecture he left two questionnaires with the instructor to be completed by the students. A few days later the instructor returned the completed questionnaires.

One of the questionnaires focused on reports of auras, but included additional questions on other psychic experiences and related phenomena (this questionnaire has been used in previous work, Alvarado & Zingrone, 1993). Most of the questions were taken from Palmer's (1979) questionnaire. It included items about auras, apparitions, dream ESP, mystical/spiritual experiences, out-of-body experiences, lucid dreams, practice of meditation and the experience of seeing with eyes closed. The latter question was used by Blackmore (1984) presumably to tap into visual imagery.

The other questionnaire was a buffered version of Tellegen's Absorption Scale (Tellegen & Atkinson, 1974). Analyses of the scale have shown that one of its factors is formed of synesthetic experiences (Tellegen, 1981, 1992; Tellegen & Atkinson, 1974). This subscale -- consisting of seven items asking questions about cross-modal translations of textures, colors, noises, memories, music and smells -- has correlated positively with independently assessed synesthetic experiences (Rader & Tellegen, 1981). It has also been used by Irwin (1985b) to successfully differentiate individuals with and without out-of-body experiences.

Both questionnaires were printed separately and given to the students at the same time.

The data was analyzed by dividing the synesthesia scores into those above and those at or below the median for each claim (synesthesia scores $Md = 5$). The difference was assessed with the Fisher's Exact Probability Test (1t). In addition, I computed the Phi Estimated, recommended by Rosenthal and Rosnow (1991, pp. 527-528) as an effect-size measure. Spearman Rho correlations were used to analyze the relationship between synesthesia scores and frequency of experiences.

Results

Returns and Respondents

Only fifteen students returned the questionnaires. Sixty percent were female, and their ages ranged from 18 to 22 ($Md = 21$).

Incidence of Experiences

Table 1 shows the percentages of claims of experiences and their comparison to Palmer's (1979) larger sample of students of the same university. Apparitional and dream ESP experiences were claimed more frequently than most of the others, except for lucid dreams. There were only two (13%) reports of auras in the sample.

There was a general trend for higher frequencies in the present study as compared to Palmer's. However, out of seven comparisons with Palmer's sample, six (86%) did not show significant differences. Only the comparison for claims of seeing apparitions, was significant favoring the present study.

Table 1
Incidence of Psi and Psi-Related Claims in Present Study and in Palmer's (1979) Study

Experience	Present Study (N = 15)	Palmer (1979) (N = 268)
OBE	27%	25%
Apparitions	53%*	17%*
Mystical/spiritual	33%	35%
Dream ESP	47%	38%
Auras	13%	6%
Lucid dreams	80%	71%
Practiced meditation	27%	9%
Seeing with eyes closed	13%	--

*Fisher's Exact P = .005 (2t), phi estimated = .16

Synesthesia-Related Analyses

Table 2 includes the synesthesia scores of the absorption scale for four experiences with enough numbers to perform an analysis.

Table 2
Synesthesia Mean Scores and Incidence of Psi and Psi-Related Experiences

Experience	Present	Absent	Fisher's Exact P (1t)	Phi Estimated
Mystical/spiritual	5.0	4.0	.07	.38
Apparitions	6.0	4.0	.05	.42
OBEs	6.0	4.0	.03	.48
Dream ESP	7.0	3.0	.03	.50

All of the results were in the predicted direction, with experiencers showing higher scores than non-experiencers. However, only three of them were significant. The Phi Estimated shows that dream ESP had the strongest effect, followed by OBEs.

As seen on Table 3 there were significant relationships between synesthesia scores and frequency of psi and psi related experiences. Frequency was rated on a scale ranging from 1 (no experience) to 6 (more than 20 experiences). The synesthesia scores ranged from 1 to 7 (Md = 5). As before (Table 2) the strongest effect was that related to dream ESP. However, the small number of analyses on Table 2 do not allow for a proper comparison of results.

Table 3
Synesthesia Scores and Frequency of Experiences

Experience	rs	N	P (1t)
Dream ESP	.78	15	.0004
Seeing with eyes closed	.62	15	.007
Mystical/spiritual	.59	15	.01
OBEs	.56	15	.02
Lucid dreams	.51	15	.03
Apparitions	.47	15	.04

An index of experiences formed by adding the overall number of experiences per participant (including : aura, lucid dreams, mystical/spiritual experiences, practice of meditation, apparitions, dream ESP, OBEs, and seeing with eyes closed) correlated positively with synesthesia scores ($r_s(15) = .76, p = .001, 2t$). In addition, the rest of the absorption scale correlated with the synesthesia scores ($r_s(15) = .69, p = .004, 2t$).

Discussion

Although the results of this preliminary study are encouraging, the small sample size limits the interpretation of the results. It also prevents from conducting meaningful analyses of interactions between experiences, synesthesia scores, and sex and age. Similarly, the fact that we have no descriptions of the experiences in question (except for the auras) suggests caution in the interpretation of what a yes reply means in this context. I plan to conduct further research with larger samples taking into consideration qualitative descriptions of the experiences in question. There is also a need to refine the measurement of synesthesia in terms of making sure we are dealing with perceptual-like experiences and not with associations that do not elicit particular sensory modalities. In this regard, it would also be useful to assess synesthesia's type, variety, consistency, and intensity. Further survey work would be useful in this regard, as would be laboratory tests for ESP and for synesthesia.

Nonetheless, these findings suggest that the experiences in question are related or mediated in some way to synesthetic processing. Maybe, as suggested by Myers (1903) and by Duplessis (1966), both psi and synesthesia represent a more basic form of perception that underlies a variety of phenomena, both psychological and parapsychological. We may also see the relationship in terms of information processing, that is, synesthetic processes may mediate the manifestation of ESP (or other phenomena's) sensations and impressions. This has been suggested to be the case with OBEs (Hunt, 1985; Irwin, 1985a). Duplessis (1966, 1968) and Schwartz (1963, pp. 192, 194) imply that distortions of ESP responses in telepathic drawings involve a synesthetic component. Warcollier's (1938) mention of changes in sense modality in telepathic reception may be interpreted in this way, but he prefers a model based on distortions caused by other cognitive noise such as the interference of memory images and the production of associations to the ESP message. In fact, this explanation may account for much of what has been interpreted in the past as evidence of cross-modal perception or translation in the reception of ESP information. (Perhaps these ideas could be studied further in the imagery characteristic of Ganzfeld mentation. Unfortunately, most researchers in this area have shown little interest or appreciation for the phenomenological richness of the experiences of participants in this form of sensory attenuation. To some extent, Sargent's (1980) work is an exception).

The problems of interpretation of these qualitative studies and observations that defend the concept of synesthetic-image transformation as a mode to express ESP suggest that there is a need to refine the definition and measurement of synesthesia in terms of making sure that we are dealing with perceptual-like experiences, and not with other mental phenomena such as associations. Students of synesthesia have made this distinction before (e.g., Cytowic (1993/1994), but the issue is a problematic one, as discussed by Richardson (1969) in terms of the image-percept distinction in imagery research.

Perhaps further work may bring the experiencers into the laboratory to be tested for synesthesia and for ESP. We may also explore the incidence of psi experiences in synesthetes, and thus enlarge the scope of the case collection work of Cytowic (1989) and the survey reported by Dornino (1989) regarding synesthetic experiences. In addition, we may also want to identify and study common correlates among synesthesia and psi claims. Work such as this is congruent with the psychological individual difference studies prevalent in recent survey studies (e.g., Irwin, 1985b), as well as in parapsychology in general (Schmeidler, 1988).

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