

Personality Types and Study Preferences:

Toward a Personal Study Type Indicator (PSTI)

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Abstract

This paper investigates the often-debated connections between personality types and learning preferences, specifically testing whether established instruments like the Myers–Briggs Type Indicator (MBTI) and the North Carolina Index of Learning Styles (NCILS) exhibit meaningful associations (Myers & Briggs, 1998; Boyle, 1995). While personality influences aspects such as energy source and information absorption (Cervone & Pervin, 2022; Funder, 2019; Ackerman & Heggestad, 1997; Chamorro-Premuzic & Furnham, 2005), a direct one-to-one relationship between specific personality type dimensions and learning styles is not consistently observed (Pashler et al., 2008). We report results from a small survey ($N = 37$) that paired MBTI dichotomies with NCILS-like learning categories and used chi-square tests of independence to check for associations (Cohen, 1988). We additionally incorporate Erving Goffman’s social interaction theory to argue that classroom identities and enacted roles mediate how self-reports translate into study behavior (Goffman, 1959; Eckert, 2008). Overall, the only robust association found was between Extroversion/Introversion (E–I) and Active/Reflective (A–R) learning ($\chi^2(1, N = 37) = 8.07$). Other MBTI–NC pairings failed to reach significance. Based on these findings and theoretical considerations, we propose the Personal Study Type Indicator (PSTI) — a context-specific instrument designed to measure study behaviors by combining modality (visual vs. auditory), structure (structured vs. flexible), and orientation (theoretical vs. practical) (Pashler et al., 2008; Tuckman, 1965). Social interaction theory is explicitly used to explain why personality instruments and learning-style questionnaires may diverge: identities are performed and negotiated in group settings, altering both self-report and observed study behavior (Goffman, 1959; Eckert, 2008).

1. Introduction

Personality inventories and learning-style questionnaires have become common tools in education and workplace settings because they offer accessible frameworks for reflection and team formation (Ackerman & Heggestad, 1997; Chamorro-Premuzic & Furnham, 2005; Funder, 2019). The MBTI (Myers & Briggs tradition) is frequently used to foster self-awareness and improve team dynamics (Myers & Briggs, 1998; Boyle, 1995), whereas instruments such as the North Carolina Index of Learning Styles (NCILS) aim to identify how learners prefer to take in and process information (Pashler, McDaniel, Rohrer, & Bjork, 2008). Both types of instruments promise practical guidance, but they operate across different psychological domains: the MBTI emphasizes stable (or habitual) preferences in perception and judgment (Jung, 1971; Cervone & Pervin, 2022), while NCILS targets study and learning behaviors (Pashler et al., 2008).

Despite surface similarities in categorical structure (both frameworks use four dichotomies), it is unclear whether MBTI dimensions systematically predict learning preferences captured by NCILS (Boyle, 1995; Ackerman & Heggestad, 1997). If strong associations exist, educators might rely on personality measures as proxies for study guidance; if not, instruments that explicitly target study behavior (or a hybrid instrument) are warranted (Pashler et al., 2008).

We draw on Erving Goffman's social interaction theory (and his dramaturgical approach) as a lens to interpret why MBTI and NCILS results may diverge (Goffman, 1959). Goffman emphasizes that people perform roles and manage impressions depending on social context; in classrooms and study groups, students often enact identities (e.g., the class clown, the diligent note-taker) that may differ from their private dispositions. Robin Eckert (and related scholars on school identities) further argues that classroom identities are constructed within school societies and are central to how students behave and are perceived (Eckert, 2008). These perspectives

suggest that self-reports on personality and study habits are filtered through enacted roles and group expectations, making perfect alignment between instruments unlikely (Goffman, 1959; Eckert, 2008).

This paper reports a small empirical test of MBTI–NCILS associations, interprets the outcomes through social interaction theory, and uses the empirical and theoretical results to design a context-specific alternative — the Personal Study Type Indicator (PSTI) — focused on study behavior rather than global personality. Section 2 outlines the method. Section 3 presents descriptive results and chi-square analyses. Section 4 discusses theoretical implications (Goffman and Eckert), limitations, and the PSTI design. Section 5 concludes with recommendations for further development and use in schools.

2. Method

2.1 Participants

A total of thirty-seven participants ($N = 37$), including students and teachers from the American School of Guatemala aged approximately 11 and above, voluntarily completed both the MBTI and NCILS questionnaires online. Recruitment occurred via email and social media outreach, and no incentives were offered. Before participation, all individuals reviewed and signed an informed consent outlining the study's purpose, procedures, and participants' right to withdraw at any time without penalty; minors also provided assent. Data were collected through secure Google Forms and included only basic demographic details, MBTI, and NCILS results. All responses were anonymized, with no personally identifiable information stored or linked to responses. The raw data were stored on a password-protected drive accessible only to the research team and deleted one month after collection. Participation was entirely voluntary, with no coercion or academic influence involved. Participants were informed that the study examined

the relationship between personality traits and study preferences, and that results would be reported in aggregate for educational and academic purposes.

