Campus Social Climate Correlates of Environmental Type Dimensions

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To address the ability of the Salter Environment Type Assessment (SETA) to measure different kinds of campus environments, data from three studies of the SETA with the Work Environment Scale, Group Environment Scale, and University Residence Environment Scale were reexamined (n = 534). Relationship dimension scales were very consistent with extraversion and feeling from environmental type theory. System maintenance and systems change scales were associated with judging and perception on the SETA, respectively. Results from the SETA and personal growth dimension scales were mixed. Based on this analysis, the SETA may serve as a general purpose environmental assessment for use with the Myers-Briggs Type Indicator.

The person-environment interaction (PEI) model has long served as an organizing framework for student affairs practice (Strange & Banning, 2001). To advance the utility of the PEI framework in practice, Salter (2000a) developed a theory of environmental types and a

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related measure, the Salter Environmental Type Assessment or SETA (2000b), to work in conjunction with Jung's (1921/1971) theory of psychological types and the Myers-Briggs Type Indicator or MBTI instrument (Briggs & Myers, 1998). Salter's approach respects the PEI demands for parallel descriptions and measures of the person and the environment, which can then be used in harmony to understand behavior more fully (Tinsley, 2000; Winkel, 1985). The overall approach also provides a specific focus on the recognized role of personality in person-environment interactions (Hogan & Roberts, 2000: Little, 1987). Because the MBTI instrument is a general approach to personality assessment and used in many areas of student affairs practice, the SETA also needs to span the variety of behavioral environments found in higher education (Salter, 2000a). Specifically, this study concerned the validity of environmental type constructs, as measured by the SETA, across three environmental domains where the MBTI tool is typically used with students: work settings, groups, and residential environments.

Practical Significance

Jung (1921/1971) observed that people are oriented to one of two types of psychic energy. Extraverts (E) prefer to interact with the external environment of people and things, and they are comfortable and responsive to the world around them. Introverts (I) prefer the subjective energy from within themselves, such as ideas, feelings, thoughts, or perceptions. They are less comfortable with the demands of the environment and often seek independence from it. Within these two preferred worlds, people must use two different adaptive processes: perception (P) and judgment (J). The perceptive process relies on two functions. Sensing (S) individuals prefer to take in information through their five senses and tend to be focused in the here-and-now. They take a practical and accepting approach to the environment. An intuition (N) is built on a "sixth sense" and people with this preference tend to be creative and imaginative in their interactions. Finally, people make decisions in two ways. Thinking-oriented (T) people employ analytical, cause-and-effect reasoning that is based on objective appraisal. People with a feeling preference (F) tend to make value-oriented judgments and to check objective data with their personal

beliefs (see Myers, McCaulley, Quenk, & Hammer, 1996 for more discussion).

The MBTI instrument continues to be used in multiple areas of student affairs practice, due in large part to its ability to identify the relatively stable, nonpathological personality preferences first described by Jung. As a matter of fact, most interventions based on MBTI results are about helping students, staff, and faculty recognize their personality preferences and then use them to their advantages (Evans, Forney, & Guido-Dibrito, 1998; Schroeder, DiTiberio, & Kalsbeek, 1989; Schurr, Ruble, Palomba, Pickerill, & Moore, 1997). *Having* these preferences is different than *using* them, however, as not every behavioral environment that people encounter provides opportunities for them to use or develop their personality preferences fully. Therefore, the ability to describe and measure environments in terms that parallel psychological type and the MBTI instrument gives a practitioner an additional tool for helping individuals manage the influences of different kinds of environments. For example, to help feeling-oriented students cope with the incongruence of thinking-oriented classrooms (Salter, 2003a), a learning support center might offer small, intimate study groups that meet outside of class.

Environmental Types and the SETA

Even though environmental assessment appears to be a critical part of student affairs practice (Schuh & Upcraft, 2001), methods for creating these measures are not well defined (Gifford, 1997). Therefore, two parallel strategies were used to create this overall assessment approach (Salter, 2000a). First, Salter developed a theoretical taxonomy of environmental types by examining Jungian references to behavioral environments, the growing body of MBTI research related to the functioning of different psychological types in different situations, and the emerging environmental research related to the functioning of behavioral environments within the PEI framework. Table 1 provides descriptors of the four dimensions in the taxonomy of environmental types.

