

Managerial Type as Related to Percept-Genetic Signs of Anxiety and Defense in the Defense Mechanism Technique modified (DMTm)

Alf L. Andersson, Birgitta Dahlström and Göran Ekvall

Department of Psychology, Lund University

The study considers relations in a group of 95 managers, 41 women and 54 men, between managerial type and signs of anxiety and defense in the Defense Mechanism Technique modified (DMTm). Eight managerial types were distinguished, based on ratings of the managers by their subordinates in terms of the Ekvall and Arvonen (1991) leadership style dimensions of employee-centeredness, change-centeredness and production-centeredness. As expected, those classified as "bureaucrats" differed from the other managerial types in less often showing affect anxiety, identity anxiety and separation anxiety. Other findings related to predictions made were that a marked degree of introaggression 1 was typical of "idea-makers", marked repression 3 typical of "idea-makers" and "gardeners", and marked denial through reversal IV typical of "gardeners". Various defenses were also found to be more common in the managers studied here than in a group of university teachers investigated earlier. The Andersson (1991) model of the mind served as a tool for interpreting the results.

Key words: DMTm, leadership style, managerial type, percept-genetic analysis, personality

In a recent study of managers (Andersson, Dahlström & Ekvall, 2002), eight managerial types were distinguished, based on ratings of managers by their subordinates on the leadership style dimensions of employee-centeredness, change-centeredness and production-centeredness proposed by Ekvall and Arvonen (1991). To which of the eight managerial types a manager belonged was determined by whether, for each of the three dimensions, he or she was below (–) or above (+) the median for the group of managers as a whole. The eight managerial

The study was supported by grant No. 96-0495 from the Swedish Council for Work Life Research. We are indebted to Dr. Lars Ryhammar for providing DMTm data from his sample of university teachers.

types were those of the "vague manager" (− − − on employee-centeredness, change-centeredness and production-centeredness, in that order), the "all-round manager" (+ + +), the "bureaucrat" (− − +), the "idea-maker" (− + −), the "entrepreneur" (− + +), the "administrator" (+ − +), the "gardener" (+ + −) and the "buddy manager" (+ − −).

One of the major questions considered in the Andersson et al. (2002) study was whether the managerial type to which a manager belonged was related to his or her personality as assessed by means of the Spiral Aftereffect Technique (SAT). This technique is used to classify a person as belonging to any one of nine different personality patterns, termed LLs, LL, L−, L+, H−, H+, M− M+ and Mo (for a recent presentation of SAT, see Andersson and Ryhammar, 1998). Mo was found to be the typical pattern for subjects rated as being all-round managers – described as being considerate of their employees, initiating useful changes and setting clear goals for work. It is also the pattern regarded as being more "balanced" than any of the other personality patterns with respect to investment in both "self" and "nonself" factors.

The SAT belongs to the percept-genetic tradition of personality research and diagnostics (Andersson, 1991; Andersson, Nilsson, Ruuth & Smith, 1972; Kragh & Smith, 1970). The interpretation of the personality patterns obtained by means of this technique is to be distinguished from one based on the concept of personality trait, such as exemplified by the tradition of the five-factor model (Big Five) of personality (e.g., Digman, 1990; Judge & Bono, 2000; Judge, Bono, Ilies & Gerhardt, 2002). Rather, the interpretation of findings for the SAT – and also for an additional percept-genetic technique frequently used in conjunction with SAT, the Defense Mechanism Technique modified (DMTm) – is based on a model of the mind formulated by Andersson (1991; Andersson & Ryhammar, 1998). This model includes five different modes of functioning a person can employ for obtaining knowledge of the surrounding world and of the self as part of that world. These modes are also related to what is viewed in the model as a hierarchy of five different psychoanalytic models of the mind.

According to the Andersson model (and to psychoanalysis), the forms of anxiety and defense against anxiety an individual reconstructs at any given time can reveal something of central importance regarding the individual's personality. In terms of this model, there are three main motives for defense, referred to as separation anxiety, affect anxiety and identity anxiety. The corresponding defenses are denial, affect defenses (repression, projected

introaggression, inhibition, introaggression, barrier isolation and affect isolation) and identity defenses (four basic forms of denial through reversal). These various forms of anxiety and defense are part of the scoring scheme used for DMTm. The present study concerns how, for the same managers as dealt with in Andersson et al. (2002), managerial type is related to modes of anxiety and defense in DMTm.

When separation anxiety, affect anxiety and identity anxiety are scored on this percept-genetic technique, they should be interpreted primarily not in negative but in positive terms, as a capacity of the individual to express or "symbolize" them. Andersson and Ryhammar (1999, p. 583) concluded in their study of university teachers that those "with a positive view of their university and of their superior appeared capable of expressing and making visible one of the modes of anxiety /i.e., affect anxiety/ that can be aroused by /DMTm/". A further conclusion was that "when DMTm arouses a threat to the subject's sense of self, and this is expressed in terms of identity anxiety, one can speak of a kind of vulnerability which is revealed ... in either disappointment with the organizational climate of one's university, or a low assessment of it".

