**Journal of Go Studies**
**Volume 20, No. 1**
**2026**

# 바둑학연구

2026

국제바둑학회

발행처: 국제바둑학회
주 소: 경기도 용인시 처인구 명지로 116, 명지대학교 바둑학과 내 학회사무국
전 화: 031-330-6255
발행인: 남치형
주 소: 경기도 용인시 처인구 명지로 116, 명지대학교 바둑학과

인쇄일: 2026년 5월 31일
발행일: 2026년 5월 31일
인 쇄: 인쇄와 디자인 (02-957-7744)
편 집: 도서출판 안북스 (02-923-5930)



『바둑학연구』는 국제바둑학회의 기관지로서 연 2회 발행하며, 바둑 분야의 개관논문, 경험논문, 사례분석 연구를 게재한다. 본 학회지는 학회 회원에게 무료로 배부하며, 비회원에게는 일정한 구독료를 받고 배부한다.

**Journal of Go Studies vol. 20 No. 1**

# Contents

**The Social Landscape of Go**



**Book Review**

# Exploring Structural Correspondences Between Go Playing Style and Szondi Drive-Profile Scores

Arthur Mary, independent researcher
PhD in clinical psychopathology

## Abstract

This article investigates whether recurrent formal structures in Go gameplay can be statistically related to structured configurations derived from the Szondi test. Rather than treating psychological constructs as directly observable entities, we approach both playing style and drive organization as constructed systems of indices, each governed by internal regularities. The study examines inter-domain correlations between quantified stylistic dimensions of play (territoriality, orthodoxy, thickness, aggressiveness) and drive-based variables (acting index, symptomatic response rates, factor-level distributions), based on a shared participant corpus. Statistical analyses test linear and non-linear associations across domains. The results suggest non-random correspondences between specific stylistic tendencies and particular drive-related configurations. These findings do not warrant psychological reductionism; instead, they suggest that strategic behavior in Go may function as a structured expressive field in which latent organizational constraints become formally instantiated. From an epistemological perspective, the study argues that correlations between heterogeneous index systems do not validate underlying constructs directly, but rather suggest structural compatibility between distinct formalizations of human behavior.

**Keywords:** Go game analysis; Szondi test; playing style metrics

The aim of this study is exploratory, abductive and heuristic: we investigate whether statistical regularities emerge between two formally structured coding systems (Go style metrics and Szondi-derived scores), with the goal of discussing hypotheses about possible structural correspondences. Cognitive psychology has used Go as a field of investigation for sequential memory, pattern recognition, and complex problem-solving, positioning the game as a fertile model for exploring cognitive styles (Burmeister, 2000). Nevertheless, our aim here is to approach the matter from a different angle: Do the players' deep psychological particularities (drive-related and unconscious) find expression in their playing style on the goban? This line of research ultimately aims to confirm or invalidate the popular belief that one can genuinely encounter a person by playing Go with them, or more broadly, by confronting them within a dynamic of competitive engagement.

The game of Go can be viewed as a structured, non-verbal semiotic medium through which certain dimensions of our humanity (and animality) find avenues of expression. In particular, issues of aggressiveness and territoriality can be readily observed in the course of a game. To explore these dimensions, we analyzed Go games and administered a projective test (Szondi's Experimental Diagnostic of Drives). This projective instrument is based on an affective choice standardized procedure involving series of modified photographs depicting psychiatric patients associated with extreme clinical forms. The subject is invited to select the portraits that evoke attraction and rejection, allowing the construction of a profile of drive tendencies organized into factors and vectors. Interpretation consists in treating these choices as projective indicators of the dynamics of drive needs, their modes of satisfaction, their conflicts, and their censorship. The test is administered repeatedly (never twice on the same day) in order to assess both the stability and the variations

of drive organization, as well as certain global indices (acting, variability, disorganization). For a more comprehensive presentation of the test, its testological specificities, and its limitations, we refer the reader to Legrand's critical work (1979). It should be noted that the question of its validity remains empirically open rather than conclusively resolved (Káplár et al., 2012; Thiry & Parete, 2015). Nevertheless, some studies suggest partial validity in specific domains (e.g., Garcia Siso, 2008; Gonçalves et al., 2014; Garcia Siso, 2024). Research suggests good reliability when compared to personality tests such as the MMPI (Káplár et al., 2012) or the FIP (Mello Schivitz et al., 2008). Mosso-Gautier (2023) highlighted the test's high intra-individual sensitivity and incremental and pragmatic validity, within the framework of a reflection on the construct validity of the test material. His PhD dissertation offers an epistemological perspective on the test, highlighting the theoretical stakes and interpretative precautions required for its contemporary use.

Despite reservations regarding the validity of this instrument, several reasons justify its use in the present study:

1. The Szondi test is one of the very few projective instruments explicitly designed to operationalize drive-related configurations of psychic life. While instruments such as the Thematic Apperception Test or the Rorschach may also access this dimension, they do not allow for the same level of formal differentiation between drive factors;
2. It is one of the rare projective tests that incorporates a test–retest logic (multiple administrations), making it possible to assess intra-individual stability and variability of configurations over time (e.g., indices of variability and disorganization);
3. Its highly standardized administration procedure allows for controlled em-

pirical research (e.g., pre/post comparisons, see Máté et al., 2012);

4. Its ipsative format (forced-choice) is associated with better operational validity than Likert rating-scale item formats (Bartram, 2007).
5. Importantly, the present study does not rely on the Szondi test as a diagnostic or predictive instrument, but rather as a structured coding system (enabling investigation of structural correspondences with other devices such as Go games' metrics). It is only in a second step, once structural correspondences may be identified, that an interpretation can be proposed, strictly consistent with the theory underlying the psychometric instrument;
6. Other widely used instruments, such as the MMPI or Big Five inventories, primarily assess trait-level personality constructs, which are conceptually distinct from the dynamic configurations targeted in the present study. In addition, their practical (lengthy administration), psychometric (e.g., social desirability bias, partial non-orthogonality of factors), and cultural limitations are well documented, and may constrain their use in research design.

## Ontological hypotheses and status of the variables

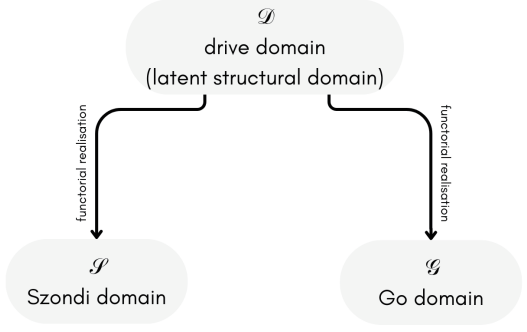
We situate ourselves within a psychoanalytic (psychodynamic) paradigm, in which the drive has an axiomatic status. Following Freud (1915, 1920), we define it as a psychically represented pressure of somatic origin whose satisfaction lies in the circuit accomplished around a partial object rather than in the object itself. Within this framework, any act may involve the partial satisfaction of a drive demand whose origin remains partly unconscious. Applied to Go, this implies that a move and its execution on the goban may

constitute such a circuit; the same assumption underlies the Szondi test as a reproducible semiotic support for apprehending drive organization. This postulate is theoretical rather than directly testable. The drive thus remains a construction, a "useful mythology" (Freud, 1933), not an observable entity. This obviously does not prevent us from indirectly measuring the manifestations of drives, rather than drives themselves.

The game of Go is conceived as a formal semiotic device (Mary, 2024b) in which strategic configurations may function as structural indices of drive orientations independently modeled by the Szondi test. A semiotic device is a structured system that organizes and constrains the interpretation of signs according to a set of internal rules and conventions. It generates interpretable configurations of signs that require theoretically informed decoding within a given framework (Eco, 1975; Greimas, 1976).Thus, whenever one attends a game commentary in which phrases such as "this move was telling you" are uttered, these translations into ordinary language – which intentionalize moves and even attribute a form of psychology to them (e.g. "this stone is sad") – attest to the existence of an implicit coding/decoding system sufficiently shared for such statements to circulate among players.

We distinguish three structural domains: (i) the psychic apparatus, (ii) the drive organization scores derived from the Szondi test, and (iii) the Go style derived from Moudřík's analyses. Rather than postulating identity or direct causality between these domains, we propose to consider them as distinct structures potentially maintaining partial correspondences. In a sense inspired by categorical thinking (Mac Lane, 1978; Grothendieck, 1986) – that is, an approach focusing on relations between structures rather than on the intrinsic nature of the entities involved –, the aim would be less to identify objects than to examine the possible preservation of certain structural relations be-

tween drive configurations and strategic configurations. Kramer's (2021) work, proposing a Galois connection between a personality indicator (MBTI) and the Szondi test, shows that it is mathematically possible to provide a pair of computable, interpretive translations between two psychological assessment devices. Such a research program is ambitious, and the present work has only a preliminary scope within it. We are at the *fuseki* of a research program.




