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Research Note: Is the I Ching Process Cybernetic or Non-Cybernetic?

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Abstract: The so-called '*I Ching* experiment' has been conducted twice under controlled laboratory conditions (see Storm & Thalbourne, 1998-1999, 2001a). While most of the results of those two studies have supported key aspects of M. A. Thalbourne's (in press) theory of psychopraxia, the theory suggests that psi may be a cybernetic or mediational process (i.e., that psi may involve some kind of mechanical transference, or processing of information, for an effect to take place). Thus far, this claim has not been tested. This report compares two samples—each in a relatively different condition (viz., procedurally complex and procedurally non-complex)—to determine whether the *I Ching* process is cybernetic. No evidence was found either way that the *I Ching* process involved information transfer or was a goal-oriented process. As a psychopractic effect, there was no evidence that the *I Ching* process is a paranormal effect that can be compared to synchronicity (see Jung, 1960) or *conformance behavior* (see Stanford, 1978).

Psychopraxia and Goal-Orientation

An initial study (Storm & Thalbourne, 1998-1999) and a replication study (Storm & Thalbourne, 2001a) have been conducted using the *I Ching* (an ancient Chinese system of divination).[4] Thus far, most of the results from the two studies have supported key aspects of Thalbourne's (in press) theory of psychopraxia, namely, that (i) ESP and PK may be the same process (referred to as psychopraxia), (ii) that psi may be better described as the fulfillment of a 'pro attitude' (a pro attitude is an orientation towards a favored outcome), and (iii) paranormal effects occur only if 'sufficient and necessary conditions' are present.

However, Thalbourne's theory also suggests the possibility that psi may be a cybernetic or mediational process (i.e., that psi involves some kind of mechanical transference, or processing of information, that is necessary for an effect to take place). The theory allows for information processing to the extent that such processing fulfills the obligation of being a necessary condition in a given situation.

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[3] This article was adapted from a chapter in the author's Ph.D. thesis.

[4] A recent classroom study (Storm, 2002) carried out for didactic purposes gave a non-significant hit-rate (P = 26%, p = .535), almost certainly because it was deficient in the number of participants (N = 43), which were tested as a group rather than independently, and also because of the pressure to succeed at demonstrating a parapsychological phenomenon in a less-than-desirable environment. Data from that study are therefore not used in the present study due to the possibility that the outcome was the result of artifacts caused by less than ideal conditions.

Some paranormal phenomena may present in such a way as to suggest 'goal-orientation' (explained shortly), leaving open the possibility that subtle information processes may well occur in psychopractic action, but these may go undetected. Thalbourne's hypothesis that information processing may be involved in the *I Ching* process has not been tested.

While Thalbourne (in press, p. 55) states that psi is a goal-oriented process, he later prefers that psychopraxia be termed a 'pro attitude serving' process (p. 66). Storm and Thalbourne (2000) state that "a person may be said to have a pro-attitude towards state **S** when they would prefer **S** rather than –**S** [**not S**] if those two alternatives were to be brought to their attention" (p. 280). Since Irwin (1999, p. 160) describes goal-orientation as *non-mediational* (i.e., not requiring a flow of information by various means such as is posited in the "cybernetic" theories), exo-psychopraxia (otherwise known as psi) may be a *mediational* process.

The term goal-orientation is usually used to describe psi as a teleological process—a process that involves an end or goal that is achieved. For Kennedy (1995), the "basic goal-oriented psi hypothesis assumes that psi phenomena (a) depend on a person's motivation for or benefit from the outcome of a random event, and (b) do not depend on the complexity or information-processing aspects of the random process" (p. 47). Theories that fulfill these criteria are described by Irwin (1999) as "noncybernetic"—that is, they "abandon the notion of information flow" (pp. 168-170). Irwin has classified only two theories as having psi as a goal-oriented process in this sense. These are Jung's (1960) synchronicity theory and Stanford's (1978) *conformance behavior* model.