Ahlström (1991) studied the effects of nine months of transcendental meditation on DMTm results. In comparing two groups matched for age, gender and personality patterns in terms of SAT, the one having meditated and the other not, he noted more frequent signs of affect anxiety and identity anxiety in those who had meditated. In a study of university teachers Ryhammar (1996), in turn, found separation anxiety, affect anxiety and identity anxiety to be related to creativity as assessed by the Creative Functioning Technique (CFT; Smith & Carlsson, 1990). Creativity as conceived in connection with the CFT involves having easy access to subjective material, as well as the capacity to abandon ready-made interpretations in favor of more unfinished and subjective ones.

All these studies dealing with modes of anxiety in DMTm appear to support the view that managers who show a lack of signs of separation anxiety, affect anxiety and identity anxiety tend to often be in poor contact with their inner world and to have difficulties in expressing matters connected with it. Our prediction was that, for subjects belonging to the managerial type referred to as bureaucrats, this would be the case in particular (prediction 1).

Claesson and Olsson (1995) found that the affect defense of introaggression in DMTm was related to the coping strategy of "cognitive redefinition", which involves seeing problems in a new and more positive way. They regarded this strategy as expressing the reparative function

of the depressive position according to Melanie Klein's affect positions model (which is incorporated into the Andersson model), and suggested that a creative process is involved. Ryhammar (1996) found strong support for this idea in his study of university teachers, creativity in CFT being very clearly related to what is referred to as introaggression 1 in DMTm. In an interpretation of this result, Andersson and Ryhammar (1998, p. 378) proposed "that introaggression 1 is an attempt to make the evil /in DMTm/ less 'unconditional' and more 'conditional' by letting the nonevil person (the projected self) be identified with suffering or with a turning of aggression against the self", arguing that in these terms the results can be regarded as a validation of Melanie Klein's view that the depressive position represents the basis for creativity. An obvious prediction that could be made in this connection was that managers classified as idea-makers in particular would be scored for introaggression 1 in DMTm (prediction 2).

Andersson and Ryhammar (1999, pp. 583-584) noted in their study of university teachers that "when gender was included in the /factor/ analyses ... each of three organizational variables, namely academic values, human orientation and formalization/centralization (with negative sign), was found in a factor together with the affect defense of repression 3 ... Viewing the university as living up to academic standards and as being human in its orientation, without unnecessary formalization and centralization, would appear to render it a particularly satisfactory working place for teaching and research". They examined the question of why such an assessment is related to repression 3, which in DMTm is scored when the projected self is reported to be an object. The answer they suggested was that in this case "the evil" is displaced from the threatening other to the projected self and that "the good" is thus preferably sought and hopefully found outside one's self, perhaps in one's own organization. We reasoned that, if such a conclusion is correct, those managers we refer to as gardeners and as idea-makers would tend to experience their own organization as being "particularly good" and should accordingly be more likely than the other managers to be scored for repression 3 (prediction 3). A question of interest in this connection was whether the same relationship would hold for the other forms of repression located at the position of the projected self (repression 1 and 2).

Regarding the identity defenses in DMTm, we were particularly interested in how the various types of managers would differ in their use of denial through reversal IV. The specified

motive for this defense (in contrast to the main motive of identity anxiety) is to be found in position 4 of the Andersson model. In this position the primary task of the "significant other" is to acknowledge ("mirror") the oedipal child's ambition of being "the one and only" (Andersson, 1991, p. 91). The specified motive, inferred from Heinz Kohut's model of self and selfobject (which like the affect positions model is also incorporated into the Andersson model), is a possible loss of the grandiose ("ambitious") self. The defense related to this motive appears in the DMTm as a reversal of, or failure to recognize, the identity of the threatening other.

Although we assumed the managers as a group to be very ambitious, we expected some to be more ambitious than others, conceiving of those we refer to as gardeners as being the most ambitious of all and expecting them to particularly often be scored for denial through reversal IV (prediction 4). It was also of interest to compare the frequency of this score in the group of managers generally, as well as the frequencies of the other DMTm scores, with those obtained by Ryhammar (1996), who had selected his group of university teachers by means of stratified sampling. Finally, conceivable relations between the various managerial types and DMTm defenses other than those referred to in connection with the predictions were examined in an exploratory way. To guard against chance relationships, we decided for such relationships to only accept p-values of 0.01 or less.

METHOD

Subjects

The managers, 41 women and 54 men, were recruited from 31 different companies located in the areas of Stockholm and Gothenburg in Sweden. The median period of having been employed as a manager was 6 years for the women (range 1-26 years) and 9 years for the men (range 1-28 years). The median age of the women was 45 years (range 29 to 58 years) and of the men 47 years (range 31 to 61 years). In both gender groups, 70 % of the managers had an academic background. They were in the employ of industrial (11 women, 24 men), IT or software (3 women, 7 men), newspaper (2 women, 3 men) or public service (25 women, 20 men) firms. Most of them were middle managers (27 women, 40 men), the others first-line managers (11 women, 10 men) or top managers (3 women, 4 men).

