

Turkish Version of the Multidimensional Measure of Emotional Abuse: Preliminary Psychometrics in College Students

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The aim of the current study was to investigate the basic psychometrics of the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999) in a Turkish sample. Two hundred and fifty-four college students participated and completed the Turkish version of the MMEA (MMEA-TR) along with the Physical Assault of Conflict Tactics Scale—Revised, Experiences in Close Relationships Inventory, Relationship Assessment Scale, and Social Desirability Questionnaire. Confirmatory factor analysis supported the four-factor structure of the MMEA-TR for both victimization and perpetration reports. This factor structure was cross-validated with an independent older sample of 328 dating college students for perpetration reports. Satisfactory criterion validity and internal consistency reliability results were obtained as well. Based on the preliminary investigation, the MMEA-TR appears to be a psychometrically sound measure of psychological dating aggression perpetration and victimization among college students in Turkey. The results, limitations, and recommendations for future studies were discussed.

Keywords: multidimensional emotional abuse; psychological aggression; perpetration and victimization; dating college students; scale adaptation

Psychological form of dating violence has recently attracted researchers' interests and research on this topic has been flourishing. In the literature, psychological aggression, psychological violence, psychological abuse, emotional abuse, verbal aggression, verbal abuse, and psychological maltreatment (and so on) have been used interchangeably with no consensus on the definition. Such an ambiguity basically stems from two reasons: The first is what violence, abuse, and aggression literally mean.

According to Emery (as cited in Jackson, 1999, p.234), “defining an act as abusive and violent is not an objective decision but a social judgment.” Similarly, Follingstad (2007) defended for aggression, saying that abuse is not a *scientific* word; it rather implies *judgment*. The second reason is the conceptualization of the definition. Early on, (Straus 1979, p.189) defined *verbal aggression* as “the use of verbal and nonverbal acts which symbolically hurt the other, or the use of threats to hurt the other.” This conceptualization resulted in the Verbal Aggression subscale of the Conflict Tactics Scale (CTS), which included items such as “insulted,” “threatened to hit or throw something,” and “stomped out of the room or house or yard during a disagreement.” In the revised version of the CTS (CTS2), Straus, Hamby, Boney-McCoy, and Sugarman, (1996) renamed the subscale as the 8-item *Psychological Aggression* (PA). They also added more items such as “shouted or yelled,” “called my partner fat or ugly,” and “destroyed something belonging to partner,” but the definition remained unchanged. Upon the criticism directed toward Straus’s conceptualization implying that psychological aggression is just verbal and emotional, Tolman (1989) defined *psychological maltreatment* as the use of the nonphysical strategies to isolate, control, and hurt one’s partner. He believed similarly with Straus (1979) that psychological maltreatment was *verbal and emotional* but he included *domination and isolation*, thus extending the conceptualization. As it became increasingly clear that psychological aggression is not unidimensional as Straus (1979) introduced, the need for a more extensive conceptualization (beyond unidimensional and bidimensional) emerged. Defined early on as *emotional abuse*, Murphy and Hoover (1999) claimed that *psychological aggression* consisted of “coercive and aversive acts intended to produce emotional harm or threat or harm and directed at target’s emotional wellbeing or sense of sense” (p.40). They, based on the premise that there are distinct patterns of psychological aggression, proposed a four-factor multidimensional model, which comprised “Restrictive Engulfment, Denigration, Hostile Withdrawal, and Dominance/Intimidation.” In the current study, we preferred aggression to violence or abuse since it “covers a range of behavior, does not require a threshold severity level, and can consider whether an impact has occurred, but does not have to require that a person has been harmed” (Follingstad, 2007, p. 443). Among a wide variety of psychological aggression definitions, we adopted the one introduced by Lawrence, Yoon, Langer, and Ro (2009). According to them, psychological aggression is behaviors such as ridiculing, verbal threats, isolating one’s partner from family and friends, and attempting to control one’s partner, and are intended to degrade one’s partner and attack his or her self-worth by making him or her feel guilty, upset, or inadequate (p. 20).