Rather than positing an identity between drives and moves, one may conceive their relation in terms of realizations (Connes & Gauthier-Lafaye, 2022): a latent drive-based structure is accessible only through local manifestations, whose coherence depends on their compatibility across successive situations. By "realizations," we mean observable configurations through which relational constraints are expressed within a given system. In this perspective, the drive dimension is treated not as a substantial object but as a structural constraint. The drive retains an axiomatic status, yet it is no longer an ontological or energetic axiom (as in the early psychodynamic conception of the Freudian paradigm); it becomes a structural axiom (closer to a Lacanian orientation). It is not posited as an internal substantial force, but as

a regulatory constraint on the forms of coherence that observable configurations may assume.

## 1. Presentation of the Szondian factors and vectors

Szondi's drive system describes eight factors (h, s, e, hy, k, p, d, m) grouped into four vectors, each corresponding to a structural domain of psycho-affective existence: S (sexual/objectal vector: h, s), P (paroxysmal/crisis vector: e, hy), Sch (ego vector: k, p), and C (contact vector: d, m). Each factor is assigned a sign indicating a modality of drive positioning: + and - designate unidirectional tendencies (acceptance/identification versus refusal/censorship, depending on the factor), whereas 0 and ± are classically considered "symptomatic" responses, in the sense that they signal either discharge/absence of manifest tension (0) or ambivalence/inner conflict (±).

From a dynamic perspective, these signs do not describe traits in a dispositional sense, but rather the momentary form of the subject's relation to drive needs, a relation liable to vary depending on context and internal reorganization (Deri, 1949). The factors may be summarized as follows: h (need for union/erotic attachment), s (aggression, struggle, domination/submission), e (paroxysmal register of tension and critical discharge, including the relation to prohibition and violence), hy (self-staging, expressivity/exhibition versus modesty/inhibition), k (modalities of control/repression and integration, ego constraint functions), p (modalities of elaboration and structuring of the psychic field, ranging from more open symbolization to more projective tendencies), d (attachment/conservation and relation to loss), and m (dependence/anaclitic orientation versus autonomy/detachment).

This vectorial structuring makes it possible to reason both at the factorial

level (signs of the eight factors) and at the vectorial level (configurations such as S++, P±-, Sch-+, C-+, etc.), the latter providing a synthetic reading of inter-factorial balances and conflicts.

In a Szondian perspective, a drive organization is a structure of fundamental relations (charge/discharge, active/passive, seeing/being seen, introjecting/projecting, etc.). Here, we consider a drive organization as a minimal structural signature.

## 2. Presentation of Moudřík's scores

Shirsat (2026) has shown that strategic styles are not arbitrary artifacts but exhibit a structure that can be computationally exploited. The Go game analysis program developed by Moudřík, Baudiš and Neruda (2015) extracts four synthetic indicators of playing style from SGF databases.

- **Territoriality**: an index measuring the propensity to secure clearly defined territories early, through closed, localized sequences with stable returns. A high score reflects an orientation toward early spatial consolidation rather than diffuse influence.
- **Orthodoxy**: an indicator of conformity to established sequences (classical joseki). It is based on the frequency of standardized variations as opposed to personal innovations. A high score signals a conventional style; a low score indicates a preference for rare or novel lines.
- **Aggressiveness**: measures the frequency and intensity of local fighting (direct attacks, invasions, tactical confrontations). It is computed from contact events and conflict sequences.
- **Thickness**: refers to the construction of global influence and solid posi-

tions without immediate territorial gain, reflecting a strategy of long-term pressure.

These four outputs aim to operationalize stylistic dimensions that can be objectified from game traces. The four synthetic indices are normalized on a bounded 1–10 scale (with decimals), constructed through the player's relative positioning within a reference distribution (a comparative base derived from a large corpus). These scores are quasi-continuous. Although a strictly linear metric cannot be guaranteed (since these scores are composite indices dependent on a reference corpus) they rely on a series of measures extracted from Go games (SGF format): spatial distribution of moves; rate of standard joseki usage versus innovative variations; proportion of moves in direct contact (attacks, ataris, invasions); frequency and length of local fighting sequences; number of invasions into opponent territory; density of constructed groups (solidity versus dispersion); number of connecting or defensive reinforcement moves; early territorial exchanges versus development of global influence; local initiative (*tenuki* versus immediate response); and temporal distribution of conflicts.

We are aware that the validity of Moudrik's GoStyle has not been established, although it is used in academic research contexts. Its outputs appear structured and seem to differ from random distributions; however, it has not yet been demonstrated that its scores genuinely correspond to players' styles. Despite these limitations, the tool is used here as a structured descriptive system, under the assumption that its outputs capture non-random regularities in playing styles, without implying that they constitute validated measurements of underlying stylistic constructs.

## 3. Metric status of the variables: scoring conventions vs. measured quantities

Although psychological research often claims to “measure” psychological realities, it rarely measures psychic processes directly (Deri, 1949; Vautier & Mazet, 2020). As in much quantitative research, the present study does not measure latent constructs but assigns scores: the numerical variables used here are indices produced by coding and calculation rules, not demonstrated measurements of psychological magnitudes. The reported correlations therefore concern structural correspondences between conventional indices rather than relationships between measured quantities.

A drive, being unobservable, can only be inferred from its effects (Freud, 1920; Lacan, 1973), and similar epistemological limits apply to the notion of “measuring” a Go playing style. The stylistic scores (orthodoxy, territoriality, aggressiveness, thickness) are constructed from measurable features (e.g., counts of ataris or contact events) but do not themselves constitute measurements of underlying entities. Both Szondi-derived variables and GoStyle outputs are thus treated as approximate ordered indicators within structured coding systems.

Within this framework, Pearson correlations and linear regressions are employed as pragmatic metric approximations, treating these scores as quasi-continuous across their observed range. This does not imply that the underlying constructs are quantitatively measurable; rather, these statistical tools are used heuristically to explore patterns of covariation between two structured systems. The resulting coefficients should therefore be interpreted as indicators of structural correspondences within a given coding framework, not as estimates of relationships between latent variables, nor as supporting

causal or population-level claims.

To assess robustness under different assumptions, these analyses are complemented by non-parametric correlations (Spearman) and uncertainty estimates (bootstrap). More generally, quantification here serves a comparative function rather than an ontological one: the correlations describe structural covariation between coded systems within this sample and should be interpreted as heuristic relational findings rather than evidence of measurable psychological forces.

## Operational Hypotheses

Five a priori hypotheses (H1, H2a, H2b, H3a, H3b) were formulated prior to any analysis of the data. Under the global null hypothesis (absence of any true association), testing five hypotheses at $\alpha = 0.05$ yields an expected number of false positives of 0.25. However, the probability of obtaining at least one significant result purely by chance is approximately 22.6%. Thus, even a single significant finding among these tests cannot be taken as strong evidence without further corroboration.

Subsequently, exploratory correlations (not predicted a priori) were examined (H4 hypotheses family). Under the global null hypothesis, for 16 tests the expected number of significant results at the threshold $p = 0.05$ equals $16 \times p$, that is 0.8 expected false positives. The probability of obtaining at least one significant result by chance is then $1 - (0.95)^{16} = 0.56$. Exploratory findings must therefore be interpreted with caution and regarded as hypothesis-generating.

### *H1: Aggressiveness and drive conflictualization*

We hypothesize that a more aggressive playing style (calm–fighting axis) is associated with a lower percentage of null responses in the Szondi test (%0), a global indicator of reduced immediate discharge and greater conflictualization/elaboration of drive tendencies. We therefore expect a negative association: as stylistic aggressiveness increases, the percentage of null responses should decrease.

### *H2: Orthodoxy and the expression of singularity*

Based on clinical observations conducted in therapeutic contexts, we claimed that the semiotic field of Go is sensitive to the expression of subjective singularity (Mary, 2024). Therefore, we hypothesize that a more orthodox playing style (Moudřík's classic–novel axis) is associated with the hy and p factors. The hy factor reflects expressive modulations of the self and forms of self-staging in social interactions, whereas the p factor reflects expressive projections of drive needs. We therefore expect to observe

- H2a: a correlation between orthodoxy score and the hy factor.
- H2b: a correlation between orthodoxy and the p factor.

### *H3: Territoriality and ego boundaries*

We hypothesize an association between territoriality and the Ego vector (Sch).

- H3a: A more territorial style (moyo–territory axis) should be associated with more negative values of the p factor
- H3b: A more territorial style should be associated with the k factor (H3b).

These hypotheses are consistent with the idea that territorialization on the goban may function as a formal analogue of the constitution of ego boundaries. We assume that indicators of territoriality in Go are associated with drive dimensions involving the relation to space or to the structuring of the relational field. This hypothesis is rooted in prior clinical observations conducted in psychiatric settings, where territorial configurations in Go appeared to articulate with modalities of subjective boundary formation (Mary, 2025).

