

# THE CONCEPTUAL-LEVEL MATCHING MODEL IN CORRECTIONS

MARGE REITSMA-STREET

*Nipissing University College*

ALAN W. LESCHIED

*London Family Court Clinic*

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The Conceptual-Level Matching Model (CLMM) is reviewed with a focus to its application in the development of treatment/rehabilitation programs with offender groups. The CLMM is a theoretical model describing outcomes from hypothesized interactions between a person variable, conceptual level, in interaction with differing types of environments described in terms of structure. Reliability and validity of both CL and the matching model are presented with emphasis given to a review of studies involved with CL and offender groups. On both theoretical and empirical grounds, the CLMM holds considerable promise as a means of organizing offender programs to elicit optimum effectiveness from existing resources.

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**L**ike other classification systems, the Conceptual-Level Matching Model (CLMM) is a way to work with offenders based on a systematic understanding of how individuals develop in interaction with different environments. According to Warren's (1971) typology of classification systems, CLMM is a theoretically derived model of social cognition and interaction in contrast to offense-based or empirical-statistical systems. CLMM is one of practical applications of Conceptual Systems Theory (Harvey, Hunt, & Schroder, 1961). Harvey et al. incorporated and transformed Piaget's ideas on cognitive development, Erikson's

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**AUTHORS' NOTE:** *Correspondence can be sent to the first author, Marge Reitsma-Street, Nipissing University College, North Bay, Ontario, P1B 8L7.*

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hypotheses on emotional resolution of polarized conflicts at different life stages, and Lewin's formulation of behavior as a function of the interaction between personality and environment. Since 1961, each of the three authors have continued to explore hypotheses suggested by the theory. David E. Hunt, his colleagues, and students have shaped, tested, and revised CLMM in practice and research (Hunt, 1971, 1977-1978, 1987; Hunt & Hardt, 1965; Hunt & Sullivan, 1974). Although primary emphasis in CLMM research and application has been in education, a strong secondary emphasis has been rehabilitative interventions in mental health and correctional settings.

There are four principles to CLMM. In brief, these are (1) individuals vary in conceptual level (CL), (2) environments vary in structure, (3) persons of varying CL profit more when matched to their environments, and (4) contemporaneous person-environment matching is important for stable management and personal satisfaction, while developmental matching is necessary for challenge and individual growth.

### INDIVIDUALS VARY IN CL

CL is an estimate of cognitive ability within the social domain. That is, CL is a generic trait estimating how people think, differentiate information, integrate and evaluate clues, and arrive at solutions—in response to conflict, ambiguity, stress, and expectations with interpersonal relations.

Theoretically, CL is a continuum on which individuals vary at one time and on which an individual will progress over time. For application purposes, CL stages have been formulated to describe persons at their various growth periods. Individuals who think rigidly or dichotomously, depend on their moods or rules to evaluate information, and fear conflict, authority, and ambiguity, are labeled lower CL, at stages A or B. Higher CL persons of stages C or D differentiate information more flexibly, use independent or relative criteria to evaluate, and generate complex responses to conflict, authority, and ambiguity. The left-hand

column of Figure 1 summarizes the characteristics of the four CL stages.

Table 1 summarizes the distribution of CL stages by age of 499 residents admitted consecutively to eight correctional or mental health facilities, as we collected since 1982,<sup>1</sup> and of 4,879 individuals in 16 educational settings between 1970 and 1976 as collected by Hunt (Hunt, Butler, Noy, & Rosser, 1978). Taking the 16- to 18-year-old age group, a much higher percentage of youths from the correctional and mental health centers fall into the lower CL stages compared to those in the educational settings.

### ENVIRONMENTS VARY IN STRUCTURE

In CLMM the environment may include the resources of staff and facilities, specific programs or activities, the style and communications of the staff, as well as the more elusive atmosphere of a facility, program, or relationship. The key characteristic in these environments is the variation from low to high structure. As summarized by Miller (1981, p. 37) structure refers to (1) the number, clarity, and consistency of rules or expectations varying from reliable to unreliable or relative; (2) the degree and control over choice of these expectations differing from unilateral by those with power to mutually interdependent; and (3) the quality and amount of support of those in power to ensure safe and satisfying conditions of living, ranging from protective to informational or facilitative. The right side of Figure 1 summarizes the aspects of structure in environments matched to offenders at the different CL stages.