We adopted this definition because it captures (a) the explicit behaviors, (b) intentions behind (c) consequences, and (d) the multidimensionality of the construct. Multidimensionality, contrary to unidimensionality and bidimensionality, captures a variety of behaviors that most college students perform in their dating relationships and thus does not tend to minimize the seriousness and complexity of the phenomenon.

The alarming rates of psychological aggression perpetration and victimization among dating college students has been consistently reported, reaching as high as 90%, regardless of gender (Hines & Saudino, 2003; Jenkins & Aubé, 2002; Muñoz-Rivas, Graña Gómez, O’Leary, & González Lozano, 2007; Straus, Hamby, Boney-McCoy, & Sugarman, 1996; Toplu & Hatipoglu-Sümer, 2011). For example, Hines and Saudino’s (2003) survey with 179 male and 302 female dating college students revealed that 82% of the males and 86% of the females engaged in psychological aggression in the year prior to the assessment. The victimization rates were found as 81% for males and 80.0% for females. Jenkins and

Aubé (2002) also reported high rates of psychological aggression perpetration (90.6% for men; 88.2% for women) and victimization (85.9% for men; 81.2% for women) for dating college students. Scarce research on psychological dating aggression in Turkey has also demonstrated high rates of psychological aggression among college students. In one of the studies ($n = 834$), 85.2% of women and 76.6% of men admitted to the use of psychological aggression in the prior year. Women's and men's reports for victimization were 77.4% and 70.0%, respectively (Toplu & Hatipoglu-Sümer, 2011). High prevalence rates for psychological dating aggression perpetration and victimization highlight the need for further research to understand and eventually prevent it. The need for culture-specific and cross-cultural studies to carry out research on psychological dating aggression, to exhibit the associations of a myriad of variables that relate to it, and to compare the findings with previous research seem salient.

To advance these goals, standardized measures are needed to assess psychological aggression among dating college students in Turkey. The review of national literature has documented three measures. The first is a Turkish adaptation (Turhan, Guraksın, & Inandı, 2006) of the 8-item PA subscale of the CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Although this is a widely used measure, the CTS2 PA scale assesses a relatively small number of specific behaviors, mostly involving verbal aggression and ignores a large number of acts such as controlling, dominating, degrading, and isolating behaviors. In addition, the PA assesses psychological aggression as a unidimensional rather than multidimensional construct. The second is Karakurt, Ergüner-Tekinalp, and Terzi (2009) Turkish adaptation of the Emotional Abuse Questionnaire (EAQ; Jacobson & Gottman, 1998), which was originally designed to measure different aspects of emotional abuse in married couples. Though Karakurt et al. (2009) validated the 66-item multidimensional EAQ in a sample of dating college students, there remains a question regarding the role of the Sexual Abuse dimension in the construct of psychological aggression. The last is an attempt to develop, rather than to adapt. By utilizing a college sample, Kılınçer and Tuzgöl-Dost (2013) developed a 70-item, unidimensional Romantic Relationship Assessment Inventory, which measures abuse in romantic relationships. In the explanatory factor analysis, 13 independent factors with eigenvalues greater than 1 were identified, explaining 64.89% of the variance. However, researchers decided to use the measure as a single factor and created a short form to make it more user-friendly and time efficient, and stronger in structure. Though they treated such a fairly long measure as a single factor, the measure includes items of physical aggression such as slapping and sexual abuse such as forcing the other person to watch pornographic material together. In light of such evidence, the need for a comprehensive, valid, and reliable instrument to assess psychological aggression is important to advance psychological aggression research in Turkey. In the current study, rather than develop a new instrument, we preferred to adapt the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999) into Turkish for the following reasons. First, it is particularly tailored to measure psychological dating aggression among college students. Second, its multidimensional structure enables researchers to assess different psychologically destructive acts. Third, its development was guided by both feminist and behavioral theories of relationship aggression. Fourth, Murphy and Hoover (1999) and Murphy, Hoover, and Taft (1999) clearly documented the psychometrics of the original scale. Fifth, comparison of different measures in terms of psychometrics revealed that the MMEA was superior to the other measures when the primary interest is psychological dating aggression (Ro & Lawrence, 2007; Shorey, Brasfield,

Febres, Cornelius, & Stuart, 2012). Sixth, its multidimensional structure has been validated in a sample of college dating students in another culture (Bonechi & Tani, 2011). Seventh, it measures both men's and women's victimization and perpetration experiences. Finally, the initial evaluation of the psychometrics of the MMEA within a sample from Turkey yielded promising results (Toplu-Demirtaş & Hatipoğlu-Sümer, 2013).