### *H4: Duration of practice and drive organization*

Taking advantage of the data collected, we sought to examine whether years of practice or playing strength are statistically associated with constructed variables derived from the Szondi test. No correlation was found between, on the one hand, the number of years of Go practice, and on the other hand, the playing level estimated by GoStyle (Moudřík et al., 2015), with the percentage of symptomatic responses, the acting index, the disorganization index, the variability index, etc. If an effect exists, it is too small to be detected in a sample of N = 21. On the basis of this sample, there is therefore no evidence to support the claim that long-term Go practice (without specification of frequency or intensity) has a psychological effect.

## Sample and data corpus

The sample consists of 21 Go players: 20 men (95.2%) and 1 woman (4.8%). Two additional participants (a woman and a man) could not be included in the study due to incomplete data (non-exploitable SGF files). The mean age is 39.7 years (SD = 12.9), ranging from 28 to 71 years. Participants are primarily from France (n = 11), with others from the United States (n = 3),

Italy (n = 2), and Spain, Colombia, Hungary, New Zealand, and Taiwan (n = 1 each).

Regarding playing strength, the average rank is 4.1 kyu, according to the estimation provided by the analysis software developed by Moudřík et al. (2015) (SD = 4.8). The distribution ranges from 13 kyu to 4 dan, with the majority of players ranked kyu (81%) and four players ranked dan (19%). Average playing experience is 14.5 years (SD = 9.3), ranging from 3 to 38 years of practice.

Each participant provided .sgf files of recent online 19×19 games (without handicap). The number of games analyzed per participant is relatively homogeneous (M = 37.7; SD = 8.2), ranging from 18 to 48 games. The games were analyzed using an online application described by Moudřík et al. (2015). The software generates, for each participant, four output values computed from the game corpus: an orthodoxy score (classic–novel axis), an aggressiveness score (calm–fighting axis), a thickness score (safe–shinogi axis), and a territoriality score (moyo–territory axis).

Finally, each participant completed three administrations of the Experimental Diagnostic of Drives (Szondi test). A quantitative analysis of each participant's test protocol makes it possible to compute an acting index, the percentage of negative and symptomatic responses, and numerical values for each of the eight drive factors measured by the test. The sample included participants with diverse personal histories, including self-reported psychiatric or neurological conditions. No subgroup analysis was conducted due to sample size limitations. Despite the potential insight that consideration of these diagnoses might have provided, we deliberately refrained from discussing them for ethical reasons, particularly due to the risk of participant identification.

All data were collected online (three videoconference sessions per partici-

pant) between March 14, 2025 and April 10, 2025. All participants provided informed consent and expressed their wish to be informed of any potential publication of this work. The total time devoted to data collection, scoring, analysis, and recording is estimated at approximately 26.5 hours (i.e., an average of 75 minutes per participant).

The sample was recruited online (with the criteria to be more than 18 years old and having a minimum 15 kyu rank) and is unfortunately strongly unbalanced in terms of gender (20 men, 1 woman) and culturally heterogeneous. These characteristics limit the external validity of the findings. First, the distributions of style scores (derived from online games) and Szondi scores may depend on unmeasured selection variables (level of engagement in online Go, format preferences, self-selection of participants interested in a psychological study), which may produce associations that do not generalize to other player populations (for example, women or players who reject online Go). Second, the gender imbalance prevents examination of possible moderation effects or structural differences in associations by gender; it is therefore impossible to conclude that the observed correspondences extend beyond a predominantly male subgroup. Third, playing practices, valued strategic styles, and modes of reception of a projective device may vary across sociocultural contexts. The diversity of represented countries may thus introduce systematic variability that is difficult to isolate in a small sample.

However, it should be emphasized that the instruments used (the game of Go and the Szondi test) are strictly non-verbal semiotic devices structured as formal semiotic systems. While this may protect against linguistic bias, it does not eliminate the cultural coordinates surrounding each player's relationship to the game of Go. Consequently, the reported associations must be interpreted as specific to this exploratory sample and require replication in

more diverse and better-balanced samples (particularly in terms of gender) before any generalization can be made.

Associations were quantified using Pearson correlations and, under weaker metric assumptions, monotonic correlations (Spearman). Given the sample size, interpretation prioritizes effect sizes (r, $R^2$, slopes) and their uncertainty: confidence intervals were estimated by bootstrap (5,000 replications). Sensitivity to individual observations was examined through influence analyses (jackknife leave-one-out and regression diagnostics) and, where relevant, through composition analyses (leave-two-out) in order to identify potential dependence on peripheral cases. Reported tests are distinguished between a priori hypotheses and post hoc explorations.

Descriptive vectorial distributions and modal profile

**Table 1.** Most frequent vectorial responses: observed proportions vs. expected probabilities under random model

| | S | | P | | Sch | | C | |
|---|---|---|---|---|---|---|---|---|
| 1 | +- | 15,15 % expected probability: 11,15% | -- | 21,21 % expected probability: 7,80% $\chi^2$=3,40, p=0,065 | ±0 | 16,67 % expected probability: 4,46% $\chi^2$=10,00, p=0,0016 | -+ | 34,85 % expected probability: 11,15% $\chi^2$=12,36, p=0,0004 |
| 2 | -0 | 12,12 % expected: 7,10% | -0 | 12,12 % expected: 7,10% | -- | 12,12 % expected: 7,80% | ++ | 13,64 % expected: 7,80% |
| 3 | +0 | 12,12 % expected: 7,10% | 0± | 10,61 % expected: 4,46% | -+ | 9,09 % expected: 11,15% | 0+ | 12,12 % expected: 7,10% |

We present the most frequent vectorial responses observed in our sample. We report, beneath the observed percentages in the sample, the theoretical percentages expected under a random probability model. A theoretical profile

emerges from the data: S +- ; P -- ; Sch ±0 ; C -+. It outlines a globally coherent organization, characterized by a strong relational orientation tempered by inhibition of aggressiveness and paroxysmal affects. The sexual vector (+-) suggests a significant investment in relational bonds and an idealization of the object, accompanied by an avoidance of direct conflict and a contained form of aggressiveness. The paroxysmal vector (--) indicates marked emotional control, restrained expressiveness, and an aggressive tension (e-) that is internalized rather than discharged.

At the level of the ego (Sch ±0), the presence of k± reflects a structural tension between self-assertion and self-restraint: the subject may alternately withdraw into a position of internal mastery (k+) or submit to normative and critical demands (k-), without either position becoming durably dominant. Finally, the contact vector (-+) reveals a strong, conservative, and at times dependent attachment, with difficulty detaching from invested objects.

Overall, this theoretical profile points to affectively engaged yet not demonstrative individuals, capable of control and self-regulation, who privilege continuity and fidelity in relationships, and whose drive tensions appear more frequently internalized than converted into acting out.

Such a general profile is ultimately not very surprising in a population of individuals engaged in a form of serious leisure practice that lends itself to intellectualization and sublimation, and that displaces interpersonal conflict onto the pacified arena of a game board. Comparisons with normative data remain delicate, given the influence of cultural factors and gender composition. The interpretation of this theoretical drive profile should not lead us to overlook its constructed (that is, fictive) character. It constitutes a first approximation and certainly not an authentic psychology of the Go player.

For comparisons, we constructed a sample of 10,000 random profiles.

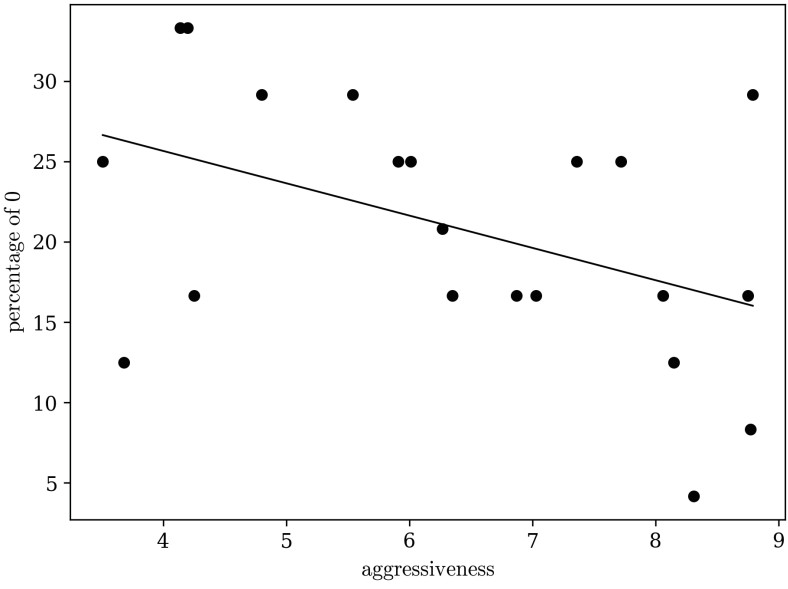
Among the nine most represented vector configurations in our sample, the configuration C-+ in particular appears to be significantly overrepresented (approximately three times more frequent than expected by chance) relative to the constrained random model (p = 0,006). A global non-randomness score computed across these nine configurations indicates that their combined pattern significantly departs from their occurrences in our randomly created sample (Monte Carlo p = 0,0056). This suggests that human responses are not distributed as mere combinatorial noise, but exhibit a degree of structured organization, here especially marked in the contact vector. This observation provides a modest argument in favor of minimal construct validity (i.e., the test produces a structured object that is not reducible to randomness).

