Effects of Emotion Recognition and Alexithymia on Motivation to Lead: Evidence from Turkey

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Abstract *This study considers motivation to lead (MTL) as its focal point and assumes that MTL should be linked to the person's emotionality. The author draws on two partially opposing concepts regarding emotions: emotion recognition and alexithymia. Their effects on MTL are analysed using two data sets, from top managers and senior business administration students. A noteworthy finding is that the statistical structures of emotion recognition, alexithymia and MTL are the same for both groups. Though managers are superior to the students in terms of identifying and expressing their emotions, and are not as externally oriented as the students; they tend to focus more on the negative emotions. The managers are more emotionally proactive in assuming leadership role and consider more strongly that leadership is an honourable duty. The managers' more extroverted alexithymia factors are found to affect their MTL. Manager MTL's affective component is linked with their emotionality, and their emotion recognition and externally oriented thinking affect their MTL's affective component. The students' MTL is not found to be affected by their emotionality but a decomposition of their MTL uncovers that only social-normative component is affected by their externally oriented thinking and deficiency in identifying their own emotions.*

Key words Motivation to lead, emotion recognition, alexithymia, Turkey

1. Introduction

Challenges in the work context and the curiosity of scholars have led to the creation of countless management and leadership theories in recent decades. Koontz (1961) proposes that management has become "a jungle" that includes many often contradictory theories. There are also various theories regarding leadership, and these are complicated due to their various sub-approaches (Yukl 1999). However, many approaches to leadership examine the personal features of leaders and followers as well as situational factors.

This current study focuses on the emotionality of leadership. One of the reasons for this focus is that newer leadership theories, such as the theories of transformational and charismatic leadership, emphasise emotions and values (Yukl 1999). Another reason is the concept of motivation to lead (MTL), which was introduced by Chan and Drasgow (2001). MTL is the extent to which a person is willing to assume and retain a leadership role. A review of the literature suggests that the components of MTL may be founded on the emotionality of this role. The final reason for this focus is that MTL is not limited to any specific leadership approach; regardless of his or her leadership type, a leader should demonstrate MTL.

All of these reasons suggest that there may be a relationship between emotionality and MTL. In considering this potential relationship, the author examines two concepts related to that of emotionality. One is emotion recognition – the extent to which the person agrees that a given emotion is suitable for a specific situation. The other is alexithymia – the inability to understand and distinguish between one's own emotions (Nemiah 1996). The current study proposes that the extent of a person's ability to match a given emotion to a situation and any difficulty that he or she has reading and analysing his or her own emotions will affect his or her MTL.

The author feels that this study is valuable because similar studies have not yet been conducted. In addition, the analysis of MTL is helpful because it is not merely applicable to a specific leadership style. Finally, because this proposed effect is considered in the Turkish context, helpful insights for Turkey in particular are presented.

2. Emotion recognition

Emotion recognition is a commonly researched subject. A brief literature review reveals that emotion recognition is usually considered to be a component of emotional intelligence, as in the discussion of *emotion recognition* and *understanding emotional meanings* (Salovey and Mayer 1990). It is also considered to be a component of the definition of emotional intelligence as *the capacity for affective reasoning about emotions* (Martinez 1997), *workers' positive feelings about themselves in the workplace* (Chapman 2001) or *the person's analysis of his or her own emotions and those of others* (Goleman 1995). A more detailed literature review reveals that some scholars (e.g., Nowicki and Duke 1994) place one's *own* emotion recognition at the centre of emotional intelligence, whereas others (e.g., Scherer *et al*. 2001) suggest that recognising and appraising *other people's* emotions is vital. The interest in emotion recognition is also reflected in the instruments that address emotional intelligence. Some specific instruments, such as the Diagnostic Analysis of Nonverbal Accuracy Scale (DANVA) (Nowicki and Duke 1994) and the Japanese and Caucasian Brief Effect Recognition Test (JACBART) (Matsumoto *et al*. 2000), primarily examine emotion recognition.

Moreover, the literature suggests that recognising one's own or others' emotions is insufficient; instead, one should also be able to match these recognised emotions with different situations (Innes-Ker and Niedenthal 2002). Some scholars (e.g., Eisenberg 2000) also posit that recognising and appraising one's own and others' emotions is an antecedent of managing emotions, especially in unforeseen circumstances.

Emotional matching and management, together with emotional intelligence more generally, are required for harmony with situational changes. For example, scholars who examine stress contend that the use of emotional intelligence and matching can lead a person to handle stress more effectively and adjust to situational changes successfully (e.g., Goleman 1995), which is a substantial advantage for managers and leaders (Sirin 2007). Other scholars (e.g., Joseph and Newman 2010; Wolff *et al*. 2002) claim that harmony is a vital factor in work performance, healthy leader-follower relationships, and successful team building.