Defense Mechanism Technique modified

DMTm was administered to the managers as part of their initial activities in a program of individual leadership training conducted by certified psychologists. In this percept-genetic technique (Andersson & Bengtsson, 1985), a sequel to DMT (Defense Mechanism Test) developed by Kragh (1960), two picture motifs are shown tachistoscopically, each in a series of 20 brief exposures, the exposure times increasing successively from 5 to 1150 milliseconds. The first picture includes a threatening female ("the threatening mother") and the second a threatening male ("the threatening father"). In addition to this threatening peripherally-situated person (Pp), there is a centrally-placed child or young person, referred to as hero(ine) (H), of the same gender as the subject, and also a disguised sexual attribute (A) located in front of H.

After each exposure of a picture, the subject is to report verbally what he or she has seen and to make a simple drawing of it. Prior to correct recognition of the DMTm motifs involved, these verbal reports and drawings are not an unmediated reflection of external reality, but rather are strongly colored by the subject's own very personal reconstruction of the meaning of the theme shown in the picture. The DMTm pictures are aimed at arousing various forms of anxiety which can find expression either directly in the subject's reports or indirectly as various signs of defense against anxiety.

The rationale of the scoring of DMTm and the interpretations involved are based on the Andersson model. The scoring was carried out in the two steps as is usual in research with this percept-genetic technique. First, two of us scored the protocols independently of each other. Thereafter, prior to the data analysis, we decided by consensus in the final scoring of those few cases in which we differed initially.

The scoring, conducted according to the latest DMTm manual (Andersson, 1995), was restricted to signs of separation anxiety, affect anxiety, identity anxiety and defenses against these anxieties. No analysis was made of signs that in the manual are referred to as additional signs. A sign may well occur in the first DMTm series, in the second or in both, and may occur on more than one exposure in a given series as well. How often it occurs in a given series provides an indication of the strength of the sign in question. Such a grading of strength was used here for repression 1 and 3, introaggression 1 and denial through reversal IV.

Some signs (repression 7 and 8, inhibition and introaggression 2) were observed in too few subjects to justify analysis. The signs that were employed were the following, the number of

women and of men (in that order) scored for them being indicated: affect anxiety (16, 17), identity anxiety (7, 12), separation anxiety (1, 3), repression 1 (29, 40), 2 (9, 13), 3 (21, 35), 4 (20, 27), 5 (6, 11), 6 (22, 29), projected introaggression (15, 15), introaggression 1 (29, 27), barrier isolation (9, 24), affect isolation (14, 22), denial 1 (30, 35), 2-3 (6, 17), denial through reversal I (5, 10), II 1 (22, 20), II 2 (6, 9), II 3 (15, 26), III (28, 30) and IV (23, 37). Those signs reported on in the results are as follows:

Affect anxiety. Before Pp has been perceived as being a person or a face, something is seen there described as being dissolved, fragmented, or whatever, or Pp is changed from being a person or a face into something which is dissolved, diffuse, or the like, or Pp is blotted out markedly without being lost completely.

Identity anxiety. H is changed from a person or a face into something which is dissolved, diffuse, and the like, or is blotted out to a marked degree without being either partially or totally lost.

Separation anxiety. H and Pp merge into a large face.

Repression 1. H is a petrified, inanimate or disguised being.

Repression 2. H is an animal.

Repression 3. H is a specified object.

Repression 6. Pp is a specified object.

Projected introaggression. Pp is injured, tormented, dejected, sad, frightened, worried, exposed, or whatever, or A is seen as something which is damaged, broken, worthless, bad, threatening, or the like.

Introaggression 1. H is injured, wretched, in trouble, or the like, is critical toward her- or himself, or is involved in a situation of destructive character.

Barrier isolation. A barrier has been added between H and Pp, or H and Pp belong to different realities, or Pp is an object distinguished by its contour or by its framed, empty surface.

Denial 1. Pp is either missing or uninterpreted on at least seven consecutive exposures, starting with the first one.

Denial through reversal II 2. H is angry or threatening, whereas Pp is neither threatening nor unsympathetic.

Denial through reversal III. H's gender is changed from being correct to incorrect, or H's gender is incorrect on at least eight consecutive exposures, but not on all exposures on which it is denoted, or H's gender is denoted but is not correct on any of the exposures, or H's gender is not denoted at all.

Denial through reversal IV. Pp is doubled or multiplied, or H and Pp shift places, or Pp is seen as a duplicate of H, or Pp's gender is changed from being correct to incorrect but Pp is neither threatening nor unsympathetic when thus changed, or Pp is explicitly denoted as H's father in the first series or as H's mother in the second series and at the same time is neither threatening nor unsympathetic, or Pp is a person younger than H and is neither threatening nor unsympathetic, or H changes from a younger person to an older one 35 years of age or more, or H is an older person (35 years of age or more) on at least 12 consecutive exposures.