2.2 Instruments and pairing logic

We used a standard MBTI dichotomy framework (E–I, S–N, T–F, J–P) and paired each MBTI dimension with a conceptually similar NCILS (or NCILS-like) learning dimension.

Pairings were:

- E–I (Extroversion–Introversion) ↔ A–R (Active–Reflective): both relate to preferred social/energy contexts for processing information.
- S–N (Sensing–Intuition) ↔ S–I (Sensing–Intake): both concern perception and the type of information noticed.
- T–F (Thinking–Feeling) ↔ V–A (Visual–Auditory / Presentation preference): hypothesized link between decision/valuation style and presentation modality (tested but conceptually weaker).
- J–P (Judging–Perceiving) ↔ G–S (Global–Sequential or Organizing information): both relate to structure and organization.

Each participant's MBTI dichotomies (as self-reported) were cross-tabulated against their NCILS responses, producing 2×2 contingency tables for each pairing.

2.3 Statistical analysis

A chi-square test of independence (χ^2) was computed for each MBTI–NCILS pairing to test whether the MBTI dimension and the NCILS dimension were associated. Degrees of freedom for all tests were 1. We report χ^2 , sample size ($N = 37$), and whether the test reached conventional significance levels ($\alpha = .05$). Given the small sample size, tests are treated as exploratory and interpreted with caution.

2.4 Limitations of the method

Key limitations include small sample size (reducing power and generalizability), reliance on self-report (potential response bias, social desirability, or faking), forced dichotomies in MBTI (which can obscure continuous variation), and measurement mismatch between instruments (personality vs. study behavior). These limitations are discussed further in Section 4.

3. Results

3.1 Summary statistics

Table 1 demonstrates the statistical result. The only pairing that showed a statistically significant relationship was Extroversion–Introversion with Active–Reflective learning. The other three pairings did not show reliable associations in this sample.

MBTI	Paired NCILS	χ^2	df	N	Result
E–I	Active–Reflective (A–R)	8.07	1	37	Significant
S–N	Taking in Information (S–I)	3.25	1	37	Not Significant
T–F	Visual–Auditory (V–A)	0.90	1	37	Not Significant
J–P	Organizing Info (G–S)	0.44	1	37	Not Significant

Table 1.

3.2 Descriptive observations

The E–I ↔ A–R association aligns with intuitive expectations: extroverts tend to prefer active, social modes of learning while introverts lean toward reflective, solitary study. S–N ↔ S–I did not reach significance, suggesting that the perceptual orientation captured by S–N may not directly translate into the study intake preferences operationalized in NCILS. T–F and J–P

pairings similarly failed to predict modality or organizational preferences, which may reflect the conceptual distance between decision/lifestyle preferences and concrete study behaviors.

4. Discussion

The data provide limited support for a direct, generalizable mapping from MBTI personality categories onto NCILS learning styles. The E–I ↔ A–R result suggests some overlap between where people get energy (social vs. solitary) and how they prefer to process information in learning contexts. However, the absence of associations for the remaining pairs underlines a crucial point: instruments that target different behavioral domains (personality vs. learning habits) will often yield weak or inconsistent correspondence.

4.1 Interpreting the findings through social interaction theory

Goffman's dramaturgical metaphor explains why personality labels and study-habit labels may not neatly align. Goffman interprets everyday life as a theater and individuals as actors or performers using place, props, and a personal front, i.e., appearance and manner. Performance occurs at the front stage, visible to the audience, and is prepared in a back stage, which is not visible to the audience. (Goffman, 1959). Individuals present different 'fronts' depending on the stage and audience; classrooms are social stages where students negotiate identities. This suggests a possibility that the non-association between MBTI and NCILS is a result of the mismatch between the “front” and “back” stages. Whereas MBTI is a self-report test on individuals' overall perception of themselves in general, both social and private, context, NCILS tests students' perception of themselves in studying environments, e.g classroom, that falls into the front stage category where students' behavior and identity are not shaped autonomously, but through interaction with other faculty, teachers, and peers.

