The Dimensions of Meta-Mood Experience

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Abstract

Meta-mood refers to the reflective process in which individuals monitor, evaluate, and change their mood. The Trait Meta-Mood Scale (TMMS) measures individuals' self-perceptions of these abilities. To determine the number and nature of factors underlying the TMMS, we conducted a principal component analysis. 217 adults (68 male, 149 female, 18 to 49 years old, mean 22.6) completed the TMMS as part of a larger online study. The scree test and parallel analysis suggested five factors, while the minimum average partial test suggested three. All three of those methods are typically accurate to within one factor; therefore, we extracted four factors. We named these factors Attention, Clarity, Repair, and Emotional Sensitivity. The first three correspond to the original factors of the TMMS. The fourth factor is new. Future researchers may wish to calculate scale scores based upon all four of these factors to provide a more detailed description of meta-mood.

Introduction

There has been a growing interest in the area of perceived emotional intelligence, the cognitions and regulation processes concerning emotions and moods (Salguero, Fernandez-Berrocal, Balluerka, & Aritzeta, 2010). Mood can best be thought of as a prolonged emotional experience (Mayer, Salovey, Gomberg-Kaufman, & Blainey, 1991). Moreover, mood can be experienced on both a direct and reflective level. The direct experience is the mood itself, such as being happy or sad. At the reflective level, individuals monitor, evaluate, and at times change mood (Mayer & Gaschke, 1988). This reflective level is termed the meta-mood experience and can be measured by the Trait Meta-Mood Scale (TMMS; Salovey et al., 1995).

Early research extracted three factors from the TMMS that pertain to meta-mood: Attention to, Clarity of, and Repair of mood (Salovey et al., 1995). These factors correspond to individual differences in the ability to attend to moods (monitor), discriminate between and clarify moods (evaluate), and change negative moods (repair). Subsequent work corroborated the three-factor structure found by Salovey et al. (1995) and demonstrated the reliability and validity of the TMMS, even in shortened versions (Salguero et al., 2010).

Developing an understanding of meta-mood experience will provide insight into how individuals properly regulate their mood. Appropriate regulation of mood, such as attending to one's mood state, discriminating and clearly expressing moods, and repairing negative moods into positive ones, can lead one to make choices that result in beneficial outcomes in many situations. For example, in times of prolonged negative mood, individuals have to especially attend to, clarify, and repair their mood states in order to alleviate them. Someone who monitors their mood states can make decisions that prolong positive moods and eliminate negative ones. Along these lines, much of the work conducted on mood and perceived emotional intelligence has focused on how such emotionally intelligent individuals regulate their mood (Salovey, Mayer, Goldman, Turvey, & Palfai, 1995). In addition, and more generally, an understanding of the contribution of mood regulation to overall well-being and psychosocial coping has also been established (Hodzic, Ripoll, Costa, & Zenasni, 2016).

In the present study, we aim to examine the factors underlying the meta-mood experience. We predict that we will find three factors, consistent with previous research on the TMMS (Salovey et al., 1995; Salguero et al., 2010). A three-factor solution would fit the framework of the meta-mood experience well because it encompasses the self-reflective monitoring, evaluation, and regulation of mood states.

Method

Participants

Participants were recruited from the psychology subject pool at a large university in the southwest United States. In order to be eligible to participate, participants had to be at least 18 years old. The sample consisted primarily of undergraduate students enrolled in PSY 101 and PSY 24. A total of 217 participants completed the study. Of these, 68 were male and 149 were female. Participants ranged in age from 18 to 49 years old (M = 22.62, SD = 6.23). One of the participants did not state their age. Demographic data showed 127 of the participants identified as Caucasian (58.53%), 22 as African American (1.14%), 20 as Hispanic (9.22%), 33 as Asian (15.21%), one as Native American (.46%), and 14 as other (6.45%).

Measures

Demographics. Participants provided information regarding sex, age, and ethnicity.