## Results

### *1. Correlation between stylistic aggressiveness and percentage of null responses*

A simple linear regression shows a moderate negative association between stylistic aggressiveness and the percentage of 0 responses (%0), $r$ = -0.45, $R^2$ = 0.21, p = 0.039. The estimated slope (-0.020) has a 95% confidence interval of [-0.039; -0.001]. With $R^2$ = 0.205, approximately 20.5% of the variance is explained by the aggressiveness score. The monotonic correlation (Spearman) is borderline ($\rho$ = -0.43, $p$ = 0.053).

**%0 = 0,337 – 0,020 x AGR**




The negative association observed between aggressiveness and the percentage of neutral responses (%0) should be interpreted cautiously. The Pearson correlation reached nominal significance. Although the bootstrap confidence interval did not include zero, it remained wide. A jackknife influence analysis further revealed moderate sensitivity of the coefficient to individual observations, with the correlation ranging between –0.38 and –0.58 depending on the case removed. The effect size appears moderate but unstable, which is consistent with the limited sample size (n = 21).

## *2. Correlation between stylistic orthodoxy and the hy factor*

Based on the 21 available observations, the linear correlation between or-

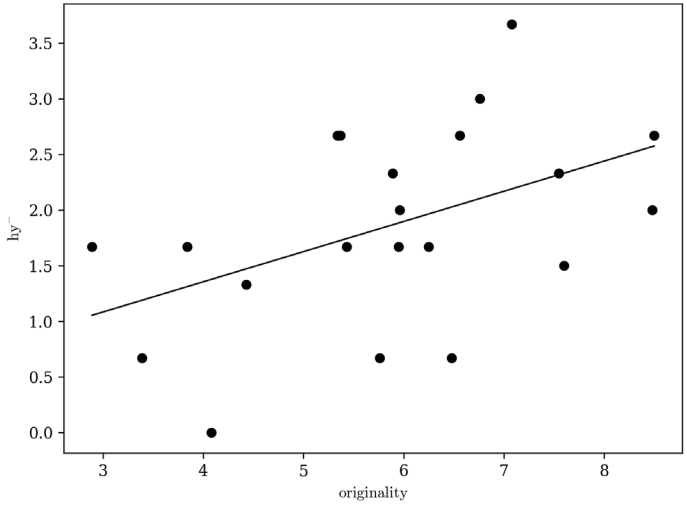
thodox style and the hy- score was estimated using Pearson's coefficient. The obtained coefficient is $r = 0.470$, corresponding to $R^2 = 0.221$. Thus, within a simple linear model, stylistic orthodoxy accounts for approximately 22.1% of the variance observed in hy- in this sample. The associated significance test yields $p = 0.032$, below the predefined threshold of 0.05, indicating a statistically significant association.

To assess the robustness of this estimate, a non-parametric bootstrap procedure (5,000 replications) was performed by resampling paired observations with replacement. The 95% percentile confidence interval for the correlation coefficient is [0.165; 0.699]. This interval does not include zero, confirming the statistical significance of the association. However, its relatively wide range reflects non-negligible estimation uncertainty due to the modest sample size.

A jackknife analysis (successive deletion of one observation) yields an approximate 95% confidence interval of [0.201; 0.739], also entirely positive. No single deletion reverses the sign of the coefficient, indicating that the effect is not driven by an isolated case or a major influential point. The directional stability of the coefficient therefore strengthens the internal reliability of the estimate.

From a statistical standpoint, the association can be described as moderate ($|r| = 0.47$). The significance level ($p = 0.032$) is compatible with a linear association hypothesis within this sample. Given the limited number of observations ($n = 21$) and the fact that the model accounts for only a limited portion of the variance, with approximately 78% remaining unaccounted for, conclusions must be drawn cautiously. The observed effect constitutes an empirically coherent signal that is statistically robust to resampling procedures, but it would benefit from replication in an independent sample or within a

longitudinal design.



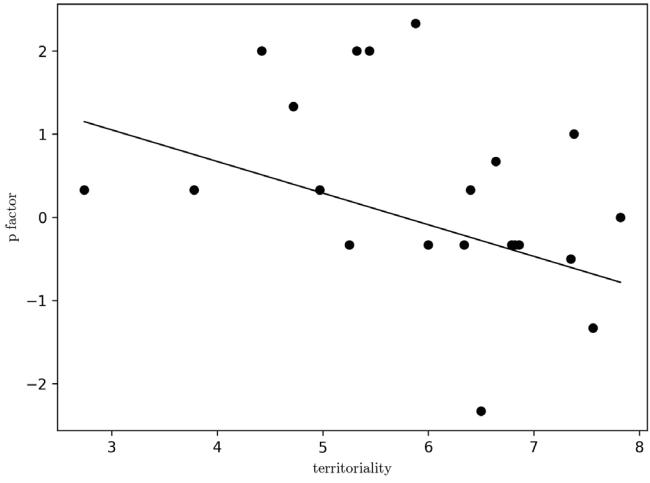

## 3. Correlation between stylistic territoriality and the p factor

The analysis reveals a moderate negative linear correlation between territorial style and the p factor. Pearson's correlation coefficient is $r = -0.40$, corresponding to an $R^2$ of approximately 0.16. However, the association does not reach the conventional threshold for statistical significance ($p = 0.076$). The linear regression model corresponds to the equation: $p = 2.40 - 0.35 \times TER$.

The robustness of this association was examined using resampling procedures. The bootstrap (5,000 replications) yields a 95% confidence interval for $r$ ranging from -0.67 to -0.16, suggesting directional stability of the effect, although the exact magnitude of the coefficient shows notable variability. The jackknife analysis further indicates that successive removal of each

observation does not alter either the sign or substantially the strength of the correlation (r varying approximately between -0.48 and -0.34), suggesting that the observed effect is not attributable to a single influential data point.

Overall, these results suggest the presence of a negative trend between territoriality and the p factor in this sample, while inviting caution in interpretation given the modest sample size and the absence of statistical significance at the conventional threshold.




To assess the sensitivity of the relationship between territoriality and the p factor to sample composition, we conducted a systematic influence analysis consisting of successively removing all possible combinations of two participants (leave-two-out) and recalculating the correlation at each iteration. Among all tested configurations, only one combination yielded a correlation crossing the conventional significance threshold ($p < 0.05$): the removal of the two observations with the lowest territoriality values (TER = 2.74 and TER = 3.78; participants 9 and 16). In this case, the correlation becomes

significant and increases in magnitude ($r$ = -0.543; $p$ = 0.016). This result indicates that the low-territorial style scores in these two observations introduce substantial heterogeneity into the overall relationship and contribute to attenuating its statistical significance in the full sample. These two extreme cases will be discussed below.

**Table 2.** Summary of a priori and exploratory hypotheses: effect sizes, confidence intervals, and robustness analyses

| hypotheses | r or ρ | IC95 % | $R^2$ or $\rho^2$ | p | Tests | Robustness analysis | Conclusion |
|---|---|---|---|---|---|---|---|
| H1: Agr~%0 | -0.45 | [-0,775 ; -0,103] | 0.255 | 0.039 | Pearson | Jackknife, bootstrap | moderate, worth following up |
| | -0.486 | [-0,768 ; -0,073] | 0.236 | 0.026 | Spearman | | |
| H2a: Orth~hy- | 0.471 | [0,030 ; 0,771] | 0.222 | 0.031 | Pearson | Jackknife, bootstrap | suggestive evidence of moderate association, worth following up |
| | 0.452 | [0,015 ; 0,756] | 0.204 | 0.039 | Spearman | | |
| H2b: Orth~p | 0.048 | [-0.383 ; 0.479] | 0.002 | 0.836 | Pearson | | no evidence of association |
| H3a: Ter~p | -0.402 | [-0.708 ; 0.052] | 0.162 | 0.076 | Pearson | Jackknife, bootstrap | effect of moderate size with insufficient power, the estimate remains uncertain, worth following up |
| | -0.368 | [-0.685 ; 0.097] | 0.135 | 0.102 | Spearman | | |
| H3b: Ter~k | 0.071 | [-0.378 ; 0.487] | 0.005 | 0.756 | Pearson | | no evidence of association |
| H4a: years~%Symp | -0.433 | [-0.723 ; -0.006] | 0.187 | 0.049 | Pearson | | no clear evidence of association after removal of the influential case (38 years) |
| H4b: years~Acting | 0.249 | [-0.206 ; 0.618] | 0.0262 | 0.276 | Pearson | | no clear evidence of association (neither with Spearman) |
| H4c: rank~%Symp | -0.353 | [-0.664 ; 0.096] | 0.125 | 0.116 | Pearson | | no clear evidence of association (neither with Spearman) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| H4d: rank~Acting | -0.214 | [-0.585 ; 0.229] | 0.046 | 0.351 | Pearson | | no clear evidence of association (neither with Spearman) |