Stanford (1977) has observed that the results of many PK experiments indicate that psi might not work by means of information transfer or processing, as do normal cognitive processes. Kennedy (1978, 1995) also found that ESP and PK do not necessarily involve information processing. There appears, then, to be some justification for models of paranormal 'process' that can be described as *non-mediational*. That is, psi may not necessarily take the form of information flow between 'object' and 'subject'—environment and individual—which may, for example, depend on wave-forms, particles, or so-far undiscovered forces (see Stokes, 1987, pp. 111-135, for a review of some of these theories). In fact, using theories or models that suggest information processing in one form or another to explain paranormal knowledge acquisition or action may simply be a prejudice of conventional parapsychological thinking.

However, Thalbourne (in press) reports that the term goal-oriented can be used in two ways: (a) "psi is goal-oriented in the sense that it tends to bring about a 'goal', that is, the particular *outcome* of a system *regardless of the complexity of the mechanism that must be influenced to produce that outcome*" (p. 55), and (b) "*psi effects constitute the fulfillment or satisfaction of an intention, goal, need, or 'disposition' of the organism*" (p. 55). The former refers to the actual outcome or "specific state of a target-system," while the latter refers only to a "mental representation" or "design," but not the achieved or manifested state. Thalbourne uses goal-orientation in this latter sense.

In the theory of psychopraxia, therefore, the goal *per se* is something akin to an image of a goal or need, etc., that is yet to be achieved, but is not the final

manifestation of that goal or need. Given the examples presented by Stanford (1974a, pp. 35-38) of psi goals achieved, it becomes apparent that many goals *per se* cannot be visualized in explicit detail. In some cases, the time and place of their occurrence cannot be imagined. Hence, in conceptualizing psi, Thalbourne (in press) shows a preference for "pro attitude serving" and marginalizes the term "goal-oriented" due to its occasionally misleading connotation (p. 66). In many cases, we can go on to say that we can regard manifested psi as an achievement that is beyond the ken and acumen of the humble ego. Its capacity to plan and execute the goal, may be limited, yet psi manifests in, literally, the most *unimaginable* ways, which may nonetheless be attributable to the Self theorized as incorporating the unconscious component of the personality.

Thus, the poverty of the term goal-orientation becomes apparent when we try to characterize psi as something that can be planned in consciousness and executed in accordance with that plan. If goals can be set, they may exist in consciousness only as a sketchy idea (e.g., as a pro attitude), but it belongs to the machinations of a higher, undoubtedly unconscious, process for its ultimate conceptualization and subsequent execution. The hypothesis that this unconscious process describes the workings of the *potentially* empirical self is made with good reason once the limits of the conscious ego are realized.

It is perhaps not surprising that Stanford (1990, pp. 58–59) ultimately became critical of the term goal orientation, and even though Thalbourne dropped the term goal-oriented altogether, it is reasonable to use the term 'goal' if we limit it to a representation. There is a sense that the basic features of the typical psi target can be visualized in most experiments (notwithstanding the complexity that may entail in its representation), and that goal would therefore be a goal clear and proper, but in other cases, symbolic, meaning-oriented, and/or verbal representations of one's goals may have to suffice. Goals as mental representations may often be mere symbols only of more complex, inexpressible, contingencies that underlie the psi process. Thus, terminologically, the word 'goal' can and should be referred to in a figurative, metaphorical, and/or implicit sense, as opposed to a (not altogether inaccurate) literal, analogical, and/or explicit sense.

The *I Ching* System

As a divinatory system the *I Ching* consists of a book of 64 hexagrams (six-line symbols) and their corresponding 'readings'. The user poses a question, throws three coins six times (the modern technique), which generates a hexagram reading depicting a scenario (with commentary) that allegedly describes the past, present, and future life situations of the user in the context of the question (the *I Ching* procedure has been described elsewhere—see Storm & Thalbourne, 1998-1999, 2001a).

The fundamental premise of the *I Ching* is that an anomalous (ostensibly paranormal) process underscores its function, with the implication that the structure of the system is somehow attuned to certain individuals. Jung (1989, p. *xxii*) argued that chance is given a free rein in the process and that an acausal principle underlies the outcome, but his claims are driven by certain assumptions made under the rubric of synchronicity theory (see Storm, 1999).