Table 1
Salter Environmental Type Assessment Scale Descriptions

Extraversion-Introversion (E-I) Scale

Extraverted Environment: Requires attention and participation of the people in it. Openly manages the exchanges in the environment. Serves as a catalyst for a broad array of events and actions. May be loud, noisy, bright and/or social.

Introverted Environment: Allows individuals to regulate the extent of interactions. Facilitates private actions and individual functioning. May be described as subdued, quiet, sedate, and reserved.

Sensing-Intuition (S-N) Scale

Sensing Environment: Primarily focuses on existent environmental elements (people, things, rules, values). Elements are identified for their immediate, practical applications and honed to the task.

Intuitive Environment: Diverges from the existent elements in the environment. Diversity and experimentation would be conspicuous, as well as presses toward creativity and/or discovery.

Thinking-Feeling (T-F) Scale

Thinking Environment: Contains objective sets of logical operations that are based on a central, depersonalized truth or science. Even though detached appraisal can often guide and advance the work of the thinking environment; competition, skepticism, and distrust might also be conspicuous.

Feeling Environment: Emphasizes connectiveness and stresses values and interpersonal interactions. Basic trust and warmth might be evidenced, although the environment could seem coercive and manipulative at a negative extreme. May be labeled as socially-oriented, humanistic, or sentimental.

Judging-Perceiving (J-P) Scale

Judging Environment: Manifests orderliness and/or "plannedness" of the environment, both in operation and organization. Environmental systems (e.g., policies or customs) would function to maintain a coherent, collective reality, but may become fixed and stagnant.

Perceiving Environment: Accentuates the elements in the environment. In some perceiving environments, the task of establishing a repertoire of elements could be sufficiently challenging as to thwart any efforts at maintaining a consistent reality. Disorder and change may be conspicuous.

Source: Adapted from Salter (2000b)

The SETA was created to measure the taxonomy of environmental types; and over the years, improvements to the taxonomy and instrument have been reflected in the other (Salter, 2000a). A summary of various "environmetric studies" (p. 23) of SETA scores appears in the Instrumentation section of this article. Within the many phases of instrument design, one form of validity study concerns whether the scores from the newer measure are consistent with those from established measures. To test the concurrent validity of SETA scores, various studies have been conducted with Moos' (1994a) social climate assessments (Salter, 2002; Salter & Irvin, 2003; Salter & Junco, 2004). Because of the different orientations of these social climate measures, this study could bring them together to address the question of whether consistent patterns of validity in SETA scores can be observed across some of the behavioral environments in which the MBTI tool is used.

Social Climate Measures

In the 1970s, Moos and his associates devised several assessment instruments to measure "the 'personality' of a setting or environment" (1994a, p. 2). No independent person measure was created, similar to the MBTI instrument, although a differential between real and ideal perceptions is typically employed to gauge individual needs. Even though most constructs in his social ecology theory transcend many behavioral environments (e.g., the interpersonal dimension), the environmental assessments that were developed are specific to particular environmental domains (e.g., classroom, work, family, group, etc.). At least three of these domain-specific assessments would seem to be suitable, concurrent measures for campus environments: the Work Environment Scale or WES (Insel & Moos, 1974), the University Residence Environment Scale or URES (Gerst & Moos, 1974), and the Group Environment Scale or GES (Moos & Humphrey, 1974). Of note, the classroom measure that was originally developed by Moos and Trickett (1974) is not appropriate for college students, as it was focused on the experiences of junior and senior high school students (Moos, 1979, p. 138).

Environmental Types and
Social Climate Dimensions

Based on the theories that undergird these two approaches to environmental assessment, several relationships would be expected between scores on the SETA and Moos' social climate measures. Although they were designed for different environmental domains, the ten subscales on the three social climate assessments can be organized into three sets of dimensions (Moos, 1994a). The *relationship dimensions* address personal relationships within an environment (e.g., involvement and cohesion), a supportive atmosphere, and expressiveness of individuals in the environment. The strong personal nature of the relationship dimensions suggests an association with feeling environments, which also place a high value on interpersonal interactions in the environment. Additionally, Moos' view of involvement is similar to environmental extraversion, including expectations toward togetherness and participation.