Managerial types

The Ekvall and Arvonen questionnaire (Ekvall & Arvonen, 1991, 1994; Arvonen & Ekvall, 1999) concerning leadership styles was distributed to the subordinates of each of the managers. The median number of subordinates was 8 for the women managers (range 2 to 20, the total number of subordinates being 349) and 6 for the male managers (range 4 to 16, the total number of subordinates being 390). The questionnaire provides an assessment of leadership style in terms of employee-centeredness (e.g., "My manager shows regard for his or her subordinates as individuals"), change-centeredness (e.g., "My manager offers ideas about new and different ways of doing things") and production-centeredness (e.g., "My manager checks on things carefully in supervising work"). It includes 30 items, 10 for each of the three dimensions. A presentation of all the items is given in Ekvall and Arvonen (1991) and in Andersson et al. (2002).

Answers are marked on a four-point scale (seldom or never, sometimes, often, most of the time). Mean scores, calculated on each of the three leadership style dimensions for each of the managers on the basis of ratings by his or her subordinates, served as variables. Low scores or high on each of the variables, based on a median split of the scores for the group of managers as a whole, were then combined to determine which of the eight managerial types referred to in the introduction each of the managers belonged to. All six buddy managers were men. For the other managerial types the number of women and of men (in that order) were as follows: vague

managers (9, 16), all-round managers (14, 8), bureaucrats (3, 4), idea-makers (4, 2), entrepreneurs (5, 5), administrators (2, 7) and gardeners (4, 6).

RESULTS

Most of the DMTm protocols were rich in signs. Only two of the subjects were not scored for an affect defense of any kind, and all but eight were scored for some form of identity defense. No sign was less common among the managers than among the university teachers (41 women, 91 men) that Ryhammar (1996) studied. In fact, the women managers were scored for introaggression 1 and for denial 1 more often than the women teachers Ryhammar examined (the contrasts of 29/12 and 13/28 and of 30/11 and 19/22 in fourfold tables give $p = 0.0008$ and $p = 0.02$, respectively, Fisher Exact Probability Test, two-tailed, which is used here for all fourfold tables). Similarly, the male managers were scored more often than the male teachers in the Ryhammar study were for introaggression 1 (27/27 and 29/62, $p = 0.04$), denial through reversal II 2 (9/45 and 4/87, $p = 0.02$) and denial through reversal III (30/24 and 19/72, $p = 0.00003$).

Table 1.
Distribution of the managers on signs of anxiety in DMTm.

Group	Affect, identity and/or separation anxiety	No affect, identity or separation anxiety
Vague manager	11	14
All-round manager	12	10
Bureaucrat	0	7
Idea-maker	4	2
Entrepreneur	6	4
Administrator	6	3
Gardener	4	6
Buddy manager	5	1
Group	Affect, identity and/or separation anxiety	No affect, identity or separation anxiety
Bureaucrat	0	7
Other managerial types	48	40

$p = 0.006$

In comparing the subjects of the present group as a whole with the subjects that Ryhammar (1996) studied, the following signs were found to be more frequent for the managers than for the university teachers: repression 6 (51/44 and 50/82, $p = 0.02$), introaggression 1 (56/39 and 42/90, $p = 0.00007$), denial through reversal II 2 (15/80 and 7/125, $p = 0.01$) and denial

through reversal III (58/37 and 42/90, $p = 0.00001$). There was some support for the idea that the managers (due to their expected "high ambitions") would be scored for denial through reversal IV more frequently than the university teachers (60/35 and 67/65, $p = 0.08$). For the managers, barrier isolation was more common for the men than for the women (24/30 and 9/32, $p = 0.03$).

As can be seen in Table 1, we were right in predicting the bureaucrats to be scored for separation anxiety, affect anxiety and identity anxiety on DMTm less often than the other managers. Affect anxiety was unusual for both the bureaucrats and the buddy managers (1/12 and 33/49, $p = 0.03$). The buddy managers were also scored more frequently for identity anxiety and/or separation anxiety than the other managers were (4/2 and 17/72, $p = 0.02$).

Table 2.

Distribution of the managers on the affect defense of introaggression 1 in DMTm.

Group	Introaggression 1 on three or more exposures	Introaggression 1 on one or two exposures	No introaggression 1
Vague manager	5	12	8
All-round manager	3	9	10
Bureaucrat	1	3	3
Idea-maker	4	1	1
Entrepreneur	3	4	3
Administrator	0	2	7
Gardener	2	4	4
Buddy manager	0	3	3

Group	Introaggression 1 on three or more exposures	Introaggression 1 on one or two exposures	No introaggression 1
Idea-maker	4	1	1
Vague manager, all-round manager, bureaucrat, entrepreneur, gardener or buddy manager	14	35	31
Administrator	0	2	7

$\chi^2 = 14.74$ (4 df), $p = 0.005$

More than half of the managers were scored for introaggression 1 (59 %), denial through reversal IV (63 %) and repression 3 (59 %). The idea-makers, the gardeners, and these two groups combined, those being the three groups of managers predicted to be scored most frequently for these defensive signs (in the order given), included 6, 11 and 17 %, respectively,

of the managers. Such a discrepancy in the numbers of subjects involved was the reason for conducting a detailed analysis of the frequencies with which the signs were scored rather than simply considering the presence or absence of the defenses in question. By a sign of defense being marked, we mean that it was scored on at least two exposures (for repression 3 and 1) or on at least three (for introaggression 1 and denial through reversal IV) in any of the DMTm series.