School is a social setting that requires performers to assume different roles. As Eckert and other educational sociologists argue, classroom roles (the class clown, the organizer, the quiet scholar) are relationally constructed and maintained (Eckert, 2008). Eckert's interpretation substantiates Goffman's dramaturgical interpretation. Because the roles students play are not chosen but assigned through interactions with their peers, the way students study and interact in an academic context may vastly differ from their personalities and behaviors in other settings. Thus, a student who identifies as introverted in general life may perform extroverted study behaviors within a collaborative classroom environment (or vice versa), which attenuates associations between global personality measures and situational study preferences. Together, Goffman and Eckert's interpretations of social interaction at school suggest that global personality tests like MBTI or study preference tests like NCILS may not take how students perceive themselves and behave differently in an academic environment.

4.2 Why MBTI and NCILS fall short for study-specific diagnostics

Furthermore, labeling effects (self-fulfilling prophecies/Pygmalion effects) can reinforce role performance: once labeled as an 'introvert' or a 'visual learner,' students may attend to information and behaviors that confirm the label, further complicating the link between measured personality and measured study style (Cervone & Pervin, 2022; Funder, 2019). Cervone and Pervin's claim supports the already mentioned limitations of any self-reported personality test. As a result, MBTI and NCILS often fail to provide a perfect match between personality and study behavior because they target different psychological domains. The MBTI assesses broad habitual preferences, emphasizing perception and judgment, whereas NCILS specifically focuses on learning styles and processes. This domain mismatch means that each test cannot be overlapped perfectly.

In addition, MBTI's forced dichotomies can obscure nuanced or context-dependent preferences, limiting them from predicting and analyzing study habits. Social performance also plays a crucial role in classroom dynamics as peer expectations shape how students behave and report their preferences, so observed study behaviors may diverge from self-reported results.

Finally, NCILS was developed primarily for higher education contexts (university), so it may not be a good measure to generalize to younger students in different learning environments. Overall, these factors suggest that neither instrument alone is sufficient to diagnose study-specific characteristics.

4.3 PSTI Design Notes

PSTI is designed and structured on the basis of situational and contextual items in order to capture authentic and genuine study behaviors and preferences, which reflect how students actually engage in a learning environment. To avoid any artificial dichotomies, Likert scales provide gradations rather than forcing participants into extreme dichotomies, painting a more accurate picture of students. Observations and in-class tasks, including teacher ratings, reduce the errors that come from self-reports alone. Short open-ended prompts like: In group projects, which role do you usually take, can capture how students perform roles and interact with others. Example items further include: "When studying for text, I learn best by explaining ideas aloud to others" for group mode, and " I understand new concepts best when I see a diagram or flowchart" for modality. By combining these approaches, PSTI provides practical and authentic insight into students' study behaviors while accounting for social and classroom contexts.

4.4 Toward a Personal Study Type Indicator (PSTI)

Given the empirical and theoretical issues above, we propose the PSTI as a context-specific instrument designed to measure study behaviors rather than global personality.

i) Group Mode

In PSTI, the first dichotomy is Group-oriented vs. Solo-oriented. This parallels E–I/A–R, but it focuses strictly on study contexts. It simulates classroom situations where students either have to work on class material or an assignment as a group or individually.

ii) Modality

Modality examines student preferences in using which medium to process information. The Visual category involves diagrams, charts, and images, and the Verbal/Auditory category includes lectures, explanations, and written narrative.

iii) Structure

Structure refers to whether learning happens under rigid structure (e.g., step-by-step guides or outlines) or through flexible/spontaneous brainstorming and ideation processes.

iv) Orientation

The last dichotomy concerns Theoretical (conceptual understanding) versus Practical (learning by doing). This simulates situations where

4.5 Practical implications

A short, accessible PSTI could help students reflect on study tactics and help teachers design balanced instruction that serves diverse study preferences. An expanded PSTI that includes observational measures which could also be helpful for counseling and individualized study planning. Paired with other psychology tests and academic assessment, PSTI is expected to offer insights into what conventional tests have not addressed.

4.6 Limitations and future directions

This study is exploratory and limited by small, convenient sampling and reliance on self-report. Future work should: expand sample size and diversity, include objective performance

measures (e.g., grades, task performance); test PSTI items empirically; and explore longitudinal stability and predictive validity of PSTI categories.

5. Conclusion

This study found limited overlap between MBTI personality dimensions and NCILS learning preferences, with the notable exception of an association between Extroversion/Introversion and Active/Reflective learning. The mismatch between instruments, together with social interaction processes highlighted by Goffman and Eckert, suggests that study behavior is at least partly situational and performed, not fully captured by global self-report personality inventories. To better diagnose and support students' study habits, a context-specific instrument such as the PSTI is recommended: it would focus on modality, structure, and orientation and combine self-report with observational components.

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