

# The Reliability and Validity of Management/Impact<sup>®</sup> (M/I)



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## INTRODUCTION

This report presents the results of reliability and validity analyses carried out on client *Management/Impact* (M/I)<sup>1</sup> data from Human Synergistics (HS) offices located in the United States, Australia, Canada, New Zealand, the United Kingdom, and other European countries.<sup>2</sup> The Self-Reports of 650 managers from around the world along with the descriptions by 4,356 other people with whom they work (higher-level managers, peers, and direct reports) enabled us to examine the inventory's psychometric properties. The data also provided an opportunity to generate a new set of norms for M/I. The new norms are not substantially different from the original (which were based on 220 managers) but enable recipients of the feedback to compare their results to a larger and more diverse sample.

The data are based on the English version of the inventory. The number of cases provided by each of the HS offices is summarized in the table below.

Table 1: Number of Cases Provided by Each HS Office

Office Location	Number of Cases Provided
USA	174
Australia	166
Canada	167
United Kingdom*	109
Other European Countries	11
New Zealand	23
Total	650

\*47 cases were from organizations located in the Middle East.

Over two thirds of the focal managers in the total sample were in first- to middle-level management positions, most had been in their current positions for at least a year, and the majority held a bachelor's or higher-level degree. Sixty-five percent of the focal individuals were male. Forty-six percent of those who described the managers were either direct reports or reported to someone below them; the rest were peers and associates, the person to whom the manager directly reported, and other high-level managers. The majority of the people describing the managers reported having daily contact with them (58 percent) and had known them for at least one year (82 percent).

<sup>1</sup> Szumal, J. L. & Cooke, R. A. (2008). *Management/Impact*. Plymouth, MI: Human Synergistics International.

<sup>2</sup> A report on the reliability and validity of M/I based on an earlier data set will appear in the upcoming edition of Leslie, J. B. & Fleenor, J. W. *Feedback to Managers* (Greensboro, NC: Center for Creative Leadership).

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### OVERVIEW OF M/I

M/I is a 360° feedback tool designed to provide those with management responsibilities with information regarding how they approach their work and the impact they have on the behavior and performance of the people around them. Because M/I measures the direction and degree to which managers influence the behavior of those around them, it is appropriate for programs and initiatives targeting management development, personal development, organizational culture change, and organizational development.

M/I provides participants with information regarding their:

- *Management Approaches*, in terms of the frequency with which they carry out their management responsibilities in Facilitating versus Inhibiting ways;
- *Impact on Others*, in terms of the extent to which they motivate those around them to behave in Constructive versus Defensive ways; and
- *Effectiveness* along task, people, and personal criteria.

Feedback is based on information collected using two forms of the M/I inventory. The Description by Others form is completed by at least three people selected by the participant to describe his or her management approaches, impact on others, and overall effectiveness. The Self-Report form is completed by the participants themselves to identify their perceptions of the management approaches they use and the impact that they would ideally like to have on the behavior of others.

#### Management Approaches

Ninety of the items included in M/I are designed to measure the frequency with which the focal individual uses Facilitating and Inhibiting approaches in carrying out 15 responsibilities common to the jobs of most managers. These responsibilities vary in terms of their task, people, and personal focus. Task responsibilities include managing goals, change, problems, results, resources, and work activities. People responsibilities include managing inter-unit relations, teams, communication, learning, and personal relations. Personal responsibilities include managing integrity, self-development, and emotions.

For each of the 15 responsibilities, three items measure the frequency with which activities are carried out in a Facilitating way and three items measure the frequency with which activities are carried out in an Inhibiting way. Facilitating approaches focus on maximizing the autonomy of other people and the integration of their work. Inhibiting approaches focus on maximizing the manager's control over other people and their work.<sup>3</sup> The items that measure these approaches appear in both forms of the survey so that the manager can compare his or her self-perceptions to the descriptions by others.