### PERSON-ENVIRONMENT MATCHING

Persons vary in CL: Higher CL persons think, problem solve, learn, and act differently than lower CL persons. But the heart of CLMM theory is in understanding the nature of interaction. That is, persons of all CLs feel more satisfied, act more appropriately,

CL Stage	Person	Matched Environment
A	EGOCENTRIC, Concrete simple, unsocialized "Me"-internal orientation TASK IS TO SURVIVE	VERY HIGH STRUCTURE support, involvement; prepackage interactions; staff-centred; simple, clear.
B	NORM-ORIENTED, relatively unquestioning some ability to differentiate "They"-external orientation TASK IS TO ACCEPT & GET ACCEPTED	MEDIUM-HIGH STRUCTURE clear limits; some room for exploration questioning.
C	INDEPENDENT, inquiring, seeks alternatives, self-assertive "I"-internal orientation. TASK IS TO BECOME UNIQUE	MEDIUM LOW STRUCTURE shared staff-client; negotiation of expectations
D	INTERDEPENDENT, looks at situations from all angles, cognitively complex, "We"-orientation TASK IS TO DEMONSTRATE COMPASSION	LOW STRUCTURE negotiable expectations; opportunities to lead and follow

**Figure 1** Characteristics of Persons and Environments at Four Stages of Conceptual Level

and learn more successfully in situations that are matched rather than mismatched. The two propositions for intervention are as follows (Hunt, 1971, p. 44):

- (1) Lower CL persons profit more from high structure in their living, learning, and working environments.
- (2) Higher CL persons profit from less structure, but in some cases are less affected by variation in structure.

### CONTEMPORANEOUS AND DEVELOPMENTAL MATCHING

Although most CLMM research focuses on testing the contemporaneous or "satisfying" person-environment match to increase safety, prosocial behavior, and coping, CLMM also proposes a

**TABLE 1**  
**The Distribution of CL by Age in Correctional, Mental Health,**  
**and School Settings (numbers in percentages)**

Age Groups by Setting	n	CL Stage*				
		Low A (0-.4)	High A (.5-.9)	Low B (1-1.4)	High B (1.5-1.9)	C (2+)
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<12						
-School	0	-	-	-	-	-
-Other**	13	15.4	38.5	46.1	0.0	0.0
12-13						
-School	1466	0.0	31.3	34.3	28.0	6.4
-Other	56	8.9	44.6	44.6	1.8	0.0
14						
-School	1668	0.0	23.2	29.0	34.3	13.4
-Other	94	3.2	29.8	52.1	7.5	7.5
15						
-School	409	0.0	16.3	30.0	34.3	19.3
-Other	138	3.6	29.7	39.2	18.8	8.7
16-18						
-School	351	0.0	5.3	15.0	25.3	54.3
-Other	156	3.8	21.2	42.3	22.4	10.3
19+						
-School	985	0.0	3.8	16.8	35.6	43.8
-Other	42	0.0	7.1	59.5	28.6	4.8

\*CL stage based on mean of top three scores to PCM; \*\*other settings include eight correctional and mental health centers.

developmental or “stimulating” match to increase “capacity to adapt to a changing environment” (Hunt, 1971, p. 18). In contemporaneous matching, persons can meet environmental demands using their current concepts and ways of dealing with conflict and ambiguity. In developmental matching, new concepts and strategies must be learned. “Implicit in this distinction is the assumption that the level of environmental structure which is considered optimal for a contemporary match would be sub-optimal for developmental matching” (Smith, 1981, p. 41). Finely tuned mismatches in specific areas or activities is one bridge between the optimal contemporaneous and developmental matching (Smith, 1975). Thus there is a third proposition for intervention:

- (3) Contemporaneous matching is more essential and mismatching more disruptive to the safety, care, and control of lower CL persons than is matching or mismatching to higher CL persons. However, developmental matching is required for change in persons of lower, middle, or higher CL.