In summary, the MMEA appears to be a promising measure, given its target group (dating), multidimensionality, theoretical framework, solid structure and original robust psychometrics, and satisfactory psychometrics in other cultures. Thus, the purpose of this study is to adapt the MMEA into Turkish, evaluate its preliminary psychometric properties, and assay the cross-cultural applicability in a non-Western culture.

Assessing Psychological Aggression: The MMEA

The MMEA (Murphy & Hoover, 1999) is a 56-item self-report measure (28 for victimization and 28 for perpetration) created to assess psychological aggression in dating relationships. Both victimization and perpetration dimensions include four subscales with seven items each; Restrictive Engulfment (RE), Denigration (DEN), Hostile Withdrawal (HW), and Dominance/Intimidation (D/I). RE includes behaviors intended to limit and control the partner's activities and social contacts via jealousy and possessiveness to increase partner dependency (e.g., "secretly searched through the other person's belongings" and "tried to stop the other person from seeing certain friends or family members"). DEN covers acts and verbal attacks intended to humiliate and degrade to decrease the partner's self-esteem and self-worth (e.g., "called the other person a loser, failure, or similar term" and "said that someone else would be a better partner"). HW involves acts intended to avoid the partner during a disagreement and to withhold emotional availability to increase anxiety or insecurity about the relationship (e.g., "refused to have any discussion of a problem" and "sulked or refused to talk about an issue"). D/I comprises acts and verbal attacks intended to destroy property and threaten via extreme verbal aggression to produce fear and submission in the partner (e.g., "became angry enough to frighten the other person" and "threw, smashed, hit, or kicked something in front of the other person"; Murphy & Hoover, 1999).

Murphy et al. (1999) documented psychometrically sound properties of the MMEA in a sample of college dating students from the United States. Regarding construct validity, the results of the confirmatory factor analysis (CFA) yielded adequate fit for victimization ($\chi^2/df = 1.98$, Goodness-of-Fit Index [GFI] = .88, RootMean Square Error of Approximation [RMSEA] = .05, p-value for a test of close fit [PCLOSE] = .50, Parsimony Goodness-of-Fit Index [PGFI] = .74) and perpetration ($\chi^2/df = 1.95$, GFI = .88, RMSEA = .05, PCLOSE = .62, PGFI = .75). The four-factor structure accounted for nearly 55% of the variance both for victimization and perpetration and the items were properly loaded to the related constructs (e.g., for HW, the standardized regression weights [SRWs] ranged between .52 and .80 for abuse by partner and .59 and .78 for abuse by self). Positive and moderate-to-high associations between subscales were reported. Considering concurrent validity, significant associations were noted between the subscales and physical assault, insecure attachment, and interpersonal problems. Negative and robust correlations were evident for the measures of relationship satisfaction, depression, and the MMEA subscales as well. The relationship of social desirability to the MMEA subscales was nonsignificant or low. Murphy and Hoover (1999) and Murphy et al. (1999) use of the aforementioned measures (the MMEA subconstructs, physical assault, insecure attachment, relationship satisfaction, and social desirability) bolstered our study design in order to provide evidence

to validate the MMEA for the purpose of being consistent with the original studies. The subscales also had high internal consistencies (coefficient $\alpha = .84, .85$ for RE; $.88, .91$ for HW; $.89, .92$ for DEN; and $.83, .91$ for D/I for victimization and perpetration, respectively).