Feedback on approaches is intended to raise participants' awareness of the ways in which they carry out their management responsibilities and the impact of their approaches on the behavior and performance of those around them. The theory behind M/I posits that Facilitating approaches are more functional than Inhibiting ones and promote Constructive behavior on the part of others. Inhibiting approaches should be used sparingly as they are likely to promote a Defensive impact when they are relied on more frequently.

#### Impact on Others

Sixty of the items included in M/I are designed to measure the impact of managers along two dimensions. The first dimension distinguishes between behaviors oriented toward *task* versus *people* that may be encouraged on the part of others. The second dimension distinguishes between the extent to which these behaviors are associated with *higher-order needs for growth* and satisfaction versus *lower-order security needs*. These dimensions, based on the cultural styles measured by the *Organizational Culture Inventory*<sup>4</sup> and the impact styles measured by *Leadership/Impact*<sup>5</sup>, define three general types of impact and the 12 specific behavioral styles that managers may encourage or promote. Thus:

<sup>3</sup> Szumal, J. L. & Cooke, R.A. (2008). *Management/Impact Confidential Feedback Report*. Plymouth, MI: Human Synergistics International.

<sup>4</sup> Cooke, R. A. & Lafferty, J. C. (1989). *Organizational Culture Inventory*. Plymouth, MI: Human Synergistics International.

<sup>5</sup> Cooke, R. A. (1992). *Leadership/Impact*. Plymouth, MI: Human Synergistics International.

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- Managers who have a *Constructive* impact motivate others to relate to people and approach tasks in ways that will help them to personally meet their higher-order needs for growth and satisfaction (includes Achievement, Self-Actualizing, Humanistic-Encouraging, and Affiliative behavioral styles).
- Managers who have a *Passive/Defensive* impact encourage others to interact with the people around them in self-protective ways that will not threaten their own security (includes Approval, Conventional, Dependent, and Avoidance styles).
- Managers who have an *Aggressive/Defensive* impact drive others to approach tasks in forceful ways that will protect their own personal status and security (includes Oppositional, Power, Competitive, and Perfectionistic styles).

The Description by Others form measures the extent to which the manager currently promotes each of these 12 behavioral styles (i.e., the manager's *current impact*). The Self-Report form assesses the extent to which the manager would ideally like to promote these behaviors on the part of others (i.e., the manager's *ideal impact*). Results on the differences between current and ideal impact highlight areas for change and improvement.

Most participants will describe their ideal impact as Constructive. This is expected since the theory underlying M/I posits that a Constructive impact is appropriate and effective for most managers. Although differences do exist between countries, Constructive behaviors generally are consistent with the cultural values (e.g., independence and equal opportunity) and higher-order needs (e.g., achievement and self-actualization) reported by members of organizations within the U.S., Australia, Canada, New Zealand, U.K., Western Europe, and a number of other countries. Given their consistency with those needs and values, the Constructive behaviors encouraged by managers have far greater motivational potential and are more effective (e.g., in terms of promoting individual well-being, performance, and high-quality interpersonal relations) than Defensive impact styles.

### Management Effectiveness

Fourteen items are included in the Description by Others form to measure overall management effectiveness. Feedback from these items is intended to encourage participants to use the M/I approaches and impact results for identifying ways to improve and maximize their future effectiveness.

## RELIABILITY

Both the internal consistency and interrater reliability of the M/I approaches and impact scales were examined using the Description by Others data. Only the interrater reliability of the effectiveness items was examined since they are included (as items rather than as a scale) in the feedback received by managers. Though it is not used in providing managers with feedback, the reliability of the overall effectiveness scale was also estimated because it is used for this research to examine the criterion-related validity of the impact scales.

Cronbach's alpha is considered to be the most conservative measure of a scale's internal consistency. It can be interpreted as the average covariance among the items within the scale. Generally speaking, alpha coefficients above .60 are desirable and provide support for combining the responses to the relevant items into a single scale score.