It is equally valid to argue the case that the rules of chance can actually be subverted by intention (conscious or unconscious) so that the effects of chance are reduced. The outcome (i.e., the hexagram reading) may then be 'veridical' in nature. That is, the pre-disposed participant introduces his or her own influence into the system, so that human involvement—the crucial part of the *I Ching* process—may anomalously generate an *appropriate* reading. Thus, the system may be dependent on other than normal processes (i.e., a paranormal process).

Testing Psychopraxia as a Mediational Process

It may be possible to test the hypothesis that psychopraxia is a mediational process in the *I Ching* experiment if the so-called 'hexagram-hit-rate' in Storm and Thalbourne's (2001a) follow-up study ($Sample_{99}$) is *lower* than it was in Storm and Thalbourne's (1998-1999) initial study ($Sample_{98}$). This hypothesis is plausible because, unlike the old Hexagram Descriptor Form (Form A; see APPENDIX A) used in 1998, the new Hexagram Descriptor Form (Form B; see APPENDIX B) used in 1999 does not contain the 64 hexagram symbols. If paranormal mediation is based on information processing then the new descriptor form (viz., Form B), being harder to use (since it has no symbols), would mean an additional, *anomalous* step must be taken by the participants to reach their goals of successfully achieving a hexagram hit.

If there is a significant directional difference in hitting between the two samples, then exo-psychopraxia might be a process involving information processing. The significantly lower hit-rate of $Sample_{99}$ would be the direct result of a processing delay for a sufficient number of participants in which the psi function was slowed down, so much so that the *I Ching* process would be inhibited for those cases.

While a *slowed* effect does not necessarily mean *no* effect, it is theoretically possible that the additional complexity of Form B could have adverse effects in consciousness on confidence, and self esteem, and so on, thus eliciting performance anxiety or related effects, especially in those participants who are familiar with the *I Ching*, but not familiar enough to know all the symbols by heart. Unconscious adverse effects may be the direct result of these conscious effects. These may include physiological and psycho-physiological interference that disrupt muscle coordination during the coin-throwing and/or psychological disturbances that misdirect or misinform the pertinent mental processes involved in the psi component of the *I Ching* process.

It is therefore hypothesized that the hexagram hit-rate using Form B is lower than the hexagram hit-rate using Form A. Given that the directional hypothesis is supported, Rosenthal and Rubin's (1989, p. 334) procedure for testing the statistical significance of the "heterogeneity" of the obtained π values will be used.

The Analysis

Planned Analysis: In relation to paranormal performance in the *I Ching* experiment, Storm and Thalbourne's (1998-1999) initial sample ($Sample_{98}$) produced an overall hit-rate of 32% on hexagram-hitting (P_{MCE} = 25%), which was described as

"marginally significant" (p. 109; $p = .067$). In a follow-up research note (Storm [& Thalbourne], 2001b), a direct test of the corresponding effect size was found to be significant ($\pi = .59, p = .048$; where $\pi_{MCE} = 0.50$).

In the second study ($N = 107$; Storm & Thalbourne, 2001a), the observed proportion of hits for $Sample_{99}$ was 0.35 ($P = 35\%$, $p = .015$) and π was 0.61 ($p = .012$).

As can be seen, $Sample_{99}$ actually scored higher on average (35%) than $Sample_{98}$ (32%), which is not in the direction hypothesized. The results do not suggest that the *I Ching* process (and therefore psychopraxia) is mediational. However, without further testing, we have no evidence that it is a goal-oriented process either. Therefore, Rosenthal and Rubin's (1989, pp. 334-335) diffuse-testing procedure was used to test the difference between hit-rates: "Diffuse tests assess the statistical significance of the heterogeneity of the π's by means of the following chi-square test on $m - 1$ *df*, where m is the number of independent studies" (Rosenthal & Rubin, 1989, p. 334):