The literature thus far implies that emotion recognition is valuable and beneficial to the psycho-social aspects of the work context. Conversely, the literature has also revealed the negative effect of alexithymia: a person's inability to completely or sufficiently understand, describe and distinguish between his or her *own* emotions (Nemiah 1996). This concept is sometimes considered to be a part of emotion recognition (e.g., MacCann et al. 2003) and is posited to severely impair daily social interactions and behaviours (Velasco et al. 2006). As noted in the literature, alexithymia comprises three sub-factors: an inability to define or identify one's own emotions, an inability to express those emotions, and incapacity to think in an externally oriented way (Larsen et al. 2003). There are also some instruments that are specific to alexithymia, one of which is the Toronto Alexithymia Scale (TAS-20) (Bagby *et al*. 1994).

3. Motivation to lead and its relationship with emotion recognition

A literature review (e.g., Wolff *et al*. 2002; Wong and Law 2002) reveals that leadership and emotional intelligence are sometimes related and that this relationship is more evident if transformational and charismatic leadership styles are considered. Scholars such as Crosby and Bryson (2005), and Zhou and George (2003) posit that leaders should be people-oriented and must be able to understand how their followers feel to encourage them to achieve their goals. Studies focusing on transformational leadership contend that this type of leadership helps leaders to understand their followers' emotions and thus causes followers to feel free, enabling them to behave more cooperatively and thus become team players (Eisenbeiss *et al*. 2008). Similarly, charismatic leaders impress their followers by appealing to their emotions; in this way, they can encourage their followers to feel particular emotions about relevant problems or goals (Rubin et al. 2005). However, interestingly, most studies of the emotionality-leadership relationship, including the previously mentioned ones and the more current ones (e.g., Whitman *et al*. 2010), consider this relationship from the perspective of *leadership success*. Nevertheless, a small number of studies are similar to the current study in terms of their focus and perspective. A good example is the study conducted by Cote *et al*. (2010),

which found that emotional intelligence (and thus, emotion recognition as a factor in emotional intelligence) is correlated with assuming leadership roles (the leader's *emergence*).

The related concept of MTL, or the extent to which a person is willing to assume and retain a leadership role, is introduced by Chan and Drasgow (2001). These scholars contend that MTL reflects individual differences. MTL is defined as the willingness to assume a leadership position by accepting the training, duties and responsibilities of a leader. It also encompasses the person's willingness to retain the leadership role (Chan and Drasgow 2001).

The previously mentioned studies suggest that a good leader should be able to *read* emotions well. The general understanding of leadership is that it requires one to determine the right way forward (Eigen and Siegel 1989) or provide new alternatives and solve problems creatively (Bennis 1989). Making the right choices and acting effectively are both connected with the psycho-social context; thus, effective emotion recognition should increase the probability of an individual becoming a leader and should help the leader to fulfil his or her duties and responsibilities. As a result, the *desire* to become a leader and to continue leading should also be influenced by the effect of emotion recognition. Wong and Law (2002) reach a similar conclusion in focusing on reciprocal satisfaction among leaders and their followers, positing that a leader's sensitivity toward his or her followers' emotions will increase the followers' satisfaction with the leader (and vice versa).

Evidence of this effect is also visible when MTL is decomposed. As Chan and Drasgow (2001) suggest, MTL has three components: the affective, non-calculative and social-normative components. The affective component is strongly connected with emotions and is one's emotional willingness to become a leader. This *emotionality* should generate a possible relationship between MTL and emotion recognition. The social-normative component relates to the perception that leading is a duty that one must accept if offered the opportunity (Chan and Drasgow 2001). This awareness of duty, which is considered to be emotional, may also create a relationship between MTL and emotion recognition. According to Chan and Drasgow (2001), the non-calculative component relates to the costs and returns of leadership. Changes in circumstances can make it difficult to make the correct decisions and turn leadership into a challenge. In such a case, a person may be at risk when accepting and performing a leadership role. The non-calculative component pertains to the leverage that the leader therefore seeks in endeavouring to obtain privileges and security from his or her position.

All of the studies mentioned thus far suggest that there is sound evidence of the effects of emotion recognition on MTL. The author continues the analysis of these effects in the next section, which also discusses alexithymia.

4. Methodology of research

The aim of this research is to discover whether and how emotionality, in the form of emotion recognition and alexithymia, affects MTL. The necessary data come from two different samples. One sample includes 160 randomly selected senior business administration students at a particular university in Istanbul, Turkey. The other sample includes 160 top managers, each from 160 randomly selected companies in the Beylikduzu Organized Industrial Zone in Istanbul. The data were collected using questionnaires prepared by the author and administered by a professional firm. A list of participants and their phone numbers has been used to confirm with each participant that he or she really filled out the questionnaire.

MTL is measured using the instrument developed by Chan and Drasgow (2001), which includes 27 items. Emotion recognition is measured based on the participants' emotional judgments in different cases, as suggested by MacCann *et al.* (2003) and Mayer *et al.* (2003). For each case, an appropriate emotion was identified using the approach developed by Tangney et al. (2007), and the participants were asked to indicate their agreement with that emotion using a five-point Likert-type scale. There are eight different cases for emotional judgment. To assess alexithymia, the Toronto Alexithymia Scale (TAS-20), introduced by Bagby *et al.* (1994), is used. It is important to note that Gulec et al. (2009) analysed the TAS-20 in the Turkish context and proposed modifications that make it specific to that context.