Translation and Adaptation of the MMEA

In the current study, we employed a forward translation–back translation method to achieve a conceptually and linguistically appropriate Turkish version of the scale. The forward translation was carried out by four bilingual scholars in counseling. We then compared and merged four translations into a single forward translation form. Next, this form was translated back to English by two independent scholars, one from English language teaching and one from counseling. Then, the back-translated items were compared and evaluated with the original items and no differences were found in terms of meaning and wording. Following that, we asked two instructors from the Department of Turkish Language to review the Turkish version with regard to grammar, fluency, and intelligibility, and upon feedback, minimal revisions were found. Finally, cognitive interviewing (Collins, 2003), which allowed us to discover the cognitive processes the respondents underwent while responding to the instrument, was introduced. Four college students (two men and two women) evaluated the instrument for clarity of instructions, rating scale, items, appearance, and length of the scale, while completing the MMEA-TR by reading aloud. The participants agreed that they did not have any difficulty filling out the instrument.

METHOD

Participants

Two hundred fifty-four dating college students from a large state university located in Ankara participated in the study. Of the participants, 147 were women (57.9%), 102 were men (40.2%), and 5 students did not indicate gender (2.0%). Participants' ages ranged from 18 to 28 ($M = 21.34, SD = 2.34$) years. To obtain a more heterogeneous sample, we collected data from mandatory/compulsory courses (such as Turkish and History of Turkish Reevaluation) that all undergraduate students from different departments are required to take in their 1st, 2nd, and 3rd years. At the onset of data collection, 275 students agreed to participate in this study. Of these, 254 students (92.4 %) completed the measures and were included in the analyses. Only 21 questionnaire packets (7.6 %) were left unanswered.

Regarding relationship characteristics, a small percentage (9.9%) had experienced a breakup in the past 6 months. The remaining (227 students) had an ongoing relationship. Of the 227 students, 85.2% defined their relationship status as dating, while 10.1% and 4.6% as cohabiting and engaged, respectively. The average relationship length was 17.93 months ($SD = 19.36$) with a range of 1–99 months for those currently involved.

Murphy and Hoover (1999) designed the response categories of the MMEA for the past 6 months. Accordingly, we were interested in evaluating the past 6 months regardless of relationship status. Thus, for the participants who were not currently dating (but previously had been), we assured that participants had experienced a breakup within the past 6 months¹. For those currently dating, we asked for at least a month's duration of time within

the relationship. We included the results of both groups (currently and previously dating) to maximize sample size.

Procedure

Prior to data collection, we obtained ethical approval from the Human Subjects Ethics Committee. We collected data in classes between March and May of 2013. The first author contacted the instructors through e-mail to announce the study and to request collaboration for in-class administration. Upon receipt of permission, inclusion criteria (i.e., college student currently dating or who had experienced a breakup within the past 6 months) were presented by the researcher in the beginning of in-class administration. Written informed consent was obtained. On the informed consent form, we provided clear instructions regarding the purpose of the study, conditions of participation (volunteer participation, confidentiality, anonymity), risks (recalling abuse), and benefits (expanding the knowledge on psychological dating aggression). We specifically told participants not to include partners/friends in the activity. However, it is hard to obtain true confidentiality in a classroom full of students. There were no other people (such as a teacher, research assistant) in the classroom during the data collection other than the first author. The questionnaires and informed consent forms were distributed together in envelopes and students were asked to return the completed surveys in the sealed envelopes. Informed consent forms were collected separately in a cloth bag to promote confidentiality. Because participants were asked about experiences of psychological and physical aggression victimization and perpetration, which might elicit painful memories, they were told they could leave the study at any time in case of distress. We provided a list with names and contact details of university counseling services on the informed consent. No such cases were reported. It took about 15–20 min to complete the survey package. We offered no incentives.

Measures

Demographic Information Form. The Demographic Information Form (DIF) was developed by the researchers to obtain information about basic demographics (sex, age) and relationship characteristics (current relationship status, length of the relationship).