## THE ASSESSMENT PROCEDURES

*The person.* CL attempts to reflect differentiation, integration, and social interaction as suggested in a person's ability to cope with conflict, authority, infusion of new concepts, and criticism. To measure CL, Hunt and his colleagues developed the *Paragraph Completion Method* or *PCM*, a semiprojective test. The PCM uses six incomplete sentence stems, including, for example, "When I am criticized . . .," to which respondents are asked to write at least three statements. Rarely more than 15 minutes are needed for administration to individuals or groups as large as 50, although more coaching, such as "What do you mean by . . .," as well as additional time is needed for reluctant or less-verbal offenders.<sup>2</sup>

Responses are scored by trained raters as to the "thoughtfulness" rather than simply the content of the responses. Each of the six PCM responses is scored from 0 to 3. Structural criteria regarding degree of differentiation and integration associated with each CL stage are used in scoring as specified in the self-teaching manual—*Assessing Conceptual Level by the Paragraph Completion Method* (Hunt et al., 1978).<sup>3</sup>

In most CLMM research, and in Table 1 of this article, the mean of the three highest responses is used to determine the respondent's stage. However, in correctional practice and research, the mean of all six stems (or five),<sup>4</sup> is used to help identify persons at the lower end of the CL continuum and to avoid mismatching to their environments (Brill, 1978; Hunt et al., 1978, p. 38). Cutoff points for CL stages vary in practice. Some administrators and researchers split a population into thirds or quartiles based on a range of scores; others use the distributional cutoffs suggested by Harvie and Brill (1978) or the more theoretical cutoffs recom-

mended by Reitsma-Street (1984). One convention should be respected: The absolute phrase "high CL" means a score of 2 or greater while "low CL" refers to 1 or less.

*The environment.* Similar to other classification systems in corrections and elsewhere (Brodsky & Smitherman, 1983), CLMM suffers from unsophisticated conceptualization of the environment and the "virtual absence of standard methods of assessing environmental types" (Miller, 1981, p. 38). Leschied, Jaffe, and Stone (1985) looked at the differential responses of delinquents to two detention settings. They considered the secure detention facility as high structure since it had locked doors, secure perimeters, monitored movement, and strict behavior modification procedures to get privileges. The open detention group home was considered lower structure, with its freer routines, absence of locked doors, and attendance at a community school. In his comparison of the impact of matched versus mismatched interventions with alcoholic men, McLachlan (1973) used several estimates of structure in the environment: higher and lower CL group therapists; directive versus nondirective style of the therapists, which varied as predicted by the therapists' CL; and the outreach in weekly reminders and travel help to come to meetings versus no outreach.

These examples of structural variation, however, are not sufficiently differentiated or replicable. As described before, structure in CLMM is not just the level of security in the facility, or the number and consistency of expectations, or who has what type of power to revise or enforce the expectations. Structure is also the texture of support of those in power who in their human presence mediate expectations. This texture is protective or even enveloping in a matched situation for low CL offenders (but seen as smothering and overprotective by high CL persons). Texture needs to be instructive or facilitative for high CL offenders (which is experienced as random and unhelpful by low CL persons).

In most CLMM research, face valid descriptions and unique measures are used to assess structure. The social environment scales of Moos (1975), however, are some of the standard measures used to estimate structure variation. Brill (1981) used

Moos's Correctional Institutions Environment Scale to hypothesize environments varying in structure and hence theoretically ideal for CL groups. For instance, he hypothesized a high structure was high on the subscales of Staff Involvement, Support, Practical Orientation, Clarity, and Organization but medium low on Staff Control, and low on Autonomy, Expressiveness, and Personal Problem Orientation. Although certain studies have found the Moos scales to differentiate a typology of environments appropriate to test CLMM matching principles (e.g., Leschied et al., 1985) others have not (Basham, 1981). Furthermore, critiques of the psychometric properties and scope of Moos's scales (Wright & Boudouris, 1982) have prompted development of other ways to measure the person-environment fit. For instance, the subscales of Emotional Feedback, Social Support, Activity, Safety, Privacy, and Freedom in Wright's (1985) Prison Inventory may be useful in differentiating structure. Also, specifying an environment's components from participant observations is a necessary step to designing measures to assess structure (Reitsma-Street, 1987-1988).