Interrater reliability, or the consistency between the reports of different raters who described the same manager, was examined using oneway analysis of variance (ANOVA) with the manager being described as the independent variable and the M/I scales as the dependent variables. Significant *F*-values provide evidence of interrater reliability and indicate that the variance in the reports of those who described different managers is appreciably greater than the variance in the reports of those who described the same manager. Eta<sup>2</sup> statistics provide an estimate of the percent of variance explained in the M/I scale scores by the manager being described by respondents.

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### Management Approaches

As shown in Table 2, the overall measures of Facilitating and Inhibiting approaches demonstrate high levels of internal consistency. For the total sample, the alpha coefficients for both of the overall approaches are .97.

The alphas for the approaches to specific management responsibilities are lower than those for the overall Facilitating and Inhibiting scales. This is to be expected since these subscales are based on only three items each and alpha coefficients usually decrease as the number of items per scale decreases. The coefficients range from .62 (for Managing Integrity—Facilitating, Results—Inhibiting, and Work Activities—Inhibiting) to .85 (for Managing Personal Relations—Facilitating), with the majority of the coefficients greater than .70. These findings demonstrate that it is reliable and meaningful to combine the management approaches items into both the overall and specific scales used for M/I feedback.

The ANOVA results provide strong support for the interrater reliability of all of the management approaches scales. The  $F$  statistics for the overall approaches, as well as for the subscales are all significant at  $p < .001$  (see Table 2). This confirms that there is greater variance along these scales between respondents describing different managers than between respondents describing the same managers.

Table 2: Reliability of the Management Approaches Scales

Management Approaches Scales	Facilitating			Inhibiting		
	alpha	$F^*$	Eta <sup>2</sup>	alpha	$F^*$	Eta <sup>2</sup>
<b>Overall</b>	.97	2.76	.33	.97	3.31	.37
<b>Task Responsibilities</b>						
Managing Goals	.79	2.22	.28	.69	2.29	.29
Managing Change	.65	2.10	.27	.73	2.58	.31
Managing Problems	.73	2.07	.27	.63	2.10	.27
Managing Results	.76	2.12	.27	.62	2.62	.31
Managing Resources	.75	2.25	.28	.71	2.27	.28
Managing Work Activities	.65	1.99	.26	.62	2.54	.31
<b>People Responsibilities</b>						
Managing Inter-Unit Relations	.70	2.19	.28	.70	2.91	.34
Managing Teams	.75	3.06	.35	.68	2.50	.31
Managing Communications	.76	2.87	.33	.65	2.73	.32
Managing Rewards	.83	2.73	.32	.79	2.58	.31
Managing Learning	.80	2.37	.29	.64	2.66	.32
Managing Personal Relations	.85	3.07	.35	.78	3.27	.36
<b>Personal Responsibilities</b>						
Managing Integrity	.62	2.19	.28	.71	2.70	.32
Managing Self-Development	.66	2.43	.30	.82	3.27	.36
Managing Emotions	.72	3.04	.35	.76	3.02	.35

$n=4,356$  respondents describing 650 focal managers.  $F$  statistics and eta<sup>2</sup> statistics based on Oneway Analysis of Variance. The M/I management approaches are from J. L. Szumal and R. A. Cooke, *Management/Impact*®, Human Synergistics International, Plymouth, MI. All Rights Reserved. \*All  $F$  statistics are significant at  $p < .001$ .

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The eta<sup>2</sup> statistics are .33 and .37 for the overall Facilitating and Inhibiting scales, respectively, and range from .26 (Managing Work Activities—Facilitating) to .36 (Managing Personal Relations—Inhibiting and Self-Development—Inhibiting) for the use of the approaches in carrying out specific responsibilities. Taken together, the ANOVA and eta<sup>2</sup> results demonstrate the interrater reliability of the management approaches scales and justify using aggregated scores based on the combined descriptions of each manager's respondents.

### Impact on Others

The internal consistency results for the M/I impact scales are presented in Table 3. The current impact scales show acceptable levels of internal consistency with alpha coefficients ranging from .69 (for Avoidance and Oppositional) to .87 (for Affiliative). These results provide strong evidence of the stability of the impact scales and support for combining the items into the scales postulated by M/I.