The second set of dimensions, *personal growth or goal orientation,* concerns whether the environment aids personal growth and progress toward goals. The subscales in this section of Moos' instruments vary greatly from assessment to assessment, and many appear only once across the three instruments (e.g., anger and aggression on the GES and competition on the URES). Because the S-N and T-F dimensions are also functional processes in environmental type theory, they were expected to correlate with many of the subscales on this set of dimensions. SF should be associated with specific, personal interactions among individuals (positively with traditional social orientation and negatively with anger and aggression) and ST with more nonpersonal aspects related to goal orientation (competition, work pressure, task orientation, and academic achievement). The combination of N and F appears consistent with a broader view of personal functioning that would allow for autonomy, independence, and self discovery. Only one scale, intellectual, might be anticipated to relate to the scientific and theoretical characteristics associated with NT environments.

Finally, the *systems maintenance and systems change* (SMSC) dimensions concern how clearly structured the environment is (e.g., clarity and organization) or its responsiveness or ability to change (influence and

innovation). Such constructs seem related to the judging-perceiving dimension of environmental types. However, whereas SMSC constructs are more independent in Moos' approach, Salter (2000a) conceptualized these notions as a dichotomy. He believes that a highly structured environment might be less responsive to change and innovation and that structure would be harder to maintain in a more fluid and changing environment. Of note, such a dynamic is suggested in Moos' (1979) cluster analyses of URES scores. Of the six clusters he identified for living environments (relationship oriented, traditionally socially oriented, supportive achievement oriented, independence oriented, intellectually oriented, and competition oriented), the first five clusters show a pattern where order and organization tend to have an inverse relationship to innovation.

Research Question

Although SETA scores have begun to show acceptable levels of validity *within* specific environmental domains, their validity *across* these domains would seem to be a special concern if the assessment is to serve as a companion to the MBTI instrument. Moos' social climate measures provide a viable set of measures of the campus environments that can be used to test the validity of SETA scores across various types of social climates. Therefore, the question was asked in this study: Are there similar patterns of associations between SETA scores and those of three social climate scales?

Method

Sample and Procedure

For this project, data from three separate factor analytic studies of the SETA were brought together and reexamined. In each study, the SETA and a social climate measure were administered to a group of volunteer college students who used the same behavioral environment when completing both instruments. In a SETA study with the Work Environment Scale (Salter, 2000a), 202 college students were asked to rate a current or previous work setting. Those participants were either part-time university employees or students in various college classes (e.g., a course on career counseling). Data from the GES study were

obtained from 191 students in four, first-year seminar classes, one upper division undergraduate, and two graduate classes in education (Salter & Junco, 2004). These students assessed a group to which they currently belonged (e.g., a team or a club). The URES and SETA data (Salter & Irvin, 2003) were acquired from 141 Residents Assistants (RAs) at a research one university in the Northeast. These profiles were collected either within a staff team or during RA class, for those RAs-in-training. These students provided their perceptions of the residential environment in which they were currently living. All three samples were convenience samples, however.

Instrumentation

SETA

Each SETA scale is comprised of 15 response pairs, for a total of 60, in both phrase question (33%) and word pair (67%) formats (consistent with MBTI item formats). Respondents must pick the item responses that better describe the behavioral environment being assessed. SETA items were rationally produced using two strategies. One source was the behavioral correlates of the psychological types found in MBTI research. Items were also based on theoretical notions found in the emerging taxonomy of environmental types. A differential between the subtotals of the two types of the responses is computed for each scale, ranging from -15 to + 15. Like the MBTI tool's ipsative approach, these differentials are used to sort scores into four, dichotomous type categories: Extraversion-Introversion (E-I), Sensing-Intuition (S-N), Thinking-Feeling (T-F), and Judging-Perceiving (J-P).