Because there is no further evidence of the validity of the TAS-20 for the Turkish context, the author performs an exploratory factor analysis on the items in the original version of TAS-20. The author also conducts exploratory factor analyses for MTL and emotion recognition because these also have not been

validated in the Turkish context. In the next step, the responses of the students and managers are compared. Finally, the author generates multivariate general linear models (GLMs) to separately investigate the effects of emotion recognition and alexithymia on MTL for the students and managers.

5. Statistical structures and reliabilities

All exploratory factor analyses for MTL, emotion recognition and alexithymia are accompanied by reliability analyses, noted by Cronbach's alpha values. Table 1 separately presents the results for MTL for the student and manager data. The first value in each cell shows the relevant factor loading, and the second value, in parentheses, is the item mean.

Table 1. Results of the exploratory factor and reliability analyses of MTL including item means

Affective

Item	Students	Managers
Component variance explained	26.963%	21.685%
Component Cronbach's alpha	0.970	0.910
Most of the time, I prefer being a leader rather than a follower when working in a group.	.941 (3.58)	.966 (3.83)
I have a tendency to take charge in most groups or teams that I work with.	.930 (3.61)	.849 (4.44)
I am the type of person who likes to be in charge of others.	.926 (3.04)	.964 (4.54)
I usually want to be the leader in the groups that I work in.	.923 (3.11)	.861 (3.75)
I am the type of person who would actively support a leader but prefers not to be a leader. *	.921 (3.07)	.718 (3.92)
I believe I can contribute more to a group if I am a follower rather than a leader. *	.913 (3.22)	.682 (3.61)
I am seldom reluctant to be the leader of a group. *	.889 (2.78)	.821 (3.91)
I am the type of person who is not interested in leading others. *	.852 (2.67)	.625 (3.84)
I am definitely not a leader by nature. *	.763 (2.46)	.645 (3.52)

Non-calculative

Item	Students	Managers
Component variance explained	24.729%	20.775%
Component Cronbach's alpha	0.949	0.903
I am only interested in leading a group if there are clear advantages for me.	.974 (4.33)	.953 (4.07)
I will never agree to lead if I cannot see any benefits of accepting the role.	.955 (4.41)	.906 (3.66)
I would only agree to be a group leader if I knew I could benefit from the role.	.917 (4.01)	.843 (3.71)
I will want to know "what's in it for me" if I am going to agree to lead a group.	.915 (4.18)	.823 (3.88)
I have too many of my own problems to worry about to be concerned about the rest of the group.	.871 (3.03)	.818 (3.55)
I never expect to obtain more privileges if I agree to lead a group. *	.830 (3.88)	.765 (3.67)
I would agree to lead others even if there were no special rewards or benefits associated with the role. *	.820 (3.26)	.611 (3.24)
If I agree to lead a group, I never expect any advantages or special benefits. *	.760 (3.61)	.606 (3.98)
Leading others is really more of a dirty job than an honourable one. *	.600 (2.11)	.578 (1.77)

Social-Normative

Item	Students	Managers
Component variance explained	18.883%	19.709%
Component Cronbach's alpha	0.914	0.914
I was taught to believe in the value of leading others.	.784 (3.22)	.845 (4.21)
I have been taught that I should always volunteer to lead others if I can.	.776 (3.56)	.722 (3.88)
It is an honour and privilege to be asked to lead.	.771 (3.79)	.765 (4.47)
I feel that I have a duty to lead others if I am asked.	.766 (2.93)	.886 (3.87)
I agree to lead whenever I am asked or nominated by other team members.	.761 (4.02)	.777 (4.18)
It is appropriate for people to accept leadership roles or positions when they are asked.	.759 (3.55)	.795 (3.47)
People should volunteer to lead rather than wait for others to ask or vote for them.	.727 (2.87)	.680 (3.44)
It is not right to decline leadership roles.	.717 (3.48)	.776 (4.02)
I would never agree to lead just because others voted for me.	.659 (2.76)	.593 (3.44)

For both data sets, Principal Components Analysis (PCA) is used together with varimax rotation and Kaiser normalisation. Missing values are replaced with means, and the suppression level is |0.5|. Rotation of the data from the students converged in 5 iterations, whereas that of managers converged in 4 iterations. Bartlett's test values are statistically significant for both data sets.
KMO value of the student data is 0.850 and of the manager data is 0.768.
MTL factors based on student data explain 70.575% of the total variance. Managers' factors aggregately explain 62.169% of the total variance.
* Inversely keyed.

A noteworthy result that is presented in Table 1 is that the original MTL structure is preserved for both the students and the managers, which implies that this structure may be appropriate for future studies in the Turkish context. The reliability levels of all of the factors are higher than 0.9, indicating excellent consistency.

The results for the affective component suggest that the managers are more emotionally oriented toward assuming leadership roles (grand mean: 3.93) than the students are (grand mean: 3.06). The non-calculative component is more pertinent to the students (overall mean: 3.65) than the managers (grand mean: 3.50). The overall means for the social-normative component indicate that the managers believe much more strongly than the students do that leadership roles are a duty and an honour ($\overline{x}_{\text{for the managers}}$ = 3.89 and $\overline{x}_{\text{for the students}}$ = 3.35). These implications indicate that managers are more affectively oriented toward assuming leadership roles but are less inclined to focus on their own interests in accepting leadership positions; furthermore, they agree more with the notion that leadership is an honour and a duty that must be accepted.