Marked introaggression 1 was most frequent for the idea-makers, the administrators often not being scored at all for this affect defense (Table 2). There were six idea-makers, four of them women and two of them men, the former being those who showed marked introaggression 1 (for the women only, the contrasts were 4/0 and 9/28, $p = 0.007$).

Table 3.

Distribution of the managers on the affect defense of repression 3 in DMTm.

Group	Repression 3 on two or more exposures	Repression 3 on one exposure	No repression 3
Vague manager	5	7	13
All-round manager	7	4	11
Bureaucrat	0	4	3
Idea-maker	5	1	0
Entrepreneur	4	3	3
Administrator	4	2	3
Gardener	7	1	2
Buddy manager	1	1	4

Group	Repression 3 on two or more exposures	Repression 3 on less than two exposures
Idea-maker or gardener	12	4
All-round manager, entrepreneur or administrator	15	26
Vague manager, bureaucrat or buddy manager	6	32

$\chi^2 = 17.51$ (2 df), $p = 0.0002$

Marked repression 3 was more typical of the idea-makers and the gardeners than of any of the other managers, especially the vague managers, the bureaucrats and the buddy managers (Table 3). Marked repression 1 was also more frequent for the idea-makers and the gardeners than for the other managers (12/4 and 36/43, $p = 0.05$). The vague managers, the bureaucrats

and the buddy managers were scored less frequently for repression 2 than the other managers (35/3 and 38/19, $p = 0.006$).

Table 4.

Distribution of the managers on the identity defense of denial through reversal IV in DMTm.

Group	Denial through reversal IV on three or more exposures	Denial through reversal IV on one or two exposures	No denial though reversal IV
Vague manager	11	4	10
All-round manager	9	5	8
Bureaucrat	0	3	4
Idea-maker	2	2	2
Entrepreneur	2	6	2
Administrator	2	3	4
Gardener	6	2	2
Buddy manager	1	2	3

Group	Denial through reversal IV on three or more exposures	Denial through reversal IV on less than three exposures
Gardener	6	4
Vague manager or all-round manager	20	27
Bureaucrat, idea-maker, entrepreneur, administrator or buddy manager	7	31

$\chi^2 = 8.54$ (2 df), $p = 0.01$

As can be seen in Table 4, marked denial through reversal IV was found to occur most frequently in the gardeners, less frequently in the vague managers and the all-round managers, and least frequently in the bureaucrats, the ide-makers, the entrepreneurs, the administrators and the buddy managers. The same comparisons involving only the male managers were particularly clearcut (Table 5).

There were no obvious relationships between managerial type and the defenses of repression 4, 5 or 6, barrier isolation, affect isolation, denial 1 or 1-2, or denial through reversal I, II 1, II 2, II 3 or III. However, projected introaggression was more common in the all-round managers, the idea-makers and the gardeners than in the other managers (18/20 and 12/45, $p = 0.01$). A summary of all the relationships found between the different DMTm signs and the managerial types is given in Table 6.

Table 5.
Distribution of the male managers on the identity defense of denial through reversal IV in DMTm.

Group	Denial through reversal IV on three or more exposures	Denial through reversal IV on less than three exposures
Vague manager	6	10
All-round manager	4	4
Bureaucrat	0	4
Idea-maker	0	2
Entrepreneur	1	4
Administrator	1	6
Gardener	6	0
Buddy manager	1	5

Group	Denial through reversal IV on three or more exposures	Denial through reversal IV on less than three exposures
Gardener	6	0
Vague manager or all-round manager	10	14
Bureaucrat, idea-maker, entrepreneur, administrator or buddy manager	3	21

$\chi^2 = 16.91$ (2 df), $p = 0.0002$

DISCUSSION

When anxiety is conceived of as a symptom, it is usually regarded as something that the person should be helped to reduce or get rid of. In clinical praxis it is also common to describe defenses in terms of how maladaptive or psychopathological they are, some defenses thus being viewed as less “normal” than others. This represents a quasi-medical and normative application of the concepts of anxiety and defense, one which does not coincide with how these concepts are employed in the Andersson model. This model is a strictly psychodynamic one in which the motives of defense – main motives and specified ones – are of major importance for understanding individual ways of functioning, irrespective of whether the person examined is a client with problems of clinical character or not (cf. Andersson, 1991, pp. 81-82).