Table 3: Reliability of the Impact Scales

Impact Scales	alpha	F*	Eta <sup>2</sup>
Humanistic-Encouraging	.85	2.64	.32
Affiliative	.87	2.45	.30
Approval	.75	3.78	.40
Conventional	.74	3.84	.40
Dependent	.73	3.01	.35
Avoidance	.69	3.73	.40
Oppositional	.69	2.74	.32
Power	.76	3.91	.41
Competitive	.78	4.51	.44
Perfectionistic	.77	4.80	.46
Achievement	.84	2.35	.29
Self-Actualizing	.85	2.47	.30

*n*=4,356 respondents describing 650 focal managers. *F* statistics and eta<sup>2</sup> statistics based on Oneway Analysis of Variance. The M/I impact styles are from J. L. Szumal and R. A. Cooke, *Management/Impact*®, Human Synergistics International, Plymouth, MI. All Rights Reserved. \*All *F* statistics are significant at *p*<.001.

As shown in Table 3, the *F* statistics for all of the impact scales are significant at *p*<.001. The eta<sup>2</sup> statistics range from .29 (for Achievement) to .46 (for Perfectionistic), with the eta<sup>2</sup>s for the remaining scales all at or above .30. Overall, these results support the interrater reliability of the impact scales as well as the computation and use of composite results based on the aggregated descriptions by others.

### Management Effectiveness

The overall management effectiveness scale demonstrates a high level of internal consistency with the alpha equal to .96 (see Table 4). Although the M/I *Confidential Feedback Report* does not present an overall management effectiveness score (and instead focuses only on the item-level scores as noted above), these results support the use of the overall management effectiveness scale for validation purposes.

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Table 4: Reliability of the Management Effectiveness Measures

Management Effectiveness Measures	alpha	F*	Eta <sup>2</sup>
<b>Overall Management Effectiveness</b>	.96	2.73	.33
Moves the organization toward its vision and goals		2.10	.27
Has a positive impact on his/her unit's effectiveness		2.67	.32
Enhances others' productivity		1.89	.25
Solves problems		2.07	.27
Motivates others to exceed expectations		1.90	.25
Promotes self-confidence		2.15	.27
Makes people's jobs more satisfying		2.35	.29
Has a calming effect on others		3.12	.35
Makes people want to stay		2.54	.31
Trusted by others		2.55	.31
Continues to grow as a manager		2.35	.29
Energized by the job		2.47	.30
Influential		2.23	.28
Ready for promotion		2.30	.29

*n*=4,356 respondents describing 650 focal managers. *F* statistics and eta<sup>2</sup> statistics based on Oneway Analysis of Variance. The M/I effectiveness items are from J. L. Szumal and R. A. Cooke, *Management/Impact*®, Human Synergistics International, Plymouth, MI. All Rights Reserved. \*All *F* statistics are significant at *p*<.001.

The management effectiveness items, as well as the overall scale, demonstrate reasonable levels of interrater reliability. The *F* statistics are all significant at *p*<.001 (see Table 4). For the items, the eta<sup>2</sup> statistics range from .25 (for “Enhances others’ productivity” and “motivates others to exceed expectations”) to .35 (for “Calming effect on others”). These results provide support for using respondents’ aggregated descriptions of the manager’s effectiveness.

## CONSTRUCT VALIDITY

Construct validity refers to the extent to which a survey measures certain psychological or theoretical constructs or traits.<sup>6</sup> Construct validity is often demonstrated by showing that different measures of the same construct empirically converge (i.e., convergent validity) while measures of different constructs can be empirically differentiated (i.e., discriminant validity).<sup>7</sup> Thus, the convergent-discriminant validity of the 30 management approaches and 12 impact scales was examined using principle components analysis with Promax rotation on the Description by Others’ data. Promax rotation was used because it allows for the factors to be correlated—and since the Facilitating and Inhibiting scales are hypothesized to represent opposing types of approaches to management and the Passive/Defensive and Aggressive/Defensive impact styles are both hypothesized to be driven by a more general underlying need for safety and security, this type of rotation is preferable to one that assumes that the factors are unrelated.