$$\chi^2(m-1) = \Sigma[(\pi_i - \pi\ \ )/SE_{(\pi)i})]^2 \qquad (1)$$

where

$$\text{Mean } \pi = \Sigma w_i \pi_i / \Sigma w_i \qquad (2)$$

and

$$w_i = 1/(SE_{(\pi)i})^2 \qquad (3)$$

and

$$SE_{(\pi)} = N^{-1/2}[\pi(1-\pi)]/[P(1-P)]^{1/2} \qquad (4)$$

The proportion of hits for $Sample_{98}$ is $P_1 = .323$, and for $Sample_{99}$ is $P_2 = .346$. Using the formula for calculating π, $\pi = P(k-1)/[1 + P(k-2)]$, $\pi_1 = .589$ and $\pi_2 = .613$. Formula (4) is used to find $SE_{(\pi)1} = .054$ and $SE_{(\pi)2} = .048$. Formula (3) is used to find $w_1 = 342.94$ and $w_2 = 434.03$.

Formula (2) is used to find:

$$\text{Mean } \pi = [(342.94 \times .589) + (434.03 \times .613)] \div [342.94 + 434.03] = .602$$

To test the heterogeneity of the two samples, we use Formula (1):

$$\chi^2(2-1) = [(.589 - .602)^2 \div .054^2] + [(.613 - .602)^2 \div .048^2] = .110 \ (p = .740)$$

The difference between the two hit-rates is not significant. There is no compelling evidence that the *I Ching* process is goal-oriented.

Post Hoc Analysis: Recalling the data from the first study ($N = 93$; Storm & Thalbourne, 1998-1999), the observed proportion of hits for $Sample_{98}$ was 0.32 ($z = 1.50$, $p = .067$). In the second study ($N = 107$; Storm & Thalbourne, 2001a), the observed proportion of hits for $Sample_{99}$ was 0.35 ($z = 2.17$, $p = .015$) and π was 0.61 ($p = .012$). Using an alternative method, which considers only the z scores, (see

Solfvin, Kelly, & Burdick, 1978, p. 105), the $Z_{diff.}$ formula was applied, where $Z_{diff.} = [Z_1 - Z_2]/\sqrt{2}$). It was found that $Z_{diff.} = 0.47$ ($p = .319$), which again indicates a non-significant difference.

Conclusion

The *I Ching* is an ancient Chinese form of divination based on the principle of duality, the yin and the yang. From a simple yin/yang polarity are derived the 64 hexagrams. Hexagram symbols carry with them certain meanings, which come in the form of readings. The traditional view is that in the uncertain flux of world events is the possibility of knowing that in the present are the seeds for solutions in the future, and that these solutions can be derived through divination.

Replicated evidence was found in two studies suggesting that an anomalous process underlies the *I Ching* process. Thus there might be some validity in the traditional view concerning the *I Ching* system of divination, but we have no evidence that the process is cybernetic or non-cybernetic. Like conventional non-cybernetic theories of goal-oriented psi (e.g., synchronicity and *conformance behavior*), which dispense with the idea that information is needed to assist the psi process, Thalbourne claims that the theory of psychopraxia makes allowances for the fact that information processing may still take place. It was proposed that this process could be tested by comparing psi performances in two independent *I Ching* studies, using two different Hexagram Descriptor Forms—Form A and Form B, respectively—the latter form being more complex.

In the present study the paranormal *I Ching* effect was not shown to be a mediational process, but it was not shown to be a goal-oriented process either. It was suggested above that some paranormal phenomena merely present in such a way as to suggest 'goal-orientation' leaving open the possibility that subtle information processes may well occur in the psi process, but these may go undetected. It is possible therefore that the above analyses failed to detect a mediational step because the information processing component was too subtle and therefore did not inhibit the *I Ching* process in any detectable way (i.e., detectable through the 'blunt instrument' of statistical testing). Be that as it may, testing so far has not allowed us to conclude that psychopraxia may be a cybernetic process (as hypothesized). As it happened, the larger effect in $Sample_{99}$ is faintly suggestive of a goal-oriented process (though not proved in the post hoc analysis above). Furthermore, since Jung's (1960) synchronicity theory and Stanford's (1978) *conformance behavior* model have not conclusively been found to be goal-oriented theories either, we cannot yet say what the real nature of the psi process is—whether it is cybernetic or non-cybernetic.