Trait Meta-Mood Scale. The TMMS is designed to measure stable and enduring differences in the meta experience of mood. The TMMS is composed of 30 items that fall into three distinct scales: Attention, Clarity, and Repair. Responses to the items are rated on a 5-point scale of agreement where *1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree,* and *5 = Strongly Agree*. The internal consistencies of the three subscales of the TMMS are acceptable (Salovey et al., 1995).

Procedures

Participants completed the demographic measures and the TMMS as part of a larger study. The measures were completed using a computer during the first of two testing sessions. The session took approximately 1.5 hours and was unsupervised. In order to minimize distraction and increase standardization, they were encouraged to use computers in the UNLV computer labs. Each participant received 3 research credits as compensation.

Data Analysis

We conducted a principal component analysis with multiple factors to determine the nature and number of the factors that underlie the TMMS. We considered five criteria in determining the number of factors to extract: number of factors according to theory, the Kaiser-Guttman rule (Cliff, 1988; Velicer, Eaton, & Fava, 2000), the scree plot (Cattell, 1966), parallel analysis (Horn, 1965; Cota, Longman, Holden, & Rekken, 1993), and Velicer's minimum average partial (MAP) test (Velicer, 1976). Finally, we rotated our factors to aid in interpretation and to make them more meaningful.

Based on theory, we predicted there would be three factors: Attention, Clarity, and Repair (Salovey et al., 1995; Salguero et al., 2010). The Kaiser-Guttman rule suggested there are six factors. However, this rule tends to overestimate the correct number of factors, making it less reliable than other analyses (Velicer, Eaton, & Fava, 2000). Both the scree test and parallel analysis suggested five factors. The MAP test indicated three factors. Previous research has found parallel analysis, the scree test, and MAP test to be accurate to within one factor (Zwick & Velicer, 1986; Velicer et al., 2000). Therefore, we extracted four factors.

We rotated our factors so they would be more meaningful and conform to the ideal of simple structure. The ideal is met by the rotation that offers a low number of complex variables, high hyperplanar count, and low intercorrelations between factors. We selected a direct oblimin rotation because it had the lowest number of complex items (3), highest number of hyperplanar values (50), and fairly low inter-factor correlations.

Results

Factor Analyses

Factor 1 had six salient positive coefficients and four salient negative coefficients. See Table 1. The items that had positive loadings were items 30 (I almost always know exactly how I'm feeling), 6 (I am rarely confused about how I feel), 25 (I am usually very clear about my feelings), 28 (I usually know my feelings about a matter), 20 (I feel at ease about my emotions), and 15 (I am often aware of my feelings on a matter). The items that had negative loadings were 16 (I am usually confused about how I feel), 11 (I can never tell how I feel), 5 (Sometimes I can't tell what my feelings are), and 22 (I can't make sense out of my feelings). This factor was labelled Clarity, because the items with positive loadings reflected clear cognition and emotional awareness, while the negatively loading items measured the opposite. Additionally, all of these items were originally designed to measure clarity (Salovey et al., 1995).

Factor 2 had eight salient negative coefficients and only two salient positive coefficients. The items with positive loadings were items 21 (I pay a lot of attention to how I feel), and 24 (I often think about my feelings). Items with negative loadings were 4 (I usually don't care much about what I feel), 29 (It is usually a waste of time to think about your emotions), 3 (I don't think it's worth paying attention to your emotions or moods), 17 (One should never be guided by emotions), 27 (Feelings are a weakness humans have), 23 (I don't pay much attention to my feelings), 18 (I never give in to my emotions), and 2 (People would be better off if they felt less and thought more). This factor was labelled Attention, because the items implied focus on and attending to feelings and mood states. Furthermore, all of these items were originally designed to measure attention (Salovey et al., 1995).