The environmetric properties of SETA results have been addressed on multiple fronts. A confirmatory factor analysis of 1,000 SETA profiles found the four-factor model suggested in environmental type theory to be the best fit (Salter & Vandiver, 2002). Recent estimates of the internal consistency of SETA scores across social climate domains (Salter, 2003b) ranged from .73 to .86 for individual perceptions of college environments. Earlier construct studies have been reported in the *SETA Manual* (Salter, 2000a, pp. 26–30), including analyses of the dichotomous scoring, scale independence, and artifactual effects from the MBTI instrument (i.e., knowing a person's MBTI profile does not appear to predict how he or she will respond to the SETA). Using the

SETA in the way for which it was designed, behavioral studies with the MBTI tool have been conducted to understand stress in student services offices (Karras, 1990) and the "chilly" classroom climate (Salter, 2003a).

WES, GES, and URES

Similar to the SETA and the MBTI instruments, all of Moos' social climate measures were created with both conceptual and empirical methods (Moos, 1994a). For the WES and GES, nine true-false items comprise each of the ten scales for a total of 90 items. The URES has 10 scales with 9 or 10 items for a total of 96 scored items. A score on a scale is the summation of the total number of items answered toward the positive side of the construct, ranging from 0 to 9 or 10. These raw scores are then standardized to a distribution with a mean of 50 and a standard deviation of 10 (Moos, 1981; 1988; 1994b). A low score indicates a deficit or lack of that social climate dimension in the environment. The WES was normed on over 8,300 different employees, and the GES was normed on 305 groups. Moos reported an original standardization sample of 168 living groups for the URES; and of the three, it has probably seen the most use in student affairs practice.

Data Analysis

Because different participants were surveyed in different environments with different pairs of instruments, neither factor analysis nor meta-analysis techniques seemed appropriate for these pooled data. Instead, to test for simple relationships, point-biserial correlations were first computed between each dichotomy on the SETA scales and the raw scores on the WES, GES, or URES. Although computationally equivalent, the point-biserial correlation was used in place of the Pearson product-moment correlation coefficient to reflect the categorical scoring used on the SETA (the three original analyses used only differential scores) and to be a more conservative estimate of the relationships between scores. Then, for data presentation and comparison, similar subscales within the three social climate dimensions were grouped together (e.g., the involvement scales on the WES and URES and the task orientation scales on the WES and GES). Ideally, consistent patterns of statistically significant correlations should be observed between SETA scores and those from related social climate measures.

Results

Relationship Dimensions

The predominant finding for the relationship dimensions scales is their associations with both extraversion and feeling (see Table 2). Scores from all eight of these social climate scales were correlated with those from these two scales on the SETA. As a matter of fact, the strong focus on relationships in these environments was reflected in the fact that 59% of the SETA profiles indicated both E and F. Importantly though, the WES, GES, and URES are *social* climate measures, so such a pronounced finding might have been expected.

Table 2
Point Biserial Correlations between Relationship
Dimension Scales and SETA Scales

Social Climate Scales		SETA Scales			
		E-I	S-N	T-F	J-P
WES	Involvement	-.356**	.421**	.503**	.006
URES	Involvement	-.637**	.278**	.591**	.104
WES	Peer Cohesion	-.422**	.185**	.479**	-.049
GES	Cohesion	-.441**	.050	.316**	-.150*
WES	Supervisor Support	-.344**	.325**	.525**	-.051
GES	Leader Support	-.426**	-.056	.193**	-.185**
URES	Emotional Support	-.488**	.313**	.514**	-.027
GES	Expressiveness	-.193**	.157*	.192**	.182*

* *p* < .05, ** *p* < .01, GES (*n* = 191), WES (*n* = 202), URES (*n* = 141). E-I = Extraversion-Introversion, S-N = Sensing-Intuition, T-F = Thinking-Feeling, and J-P = Judging-Perceiving. Positive correlations are toward introversion, intuition, feeling, and perceiving.