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FORM A

Lately, or right now, I feel:

[ ]	Creative, Motivated	[ ]	Adaptable, Helpful	[ ]	Retroactive, Concerned	[ ]	Changeable, Transformed
[ ]	Receptive, Accepting	[ ]	Negligent, Habituated	[ ]	Empowered, Tested	[ ]	Spiritual, Fulfilled
[ ]	Troubled, Disorganised	[ ]	Rejuvenated, Generous	[ ]	Progressed, Open	[ ]	Shocked, Aware
[ ]	Inexperienced, Uneducated	[ ]	Contemplative, Cautious	[ ]	Censored, Compromised	[ ]	Meditative, Peaceful
[ ]	Expectant, Apprehensive	[ ]	Hindered, Provoked	[ ]	Loyal, Dedicated	[ ]	Developed, Awakened
[ ]	Conflicted, Tense	[ ]	Gracious, Idealistic	[ ]	Opposed, Contradicted	[ ]	Subordinate, Disadvantaged
[ ]	United, Organised	[ ]	Crest-fallen, Disabled	[ ]	Obstructed, Threatened	[ ]	Abundant, Accomplished
[ ]	Sociable, Cooperative	[ ]	Renewed, Optimistic	[ ]	Liberated, Delivered	[ ]	Mobile, Seeking
[ ]	Restrained, Disappointed	[ ]	Innocent, Truthful	[ ]	Reduced, Impoverished	[ ]	Gentle, Influential
[ ]	Behaviour-oriented, Self-aware	[ ]	Strong, Vital	[ ]	Advantaged, Beneficent	[ ]	Joyous, Generous
[ ]	Prosperous, Fruitful	[ ]	Nurturant, Reappraising	[ ]	Resolute, Intentional	[ ]	Fragmented, Ego-aware
[ ]	Stagnant, Unassisted	[ ]	Stressed, Challenged	[ ]	Tempted, Seduced	[ ]	Limited, Thrifty
[ ]	Unselfish, Caring	[ ]	Endangered, Unlucky	[ ]	Community-oriented	[ ]	Insightful, Unbiased
[ ]	Supreme, Successful	[ ]	Obligated, Dependent	[ ]	Advanced, Fortunate	[ ]	Conscientious, Conservative
[ ]	Modest, Inhibited	[ ]	Attractive, Liked	[ ]	Oppressed, Exhausted	[ ]	Balanced, Prospective
[ ]	Enthusiastic, Harmonious	[ ]	Steadfast, Matured	[ ]	Wise, Hospitable	[ ]	Hopeful, Reserved

"Lately, or right now, I feel . . ." (Form B)

Lately, or right now I feel:

[ ] Creative, Motivated
[ ] Receptive, Accepting
[ ] Troubled, Disorganised
[ ] Inexperienced, Uneducated
[ ] Expectant, Apprehensive
[ ] Conflicted, Tense
[ ] United, Organised
[ ] Sociable, Cooperative
[ ] Restrained, Disappointed
[ ] Behavior-oriented, Self-aware
[ ] Prosperous, Fruitful
[ ] Stagnant, Unassisted
[ ] Unselfish, Caring
[ ] Supreme, Successful

[ ] Adaptable, Helpful
[ ] Negligent, Habituated
[ ] Rejuvenated, Generous
[ ] Contemplative, Cautious
[ ] Hindered, Provoked
[ ] Gracious, Idealistic
[ ] Crest-fallen, Disabled
[ ] Renewed, Optimistic
[ ] Innocent, Truthful
[ ] Strong, Vital
[ ] Nurturant, Re-appraising
[ ] Stressed, Challenged
[ ] Endangered, Unlucky
[ ] Obligated, Dependent

[ ] Retroactive, Concerned
[ ] Empowered, Tested
[ ] Progressed, Open
[ ] Censored, Compromised
[ ] Loyal, Dedicated
[ ] Opposed, Contradicted
[ ] Obstructed, Threatened
[ ] Liberated, Delivered
[ ] Reduced, Impoverished
[ ] Advantaged, Beneficent
[ ] Resolute, Intentional
[ ] Tempted, Seduced
[ ] Community-oriented
[ ] Advanced, Fortunate