Multidimensional Measure of Emotional Abuse. The MMEA items were rated on a 7-point frequency scale for the past 6 months (*never, once, twice, 3–5 times, 6–10 times, 11–20 times, and more than 20 times*), with an additional response option (not in the past six months, but it has happened before). Subscale scores were acquired by summing the item response category values. Before calculating, the response category 7 (*not in the past six months, but it has happened before*) was recoded as 0 as recommended by Murphy and Hoover (1999) because we were interested in perpetration and victimization in the past 6 months. For each subscale, scores range between 0 and 42. Higher scores indicate greater psychological aggression perpetration and victimization. A total score (a sum of four subscales) can be calculated as well (range 0–168).

Physical Assault Scale of the Revised Conflict Tactics Scales. To evaluate physical dating violence perpetration and victimization, we employed a 12-item single factor PA subscale of the Turkish version of the CTS2 (Straus, Hamby, Boney-McCoy, & Sugarman, 1996). Both minor (i.e., “throwing something,” “twisting arm or pulling hair”; 5 items) and severe (“hitting with something,” “kicking”; 7 items) acts of PA were assessed.

PA has a similar rating and scoring procedure as the MMEA. The total score ranges between 0 and 72 with higher scores referring to higher levels of victimization and perpetration. Turhan et al. (2006) adapted and evaluated the preliminary psychometrics of the Turkish version of the CTS2 among married women and found basic psychometrics as satisfactory. In the current study, the internal consistency coefficients were found to be .87 and .86 for perpetration and victimization, respectively.

Experiences in Close Relationships Inventory. To measure insecure attachment within the context of dating relationships, we employed Anxiety (18 items) and Avoidance (18 items) subscales of the Turkish version of the Experiences in Close Relationships Inventory (ECRI; Brennan, Clark, & Shaver, 1998). Anxiety (e.g., "I'm afraid that I will lose my partner's love" and "My desire to be very close sometimes scares people away") measures the degree of fear of rejection and abandonment, while Avoidance (e.g., "I prefer not to show a partner how I feel deep down" and "I don't feel comfortable opening up to romantic partners") gauges the degree of discomfort with intimacy and dependency. Items are rated on a 7-point Likert-type scale ranging from 1 (*disagree strongly*) to 7 (*agree strongly*). The highest and lowest scores one can obtain from each subscale range between 18 and 126. Higher scores indicate higher avoidance and anxiety experienced in romantic relationships. Sümer (2006) adapted the ECRI into Turkish and provided evidence demonstrating reliability and validity as a measure of adult attachment. In the present study, the α s were .87 and .88 for Anxiety and Avoidance, respectively.

Relationship Assessment Scale. To assess college students' general satisfaction with their dating relationships, the Turkish version of the 7-item single-factor Relationship Assessment Scale (RAS; Hendrick, 1988) was utilized. Sample items include "How well does your partner meet your needs?" and "How often do you wish you hadn't gotten into this relationship?" The RAS has a 7-point Likert-type response (1 = *strongly disagree* to 7 = *strongly agree*). The overall score varies between 7 and 49. Higher scores refer to more satisfaction with the relationship.

The Turkish adaptation and validation of the RAS was carried out by Curun (2001). The results yielded similar evidence of validity and reliability to the original scale with college students in romantic relationships. In the current study, the internal consistency coefficient was calculated as .85.

Social Desirability Questionnaire. To evaluate participants' socially desirable responses, we employed the 20-item single-factor Social Desirability Questionnaire (SDQ) developed in Turkish by Kozan (1983). The SDQ includes items such as "I have never disliked anyone" and "There have been occasions when I took advantage of someone." Kozan (1983) reported good psychometric properties for the SDQ. The scale uses a true/false response format. One point is obtained for each true response. The overall score ranges between 0 and 20. Higher scores imply a tendency toward socially desirable responding.

Data Analysis

To determine whether the original four-factor structure of the MMEA would be confirmed in the Turkish version, we ran a CFA using AMOS18 (Arbuckle, 2009). Prior to the CFA, we checked the assumptions of it (e.g., the accuracy of data, sample size, missing values, outliers, normality, linearity, and multicollinearity; Ullman, 2001). In order to examine criterion-related validity of the MMEA-TR, we calculated the correlations between the

subscales of the MMEA-TR and the PA of the CTS2 and the subscales of the ECRI, RAS, and SDQ.