DMTm is a useful tool for research and diagnostic purposes involving either clinical or non-clinical subjects. Differentiating between various symptoms or other personal characteristics within groups of clinical subjects and relating them to the DMTm signs has proved to be a

fruitful strategy. Studies of this sort have involved schizophrenics (Löof & Svensson, 1993), depressed patients (Hallborg, 1997; Hallborg & Andersson, 2002) and drug addicts (Aleman, 2000; Bergström, 1998; Montgomery, 2002), for example. The same approach as used in research with DMTm involving clinical subjects has been employed with non-clinical ones. Amnér (1997), for example, compared the DMTm scores of airline passengers without fear of flying with those reporting a pronounced fear of flying.

Table 6.
Summary of findings.

Characteristics in DMTm	Managerial type
Anxiety	
<i>No affect, identity or separation anxiety</i>	<i>Bureaucrat</i>
No affect anxiety	Bureaucrat, buddy manager
Identity and/or separation anxiety	Buddy manager
Affect defenses	
Repression 1 on two or more exposures	Idea-maker, gardener
No repression 2	Vague manager, bureaucrat, buddy manager
<i>Repression 3 on two or more exposures</i>	<i>Idea-maker, gardener</i>
Repression 3 on less than two exposures	Vague manager, bureaucrat, buddy manager
Projected introaggression	All-round manager, idea-maker, gardener
<i>Introaggression 1 on three or more exposures</i>	<i>Idea-maker</i>
No introaggression 1	Administrator
Identity defenses	
<i>Denial through reversal IV on three or more exposures</i>	<i>Gardener</i>
Denial through reversal IV on less than three exposures	Bureaucrat, idea-maker, entrepreneur, administrator, buddy manager

Note. Findings related to predictions are italicized.

The study by Ryhammar (1996) already referred to, examining creative and noncreative university teachers, utilized the same research routine of attempting by means of DMTm to differentiate between subgroups within the sample investigated. We know from the Ryhammar study that university teachers exhibit a variety of affect defenses and identity defenses in DMTm. We had no reason to expect any basically differing distribution of such signs to appear among the managers, with the exception that the identity defense of denial through reversal IV was expected to be more frequent in the managers than in the university teachers. There

appearing to be such a tendency supported the view that the managers more frequently defended their "ambitious" self. The finding, however, that in the combined group of 227 subjects the affect defenses of repression 6 and introaggression 1 and the identity defenses of denial through reversal II 2 and III were strongly linked to being a manager was unexpected.

There is a striking difference between the affect defenses of repression 6 and introaggression 1. According to the Andersson model, the former defense can be regarded as an "objectification of the evil" (Pp being perceived as a specified object) and the latter as a "subjectification of the evil" (H being injured, and the like), the motives specified for these defenses being found at different positions of the Melanie Klein affect positions model. These defenses against the affect anxiety aroused in the DMTm situation are two of three very basic forms of symbolization that were clearly adopted more frequently by the managers than by the university teachers (the third form of symbolization being "annulment of the evil", referred to as affect isolation; cf. Andersson, 1977, 2000). Apparently, the managers represent a group of persons with a pronounced capacity of using the symbolizations just referred to, as well as other kinds of symbolization of similar character, since only two of them lacked affect defenses entirely.

As reported in Andersson et al. (2002), twenty-eight of the present subjects (29 %) reconstructed an identity in SAT referred to as M (which includes the personality patterns M-, M+ and Mo), seen as indicating "an optimal individuation of the self, a lesser degree of overvaluation or 'idealization' of other persons or of oneself, a recognition of mutuality in relationships, and the acceptance of both one's own and of other persons' capacities and talents" (p. 4). According to the Andersson model, subjects given this SAT classification should ideally not score for any kind of identity defense in DMTm. Studies of female university students and male conscripts have confirmed this (Andersson & Bengtsson, 1985; Andersson & Weikert, 1974). Nothing similar to this was found in the present study, however (only one of the eight managers not scored for identity defense being classified as M in SAT). Apparently, the oedipal theme of DMTm ("the danger of loss of love of the love object") led to most of the managers (92 %) employing one or more of the identity defenses.

In the Ryhammar (1996) study, women were scored for denial through reversal III much more frequently than men ($p = 0.0001$). No such gender difference was found in the present managerial group, the male managers showing this identity defense much more frequently,

however, than the male university teachers. In a factor analysis performed by Ryhammar (1996) on organizational and DMTm variables, denial through reversal III was found to belong to a factor which included those university teachers who regarded their university as being too centralized and bureaucratic and to be lacking in freedom.

In their interpretation of this result, Andersson and Ryhammar (1999) noted that the specified motive behind denial through reversal III is found in the position in the Andersson model in which gender is clearly involved (position 3 late), one in which the oedipal child (in line with Heinz Kohut's model of self and selfobject) has constructed an idealized image of the significant other, upon whom it is highly dependent for approval and confirmation. Since such a demand or claim for approval can never be totally satisfied, they suggested "that individuals who are scored for denial through reversal III tend to maintain such an unsatisfied demand ... resulting in the view of their university just described" (p. 584). It seems not too farfetched to assume that the same unsatisfied demand had been a driving force behind the desire that many of the present subjects had had to become a manager.