## Statistical Limitations

Our use of quantitative statistical methods is intended to be cautious and informed by the major problems raised by probabilistic tools in the human sciences (Ioannidis, 2005; Amrhein, Greenland, & McShane, 2019; Mary, 2024a). We employ standard statistical procedures while recognizing that they constitute descriptive instruments rather than epistemic guarantees. We adopt a critical stance toward statistical approaches and assess them at their proper value – acknowledging the pre-scientific character of statistics in the human sciences, including inferential statistics (Bernard, 1865; Skinner, 1990). We emphasize rigorously that statistics alone can never establish causal relationships without additional structural assumptions. Indeed, causal inference always requires a theory of mechanisms and interventions (D'Agostino McGowan et al., 2024). Such a theory cannot be derived from statistical results alone, but must rely on other approaches: experimental, hypothetico-deductive, speculative, hermeneutic, etc. Strictly speaking, the correlation analyses conducted here do not test any psychological mechanism. The observed associations are compatible with a plurality of rival explanations. Rather than making a causal claim, we argue that the observed correlations – if they are not mere probabilistic artifacts – are compatible with our general theory of a structural correspondence between drive organization and playing style in Go.

The sample size ($N = 21$) limits statistical power. For associations of moderate magnitude ($\approx 0.45$), the expected power is approximately 0.60–0.65,

below the conventional threshold of 0.80, implying substantial uncertainty in the estimates and an increased risk of failing to detect real effects. The sample size would indeed be problematic in a confirmatory study; however, an N = 21 sample remains legitimate for mapping a space of correspondences.

The dataset mobilized in the present study is extensive. In this respect, it is important to keep in mind the reservations associated with the "Bonferroni criterion," according to which the multiplication of statistical inference tests increases the probability of obtaining correlations with $\mathbf{p} < 0.05$ by chance alone. The analysis plan includes 16 statistical tests (mostly grouped under H4 hypotheses family). At a threshold of $p = 0.05$, the expected number of significant results under the null hypothesis is approximately 0.8, and the probability of obtaining at least one false positive approaches 56%. The reported *p*-values should therefore not be regarded as confirmatory evidence (Ioannidis, 2005). The observed associations constitute exploratory signals motivating a pre-specified replication study, ideally pre-registered, with a larger sample (approximately 35–50 participants, depending on the targeted effect size).

This study adopts an explicitly non-metric stance regarding its variables. The indices derived from both the Szondi test and GoStyle analyses are treated as constructed scores rather than measurements of latent quantitative attributes. Nevertheless, Pearson correlations and linear regressions are employed as pragmatic *metric approximations*, used here as heuristic tools to explore patterns of covariation between structured coding systems.

This methodological choice implies a specific form of rigor: rather than assuming the measurability of psychological constructs, we explicitly limit the epistemic status of the statistical operations performed. Consequently, the reported coefficients should not be interpreted as estimates of relationships

between underlying continuous variables, nor as supporting population-level generalizations or causal claims. Instead, they are intended to highlight potential structural correspondences within the present dataset, in an exploratory perspective.

This approach differs from standard inferential frameworks commonly used in psychological research, which often rely on implicit assumptions about measurement and generalization. By contrast, the present study prioritizes the explicit characterization of these assumptions and their limits. This comes at the cost of reduced inferential scope, but aims to avoid stronger interpretative commitments that would not be warranted given the nature of the data and the sample size.

## Extreme Cases

Our sample includes participants presenting extreme scores on the variables under study. It is appropriate to examine these cases, not only to capture their descriptive singularity, but also to assess whether the observed association depends on extreme configurations. From the perspective of an internal stress test of the correlational model, the analysis of influential observations is a necessary step in evaluating the stability of the estimated relationship.

### Participant No. 9

We selected this case because it displays the lowest territoriality score in the sample (2.74). He is also among the participants with a highly aggressive style (8.77).

Participant No. 9 (TER = 2.74; p factor = 0.33) occupies a clearly peripheral position on the territoriality axis. Standardized relative to the sample ($N$ = 21), his score corresponds to a $z$-score of -2.45 for territoriality, exceeding the conventional threshold of $|z| \geq 2$ and indicating a statistically atypical value. By contrast, his score on the p factor ($z$ = +0.02) is strictly central and presents no extreme character. In terms of distance from the median, his territoriality score lies 3.60 points below the sample median, whereas his p value coincides exactly with the median (distance = 0). The atypical character of Participant No. 9 therefore concerns exclusively the territorial dimension.

Influence analysis shows that this case acts as an attenuation point in the linear association. With all participants included, the Pearson correlation between territorial style and the p factor is $r$ = -0.40, $p$ = 0.076, with an estimated slope of -0.38. After removal of Participant No. 9 ($N$ = 20), the correlation remains stable (r = -0.475, $p$ = 0.034), and the slope increases in magnitude (-0.51). The direction of the association remains negative. The position of Participant No. 9 thus tends to reduce the steepness of the regression line without reversing the relationship. In a small sample, this configuration illustrates the sensitivity of estimates to the distribution of horizontally extreme points.

**Table 3.** Szondi drive protocol – Participant No. 9 (three administrations)

| | S | | P | | Sch | | C | |
|---|---|---|---|---|---|---|---|---|
| | h | s | e | hy | k | p | d | m |
| 1st administration | + | - | ± | - | - | + | + | + |
| 2nd administration | +! | - | - | 0 | - | + | + | + |
| 3rd administration | + | - | - | - | - | 0 | +! | + |

The acting index Σ0 / Σ± = 2 falls within the statistical norm [1; 3] and indicates a satisfactory balance between drive discharge and conflictualization (repression, inhibition, etc.) of drive demands. The percentage of symptomatic responses is 12.50%, which is below the statistical norm [20%; 30%], suggesting that such discharges and inhibitions occupy relatively little place in the participant's psychic economy. The general disorganization index (0) indicates perfect coherence of the psycho-drive organization; the general variability index (4) is low and may reflect a relatively stable psychic organization, not readily disposed to internal rearrangements.

Drawing on classical interpretative frameworks, the p+ score of Participant No. 9 suggests identification with the need to affectively control the environment. Processes of sublimation and symbolization appear to be operative. The s- factor generally indicates that ordinary aggressiveness is poorly accepted, insufficiently assumed, or rejected. It is often displaced into an overinvestment in the intellectual dimension. With s-, one withdraws from conflict rather than confronting it; s- is one index of a superego configuration. One may hypothesize that Participant No. 9 finds in Go (a game readily intellectualized) a modality for avoiding overly direct aggressiveness, sublimated (p+) in his relation to the game, while his actual games display a particularly aggressive style. The overall profile suggests a neurotic drive organization structured around repression (hy-, k-) of aggressiveness (s-).

The C++ vector, constant across the three administrations, suggests a dispersed mode of contact, deployed through scattered investments in a multiplicity of objects. Among all participants, he is the only one to present this vectorial configuration consistently. One might be tempted to relate this C++ configuration to the particularly low territoriality score (the lowest in our sample), insofar as the C vector is classically interpreted as reflecting the re-

lation to (pre-objectal) space and thus, indirectly, to territoriality. However, this interpretation must be cautiously qualified: several participants (11, 12, 16, and 20) displayed a C++ vector in one or two administrations, yet their territoriality scores were above the sample mean, except for Participant 16 (territoriality: 4.42). The correspondence between territorial style and contact vector therefore appears neither one-to-one nor deterministic.

## Participant No. 16

We selected this case because he presents the highest aggressiveness score (8.79).

With z(AGR) = +1.34 and z(%0) = +1.04, Participant 16 does not constitute a univariate outlier ($|z| < 2$), but he functions as an influential point. His removal substantially increases both the magnitude and the statistical significance of the correlation between aggressive style and percentage of null responses (r increasing from -0.45 to -0.56; p from 0.042 to 0.0097; slope from -2.01 to -2.58). He therefore contributes to attenuating the observed relationship, without altering its direction.

**Table 4.** Szondi drive protocol – Participant No. 16 (three administrations)

| | S | | P | | Sch | | C | |
|---|---|---|---|---|---|---|---|---|
| | h | s | e | hy | k | p | d | m |
| 1st administration | 0 | - | - | - | 0 | +! | ± | + |
| 2nd administration | 0 | 0 | - | - | 0 | + | ± | ±! |
| 3rd administration | ± | 0 | - | ± | + | 0 | - | ± |

His general drive profile differs markedly from that of Participant 9. This

contradicts any naïve isomorphism between a behavioral variable and drive organization and, more broadly, challenges strictly behaviorist conceptions according to which observation of behavior would suffice to infer psychic interiority.