RESULTS

Construct Validity of the MMEA-TR

Assumption Checking. Based on the work of MacCallum, Browne, and Sugawara (1996), we performed a power analysis by using NIESEM (Dudgeon, 2003) to estimate our sample size and found that it met the minimum requirement for analysis (sample size = 254 > minimum required = 105). Next, data screening and the Little MCAR Test (Little & Rubin, 1987) revealed respectively that the missing values did not exceeded 5% and were random with no identifiable pattern. Thus, Expectation-Maximization was implemented to impute missing values (Tabachnick & Fidell, 2007).

Some multivariate outliers were detected, so we ran the analyses with and without the outliers. No substantive differences in the findings emerged after dropping these outliers. Therefore, they were retained for the analyses. The inspection of multivariate normality implied non-normality. As a strategy to manage non-normality (and outliers as well), we favored bootstrapping due to our sample size (Nevitt & Hancock, 1998). Based on the strategy, to evaluate model fit, we used the Bollen-Stine corrected p instead of the Maximum Likelihood (ML) p (Arbuckle & Wothke, 1999). The bootstrapped results of parameter estimates, standard errors of parameter estimates, and significance tests were reported as well. We set the number of bootstrap samples to 1,000 (Cheung & Lau, 2008).

Fit Indices. To examine model fit, we used the criteria proposed by (Browne & Cudeck, 1993; RMSEA < .05, close fit; .05 < RMSEA < .10, adequate fit; RMSEA > .10, poor fit), Kline (2005); $\chi^2/df < 3$, and (Hu & Bentler, 1999; standardized root mean square residual [SRMR] < .08, CFI > .95).

Confirmatory Factor Analysis of the MMEA-TR. We performed separate CFAs for perpetration and victimization. For perpetration, the χ^2 test of model fit was statistically significant, χ^2 (344, $N = 254$) = 744.46, Bollen-Stine bootstrapped ($p = .05$). To handle χ^2 test's sensitivity to sample size, we used the normed χ^2 (χ^2/df ratio; Kline, 2005) for the test of model fit. With χ^2 as 744.46 and df as 344, the obtained χ^2 over df (χ^2/df) ratio was 2.16, which was less than the suggested value of 3 to indicate adequate model fit (Kline, 2005). The RMSEA value was .07 (90% CI = .06, .08), which indicates adequate fit (Browne & Cudeck, 1993). The standardized RMR (SRMR) was .07; lower than the suggested cutoff value (Hu & Bentler, 1999). The other fit index CFI had a value of .80, which is lower than recommendation. According to Muthen and Muthen (2007) and Kenny (2010), a good RMSEA with low CFI is the result of relatively low correlations among the variables (items, in that case). The overall fit indices for perpetration on the MMEA-TR suggest an adequate model fit.

Along with model fit, we inspected the results of parameter estimates and significance tests and saw that all items were properly loaded on the related constructs ($p < .001$). No large modification indices appeared. Table 1 portrays constructs, related items, SRWs, and squared multiple correlations (R^2) for 28 indicators of perpetration of the MMEA-TR. SRWs varied between .40 and .67 for RE, .40 and .66 for DEN, .40 and .77 for HW, and .25 and .70 for D/I. Only item 27 for D/I (.25) had a factor loading lower than the suggested cutoff value of .30 (Gorsuch, 1983). R^2 explains the amount of variance accounted in each