*Reliability and validity of the PCM measure of CL reliability.* Hunt et al. (1978) report a median interrater coefficient of .86 for the PCM, with a range of from .74 to .91 in 26 studies. Ongoing checks among raters of offender populations have maintained coefficients over .85, with raters using less than 10 minutes to score (Reitsma-Street, 1984). Test-retest coefficients over one-year intervals in five studies range from .45 to .56 (Hunt et al., 1978). Gardiner and Schroder (1972) report a test-retest coefficient of .67 in a three-month test-retest of 36 college students.

As yet, there are no data on test-retest reliability for offender populations. Also, there remain concerns about using written responses to assess CL within a population that has consistently reflected poor written performance skills. Reitsma-Street assessed the potential of using oral rather than written responses in a study of 21 male delinquents. This study yielded a correlation of .5 when comparing the written-oral/oral-written responses, collected one month apart. Although statistically significant, the meaningfulness of accounting for only 25% of the variance in the two types



of test administration is ground for further investigation (Reitsma-Street, 1980).

*Validity.* The earlier reviews of CL correlates in school samples of different class, sex, and race (Gardiner & Schroder, 1972; Hunt, 1971, 1977-1978; Raphael, Moss, & Rosser, 1979; Russell & Sandilands, 1973) are supported in recent reviews of selected sophisticated research (Holloway & Wampold, 1986; Miller, 1978, 1981) as well as in research with samples of slow learners (Deese, 1984), emotionally disturbed (Levine, 1981), and learning disabled persons (Surber, 1979). In brief, CL is correlated most highly with other measures of moral and ego development, internalized control, and future orientation, and to a lesser extent with age, and even less with IQ. As expected, higher CL youth are more able to complete complex tasks, and prefer the self-directed, discovery approaches to learning, while the converse is true of lower CL person.

Findings on the validity of CL within primarily male young offender samples are reported in studies by Hunt and Hardt (1965), Smith (1975), Harvie and Brill (1980), Leschied (1978, 1980), Basham (1981), Osterbaan, Lantz, and Huggins (1986) and most recently reviewed by Reitsma-Street (1984). Overall there is a consistent picture of lower CL offenders displaying greater asocial, impulsive, aggressive, less problem-solving types of behaviors while higher CL offenders use more socialized, complex, and independent approaches to conflict or in interpersonal situations.

Several studies have empirically addressed the issue of construct validity with CL. Leschied (1978) found that after statistically controlling for age, the 20 higher CL delinquents reported significantly more means to solve problems than the 20 lower CL delinquents. Also, on Quay's Behavior Problem Categories, the higher CL residents were more likely to rate higher on the "Socialized-Subcultural" scale while the lower CL group scored higher on the "Unsocialized Aggressive." Basham (1981) found CL correlated significantly with number of runaways and disciplinary lockups in a group of 33 male delinquents; age plus CL accounted for 19% of the variance in the measure of attempted

runaways. Van Voorhis (1986) reports preliminary data using five offender typologies, including CLMM, to assess adult male offenders. Her findings support the expected differences in CL groups. In her pilot sample of 52 males, CL is significantly correlated to measures of moral and interpersonal maturity. In addition, lower CL males were much more likely to be victimized than higher CL males.

### **VALIDITY OF THE MATCHING PRINCIPLES OF CLMM**

For 20 years the interactional matching principles of CLMM have been tested in analogue and applied settings. Recently, Miller (1981) reviewed 20 studies in educational research; Stoppard and Miller (1985) examined 17 relationship-oriented program evaluations; and Holloway and Wampold (1986) completed a meta-analysis of 24 studies of counseling situations. In each of these reviews, the studies included meta-rigid methodological criteria. Moreover, the authors concluded that, with few exceptions, the more superior the experimental design in testing the hypotheses the more the matching principles of CLMM were supported. All the reviews concluded that across the three contexts, low CL persons appear to benefit from high structure with less effect shown for higher CL persons.