The acting index Σ0 / Σ± = 1.4 falls within the statistical norm [1; 3] and reflects a satisfactory balance between drive discharge and conflictualization (repression, inhibition, etc.) of drive demands. However, the percentage of symptomatic responses is 50%, far above the statistical norm [20%; 30%]. The general disorganization index (0) indicates perfect coherence of the drive organization; yet the numerous null and ambivalent responses in Participant 16's test protocol substantially increase the general variability index (7).

Drive discharges are located in the S and Sch vectors. Interestingly, they concern the domain of aggressiveness: with s0, we would be dealing with a subject for whom aggressiveness does not constitute a latent conflict and is not refused as such. (Notably, examination of the background profile of Participant 16 reveals s-!! when the s factor is discharged (s0) in the foreground.) It is therefore unsurprising to observe this aggressiveness expressed in his playing style; however, this aggressiveness may be more spontaneous, less mediated by the playful detour of the game. The e- factor, persistent across all three administrations, is characteristic of aggressive, irritable, and impulsive personalities. It is hardly incidental to find it in the player exhibiting the most aggressive style in our sample.

## Comparison of Participants No. 9 and No. 16

With these two participants, we have the most aggressive playing styles in the sample, whose percentages of null responses lie markedly off the regres-

sion line identified for the sample. We examine their formal influence on the linear regression observed between aggressive style and percentage of null responses. These two cases are of particular interest because they exhibit a strong contrast in the influence they exert on the correlation observed within the sample. They therefore provide an opportunity to stress-test the model.

**Table 5.** Influence analysis: comparison of Participants No. 9 and No. 16 on the aggressiveness–%0 association

| | | Participant 9 | Participant 16 |
|---|---|---|---|
| aggressiveness | | 8.77 | 8.79 |
| Percentage of null responses | | 0.08 | 0.29 |
| Leverage | | 0.136 (<0,19) | 0.137 (<0,19) |
| Cook's D | | 0.101 (<0,19) | 0.294 (>0,19) |
| DFBETA (slope) | | -0.36 (<0,44) | +0.67 (>0,44) |
| Effect of removal: | | | |
| r | -0.45 | -0.38 | -0.56 |
| p-value | 0.042 | **0.097** | **0.0097** |
| slope | -2.01 | -1.68 | -2.58 |

*The thresholds used (for leverage, Cook's D, and DFBETA) follow classical heuristics and are intended for descriptive purposes.*

Participant No. 9 appears to align with the overall trend of the sample (high aggressive style and low percentage of 0), whereas Participant No. 16 runs counter to this trend (high aggressive style and high percentage of 0). Removing Participant No. 9 from the sample weakens the relationship. Participant No. 16, by contrast, exerts a statistically substantial influence on the slope; removing him from the sample markedly strengthens the association.

The association between aggressive style and percentage of null responses

is therefore not produced by a single favorable case (No. 9). On the contrary, it is attenuated by a discordant influential case (No. 16). The model thus appears structurally coherent, albeit sensitive to peripheral configurations, which is not surprising given $N = 21$. This pattern suggests structural consistency of the trend, even though the magnitude of the effect remains sensitive to peripheral cases. If the correlation were an artifact driven by a favorable extreme case, its removal would eliminate the effect. This is not what is observed.

## Participant No. 20

We chose to examine this participant in detail because he presents a striking extreme value: his acting index reaches 8, whereas the statistical norm lies within the interval [1; 3], and this is the only value significantly outside that range in the sample. Such a value is generally interpreted as indicating immediate discharge of drive needs, with little tolerance for temporal delay or diversion and reduced capacity to sustain intrapsychic tension, leading to a short-circuiting of conflictual elaboration. The singular organization of the Contact vector does not directly indicate a manic or hypomanic structure in a nosographic sense, but rather suggests a mode of existence in which contact is maintained at a distance while drive tension is discharged through action. In a Schotte-Szondi perspective, such a configuration may give rise, at the phenomenological level, to what could be described as a hypomanic tone – not as a disorder, but as a style of being characterized by mobility, reduced dependence, and limited tolerance for internal tension (we wish to clarify that, from our Schotte-Szondi perspective, situated midway between psychoanalysis and psychiatric phenomenology, mania is never the name of an

"illness" of the mind, but rather refers to an existential style, an orientation of existence along one of the directions made possible by our humanity.) He is the only participant in the sample whose Szondi protocol shows such an alteration of the Contact vector. His drive protocol is shown in Table 6.

**Table 6.** Szondi drive protocol – Participant No. 20 (three administrations)

| | S | | P | | Sch | | C | |
|---|---|---|---|---|---|---|---|---|
| | h | s | e | hy | k | p | d | m |
| 1st administration | +!! | 0 | - | - | ± | - | 0 | 0 |
| 2nd administration | +!! | 0 | - | + | - | - | 0 | - |
| 3rd administration | +!! | + | - | - | 0 | 0 | 0 | - |

He has been playing Go for more than ten years. Certain stylistic scores are noteworthy: his play is highly territorial (7.56, the second highest value in the sample) and highly orthodox (his score of 2.89 is the lowest in the sample). His territorial style may plausibly be understood in relation to p-, reflecting a drive need to structure a defensive space in order to protect oneself from the influence of the other's thoughts.

The P vector highlights a significant anxious background. The P-- configuration evokes an internal oppression, a free-floating anxiety not crystallized around a specific object (Legrand, 1979).

This profile suggests a man in whom internal anxiety (P--) and projective tendencies (p-) are contained through massive recourse to action (high acting index, Sch±-, Sch00) or adaptive discipline (Sch--), while contact is kept at a distance (C0-), at the cost of a detachment that may take on a hypomanic tone. Drives are neither massively repressed nor extensively mentalized: they

are discharged.

The protocol is organized around a marked imbalance of the peripheral vectors (S and C), reflecting an unequal distribution of drive investment. The m- factor (C vector) signals refusal of reliance and distancing from the environment as an affective support. Conversely, drive investment is concentrated in the S vector of object relations, with repeated and intense accentuation of the need for union (h+!!). This configuration reveals a structural tension: on the one hand, withdrawal from anaclitic attachment; on the other, an insistent push toward the object. The need for relationship is strongly invested, yet dependence is refused.

From this perspective, the highly territorial and highly orthodox playing style may constitute a formal solution to this difficulty of being-with-the-other. High territoriality suggests spatial ordering, a reassuring delimitation of boundaries within the space of encounter. Orthodoxy indicates a preference for established and culturally validated forms (notably joseki), rather than a singular invention of strategic relation. Whereas a non-orthodox style (classic-novel axis) might reflect affirmation of singularity within the exchange, recourse to established forms implies adherence to shared knowledge – perhaps even the introjection of an impersonal Other (Mary, 2024b) – to an impersonal normativity, as if the relationship to the opponent were mediated through a pre-constituted symbolic framework. The goban thus becomes a space in which the bond is intensely invested (h+!!), yet contained within collectively stabilized forms (k-, p-). The use of orthodox patterns might function as a structural substitute for interpersonal negotiation, allowing the bond to be maintained while minimizing the uncertainty inherent to direct interaction.

## Discussion

The observed correlations should not be understood as causal relationships between measured psychological magnitudes, but as structural correspondences between two distinct systems of notation: on the one hand, a system describing strategic regularities in the game of Go; on the other, a system formalizing drive tensions according to Szondi's model. Within the drive paradigm, these correspondences may nevertheless receive a coherent interpretation. While the data do not allow for a strict empirical adjudication between competing theoretical interpretations, they may nonetheless render some readings more coherent or plausible than others within a given framework. The interpretations of Szondi factors and indices are not derived from the statistical analysis itself, but follow established manuals and classical guidelines associated with the instrument. They are proposed at a second level, as a way of rendering the observed correspondences intelligible within this framework. Particular care was taken to remain within the bounds of these conventional interpretative frameworks, without extending beyond what is supported in the literature. The Szondian interpretations are theoretically guided readings rather than empirical conclusions. They provide a coherent framework for understanding the observed patterns. This approach is consistent with the most rigorous uses of statistics (see D'Agostino McGowan et al., 2024): statistical analysis never permits inference without a theoretically coherent interpretative intervention.

### 1. Aggressive style and percentage of null responses (%0)

In the Szondian model, the null reaction (0) corresponds to a form of dis-

charge or absence of drive need. A high percentage of 0 responses reflects lower internal conflictual tension and greater immediacy of drive response. Conversely, a lower percentage of 0 suggests more marked conflictualization and a greater degree of symbolic detour.