Factor 3 had four salient positive coefficients and only one salient negative coefficient. The items with positive loadings were 1 (I try to think good thoughts no matter how badly I feel), 26 (No matter how badly I feel, I try to think of pleasant things), 13 (When I become upset I remind myself of all the pleasures in life), and 8 (Although I am sometimes sad, I have a mostly optimistic outlook). The item with a negative loading was 19 (Although I am sometimes happy, I have a mostly pessimistic outlook). We labeled this factor Repair, because the items reflected some form of mental resilience in the face of emotional adversity, such as feeling good after feeling bad. Also, all of these items were originally designed to measure repair (Salovey et al., 1995).

Factor 4 in our analysis had five salient positive coefficients. Items that loaded positively on the factor were 12 (The best way for me to handle my feelings is to experience them to the fullest), 14 (My beliefs and opinions always seem to change depending on how I feel), 9 (When I am upset I realize that the "good things in life" are illusions), 10 (I believe in acting from the heart), and 7 (Feelings give direction to life). Factor 4 was labelled Emotional Sensitivity, because all items involved the valuing of emotions and the susceptibility of emotion to outside influences.

Table 1
Factor Analysis Results for Rotated Factors

Item		Factor 1	2	3	4	h^2
3.	I almost always know exactly how I am feeling.	**.79**	-.10	.07	.06	.63
6.	I am rarely confused about how I feel.	**.76**	-.16	-.04	.05	.51
25.	I am usually very clear about my feelings.	**.76**	-.09	.03	.04	.55
16.	I am usually confused about how I feel.	**-.76**	-.19	.03	.14	.70
28.	I usually know my feelings about a matter.	**.69**	.03	.00	.07	.48
11.	I can never tell how I feel.	**-.63**	-.24	.01	.00	.53
2.	I feel at ease about my emotions.	**.62**	.02	.10	.12	.45
15.	I am often aware of my feelings on a matter.	**.59**	.06	.02	.08	.38
5.	Sometimes I can't tell what my feelings are.	**-.56**	.02	-.10	.20	.41
22.	I can't make sense out of my feelings.	**-.55**	-.09	-.03	.15	.39
4.	I don't usually care much about what I'm feeling.	-.03	**-.73**	.05	.09	.53
29.	It is usually a waste of time to think about your emotions.	-.08	**-.69**	-.05	.01	.54
3.	I don't think it's worth paying attention to your emotions or moods.	-.06	**-.64**	.04	.20	.46
17.	One should never be guided by emotions.	-.03	**-.58**	.04	-.19	.38
27.	Feelings are a weakness humans have.	.01	**-.57**	-.11	.18	.39
23.	I don't pay much attention to my feelings.	.00	**-.54**	-.28	-.08	.48
18.	I never give in to my emotions.	.08	**-.54**	.15	-.28	.35
2.	People would be better off if they felt less and thought more.	-.03	**-.46**	.11	-.04	.20
21.	I pay a lot of attention to how I feel.	.01	**.44**	.27	**.37**	.50
24.	I often think about my feelings.	-.28	**.35**	.23	.29	.30
1.	I try to think good thoughts no matter how badly I feel.	-.05	-.11	**.85**	-.04	.65
26.	No matter how badly I feel, I try to think about pleasant things.	.07	-.04	**.78**	.08	.64
13.	When I become upset I remind myself of all the pleasures in life.	.06	-.00	**.69**	.13	.53
8.	Although I am sometimes sad, I have a mostly optimistic outlook.	.10	.07	**.64**	-.06	.50
19.	Although I am sometimes happy, I have a mostly pessimistic outlook.	.01	-.25	**-.57**	.22	.49
12.	The best way for me to handle my feelings is to experience them to the fullest.	.18	.04	.11	**.62**	.45
14.	My beliefs and opinions always seem to change depending on how I feel.	-.28	-.22	-.08	**.52**	.47
9.	When I am upset I realize that the "good things in life" are illusions.	-.20	-.26	-.29	**.44**	.50
1.	I believe in acting from the heart.	.17	**.41**	-.02	**.44**	.43
7.	Feelings give direction to life.	.13	**.32**	.13	**.37**	.34