There are fewer tests of the hypothesized matched impact of CLMM with offenders. In his study of 43 male delinquents in two 16-bed units of Quebec training school, Brill (1978) found significantly fewer runaways, problem behaviors, and referrals to adult court in the matched groups during treatment and for 8-months follow-up compared to the mismatched group. Like Brill, Leschied et al. (1985) did not find differences in personality changes between the youth matched or mismatched to detention according to CLMM principles. However, in this sample of 40 male and 20 female delinquents, the matched groups had significantly fewer institutional problems during detention and fewer offenses in the 3-month follow-up compared to the mismatched groups.

There are other, less rigorous studies suggesting support for the CLMM matching principles. For instance, in a study of 105 female adolescent offenders in a Minnesota County Home, Osterbaan et al. (1986) found that as expected, 94.1% of the 19 higher CL girls were rated as successful by the staff in a program characterized by moderate structure, compared to 63.4% of the 71 low CL girls. The problems in adjustment to the program were most severe in the first three weeks: 34% of the lower CL girls had major discipline or attitudinal problems compared to only 5.3% of the higher CL girls.

### **USE OF THE MODEL IN PRACTICE**

According to Shah and Kutske (1983) classification can be used (1) to decide competency or risk at various stages of the criminal justice process, or (2) to determine management responses to security and other needs, (3) to design treatment programs. CLMM is most relevant to treatment or rehabilitation. This refers to the design of correctional programs to promote prosocial change in behaviors, attitudes, and skills in offenders.

Program design includes the creation of structure variations in the routines, expectations, activities, resources, and atmosphere within institutional, community, or detention settings. Different programs are designed to match the contemporaneous and developmental needs of relatively homogeneous groups of offenders (Brill, 1978; Leschied, Jaffe, & Stone, 1985; Leschied & Thomas, 1985). For instance, managers and the assessment team in one organization for 250 youth in Montreal, P.Q., use CLMM to design two variations of structure in institutional units, four variations in group homes (from very high to very low structure as transition to agency-sponsored apartments), as well as several variations in the agency-run day-care and school program. Assessment workers review with unit teams profiles of new admissions. This leads to specific treatment implications for appropriate styles of communications and reinforcement.<sup>5</sup>

In addition, several centers have experimented using CLMM to assist in assigning workers to offenders (Brill & Reitsma, 1980) following the promising results of McLachlan's (1973) work with alcoholics. Finally, correctional workers and managers use the matching ideas of CLMM in one form or other to plan individual programs—even in the absence of homogeneous groups, matched workers, or specific activities (e.g., Brill & Reitsma, 1980; Osterbann et al., 1986; Reitsma-Street, 1987-1988).

Inherent in the idea of matching is that prediction of how an offender or staff will behave is not possible or relevant unless the environment is also analyzed. Prosocial or antisocial behaviors are the outcome of interactions among people in particular settings. For managers and front-line personnel the advantage of CLMM is its efficient and intuitively reasonable approach to analyzing these interactions, and to designing matching programs. To promote satisfaction with an environment, smoother adjustments, interest in change, and eventually real change in behaviors, CLMM suggests "starting positions" or "opening moves" whether for complete programs for relatively homogeneous groups (Leschied & Thomas, 1985) or for talking patterns in the initial interviews between worker and offender (Stein & Stone, 1978).

Most promising and practical is the design and implementation of specific activities, whether employment retraining or drug abuse programs, for groups of offenders of different CL stages. For example, Stoppard and Henri (1987) designed two versions of assertiveness training for women. The high structure version matched for lower CL women was "behavioral," taught with ready-made rules and techniques, a fixed sequence of activities, and with firm, enthusiastic leadership. The low-structure approach for the higher CL women was "cognitive," in which assertiveness was learned through rule-generating group discussions facilitated by a leader. The 18 higher and 18 lower CL women were randomly assigned to matched versus mismatched training situations; the leaders did not know the women's CL. The women matched according to CLMM principles learned significantly more from the assertiveness training on four standard outcome measures than the mismatched women after eight hours of training in four weeks.