Now let us consider the analysis of alexithymia. Again, the TAS-20 was previously used in the Turkish context (Gulec *et al*. 2009), and modifications were made to the original, created by Bagby *et al.* (1994). This is why the author was curious to examine the statistics for the original TAS-20 and to conduct the exploratory factor analyses on the data gathered from the two samples. Table 2 includes the relevant results. The factor loading of each item is followed by its mean (in parentheses).

Table 2. Results of the exploratory factor and reliability analyses of alexithymia including item means

	Deficiency in identifying own emotions			Deficiency in expressing emotions			Externally oriented thinking	
	Students	Managers		Students	Managers		Students	Managers
Component variance explained	20.164%	21.677%		14.462%	16.234%		23.276%	29.658%
Component Cronbach's alpha	0.866	0.919		0.850	0.860		0.868	0.900
I have feelings that I am unable to define completely.	.883 (4.17)	.719 (3.28)	It is difficult for me to choose the appropriate words to use to describe my feelings.	.862 (3.88)	.886 (2.91)	I would rather watch light entertainment shows than dramatic shows.	.886 (4.23)	.873 (3.98)
I am often confused about exactly what I feel.	.862 (3.89)	.938 (3.13)	I am able to describe my feelings easily. *	.849 (4.02)	.739 (2.78)	I would rather talk to people about their daily routines than their feelings.	.851 (3.49)	.966 (4.04)
I am often confused by sensations in my body.	.791 (3.72)	.931 (2.87)	I find it difficult to describe how I feel about people.	.821 (3.71)	.822 (2.54)	I would rather let things happen than understand the reasons that they happened a certain way.	.766 (3.69)	.732 (3.57)
When I am upset, I do not know if I am sad, scared, or angry.	.719 (3.28)	.907 (2.24)	I find it difficult to disclose my innermost feelings, even to my close friends.	.725 (4.11)	.773 (3.96)	Seeking hidden meanings in movies or plays diminishes my enjoyment of them.	.704 (3.64)	.848 (3.21)
Most of the time, I do not know why I am angry.	.688 (3.16)	.913 (2.38)	People ask me to talk about my feelings more.	.674 (3.66)	.793 (2.29)	I would rather solve problems than just describe them. *	.682 (3.71)	.954 (3.22)
I do not know what is going on inside me.	.649 (3.56)	.732 (1.97)				I find it useful to explore my feelings in working to solve my personal problems. *	.671 (4.04)	.665 (3.16)
I have sensations in my body that even doctors do not understand.	.616 (2.18)	.559 (1.69)				It is essential for people to know about their emotions. *	.627 (3.53)	.776 (3.04)
						I can feel close to someone even in moments of silence. *	.607 (3.67)	.637 (3.19)

For both the data gathered from the students and the managers, the extraction method is Principal Components Analysis (PCA) and the rotation method is varimax with Kaiser normalisation. Missing values are replaced with mean and the suppression level is |0.5|. Rotation of the data from the managers converged in 4 iterations. Rotation of the data from the students converged in 5 iterations.

The KMO value for the student data is 0.795. The KMO value for the manager data is 0.811. The Bartlett's test values are statistically significant for both sets of data.

The alexithymia factors based on the student data explain 57.902% of the total variance. The managers' aggregate alexithymia factors explain 67.569% of the total variance.

* Inversely keyed.

Table 2 shows that the statistical patterns are the same as in Bagby *et al.* (1994). The Cronbach's alpha values indicate the high level of reliability of all of the components. Inferences can be made when each factor is considered based on the results in Table 2:

• It seems that the students have more difficulty identifying their emotions (grand mean: 3.43) than the managers do (reciprocal grand mean: 2.50). The factor loadings for the managers imply that they mostly associate emotional confusion with this difficulty; the students make a similar, although weaker, association.

• The students also have more difficulty expressing their emotions (grand mean: 3.88) than the managers do (reciprocal grand mean: 2.90). A brief review of the items' factor loadings reveals that the students mostly relate their difficulty using the right words and describing their emotions in a social manner to their inability to express their emotions. The managers are similar but more strongly relate others' demands that they share their emotions to this factor.

• Externally oriented thinking is related to superficial actions and practical problem solving; in other words, it includes extroverted items. A general review of the factor loadings reveals that the managers relate these items with this factor more strongly than the students do. However, the students' thoughts are more externally oriented (grand mean: 3.75) than the managers' are (grand mean: 3.43)

These findings indicate that the managers can better identify their emotions, are better at revealing their emotions, are therefore expected to be more sociable, and are not as quick as the students to act superficially. The final step in this procedure is the analysis of emotion recognition. There are eight different cases, and an appropriate emotion was provided for each case. The participants were asked to indicate the extent to which they agree or disagree with the given emotion. The statistics and reliabilities for emotion recognition are presented in Table 3. Each cell contains the respective item's factor loading; the means are in parentheses.