As was the case for denial through reversal III, denial through reversal II 2 was found more frequently in the managers than in the university teachers. The specified motive for this identity defense is also found in position 3 in the Andersson model (now designated as position 3 early), seen as indicating an attempt by the individual to maintain a relationship to an idealized other. As noted in Andersson and Ryhammar (1998), idealization of the significant other should be an important incitement for creating something new. This could also be a clue to understanding why the managers were scored for denial through reversal II 2 and III in DMTm more frequently than the university teachers.

The three forms of anxiety aroused in DMTm – separation anxiety, affect anxiety and identity anxiety – appear to differ in how often they are expressed directly. For the managers studied here, affect anxiety was most common (found in 36 % of the subjects), followed by identity anxiety (20 %) and separation anxiety (4 %). The distribution of these DMTm signs was similar to that found in the Ryhammar (1996) study of university teachers (36, 27 and 5 %, respectively). According to the Andersson model, both separation anxiety and identity anxiety are expressions of a vulnerable sense of self (related to positions 2 and 6, respectively, in the model), whereas affect anxiety is an expression of the actual existence of an intrapsychic threat (related to position 4). As expected, the bureaucrats did not express either form of anxiety in

DMTm (prediction 1), and they shared with the buddy managers their not being scored for affect anxiety. Identity anxiety and/or separation anxiety were frequently found, however, in the buddy managers, indicating them to be the group of managers most vulnerable in their sense of self.

Predictions 2, 3 and 4 were confirmed in the sense that taking account for each subject of the frequency with which the DMTm sign in question was assigned, rather than simply of whether it was assigned at all, did provide support for those predictions. Marked introaggression 1 was most frequently found for the idea-makers, marked repression 3 for the idea-makers and the gardeners, and marked denial through reversal IV for the gardeners. Introaggression 1 was uncommon for the administrators, indicating them to in this respect be the clear opposite of the idea-makers. This seems reasonable, in view of previous studies having linked introaggression 1 in DMTm to creativity. It is also of interest that all the idea-makers who were scored for marked introaggression 1 were women.

Assuming our conception to be correct that the idea-makers and the gardeners experience the organization as being "particularly good" due to their marked signs of repression 3, the results indicate the all-round managers, the entrepreneurs and the administrators to less frequently do so and the vague managers, the bureaucrats and the buddy managers to do so least frequently of all. It is also of interest that all three forms of repression in DMTm at the place of the projected self (H) were related to the managerial types in much the same way, since marked repression 1 was linked with the managerial types of idea-makers and gardeners, and repression 2 was found least often for the vague managers, the bureaucrats and the buddy managers.

If, as we have suggested, the driving force for such managers as the gardeners is to be "the one and only" and this ambition reveals itself through marked denial through reversal IV, the results suggest – and here the findings for the male manager group are particularly clearcut – that ambition of this sort is least common for the bureaucrats, the idea-makers, the entrepreneurs, the administrators and the buddy managers. The vague managers and the all-round managers appeared to have an intermediate position in this respect.

A final question concerns the non-predicted finding that the all-round managers, the idea-makers and the gardeners exhibited projected introaggression most frequently of all the managerial groups. Since the managers belonging to these three managerial groups share a

high rating by their subordinates on change-centeredness, such a leadership style is apparently often linked to what from the standpoint of the central self is an "outwardly" directed defensiveness involving a displacement of (self-)destructive affective experiences. By way of comparison, one can note that university teachers in whom projected introgression was observed were often found in the Andersson and Ryhammar (1999) study to rate their superiors as being low on the leadership style dimension of employee-centeredness.

In introducing their three dimensions of leadership style, Ekvall and Arvonen (1991) suggested them to be related to the personality of the managers involved. Knowing such to be the case is of obvious value in connection with the recruitment and training of managers. Andersson et al. (2002) were the first to confirm the relationship between the personality of managers as assessed in terms of SAT and the leadership styles referred to, together with the associated managerial types. The present study provides evidence of the relationship of managerial type to further aspects of personality, namely of modes of anxiety and defense against anxiety on the basis of DMTm.