<sup>6</sup> Anastasi, A. (1988). *Psychological testing*, 6<sup>th</sup> edition. New York, NY: Macmillan.

<sup>7</sup> Kerlinger, F.N. (1986). *Foundations of behavioral research*, 3rd edition. Fort Worth, TX: Holt, Rinehart, and Winston.

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Both the pattern and structure coefficients are reported for the management approaches and impact scales because they provide unique information. The pattern coefficients show the relationships among the scales included in the analyses, controlling for the other factors (similar to beta coefficients in a multiple regression), whereas structure coefficients reflect the correlation between the scale and each factor. In cases such as this, where the underlying constructs are known and assumed to be correlated, the pattern coefficients are more useful in naming factors.<sup>8</sup> Convergent validity is demonstrated when scales assumed to belong to a single factor all have loadings above .40 on the same factor. Discriminant validity is demonstrated when the same scales have loadings less than .40 and greater than -.40 on the other factors.

Eigenvalues before rotation and the percent of variance explained after rotation are also reported. The eigenvalues indicate the total amount of variance in all of the scales explained by each factor. Factors with eigenvalues greater than 1.0 are usually extracted or retained (because they imply that the factor accounts for more variance than that of just one scale). However, when the purpose of the analysis is to confirm an existing conceptual framework (as is the case here), the number of factors extracted from the data can be forced to equal the number of factors in the conceptual framework, regardless of their eigenvalues. The percent of variance explained indicates the percent of variance in all of the scales explained by the retained factors after rotation. The higher the percent, the more variance accounted for in the scales by each of the final factors.

### Management Approaches

The 30 specific management approaches sub-scales are presumed to measure two forms of management: Facilitating and Inhibiting. Thus, for the principle components analyses carried out on the approaches scales, a two-factor solution was imposed. As shown in Table 5, two factors explain a total of 66.5% of the variance in the Description by Others data. The pattern coefficients show that the loadings for all of the Facilitating sub-scales are above .40 on the second factor (supporting their convergent validity) and below .40 on the first factor (supporting their discriminant validity). Similarly, all of the Inhibiting sub-scales have loadings above .40 on the first factor and below .40 on the second factor.

The dual loadings of the structure coefficients on the two factors reflect the expected correlations between the Facilitating and Inhibiting approaches. As with the pattern coefficients, the highest loadings for the Facilitating scales are all on the second factor whereas the highest loadings for the Inhibiting scales are all on the first.

### Impact on Others

The 12 impact scales are designed to measure three general types of behavioral styles that managers can motivate or encourage on the part of other people: Constructive, Passive/Defensive, and Aggressive/Defensive. For this reason, a three-factor solution was imposed. Table 6 shows that the three factors explain a total of 79.4% of the variance in the data. Focusing on the pattern coefficients, the first factor is defined by the Constructive styles, the second factor by the Aggressive/Defensive styles, and the third by the Passive/Defensive styles. All of the scales only load on the correct factor, supporting their convergent and discriminant validity.

With respect to the structure coefficients, the dual loadings of the Passive/Defensive and Aggressive/Defensive styles on the second and third factors reflect the impact of both sets of styles on other people's needs for safety and security. The highest loadings, however, are on the correct factor, lending further evidence and support regarding the convergent validity of the scales.

<sup>8</sup> Kahn, J. H. (2006). Factor analysis in counseling psychology research, training, and practice: Principles, advances, and applications. *The Counseling Psychologist*, 34, 684-718.