Table 3. Results of the exploratory factor and reliability analyses of emotion recognition including item means

	Emotion recognition	
	Students	*Managers*
Component Cronbach's alpha	**0.889**	***0.894***
Your company raises your salary enormously. You are happy.	.846 (4.66)	*.847 (4.75)*
After you successfully completed a difficult task, your company holds a ceremony and gives you a reward. You swell with pride.	.832 (4.31)	*.788 (4.02)*
One of your co-workers secretly tells you that there is an important job opportunity elsewhere. You are interested in this matter.	.768 (3.89)	*.609 (3.06)*
Your work contract legally expires and needs to be renegotiated by your company. However, your company is not keen on arriving at an agreement with you about this matter. You are worried.	.759 (4.23)	*.774 (4.38)*
One of your co-workers learns that his/her salary is smaller than that of his/her peers. You feel sorry for him/her.	.757 (3.71)	*.678 (3.98)*
You and your co-worker are about to launch a project. On the day when you present this project, you witness that your co-worker has erased your name from the slideshow. You are angry at him/her.	.747 (4.34)	*.769 (4.42)*
You have worked hard to conduct an important study rapidly. The owners of your company analyse your study and immediately reject it. You are frustrated with them.	.717 (3.89)	*.735 (4.31)*
One of your co-workers almost always gossips and lies about others. You are disgusted by him/her.	.573 (3.41)	*.862 (4.55)*
For both data sets, the extraction method is Principal Components Analysis (PCA), and the rotation method is varimax with Kaiser normalisation. Missing values are replaced with means, and the suppression level is |0.5|. Because each data set formed one factor, no rotated solution emerged.		
KMO value of the student data is 0.878 and that of manager data is 0.865. Bartlett's test values are statistically significant for both data sets.		
Students' emotion recognition factor can explain 56.825% of the total variance. Managers' emotion recognition factor explains 57.986% of the total variance.		

Overall, the first three items in Table 3 relate to happiness, pride and interest, all of which are positive emotions. The remaining five items are related to negative emotions. A review of Table 3 reveals the following:

• The factor loadings imply that the students mostly attach positive emotions to their emotion recognition and that disgust is the least connected emotion. In contrast, the managers consider disgust to be

the most related emotion. Although they perceive happiness to be highly related to their emotion recognition, they generally relate negative emotions to the factor more strongly than the students.

• A similar result is also obtained if the items' means are considered. The students mostly agree with the positive emotions, with the grand mean of the first three items being 4.29 versus the grand mean of the last five items is 3.92. The last item (related to disgust) has the lowest mean (3.41) of these five items. The managers strongly agree that they are disgusted by gossip and lies (mean: 4.55), and the findings for them are the reverse of those of the students in terms of positive and negative emotions. The managers agree more with the negative emotion items (grand mean of the last five items is 4.33) than the positive ones (grand mean of the first three items is 3.94). It is also striking that the managers more weakly relate interest in other job opportunities to their emotion recognition than the students do; that mean is the lowest (3.06) of those of the managers in addition to being lower than the corresponding student mean (3.89).

Overall, Table 3 indicates that managers generally consider negative emotions to be more strongly related to emotion recognition than the positive ones and that they agree more with the statements regarding these negative emotions. These findings seem to be the opposite of the ones for the students. Moreover, the managers more strongly object to gossip and lying in the work context and are not as interested as the students in hearing about new job opportunities.

6. Effects of alexithymia and emotion recognition on motivation to lead

This section will describe the conclusion of the research. Based on the statistics for alexithymia, emotion recognition and MTL, it is now important to relate them to each other. In line with the aim, the author uses GLMs to test the effects of alexithymia and emotion recognition on MTL. Because there are two different groups – the students and the managers – these effects must be evaluated individually. Starting with the managers, Table 4 presents the results obtained using the multivariate model.

Table 4. Results of the multivariate model of alexithymia and emotion recognition's effects on MTL – manager data

Multivariate tests[a]								
Effect		Value	F	Hypothesis df	Error df	Sig.	Partial eta^2	Noncent. parameter	Observed power[b]
Intercept	Pillai's trace	.884	3.734E2[c]	3.000	147.000	.000	.884	1120.129	1.000
	Wilks' lambda	.116	3.734E2[c]	3.000	147.000	.000	.884	1120.129	1.000
	Hotelling's trace	7.620	3.734E2[c]	3.000	147.000	.000	.884	1120.129	1.000
	Roy's largest root	7.620	3.734E2[c]	3.000	147.000	.000	.884	1120.129	1.000
Externally oriented thinking	Pillai's trace	.377	11.448	6.000	296.000	.000	.188	68.689	1.000
	Wilks' lambda	.627	12.868[c]	6.000	294.000	.001	.208	77.206	1.000
	Hotelling's trace	.588	14.304	6.000	292.000	.000	.227	85.822	1.000
	Roy's largest root	.577	28.456[d]	3.000	148.000	.000	.366	85.368	1.000
Deficiency in identifying own emotions	Pillai's trace	.042	.699	9.000	447.000	.710	.014	6.290	.349
	Wilks' lambda	.959	.694	9.000	357.910	.714	.014	5.058	.278
	Hotelling's trace	.043	.689	9.000	437.000	.719	.014	6.203	.344
	Roy's largest root	.029	1.459[c]	3.000	149.000	.228	.029	4.377	.380
Deficiency in expressing emotions	Pillai's trace	.170	1.964	9.000	294.000	.043	.057	13.095	.698
	Wilks' lambda	.835	1.996	9.000	233.789	.041	.058	10.613	.583
	Hotelling's trace	.191	2.010	9.000	284.000	.038	.060	13.117	.699
	Roy's largest root	.149	4.871[d]	3.000	98.000	.003	.130	10.249	.760
Emotion Recognition	Pillai's trace	.037	.921	6.000	296.000	.480	.018	5.524	.363
	Wilks' lambda	.963	.920[a]	6.000	294.000	.481	.018	5.518	.363
	Hotelling's trace	.038	.919	6.000	292.000	.482	.019	5.512	.363
	Roy's largest root	.034	1.658[d]	3.000	148.000	.179	.033	4.974	.428
Box's M[d]= 39.162 (F= .585; sig.= .990) Df1:48; df2: 1.558E3								
a. Design: Intercept + Externally oriented thinking + Deficiency in identifying own emotions + Deficiency in expressing emotions + Emotion Recognition								