Factor Intercorrelations	1	2	3	4
Factor 1				
Factor 2	-.29			
Factor 3	.37	.29		
Factor 4	-.07	.05	.03	

Note. Salient factor pattern matrix coefficients > |.3| are in bold face. h^2 = communality. Items were not reverse coded prior to statistical analysis. Factor 2 was reverse scored. Factor 1 = Clarity. Factor 2 = Attention. Factor 3 = Repair. Factor 4 = Receptiveness

Discussion

At the outset of our research, we explored the factor structure of the TMMS. We performed a principal component analysis with multiple factors. Overall, we found that four factors underlie the scale. They were Clarity, Attention, Repair, and Emotional Sensitivity. The first factor was named Clarity, because the items measured seem to be related to ability to be clear about one's mood. The second factor was called Attention, because the items measured deal with monitoring and paying attention to one's mood. The third factor was called Repair, because the items measured all reflected a quality of changing negative moods into positive ones. Finally, we named the fourth factor Emotional Sensitivity, because the items measured related to valuing one's emotions and the susceptibility of those emotions to outside influence.

The first three factors are consistent with what previous work on meta-mood has found (Salovey et al., 1995; Salguero et al. 2010). However, our fourth factor was novel. A reason why we found four factors instead of the three that other research has identified could be because of the criteria we used when we selected the number of factors. Different criteria for determining the number of factors could ultimately lead to a different result. While the criteria used by previous research is not known, it is possible that the methods used by prior work may have underestimated the correct number of factors.

Our findings can inform future work aimed at understanding meta-mood experience. For example, future researchers may wish to calculate TMMS factor scores based upon all four of these factors to provide a more detailed description of meta-mood.

Prior research has demonstrated the ability of the TMMS factors to predict psychosocial coping and mental well-being. For example, emotional Attention significantly interacts with stress in predicting social dysfunction and worse mental health (Hodzic, Ripoll, Costa, & Zenasni, 2016). Essentially, individuals who report attending to their moods to a high degree typically have worse mental health and a greater impact of stress on their functioning. Higher stress levels and higher reported Attention interact significantly to lead to worse mental health in these people. Therefore, the capability of the Attention factor in predicting worse psychosocial functioning is excellent, and this capability can be used in everyday contexts to understand the impact of stress on individuals. In addition to this, the impact of stress on life satisfaction is greater in people who report lower levels of emotional Repair (Hodzic et al., 2016). Individuals who are less able to proactively repair negative moods report less satisfaction with life and a greater impingement of stress on their functioning. In effect, high level of Repair is associated with better psychosocial coping.

Moreover, using the dimensions of meta-mood to predict psychosocial adjustment can help identify psychological strengths in people that enable them to be resilient to stress, and inform interventions designed to combat the deleterious impact of stress on functioning. We believe that the addition of Emotional Sensitivity can add to this framework by offering useful predictions that gauge psychosocial functioning. Future research could explore the relationship of Emotional Sensitivity to stress and coping skills. We hypothesize that high levels of Emotional Sensitivity, like Attention, will be associated with worse coping. This is because individuals high on this factor will fall prey to their emotions, and they will likely have worse responses to stressful situations.

A major limitation of the present study is the use of a self-report measure like the TMMS in assessing meta-mood. The potential for a social desirability bias to distort our results should be noted. A second limitation that should be mentioned is the fact that our sample was not very representative. The sample used in the present study consisted primarily of young college students, most of them women. Therefore, the sample does not accurately reflect the characteristics of a larger population, and this may present an issue when attempting to generalize the results to other populations.

Our research aimed to explore the factor structure of the TMMS. We found four dimensions that underlie the scale. One of them was novel. Overall, we believe that the new factor Emotional Sensitivity adds to the conceptualization of the meta-mood construct and belongs as part of the meta-mood experience. It effectively adds to the self-reflective monitoring (Attention), evaluation (Clarity), and change (Repair) of mood a fourth dimension of valuing and placing emphasis on mood (Emotional Sensitivity).

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