Personal Growth and Goal Orientation Dimensions

As seen in Table 3, the results in this group of scales are mixed. Many of the expected relationships were not found. For these samples, SETA S-N and T-F scores seem unrelated to anger and aggression, traditional social orientation, academic achievement, and competition. One consistent theme does seem to revolve around the NF acceptance of people with autonomy and an opposite, ST focus on impersonal tasks with work pressure. Paradoxically, independence on the GES correlated with extraversion and feeling, but on the URES with introversion and thinking. Even though the latter finding is more congruent with expectations, perhaps the notion of independence means something different in a small group than in a living environment.

The relationships of the E-I and J-P dimensions to these social climate dimensions are noticeable, unanticipated trends in these samples. The involving nature of extraversion coupled with the structure found in judging seem related to task orientation on the WES and GES. Furthermore, given their strong EF focus , apparently the "task" of these behavioral environments concerns interpersonal relationships. Academic achievement on the URES is also related to judging, which would seem to be consistent with the view that a certain level of structure and organization is needed to achieve academic goals. In contrast, E, F, and P seemed related to two personal growth scales, autonomy and self-discovery.

Systems-Maintenance & Systems Change Dimensions

The subscales of the SMSC dimension also seem consistent with environmental type constructs (see Table 4). Scores related to system maintenance (e.g., order and organization, clarity, control) are consistently associated with judging on the SETA. Innovation, as a process of change in an environment, is the only SMSC scale associated with perception. Interestingly, some combinations of SETA scores also seem associated with SMSC scales, which may speak to the complexity of the constructs under study. Even in light of the overall EF disposition of these environments, innovation also correlates strongly with intuition on the SETA. Conversely, control in these environments correlates with both sensing and judging.

Table 3
Point Biserial Correlations Between Personal Growth and
Goal Orientation Dimension Scales and SETA Scales

		SETA Scales			
Social Climate Scales		**E-I**	**S-N**	**T-F**	**J-P**
GES	Independence	-.193**	.116	.159*	-.025
URES	Independence	.191*	-.097	-.363**	.163
WES	Task Orientation	-.240**	.096	.244**	-.233**
GES	Task Orientation	-.268**	-.102	.160*	-.320**
WES	Autonomy	-.327**	.403**	.493**	.228**
GES	Self Discovery	-.234**	.112	.238**	.189**
GES	Anger and Aggression	.098	-.057	-.122	.159*
WES	Work Pressure	.103	-.194**	-.227**	.105
URES	Traditional Social Orientation	-.105	-.056	.044	.153
URES	Competition	-.061	-.062	.049	.193*
URES	Academic Achievement	.009	-.104	.153	-.321**
URES	Intellectual	-.195*	.172*	.278*	-.113

* $p < .05$, ** $p < .01$, GES ($n = 191$), WES ($n = 202$), URES ($n = 141$). E-I = Extraversion-

Introversion, S-N = Sensing-Intuition, T-F = Thinking-Feeling, and J-P = Judging-Perceiving.

Positive correlations are toward introversion, intuition, feeling, and perceiving.

Table 4
Point Biserial Correlations between System Maintenance
and System Change Dimension Scales and SETA Scales

		SETA Scales			
Social Climate Scales		E-I	S-N	T-F	J-P
WES	Innovation	-.324**	.408**	.393**	.159*
URES	Innovation	-.535**	.407**	.293**	.370**
GES	Innovation	-.178*	.291**	.229**	.219**
GES	Order and Organization	-.233**	-.152*	.097	-.511**
URES	Order and Organization	-.200*	.072	.260**	-.267**
WES	Clarity	-.149*	.077	.261**	-.321**
WES	Control	.141*	-.291**	-.236**	-.112
GES	Leader Control	-.055	-.263**	-.172*	-.358**
URES	Student Influence	-.254**	.129	.232**	-.176*
WES	Physical Comfort	-.126	.158*	.119	-.219**

* $p < .05$, ** $p < .01$, GES ($n = 191$), WES ($n = 202$), URES ($n = 141$). E-I = Extraversion-

Introversion, S-N = Sensing-Intuition, T-F = Thinking-Feeling, and J-P = Judging-Perceiving.

Positive correlations are toward introversion, intuition, feeling, and perceiving.