| b. Computed using alpha = .05 |
| c. Exact statistic |
| d. The statistic is an upper bound on F that yields a lower bound on the significance level |

Table 4 shows that the managers' MTL is affected only by two factors: their externally oriented thinking and their inability or difficulty to express their emotions. These two factors affect MTL separately, and the small partial eta squared values imply that their connection with MTL is very weak. It is also striking that alexithymia and emotion recognition does not aggregately influence MTL.

The results of a more detailed analysis of each factor of MTL are presented in Table 5. The results of the Levene test indicate that only one factor of MTL, the affective component, is affected.

Table 5. Results of the tests of the between-subjects effects of alexithymia, emotion recognition and MTL – manager data

Source	Dependent variable	Type III sum of squares	df	Mean square	F	Sig.	Partial eta^2	Noncent. parameter	Observed power[a]
Corrected model	Affective	21.250[b]	10	2.125	9.445	.000	.388	94.447	1.000
	Non-calculative	3.072[c]	10	.307	1.069	.390	.067	10.689	.546
	Social-Normative	6.128[d]	10	.613	1.271	.252	.079	12.708	.638
Intercept	Affective	105.685	1	105.685	469.716	.000	.759	469.716	1.000
	Non-calculative	141.918	1	141.918	493.741	.000	.768	493.741	1.000
	Social-Normative	126.652	1	126.652	262.657	.000	.638	262.657	1.000
Externally oriented thinking	Affective	19.237	2	9.618	42.748	.000	.365	85.497	1.000
	Non-calculative	.154	2	.077	.269	.765	.004	.537	.092
	Social-Normative	1.625	2	.813	1.685	.189	.022	3.371	.350
Deficiency in identifying own emotions	Affective	.354	3	.118	.524	.667	.010	1.572	.155
	Non-calculative	.606	3	.202	.703	.552	.014	2.109	.197
	Social-Normative	1.270	3	.423	.878	.454	.017	2.634	.238
Deficiency in expressing emotions	Affective	.756	3	.252	1.121	.343	.022	3.362	.298
	Non-calculative	1.813	3	.604	2.102	.102	.041	6.307	.529
	Social-Normative	1.361	3	.454	.941	.402	.019	2.823	.254
Emotion recognition	Affective	1.712	2	.856	3.930	.023	.074	1.352	.162
	Non-calculative	.081	2	.041	.137	.872	.003	1.409	.167
	Social-Normative	1.008	2	.504	1.024	.363	.020	2.301	.250
Error	Affective	33.525	149	.225			**Levene's test of equality of error variances[e]:**		
	Non-calculative	42.828	149	.287		**Affective Component**		F: 1.334 (df1: 61; df2: 98; sig.:	
	Social-Normative	71.847	149	.482		**Non-calculative Component**		F: 3.431 (df1: 61; df2: 98; sig.:	
Total	Affective	838.000	160			**Social-Normative Component**	F: 1.500 (df1: 61; df2: 98; sig.:		
	Non-calculative	838.000	160			**a.** Computed using alpha = .05			
	Social-Normative	710.000	160			**b.** R^2 = .388 (Adjusted R^2 = .347)			
Corrected total	Affective	54.775	159			**c.** R^2 = .067 (Adjusted R^2 = .004)			
	Non-calculative	45.900	159			**d.** R^2 = .079 (Adjusted R^2 = .017)			
	Social-Normative	77.975	159			**e.** Design: See "a" at the end of Table 4.			

Table 5 indicates that the managers' externally oriented thinking and their emotion recognition separately affect the affective component of MTL.

We can now draw conclusions about the combined implications of Tables 4 and 5. Table 4 implies that the managers' extroverted factors (externally oriented thinking and deficiency in expressing emotions) separately affect their MTL. As previously explained, leadership is a psycho-social concept, and it seems that this psycho-sociality is partially implied in Table 4. These two extroverted factors generally contain items

related to sociability, and the psychological dimension is therefore not very salient. In addition, this result is evident from the fact that the more psychologically oriented factors, such as emotion recognition and difficulty identifying one's own emotions, do not affect MTL in the multivariate model.