The finding that stylistic aggressiveness is associated with a lower percentage of null responses may thus be interpreted as follows: the aggressiveness observed on the board would not necessarily be the expression of raw drive discharge, but might instead signal mediation, elaboration, or symbolization within the playful space. It may be of interest to consider this interpretation alongside studies suggesting that Go practice may have an inhibitory effect on impulsivity in children with ADHD (Kim et al., 2014). We emphasize that the conclusions of this study, conducted within a neurocognitive paradigm, appear to find a form of convergence with our work conducted within a distinct paradigm. Interestingly, a participant (with rather few null responses) who self-reported a diagnosis of ADHD indicated that he experiences a certain sense of calming in his everyday life, which he attributes to his practice of Go.

A combative playing style might correspond to an aggressiveness that does not discharge directly in immediate psychic life or in the somatic apparatus, but instead finds, within the formal plan of the game, a circuit of partial satisfaction. The board would then function as a symbolic stage where aggressive tension can be structured, deferred, and strategically invested. This pattern, however, is not consistent with a simple reinforcement model in which increased engagement in aggressive play would linearly increase drive manifestations.

This interpretation is consistent with the Freudian idea that the drive does not aim at the object as such, but at the circuit it accomplishes around it. Strategic combat in Go would constitute such a circuit, a deviation or deferral of satisfaction.

## 2. Stylistic orthodoxy and the hy- factor

We observed a positive correlation between stylistic orthodoxy and hy-. Within the Szondian framework, hy- is associated with restraint in exhibition, repression, or inhibition of self-staging. The subject has a need to show him-/herself, but this need is not consciously assumed. It may therefore be displaced onto a less directly exposing stage.

A non-orthodox style in Go – understood as deviation from classical sequences, strategic risk-taking, and non-conventional choices (Moudřík et al., 2015) – may be interpreted as an indirect mode of expressing a tension related to recognition, visibility, or subjective affirmation. Orthodoxy (classic-novel axis) could function as a detoured path toward singularization. From this perspective, the hy- player does not necessarily put himself forward in a spectacular manner, but may affirm his singularity within the formal space of the game through atypical strategic choices. Deviation from classical sequences thus becomes a stage on which identity is enacted without direct exhibition.

We suggest that a single structural tension concerning self-staging and conformity to stylistic orthodoxy may find convergent modes of expression within two distinct semiotic plans. Playing Go may provide an opportunity to satisfy the human need for self-display through the unveiling of an original style. It is important to emphasize the complex and dialectical character of this human need: the detour through Go (and likely through other media) would simultaneously allow the satisfaction of a refusal to exhibit oneself directly (hy-, repression of the scopophilic drive) and the mediated fulfillment of the need to exhibit (the return of the repressed drive demand). Such a reading is compatible with the observed correlation.

## 3. Territoriality and the p Factor

The negative correlation between stylistic territoriality and the p factor invites an interpretation centered on the relation to control and organization of the field. Recall that the p variable is derived from the scores p+ and p- (p = p+ - p-). The p factor is constitutive of the Ego vector and concerns the question of ego boundaries. The p factor designates the Ego's need to give meaning to the world and to organize it affectively and cognitively. It is also linked to processes of sublimation. Classically, it is associated with issues of mastery, positional affirmation, and environmental control. A high p factor value (p+) may correspond to strong investment in authority or structuring functions. The psychoanalytic paradigm invites us to consider the player's territory as potentially symbolizing the player's ego boundaries, drawing on Anzieu's (1974) conceptualization of the "skin-ego" (Mary, 2024b). When a player utters a phrase such as "he is attacking me" (where, strictly speaking, what is being attacked are the boundaries of a territory on the board), this abuse of language reveals a common latent identification of the player with their stones and the territory they delimit. In Go, high territoriality implies progressive stabilization of zones, controlled spatial organization, and structured closure of the field. Conversely, a weakly territorial style (moyo-oriented, diffuse potential) privileges openness and indeterminacy. Territory is realized later and remains longer in a virtual state, as a project under construction.

In Susan Deri's (1949) terms, p+ refers to an Ego capable of flexible appropriation of reality, whereas p- implies a more projective, more distrustful, or more self-centered relation. The p factor of the Ego vector thus appears to articulate with the spatial style adopted on the board. In our sample, players presenting p- tend to privilege territorial structuring characterized by closure and

delimitation. Conversely, players presenting p+ tend to favor open influence configurations (moyo), relying on dynamic participation in the global field of the game. The hypothesis that the constitution of territory on the board constitutes a spatial analogy of the constitution of ego boundaries appears to find support in this correlation. Once again, this is not a term-to-term equivalence, but a possible preservation of structural relations between two registers.

Drawing on five years of psychotherapeutic workshops centered on Go in psychiatric settings, I observed that patients with a distrustful paranoid register (p-) tended to construct early, rigid, and overprotected territories, whereas those with a more expansive or megalomaniac orientation (p+) more often diffused influence across the goban, with less concern for stable boundaries. These observations led to the hypothesis of a relation between territoriality and psychotic organizations (Mary, 2024). Psychosis can be understood as a particular mode of relating to space and boundaries (Raballo, 2025), and Go, as a structured Euclidean space, may bring these spatial modes into tension (Mary, 2025): certain territorial configurations appear as attempts at stabilization in the face of porous internal limits. Without implying any deterministic correspondence, these observations support the hypothesis that territorial styles in Go may maintain structural relations with modalities of ego-boundary constitution.

The moyo-oriented player appears capable of investing the field without immediately enclosing it. This presupposes confidence in the dynamics of play. The territory-oriented player actively participates in reducing the initial indeterminacy between the space of the self and the space of the non-self (which is indeed a movement described by the p- factor). One may hypothesize that extremely territorial styles express, through playful mediation, an anxious need to materialize the boundary between ego and non-ego; whereas moyo-oriented styles presuppose having accepted the deferral of boundary

between ego and non-ego to a later stage (possibly even to the yose).

One plausible alternative account was that a low degree of territorial structuring in Go might reflect a form of psychic "invasion" or boundary instability, such that intrusion-related drive markers (p-) would be associated with reduced boundary construction on the board. In this view, difficulty maintaining a clear inside/outside distinction at the experiential level would be mirrored by a tendency to leave regions open, unclosed, or weakly delimited in play. However, the direction of the observed association does not support this straightforward "boundary-instability" model. Rather than aligning low territoriality with higher intrusion-related drive markers, our results suggest that the relationship is more complex than a simple mapping from intrusion anxiety to reduced boundary building. We rather interpret this correlation as suggesting that Go may offer a structured space in which defensive boundaries, required to contain experiences of intrusion or influence by the Other, can be enacted on the board.

## 4. Absence of one-to-one correspondence and plurality of configurations

The analysis of extreme cases shows that similar playing styles may correspond to different drive organizations. This non-biunivocality is essential, as it rules out any naïvely reductionist interpretation. Within the drive paradigm, a given behavior does not correspond to a single structure: acts are sites of partial satisfaction, which may be supported by distinct drive circuits. Thus, similar aggressive styles may reflect either repressed aggressiveness sublimated within the game or relatively non-conflictual aggressiveness directly expressed through it.

Rather than treating a game of Go as the expression of drives—an ontologizing postulate that presupposes a subject identified with a somato-psychic substance—it is more parsimonious to consider it as a locally constrained realization of a structure of relations (the drive organization), shaped by game rules, physical constraints, and the player's dispositional subjectivity. A correlational approach cannot adjudicate between these models, but the structural account is preferable insofar as it explains the same observations with fewer ontological commitments.

Observable playing style is therefore insufficient to infer the full underlying drive economy. This limitation does not refute the structural approach but highlights its complexity. While playing style may inform cognitive tendencies (Burmeister, 2000; Rieger, 2021; Samano, 2023), it does not allow a complete inference of deep psychic organization, although it may still support hypothesis generation.

Finally, the question of whether realizations from the drive domain to the Szondi and Go domains are "faithful" must be treated cautiously. In categorical terms, faithfulness would require that distinct transformations in the drive domain systematically produce distinguishable variations in their observable realizations. The observed associations suggest only that variations in drive-related scores are not randomly distributed with respect to strategic parameters. Given the small sample and wide confidence intervals, this indicates limited empirical sensitivity: the mappings cannot be considered injective, nor do observable domains fully preserve structural distinctions. At best, these realizations are partially informative and potentially lossy representations.

## 5. Limitations

The gender imbalance observed in our sample constitutes a major limitation to the external validity of the findings. This bias partly reflects the broader demographic composition of the Go community. According to data from the International Go Federation (IGF, 2016), fewer than 20% of amateur and professional players are women in most countries, often with proportions below 15%. In South Korea, the proportion has increased from 4% in 1994 to 21.7% in 2023, but remains a minority (Kang, 2024). In our online recruitment, launched through calls disseminated on Go-dedicated platforms (forums, social media), the majority of responses came from men, aligning with this community dynamic. To mitigate this bias, we encouraged initial participants to relay the announcement to potentially interested female players, adopting a snowball sampling approach. Two women were recruited in this way, but one had to be excluded due to incomplete data (SGF files not provided), further reducing female representation. Consequently, it is impossible to examine gender-related moderating effects or structural differences in the observed associations, limiting generalization beyond an essentially male sample.