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Table 5: Construct Validity of the Management Approaches Scales

Management Approaches Scales	Pattern Coefficients		Structure Coefficients	
	Factor 1	Factor 2	Factor 1	Factor 2
<b>Facilitating</b>				
Managing Goals	.097	<b>.932</b>	-.580	<b>.861</b>
Managing Change	.176	<b>.917</b>	-.491	<b>.789</b>
Managing Problems	-.119	<b>.739</b>	-.656	<b>.825</b>
Managing Results	.104	<b>.930</b>	-.572	<b>.854</b>
Managing Resources	-.064	<b>.825</b>	-.663	<b>.871</b>
Managing Work Activities	-.046	<b>.771</b>	-.606	<b>.804</b>
Managing Inter-Unit Relations	-.061	<b>.767</b>	-.619	<b>.811</b>
Managing Teams	.044	<b>.788</b>	-.529	<b>.756</b>
Managing Communications	-.346	<b>.547</b>	-.744	<b>.798</b>
Managing Rewards	-.063	<b>.762</b>	-.617	<b>.808</b>
Managing Learning	-.044	<b>.827</b>	-.646	<b>.859</b>
Managing Personal Relations	-.368	<b>.466</b>	-.706	<b>.733</b>
Managing Integrity	-.191	<b>.626</b>	-.646	<b>.765</b>
Managing Self-Development	-.109	<b>.745</b>	-.651	<b>.824</b>
Managing Emotions	-.324	<b>.562</b>	-.732	<b>.797</b>
<b>Inhibiting</b>				
Managing Goals	<b>.797</b>	-.044	<b>.828</b>	-.623
Managing Change	<b>.750</b>	-.086	<b>.812</b>	-.632
Managing Problems	<b>.789</b>	-.007	<b>.795</b>	-.581
Managing Results	<b>.765</b>	.021	<b>.750</b>	-.535
Managing Resources	<b>.730</b>	-.106	<b>.807</b>	-.637
Managing Work Activities	<b>.821</b>	.067	<b>.772</b>	-.530
Managing Inter-Unit Relations	<b>.856</b>	.072	<b>.804</b>	-.551
Managing Teams	<b>.779</b>	-.053	<b>.817</b>	-.619
Managing Communications	<b>.838</b>	.008	<b>.832</b>	-.601
Managing Rewards	<b>.677</b>	-.176	<b>.805</b>	-.668
Managing Learning	<b>.750</b>	-.067	<b>.799</b>	-.612
Managing Personal Relations	<b>.791</b>	-.048	<b>.826</b>	-.623
Managing Integrity	<b>.794</b>	-.043	<b>.825</b>	-.620
Managing Self-Development	<b>.855</b>	-.012	<b>.864</b>	-.634
Managing Emotions	<b>.836</b>	.070	<b>.785</b>	-.538
Eigenvalues	17.680	2.267		
% Variance	58.935	7.558		

*n*=4,356 respondents describing 650 focal managers. Factors based on principal components analysis with Promax rotation. Loadings above .40 are *italicized*. Highest loadings are in **boldface**. The M/I management approaches are from J. L. Szumal and R. A. Cooke, *Management/Impact*®, Human Synergistics International, Plymouth, MI. All Rights Reserved.



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Table 6: Construct Validity of the Impact Scales

Impact Scales	Pattern Coefficients			Structure Coefficients		
	Factor 1	Factor 2	Factor 3	Factor 1	Factor 2	Factor 3
Humanistic-Encouraging	<b>.936</b>	-.092	.067	<b>.935</b>	-.209	-.231
Affiliative	<b>.925</b>	-.191	.136	<b>.924</b>	-.258	-.228
Approval	-.013	.383	<b>.512</b>	-.209	.738	<b>.779</b>
Conventional	.025	-.059	<b>.950</b>	-.203	.592	<b>.904</b>
Dependent	-.054	.008	<b>.857</b>	-.270	.609	<b>.876</b>
Avoidance	-.103	.218	<b>.664</b>	-.308	.694	<b>.840</b>
Oppositional	-.164	<b>.974</b>	-.198	-.284	<b>.867</b>	.515
Power	.166	<b>.728</b>	.183	-.006	<b>.825</b>	.643
Competitive	.029	<b>.753</b>	.177	-.147	<b>.870</b>	.689
Perfectionistic	.073	<b>.603</b>	.349	-.120	<b>.830</b>	.746
Achievement	<b>.928</b>	.089	-.058	<b>.927</b>	-.113	-.230
Self-Actualizing	<b>.893</b>	.193	-.223	<b>.916</b>	-.116	-.314
Eigenvalues	5.849	3.013	.665			
% Variance	48.739	25.108	5.545			