Table 5, on the other hand, focuses mainly on the factors of MTL and suggests that only the affective component is affected. This is a noteworthy result because this factor is mainly related to the emotional assumption of leadership, and moreover, this finding is reinforced when the emotion recognition of the managers is found to influence the affective component of their MTL. In other words, their capacity to accept certain emotions in certain situations affects their emotionality in assuming and retaining leadership roles. Most of the items included in the affective component are related to groups; therefore, this component addresses social factors as well. The author believes that this may be one of the reasons why the managers' externally oriented thinking affects this component.

The results of the multivariate test conducted with the data gathered from the students are presented in Table 6. An unexpected result is that the students' alexithymia or emotion recognition has no effect on their MTL.

Table 6. Results of the multivariate model of alexithymia and emotion recognition's effects on MTL – student data

Multivariate tests[a]									
Effect		Value	F	Hypothesis	Error df	Sig.	Partial eta[2]	Noncent.	Observed[b]
Intercept	Pillai's trace	.894	4.151E2[c]	3.000	148.000	.000	.894	1245.375	1.000
	Wilks' lambda	.106	4.151E2[c]	3.000	148.000	.000	.894	1245.375	1.000
	Hotelling's trace	8.415	4.151E2[c]	3.000	148.000	.000	.894	1245.375	1.000
	Roy's largest root	8.415	4.151E2[c]	3.000	148.000	.000	.894	1245.375	1.000
Externally oriented thinking	Pillai's trace	.026	.648	6.000	298.000	.692	.013	3.890	.257
	Wilks' lambda	.974	.646[c]	6.000	296.000	.693	.013	3.878	.257
	Hotelling's trace	.026	.644	6.000	294.000	.695	.013	3.867	.256
	Roy's largest root	.023	1.155[d]	3.000	149.000	.329	.023	3.466	.306
Deficiency in identifying own emotions	Pillai's trace	.087	2.253	6.000	298.000	.058	.043	13.517	.786
	Wilks' lambda	.915	2.254[c]	6.000	296.000	.058	.044	13.525	.787
	Hotelling's trace	.092	2.255	6.000	294.000	.058	.044	13.533	.787
	Roy's largest root	.073	3.603[d]	3.000	149.000	.015	.068	10.810	.785
Deficiency in expressing emotions	Pillai's trace	.065	1.112	9.000	450.000	.353	.022	10.007	.555
	Wilks' lambda	.936	1.110	9.000	360.344	.354	.022	8.084	.449
	Hotelling's trace	.068	1.107	9.000	440.000	.356	.022	9.960	.552
	Roy's largest root	.051	2.554[d]	3.000	150.000	.058	.049	7.661	.620
Emotion recognition	Pillai's trace	.035	.890	6.000	298.000	.502	.018	5.341	.352
	Wilks' lambda	.965	.889[a]	6.000	296.000	.503	.018	5.335	.351
	Hotelling's trace	.036	.888	6.000	294.000	.504	.018	5.328	.351
	Roy's largest root	.032	1.609[d]	3.000	149.000	.190	.031	4.826	.416

Box's M[d]= 40.736 (F= .581; sig.= .994) Df1:54; df2: 2.557E3

a. Design: Intercept + Externally oriented thinking + Deficiency in identifying own emotions + Deficiency in expressing emotions + Emotion Recognition

b. Computed using alpha = .05

c. Exact statistic

d. The statistic is an upper bound on F that yields a lower bound on the significance level

Table 6 indicates that the students do not relate their emotion recognition and emotional deficiency (alexithymia) to their MTL. This result is actually quite unexpected and implies that there may be different factors that are relevant to their desire to serve as leaders. Some relationships are observed, however, when each factor of MTL is considered (Table 7).

As presented in Table 7, the Levene's test results indicate that only the social-normative factor of MTL is affected. The students' externally oriented thinking and their deficiency in identifying their emotions distinctively affect their social-normative factor.

When the results presented in Tables 6 and 7 are considered together, they show that students perceive leadership roles as a duty and tend to ignore the relationship between their own emotion recognition and this duty. They also avoid delving deeply into leadership emotionally by relating superficial thinking to MTL. This superficiality is also visible in the linkage between the students' MTL and their deficiency in identifying their own emotions.

Table 7. Results of the tests of the between-subjects effects of alexithymia, emotion recognition and MTL – student data