### CURRENT STATUS AND FUTURE DIRECTIONS

There is adequate theoretical, practical, and empirical work to warrant the continued application of CLMM in designing rehabilitation programs with offenders. Certainly, more research, particularly of an experimental nature, is required to test the validity of CLMM with offenders. Also, Megargee and Bohn's (1979) assessment of CLMM is still correct: CLMM may be useful, but considerable data and extrapolation regarding dangerousness or psychopathology are needed to apply CLMM to broader classification decisions, such as community or institutional placements, readiness for parole, or need for mental health treatment.

The strength of CLMM, however, is not in prediction of risk, need, dangerousness, or placement. Rather the CLMM matching principles suggest ways to understand the responsivity or accessibility of offenders to particular expectations, communication patterns, groupings, and specific activities (Andrews, 1987). Also, no single variable system, no matter how important, can stand alone. CLMM needs to be combined with other measures of risk, need, disturbance, and resources of offenders and staff to determine placements. But, CLMM does solidify in words and research some commonsense, specific ideas for managers and front-line workers about how to set the stage or the opening moves to "reach" offenders, and, just as important, how to avoid mismatching activities to offender groups.

More testing of the generalizability of CLMM to offenders, especially female, and older male and female offenders, is needed. One fruitful line of inquiry would be experimental research of specific activities, such as alcohol and drug abuse counseling designed for higher versus lower CL offenders—whether in institutional or community programs. Another line of inquiry would be to test CLMM matching principles by designing different programs with high-risk offenders who remain in or are paroled into the community. The payoff would appear to be greatest if more is learned about how *not* to mismatch with these high-risk offenders.

In addition, conceptualization and research are needed to clarify the elements of structure focusing on which aspects are most important for contemporaneous and which for developmental matching. For instance, in implementing a high-structure program for very low CL male offenders, Reitsma-Street and Street (1981) found staff and youth had different perceptions of high matched structure. The staff emphasized clear, organized, and consistently reinforced program and individual expectations. These were outlined on colored charts in large print that covered the walls in the living areas and bedrooms. To the youth, there were too many “things” to attend to, and they felt confused. The staff had to redesign their ideas of high structure to emphasize simplicity and support rather than clarity and organization.

Finally, other important directions to pursue include understanding why matching principles are so rarely implemented in systematic form. In cases where implementation does occur with classification of offenders into static types, there is failure to design matched environments to promote change. Certainly, there is the issue of resources. But more analyses are necessary to explore how correctional managers, planners, and front-line workers incorporate insight on matching to “systematize our fleeting impressions of others as we communicate with them” (Hunt, 1987, p. 39).

## NOTES

1. Data collected thanks to researchers and administrators in Craigwood Youth Centres (London, Ontario), Youth Horizons (Montreal), White Oaks Village (Hagersville, Ontario), Terre Haute Federal Penitentiary (Indiana), Bluewater Family Support Services (Parkhill, Ontario), St. Francis Homes (Salina, Kansas), Sibling Project (McMaster University, Hamilton, Ontario), and Civic Centre (Newcastle Upon Tyne, England).

2. For more details on administration with offenders see M. Reitsma-Street, “The Administration, Scoring, and Interpretation of the *Paragraph Completion Method*: Based on Protocols of Youth in the Mental Health and Criminal Justice Systems.” Available from IDTA Repository, Dr. P. Harris, Department of Criminal Justice, Temple University, Philadelphia, PA 19122.

3. The manual (Cat. No. 5002) is available for \$8.00 (Canadian) plus shipping charges from O.I.S.E. Publication Sales, 252 Bloor Street West, Toronto, Ontario, M5S 1V6.

4. The stem "What I think about parents . . ." has been dropped by researchers due to questions with its reliability (e.g., Raphael et al., 1979).

5. The first author consulted with this organization since 1979, with proposals for variations in structure recommended in "Client Characteristics Research Report" by Bruce Gray, Youth Horizons, Montreal, P.Q., 1982. Follow-up data on further differentiations of the environment through personal communication with assessment workers at Youth Horizon, May 16, 1987.

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