To address this bias in future research, several strategies may be implemented, inspired by recommendations for reducing gender bias in scientific recruitment. These include targeted recruitment toward underrepresented groups, such as associations or forums dedicated to female Go players, in partnership with organizations promoting diversity in Go.

A correlational design does not allow us to exclude the influence of third variables that may simultaneously affect both drive configuration scores and Go playing style. Possible confounders include level of expertise, age, years of practice, cultural exposure to specific schools of play, and broader personality traits not directly captured by the Szondi model. Future studies should explicitly model such variables and test whether the observed associations

remain when statistically controlling for these factors.

The displacement of the Szondi test from a clinical interpretative framework to a quantified correlational framework raises important questions. Does our use of it in this study remain faithful to the psychoanalytic paradigm from which it originates? Certainly, situating the Experimental Diagnostic of Drives within a quantitative framework drastically attenuates its epistemic value (Mosso-Gautier, 2023). The full interest of the test is best appreciated within a monographic approach. The limitations of the present study should encourage the development of heuristics grounded in single-case studies, for instance through in-depth analysis of a particularly significant player.

## Conclusion

The observed associations are compatible with theoretical interpretations derived from the drive paradigm: Go playing style can function as a stage for the partial satisfaction of structural tensions, and certain strategic orientations may maintain correspondences with particular drive organizations independently formalized.

Nevertheless, these correspondences are neither causal, nor one-to-one, possibly nor exhaustive. They constitute structural indices within a specific theoretical framework. Statistical caution does not invalidate theoretical interest; it simply delineates its scope. The small sample size does not undermine the theoretical plausibility of our prior hypotheses (generated from theoretical speculation and clinical observation), but it considerably limits the precision of the estimates and the evidential strength of the observed associations.

*No conflict of interest. To preserve participant confidentiality, individual profiles are not described in a way that would allow indirect identification through combined rare characteristics.*

## Acknowledgments

The article was initially written in French and then translated into English using ChatGPT (5.2) under my supervision. I would like to acknowledge Stéphane Vautier, whose courses I attended nearly twenty years ago and which ultimately bore fruit; as well as Josef Moudřík and his colleagues, whose work constituted an essential pillar of this research.

# References


Amrhein, V., Greenland, S., & McShane, B. (2019). Scientists rise up against statistical significance. *Nature, 567*(7748), 305–307. https://doi.org/10.1038/d41586-019-00857-9

Anzieu, D. (1974). Le moi-peau. *Nouvelle Revue de Psychanalyse, 9*, 195–208.

Bartram, Dave. (2007). Increasing Validity with Forced-Choice Criterion Measurement Formats. International Journal of Selection and Assessment. 15. https://doi.org/10.1111/j.1468-2389.2007.00386.x.

Bernard, C. (1865). *Introduction à l'étude de la médecine expérimentale*. J.-B. Baillière.

Burmeister, J. (2000). *Studies in human and computer Go: Assessing the game of Go as a research domain for cognitive science* (Doctoral dissertation, University of Queensland).

Connes, A., Gauthier-Lafaye, P. (2022). *À* l'ombre de Grothendieck et de Lacan. Un topos sur l'inconscient, Odile Jacob.

D'Agostino McGowan, L., Gerke, T., & Barrett, M. (2024). Causal Inference Is Not Just a Statistics Problem. Journal of Statistics and Data Science Education, 32(2), 150–155. https://doi.org/10.1080/26939169.2023.2276446

Deri, S. (1991). *Introduction au test de Szondi [1949]*. De Boeck.

Eco, U. (1975). Trattato di semiotica generale, La Nave di Teseo.

Freud, S. (1957). *Instincts and their vicissitudes [1915]* (J. Strachey, Trans.). In J. Strachey (Ed. & Trans.), *The standard edition of the complete psychological works of Sigmund Freud* (Vol. 14, pp. 109–140). Hogarth Press.

Freud, S. (1955). *Beyond the pleasure principle [1920] in The standard edition of the complete psychological works of Sigmund Freud* (Vol. 18, pp. 7–64). Hogarth Press.

Freud, S. (1964). *New introductory lectures on psycho-analysis [1933] in The standard edition of the complete psychological works of Sigmund Freud* (Vol. 22, pp. 1–182). Hogarth Press.

Garcia Siso, A. (2008). Fiabilité et validité du test de Szondi. Szondiana, 71-90.

Greimas, J. (1976). Sémiotique et sciences sociales. Paris, Seuil.

Grothendieck, A. (1986). *Récoltes et semailles: Réflexions et témoignage sur un passé de mathématicien*. Université des Sciences et Techniques du Languedoc.

Ioannidis, J. P. A. (2005). Why most published research findings are false. *PLOS Medicine*, 2(8), e124. https://doi.org/10.1371/journal.pmed.0020124

Kang, J., Song, H., Kim, S., et al. (2024). Breaking the board: The rise of female Go players in Korea. *Humanities & Social Sciences Communications, 11*, 1347. https://doi.org/10.1057/s41599-024-03831-7

Káplár, M., Bernáth, L., & Kiss, E. (2012). On the track of the validity of the Szondi test. *Szondiana, 32*, 24–31.

Kim, S. H., Han, D. H., Lee, Y. S., et al. (2014). Baduk improved cognitive function and brain activity in children with ADHD. *Psychiatry Investigation, 11*, 143–151.

Kramer, S. (2021). A Galois-Connection between Myers-Briggs' Type Indicators and Szondi's Personality Profiles [2014], Szondiana, 34, 1.

Lacan, J. (1973). *Le Séminaire, livre XI: Les quatre concepts fondamentaux de la psychanalyse* [1964]. Seuil.

Legrand, M. (2022). *Léopold Szondi: Son test, sa doctrine* (2e éd.) [1979].

Mardaga.

Mac Lane, S. (1978). *Categories for the working mathematician* (2nd ed.). Springer.

Mary. (2024a). The epistemic costs of evidence-based ideology in social sciences. Communication presented at the International Cultic Studies Association (ICSA), Barcelona.

Mary. (2024b). *Le jeu de go, une voie royale vers l'inconscient*. L'Harmattan.

Mary. (2025). Psychose dans l'institution: Prolonger les lignes du jeu de go. *Revue hospitalière de France, 623, 86–88.*

Máté, V., Káplár, M., Kiss, E. (2012). A projective study on meditation: comparison of a meditation group and a Hungarian control group by Szondi Test. *Szondiana*, 32, 41-47.

Mello Schivitz, I. A., Mello Schivitz, K., Pereira da Silva, C. J. (2008). The Szondi drive test validity: a correlational study. *Szondiana*, 276-282.

Mosso-Gautier, F. (2023). *Vers une compréhension moderne et scientifique du Diagnostic expérimental des pulsions* (Doctoral dissertation, University of Nice).

Moudrik, J., Baudis, P., & Neruda, R. (2015). Evaluating Go game records for prediction of player attributes. *IEEE Transactions*

Raballo, A., Poletti, M., Bevione, F., Lacidogna, M. C., & Preti, A. (2025). L'espace vécu and its perturbations in schizophrenia: Systematic review and meta-analysis of altered body-centric metrics—Personal and peripersonal space. *Schizophrenia Bulletin, 51*(3), 578–594. https://doi.org/10.1093/schbul/sbae159

Rieger, M. O., & Wang, M. (2021). Cognitive reflection and theory of mind of Go players. *Advances in Cognitive Psychology, 17*(2), 117–128.

https://doi.org/10.5709/acp-0322-6

Samano, M. A. W. (2023). The game of Go as a support in the development of cognitive skills. *Journal of Go Studies, 17*(2), 191–202. https://doi.org/10.62578/316760

Shirsat, T., & Yen, S.-J. (2026). Identifying fighting, balanced, and territorial Go player styles with deep learning. *Entertainment Computing*, *56*. https://doi.org/10.1016/j.entcom.2025.101036

Skinner, B. F. (1990). *Cumulative record: A selection of papers* (3rd ed.). Appleton-Century-Crofts.

Szondi, L. (1973). *Le diagnostic expérimental des pulsions* [1952]. PUF.

Thiry, B., & Parete, S. (2015). Validité prédictive du test de Szondi dans l'évaluation de la psychopathie. *Annales Médico-Psychologiques*. https://doi.org/10.1016/j.amp.2014.12.016

Vautier, S., & Mazet, N. (2020). La psychologie doit la vérité scientifique pour la justice sociale: Une réponse à Canguilhem. HAL archive ouverte (halshs-02535106).

Received : 26 February 2026
Accepted : 14 April 2026