*n*=4,356 respondents describing 650 focal managers. Factors based on principal components analysis with Promax rotation. Loadings above .40 are *italicized*. Highest loadings are in **boldface**. The M/I impact styles are from J. L. Szumal and R. A. Cooke, *Management/Impact*<sup>®</sup>, Human Synergistics International, Plymouth, MI. All Rights Reserved.

## CRITERION-RELATED VALIDITY

Criterion-related validity refers to a scale's effectiveness in predicting performance in terms of measures of other constructs or outcomes.<sup>9</sup> The criterion-related validity of the M/I scales was examined using Pearson correlation coefficients as estimates of the degree of association between the measures of management approaches and impact, as well as between impact and management effectiveness.

The theoretical framework underlying M/I posits that Facilitating approaches have a Constructive impact on others, while Inhibiting approaches have a Defensive impact. Thus, positive correlations between Facilitating approaches and Constructive impact styles and positive correlations between Inhibiting approaches and the Defensive impact styles would provide evidence of the criterion-related validity of these scales. In turn, a Constructive impact should help managers and those around them to be more effective and accomplish more. A Defensive impact should interfere with the effectiveness of managers, as well as the performance of those with whom they work or interact. Positive correlations between the measures of Constructive impact and management effectiveness and negative correlations between the Defensive impact measures and effectiveness would demonstrate the validity of these relationships.

### Management Approaches

The correlations between management approaches and current impact are presented in Table 7. Consistent with the theoretical framework underlying M/I, overall Facilitating approaches are positively related to a Constructive impact and, to a lesser extent, negatively related to the Defensive impact styles. Similarly, overall Inhibiting approaches are positively related to both Passive/Defensive and Aggressive/Defensive impacts and, to a lesser extent, negatively related to a Constructive impact. With respect to specific management responsibilities, all were significantly correlated with the current impact measures in the manner predicted. Overall, these results provide strong support for the criterion-related validity of the management approaches and impact scales. They also provide support for the contention that by more frequently approaching their work in a Facilitating manner (and less frequently in an Inhibiting one), managers can have a more Constructive (and less Defensive) impact on the people around them.

<sup>9</sup> Kerlinger, F. N. (1986). *Foundations of behavioral research*, 3<sup>rd</sup> edition. Fort Worth, TX: Holt, Rinehart, and Winston.

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Table 7: Criterion-Related Validity: Correlations Between Management Approaches and Impact

Management Approaches	Impact		
	Constructive	Passive/Defensive	Aggressive/Defensive
<b>Overall Facilitating</b>	.85	-.54	-.44
Managing Goals	.76	-.35	-.21
Managing Change	.72	-.39	-.19
Managing Problems	.66	-.43	-.36
Managing Results	.72	-.35	-.23
Managing Resources	.73	-.46	-.36
Managing Work Activities	.69	-.52	-.42
Managing Inter-Unit Relations	.75	-.46	-.36
Managing Teams	.65	-.36	-.27
Managing Communications	.72	-.55	-.52
Managing Rewards	.79	-.49	-.39
Managing Learning	.82	-.39	-.27
Managing Personal Relations	.66	-.51	-.54
Managing Integrity	.64	-.62	-.51
Managing Self-Development	.73	-.46	-.40
Managing Emotions	.65	-.54	-.51
<b>Overall Inhibiting</b>	-.61	.73	.71
Managing Goals	-.51	.60	.58
Managing Change	-.56	.71	.59
Managing Problems	-.47	.60	.58
Managing Results	-.48	.65	.64
Managing Resources	-.51	.59	.52
Managing Work Activities	-.51	.64	.62
Managing Inter-Unit Relations	-.49	.58	.65
Managing Teams	-.51	.64	.62
Managing Communications	-.55	.67	.66
Managing Rewards	-.64	.62	.57
Managing Learning	-.57	.66	.58
Managing Personal Relations	.57	.64	.67
Managing Integrity	-.52	.66	.60
Managing Self-Development	-.55	.69	.67

*n*=aggregated descriptions by 4,356 others of 650 focal managers. All correlations are significant at  $p < .001$ . The M/I management approaches and impact styles are from J. L. Szumal and R. A. Cooke, *Management/Impact*, Human Synergistics International, Plymouth, MI. All Rights Reserved.