Source	Dependent variable	Type III sum of	df	Mean	F	Sig.	Partial η^2	Noncent.	Observed[a]
Corrected model	Affective	7.615[b]	9	.846	1.160	.325	.065	10.444	.558
	Non-calculative	2.064[c]	9	.229	.457	.901	.027	4.111	.219
	Social-Normative	11.328[d]	9	1.259	2.237	.023	.118	20.129	.885
Intercept	Affective	321.500	1	321.500	440.901	.000	.746	440.901	1.000
	Non-calculative	257.642	1	257.642	513.156	.000	.774	513.156	1.000
	Social-Normative	187.303	1	187.303	332.824	.000	.689	332.824	1.000
Externally oriented thinking	Affective	.700	2	.350	.535	.587	.010	1.071	.136
	Non-calculative	.117	2	.059	.134	.874	.003	.269	.070
	Social-Normative	5.055	2	2.527	4.680	.011	.080	9.359	.776
Deficiency in identifying own emotions	Affective	4.372	2	2.186	2.998	.053	.038	5.995	.575
	Non-calculative	.503	2	.252	.501	.607	.007	1.003	.131
	Social-Normative	4.502	2	2.251	3.999	.020	.051	7.999	.708
Deficiency in expressing emotions	Affective	2.099	3	.700	.959	.414	.019	2.878	.258
	Non-calculative	.697	3	.232	.463	.709	.009	1.388	.142
	Social-Normative	3.207	3	1.069	1.899	.132	.037	5.698	.484
Emotion Recognition	Affective	1.721	2	.861	1.180	.310	.015	2.360	.256
	Non-calculative	.661	2	.331	.659	.519	.009	1.317	.159
	Social-Normative	.593	2	.297	.527	.591	.007	1.054	.136
Error	Affective	109.378	150	.729	**Levene's Test of Equality of Error Variances[e]:**					
	Non-calculative	75.311	150	.502	**Affective Component**	F: 1.566 (df1: 52; df2: 107; sig.:)				
	Social-Normative	84.416	150	.563	**Non-calculative Component**	F: 1.718 (df1: 52; df2: 107; sig.:)				
Total	Affective	1377.000	160		**Social-Normative Component**	F: 1.136 (df1: 52; df2: 107; sig.:)				
	Non-calculative	1128.000	160		**a.** Computed using alpha =.05					
	Social-Normative	857.000	160		**b.** R^2=.402 (Adjusted R^2=.111)					
Corrected total	Affective	116.994	159		**c.** R^2=.397 (Adjusted R^2=.104)					
	Non-calculative	77.375	159		**d.** R^2=.396 (Adjusted R^2=.103)					
	Social-Normative	95.744	159		**e.** Design: See "a" at the end of Table 6.					

7. Conclusion and implications

In truth, leadership is a psycho-social process that includes emotionality, which is expected to influence MTL. With this potential connection in mind, the current study addresses the possible relationships between emotionality and MTL. Emotionality is proxied by alexithymia and emotion recognition. Regarding these possible relationships, striking results are achieved, and differences are also observed between top managers and senior business administration students. However, these two groups have something in common. The statistics for the TAS-20 and MTL instruments are the same as they were in their original forms and are the same for both managers and students. This finding implies that these instruments can be used again in the future in the Turkish context. The same result also emerged when emotion recognition was analysed.

The review of the statistics provides important insights. Managers seem to be more mature and balanced in their emotional approach to leadership. They are more affectively proactive in assuming this role and are more inclined to claim that leadership is an important matter that should not be avoided. Managers also suggest that they are more oriented towards others, noting that they prioritise their own interests less, whereas the opposite result was found for the students in the study. The final indicator of maturity is that they consider a leadership role to be an honourable duty that must be accepted when offered.

The managers in this study, moreover, seem to be superior to the students in terms of emotionality. The results indicate that the managers are better at identifying and expressing their emotions. They are not as externally oriented as the students in taking action and solving problems; they also take note of their emotions, most of which are negative. In other words, they more strongly connect negative emotions and emotion recognition than the students.

In terms of the relationships studied, fewer results than expected have emerged from the findings. The managers' externally oriented thinking and their deficiency in their expressing emotions – the more extroverted factors – affect their MTL whereas it was previously thought to be under the combined effect of emotion recognition and alexithymia.

Regarding MTL itself, the managers claim that only the affective component is a relevant factor. This is an important finding because this component relates to the individual's emotional appetite for leadership roles, especially when the person is leading within a group. This finding is also noteworthy because of the related finding that managers relate their capacity to accept certain emotions in certain circumstances (their emotion recognition) to the affective component of MTL. The managers continue by connecting their externally oriented thinking to the affective component, and the author suggests that some items that mention groups may be the reason for this relationship.

Even fewer and weaker relationships emerged for the students in the sample. In a multivariate model that was developed to explore the effect of alexithymia and emotion recognition on MTL, absolutely no effect was observed. This finding clearly shows that there must be other factors that affect students with regard to MTL.

Fortunately, some evidence of relationships between emotionality and MTL emerges if MTL is decomposed. First, the students assert that the social-normative component of MTL is influenced by emotionality. They claim that their externally oriented thinking and their deficiency in identifying their own emotions are factors in the social-normative component of MTL. This claim indicates that these students tend to think superficially of leadership as a duty without placing too much emphasis on its emotional dimensions.

This study examines a very rare relationship, and the lack of similar studies makes it impossible to make comparisons between the results obtained and other researchers' conclusions. The emotionality-MTL relationship should be evaluated in more detail in future studies. These studies might incorporate culture and cultural similarities or differences into the analysis. An interesting strategy could also be to use the contingency approach to assess this relationship. Future studies may also use this study's approach and make comparisons among different groups of people. All of these suggestions for further research indicate that there is a great deal of work to be done on this relationship.

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