TABLE 1. SRW and Squared Multiple Correlations (R^2) of the MMEA-TR

Construct	Perpetration			Victimization	
	SRW	R^2	Item	SRW	R^2
Restrictive engulfment	.59	.35	1	.62	.39
	.43	.18	2	.50	.31
	.40	.16	3	.46	.32
	.61	.37	4	.59	.34
	.67	.45	5	.57	.21
	.58	.34	6	.55	.25
	.44	.19	7	.47	.39
Denigration	.66	.43	8	.69	.48
	.59	.35	9	.72	.52
	.41	.17	10	.35	.12
	.41	.17	11	.27	.08
	.62	.39	12	.53	.28
	.40	.16	13	.57	.33
	.41	.16	14	.51	.26
Hostile withdrawal	.74	.54	15	.76	.57
	.70	.48	16	.75	.57
	.57	.33	17	.68	.47
	.50	.25	18	.56	.31
	.40	.16	19	.57	.32
	.77	.59	20	.74	.55
	.77	.59	21	.75	.48
Dominance/intimidation	.51	.27	22	.75	.56
	.70	.49	23	.77	.59
	.40	.16	24	.55	.30
	.53	.28	25	.53	.28
	.57	.32	26	.61	.37
	.25	.06	27	.31	.10
	.64	.41	28	.55	.30

Note. MMEA-TR = Multidimensional Measure of Emotional Abuse-Turkish version; SRW = standardized regression weight.

item. Hooper, Coughlan, and Mullen (2008) suggest that at least 20% of the variance with a significant t -value be explained in each item. Though all items loaded significantly ($p < .001$) on the relevant constructs, the criterion was attained for two-thirds of the items.

The results of CFA for victimization revealed an adequate model fit, [χ^2 (344, $N = 254$) = 786.92, Bollen-Stine corrected $p = .05$; χ^2/df ratio = 2.29; RMSEA = .07 (90% CI = .06–.08); SRMR = .07; CFI = .81], as well. All items were significantly loaded on the

appropriate factors. No modifications were offered. As illustrated in Table 1, the SRWs ranged between .46 and .62 for RE, .27 and .72 for DEN, .56 and .76 for HW, and .31 and .77 for D/I. Only item 11 for DEN (.27) had a value lower than the suggested cutoff (.30). The values for R^2 varied between 21% and 39% (RE), 8% and 52% (DEN), 31% and 57% (HW), and 10% and 59% (D/I). The criterion was broadly attained except for three items.

As presented in Table 2, we also provided means, standard deviations, item-total correlations (ITCs), and Cronbach's α s of the MMEA-TR for perpetration and victimization dimensions. A rule of thumb is that ITCs should be .30 or higher and .80 or lower. For perpetration dimensions, except for item 13 (.28), item 14 (.27), and item 27 (.21), the items met the rule of thumb ($>.30$), and ITCs ranged from .34 to .70. For victimization dimensions, the ITCs of item 11 (.25) and item 27 (.24) were lower than .30. Except the two items, the ITCs varied between .36 and .70.

All in all, the results of the CFA for both perpetration and victimization provided similar and acceptable evidence for the construct validity of the MMEA-TR. The four-factor model, for both perpetration and victimization, was confirmed among dating college students.

Cross-Validation. We cross-validated the factor structure of the MMEA-TR with a new and older sample of 328 dating college students from private and major universities in the same city, (237 females and 91 males). Because the data was part of a larger online survey, we had only perpetration reports. We repeated the same procedures for assumption checking and handled violations in the same way we did previously. Likewise, we followed the same steps for the CFA.

Participants were MS ($N = 189$; 57.6%) and PhD students ($N = 139$; 42.4%). Their ages ranged between 22 and 35 years ($M = 26.68$, $SD = 2.54$). Considering relationship characteristics, the average relationship length was 29.50 months ($SD = 27.40$; range = 1–126 months). A substantial (75.9%) perceived their relationships as stable and serious (5.5% casual, 18.6% indecisive). Half of the participants (49.7%) planned to get married to their current partner, whereas 32.9% did not have any idea about the future of the relationship. A quarter of them (25%) reported cohabiting. Participants were all currently dating.

The results showed an adequate model fit, χ^2 (344, $N = 328$) = 1,097.35, Bollen-Stine corrected $p = .00$; χ^2/df ratio = 3.19; RMSEA = .08 (90% CI = .08, .09); SRMR = .07; CFI = .83. The bootstrapped standardized factor loadings ranged between .49 and .72 for RE, .45 and .85 for DEN, .56 and .84 for HW, and .37 and .81 for D/I (Table 3). Only item 27 (13%) was below the 20% explained variance criterion for squared multiple correlations. None of the ITCs was below .30 (Table 3). In short, the four-factor structure was cross-validated with an older sample of dating college students and the results provided further empirical evidence for construct validity of the MMEA.