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### Impact

The correlation coefficients between current impact and overall management effectiveness are presented in Table 8. The results indicate that a Constructive impact is positively associated with the managers' overall effectiveness whereas Passive/Defensive and Aggressive/Defensive impacts are negatively associated with their effectiveness. These findings provide evidence of the criterion-related validity of the impact scales and support for the claim that managers can improve their effectiveness by having a more Constructive (and less Defensive) impact.

**Table 8: Criterion-Related Validity: Correlations Between Impact and Management Effectiveness**

Management Effectiveness Measures	Impact		
	Constructive	Passive/Defensive	Aggressive/Defensive
<b>Overall Management Effectiveness</b>	.71	-.50	-.41
Moves organization toward vision and goals	.61	-.39	-.27
Positive impact on unit effectiveness	.64	-.49	-.39
Enhances others' productivity	.66	-.45	-.38
Solves problems	.57	-.41	-.34
Motivates others to exceed expectations	.67	-.44	-.31
Promotes self-confidence	.68	-.47	-.39
Makes people's jobs more satisfying	.70	-.49	-.40
Calming effect on others	.53	-.49	-.55
Makes people want to stay	.62	-.49	-.45
Trusted by others	.56	-.44	-.39
Continues to grow as a manager	.63	-.41	-.30
Energized by job	.57	-.36	-.22
Influential	.61	-.38	-.23
Ready for promotion	.58	-.34	-.25

*n*=aggregated descriptions by 4,356 others of 650 focal managers. All correlations are significant at  $p < .001$ . The M/I management effectiveness items are from J. L. Szumal and R. A. Cooke, *Management/Impact*®, Human Synergistics International, Plymouth, MI. All Rights Reserved.

## CONCLUSIONS

The findings presented here provide evidence for the reliability and validity of the M/I measures based on the descriptions by others of 650 managers. Specifically, the M/I management approaches, impact, and management effectiveness measures exhibit acceptable levels of internal consistency and interrater reliability, supporting the computation of the scale scores and the use of composite results based on the descriptions by others. In terms of validity, the M/I measures of Facilitating and Inhibiting approaches, while inversely related, appear to be driven by distinct motives for maximizing the autonomy of others (in the case of Facilitating) versus maximizing the control of the manager over others' work. This was supported by the factor analysis results. Similarly, the factor analysis results confirmed the proposed underlying structure of the impact styles, thus supporting their construct validity. The hypothesized relationships between the management approaches and the impact measures, as well as between the impact and effectiveness measures, were supported by the correlation results, which provided evidence of their criterion-related validity.

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More generally, the findings presented provide clear guidance to managers who want to improve their effectiveness in their roles. Managers who frequently use Facilitating approaches in carrying out their responsibilities and sparingly use Inhibiting approaches tend to have a Constructive impact and are viewed as highly effective in their roles. In contrast, managers who less frequently use Facilitating approaches to carry out their responsibilities or who approach their responsibilities in an Inhibiting way, tend to have a Passive/Defensive and Aggressive/Defensive impact on the people around them. In turn, managers with a Defensive impact are viewed as less effective in their roles.

Thus, M/I provides managers with reliable and valid information about how they are carrying out their responsibilities and the impact that they are having on those around them. It also provides managers with a clear direction in terms of what they personally can do to have a more Constructive impact on the behavior of the people with whom they interact in particular as well as their organization's culture in general, thereby increasing their own effectiveness as well as that of their organizations.