REFERENCES

- Ahlström, H. H. B. (1991). *Transcendental meditation, adaptation mechanisms and valuations*. Fairfield, Iowa, USA: Department of Psychology, Maharishi International University.
- Aleman, K. (2000). Skillnader i Defense Mechanism Technique modified (DMTm) mellan narkomaner med och utan diagnosen psykos. *Psykologiska rapporter från Lund, Lunds universitet, 1, Nr 2*.
- Amnér, G. (1997). *Fear of flying in civil airline passengers. A manifold phenomenon with various motivational roots*. Lund: Department of psychology, Lund University.
- Andersson, A. L. (1977). Toward a dialectical conception of the percept-genetic approach to perception–personality. In W. D. Fröhlich, G. J. W. Smith, J. G. Draguns & U. Hentschel (Eds), *Psychological processes in cognition and personality*. New York: Hemisphere, 1984. Pp 125-133.
- Andersson, A. L. (1991). *Perceptgenes och personlighet*. Lund: Lund University Press.
- Andersson, A. L. (1995). *Defense Mechanism Technique modified*. Lund: Institutionen för tillämpad psykologi, Lunds universitet.
- Andersson, A. L. (2000). *On language and percept-genesis*. Paper presented at the symposium on percept-genetic analysis in Delphi, Greece, 14th to 16th October.
- Andersson, A. L. & Bengtsson, M. (1985). Percept-genetic defenses against anxiety and a threatened sense of self as seen in terms of the Spiral Aftereffect Technique. *Scandinavian Journal of Psychology, 26*, 123-139.

- Andersson A. L., Dahlström, B. & Ekvall, G. (2002). Leadership style and managerial type as related to working climate, gender and personality in terms of the Spiral Aftereffect Technique (SAT). *Lund Psychological Reports, Lund University*, 3, Nr 3.
- Andersson, A. L., Nilsson, A., Ruuth, E. & Smith, G. J. W. (Eds) (1972). *Visual aftereffects and the individual as an adaptive system. Psychological investigations with projected aftereffects and afterimages*. Lund: Gleerup.
- Andersson, A. L. & Ryhammar, L. (1998). Psychoanalytic models of the mind, creative functioning, and percept-genetic reconstruction. *Psychoanalysis and Contemporary Thought*, 21, 359-382.
- Andersson, A. L. & Ryhammar, L. (1999). Personality of university teachers according to the Defense Mechanism Technique modified (DMTm) as related to their assessment of their university as an organizational setting. *Social Behavior and Personality*, 27, 575-586.
- Andersson, A. L. & Weikert, C. (1974). Adult defensive organization as related to adaptive regulation of spiral aftereffect duration. *Social Behavior and Personality*, 2, 56-75.
- Arvonen, J. & Ekvall, G. (1999). Effective leadership style: Both universal and contingent? *Creativity and Innovation Management*, 8, 242-250.
- Bergström, M. (1998). *Tre verkligheter. Kvinnor i olika stadier av narkotikamissbruk – en socialpsykologisk studie*. Lund: Institutionen för tillämpad psykologi, Lunds universitet.
- Claesson, A. & Olsson, L. (1995). Självskattad coping och dess förhållande till personlighet enligt SAT och DMTm. *Psykologi i tillämpning, Lunds universitet*, 13, Nr 1.
- Digman, J. M. (1990). Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*, 41, 417-440.
- Ekvall, G. & Arvonen, J. (1991). Change-centered leadership: An extension of the two-dimensional model. *Scandinavian Journal of Management*, 7, 17-26.
- Ekvall, G. & Arvonen, J. (1994). Leadership profiles, situation and effectiveness. *Creativity and Innovation Management*, 3, 139-161.
- Hallborg, A. (1997). Symtomdimensioner vid depression i relation till tecken i DMTm. *Psykologi i tillämpning, Lunds universitet*, 15, Nr 4.
- Hallborg, A. & Andersson, A. L. (2002). Spiral Aftereffect Technique (SAT) och Defense Mechanism Technique modified (DMTm) efter tillfrisknande från depression i relation till symtomdimensioner och personlighetsrekonstruktion under det akuta skedet. *Psykologiska rapporter från Lund, Lunds universitet*, 3, Nr 2.
- Judge, T. A. & Bono, J. E. (2000). Five-factor model of personality and transformational leadership. *Journal of Applied Psychology*, 85, 751-765.
- Judge, T. A., Bono, J. E., Ilies, R. & Gerhardt, M. W. (2002). Personality and leadership: A qualitative and quantitative review. *Journal of Applied Psychology*, 87, 765-780.
- Kragh, U. (1960). The Defense Mechanism Test: A new method for diagnosis and personnel selection. *Journal of Applied Psychology*, 44, 303-309.
- Kragh, U. & Smith, G. J. W. (Eds) (1970). *Percept-genetic analysis*. Lund: Gleerup.
- Lööf, W. & Svensson, M. (1993). Skillnader i DMTm mellan patienter med diagnoserna hebefreni, parafreni och icke regressiv schizofreni. *Psykologi i tillämpning, Lunds universitet*, 11, Nr 1.

Montgomery, E. (2002). *Drogval, kön och personlighet. En perceptgenetisk undersökning av narkomaner*. Lund: Institutionen för psykologi, Lunds universitet.

Ryhammar, L. (1996). *Kreativ funktion, perceptgenetisk rekonstruktion och organisatoriska förutsättningar för kreativ verksamhet. En studie av högskolelärare*. Lund: Lund University Press.

Smith, G. J. W. & Carlsson, I. (1990). *The creative process. A functional model based on empirical studies from early childhood to middle age*. New York: International Universities Press.