Discussion

Considerations and Limitations

As tools for assessing the validity of SETA scores, these three instruments are somewhat limited. The URES, WES, and GES are *social* climate measures and primarily concern a person's active interactions in social settings. Hence, extraversion and feeling seemed to be consistent correlates throughout the three dimensions of social climates. As a matter of fact, in only two instances, independence on the URES and control on WES, do any coefficients indicate tendencies toward introversion. Further, only those two scales and work pressure on the WES and leader control on the GES are associated with thinking. Future studies of the SETA will need to use instruments that measure aspects of campus environments that are less social in nature and that approximate the countless types of environments encountered by college students.

Because this study was of different students in different environments, a question arises about the ability of the SETA to produce reliable and valid scores for a single person across multiple environments. For example, can a student perceive the feeling dispositions of an on-campus job, a social club, and a residence hall floor? Such a question would certainly be in keeping with Terenzini's (1994) admonition to map the complexities of the college environments encountered by individual students, and with findings in Schurr et al. (1997). Asking a student to participate in multiple administrations of the same 100-item assessment may not be realistic, however. Still, based on previous psychometric studies with countless other instruments (Cohen, Swerdilik, & Phillips, 2002), individuals appear to be relatively internally consistent (i.e., use the same criteria for making judgments on different tests and items). Therefore, the results in this study probably underestimate any within-subjects consistency.

Even though many are statistically significant, most of the correlations in this study are modest indictors of validity (although point-biserial correlations are generally more conservative). The lack of significant results relating to most of the personal growth dimensions is especially troubling. For example, ideally competition should have correlated with thinking and traditional social orientation with feeling. One rea-

son for these outcomes may be the fact that the social climate assessments were developed in the 1970s, so the wording on them may not reflect the current vernacular on campuses. As a case in point, URES item 64 discusses "exchanges and parties," which may have been confusing to current students. Another cause may lie in the fact that some of the social climate dimensions address the "content" more than "style" of the environment (e.g., anger and aggression on the GES). Also, the sample may not have provided enough variance in the scores on some of the social climate dimensions to test their concurrent validity with SETA scores.

Implications

It has been estimated that 20,000 new measurements and assessments are created each year (Cohen, Swerdilik, & Phillips, 2002). Even though it may be much smaller in higher education environments, such a staggering number begs many questions to student affairs practice. In the face of so many options, perhaps a certain level of "instrumentation parsimony" is warranted: one tool to do the job of many. If so, this analysis suggests that the SETA measures many of the same social climate constructs measured by three separate instruments. Additionally, the ability of the SETA to be a general purpose environmental assessment instrument fits well with the general nature of the MBTI tool, which provides the objective measure of the person that is lacking in Moos' approach and also seems to measure many common personality dimensions (Myers, McCaulley, Quenk, & Hammer, 1998).

In practice, use of the MBTI instrument often relies on an informal assessment of the situations surrounding a student or staff member. The theory of environmental types and the SETA provide means to describe and measure these presses or environmental demands. Based on this project and previous research, the SETA seems to meet the design objective of measuring type-relevant constructs across the various social climate domains. Therefore, if the goal is to provide experiences that both challenge and support the use of personality preferences, then environmental type theory and the SETA would seem to provide practitioners a framework for designing interventions and a means to assess current environments and evaluate the impact of any changes.

Finally, even though it has been noted as germane to both research and practice involving college students, the role of campus environments appears to have received less attention in recent years. Improving this situation will rely on frameworks and strategies to assessment that respect person-environment interactions more fully. As Salter (2000a) observed, many supposedly person-centered theories contain underdeveloped environmental constructs that are critical to understanding behavior and supporting growth and development. For example, a measure of the moral orientation of students (Liddell, Halpin, & Halpin, 1992) does not necessarily provide a means to gauge the "care" and "justice" qualities of the environments in which these students function. Given the ascendance of several cognitive-structural and identity development theories over the past decade (Evans, Forney, & Guido-Dibrito, 1998), perhaps researchers and practitioners should be reexamining environment assessment as a means to enhance the application of these works. In this way, the SETA project may also serve as a model to other such endeavors.

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