Criterion-Related Validity of the MMEA-TR

We first computed Pearson product-moment correlation coefficients among the MMEA-TR subscales both for perpetration and victimization. Displayed in Table 4, significant, positive, and moderate-to-strong correlations were observed for perpetration dimensions (min $r = .42$ and max $r = .57$, $ps = .001$). A similar pattern was repeated for victimization dimensions (min $r = .47$ and max $r = .57$, $ps = .001$). DEN and D/I had the strongest correlations for both perpetration ($r = .57$, $p = .001$) and victimization ($r = .57$, $p = .001$). Furthermore, the perpetration and victimization dimensions were positively and closely associated.

TABLE 2. Means, SDs, ITCs and Cronbach's α s of the MMEA-TR

Construct	Perpetration				Item	Victimization			
	<i>M</i>	<i>SD</i>	<i>ITC</i>	α		<i>M</i>	<i>SD</i>	<i>ITC</i>	α
Restrictive engulfment	2.26	2.18	.50	.69	1	2.46	2.16	.50	.68
	.85	1.74	.36	.72	2	.71	1.60	.38	.71
	.89	1.57	.36	.72	3	1.06	1.81	.36	.71
Perpetration $\alpha = .74$	1.30	1.91	.54	.68	4	1.60	1.96	.51	.67
Victimization $\alpha = .73$	1.69	1.90	.58	.67	5	1.89	1.95	.46	.69
	1.54	2.04	.45	.70	6	1.55	2.00	.45	.69
	.63	1.46	.34	.73	7	.64	1.48	.39	.71
Denigration	.95	1.16	.52	.61	8	.77	1.57	.50	.64
	.25	.99	.47	.63	9	.26	.97	.60	.64
	.31	1.00	.41	.65	10	.29	1.14	.37	.68
Perpetration $\alpha = .68$	1.18	1.71	.35	.67	11	1.13	1.69	.25	.73
Victimization $\alpha = .70$	.47	1.22	.51	.61	12	.36	1.20	.45	.66
	.39	1.09	.28	.67	13	.46	1.26	.47	.66
	.39	1.19	.27	.68	14	.41	1.28	.38	.68
Hostile withdrawal	2.86	1.87	.61	.80	15	2.51	1.94	.68	.84
	3.44	1.78	.61	.80	16	3.01	1.84	.67	.84
	1.78	1.93	.57	.80	17	2.04	2.02	.64	.84
Perpetration $\alpha = .83$	1.81	1.92	.48	.82	18	1.76	1.90	.53	.86
Victimization $\alpha = .87$	.93	1.68	.36	.84	19	1.16	1.80	.52	.86
	2.58	2.08	.70	.78	20	2.25	2.04	.70	.83
	2.33	2.04	.67	.77	21	2.01	1.88	.70	.84
Dominance/intimidation	1.30	1.81	.40	.70	22	1.16	1.80	.62	.71
	1.32	1.84	.58	.64	23	1.10	1.80	.64	.70
	.27	.99	.38	.70	24	.17	.79	.52	.75
Perpetration $\alpha = .72$	.41	1.26	.46	.68	25	.24	.98	.47	.75
Victimization $\alpha = .77$	.72	1.48	.50	.69	26	.64	1.46	.55	.73
	.19	.81	.21	.73	27	.14	.63	.24	.78
	.89	1.70	.51	.97	28	.66	1.55	.49	.74

Note. α = Cronbach's alpha if item deleted. MMEA-TR = Multidimensional Measure of Emotional Abuse-Turkish version; ITC = item-total correlations.

TABLE 3. SRWs, Squared Multiple Correlations (R^2), Means, SDs, ITCs, and Cronbach's α s of the MMEA-TR for Perpetration

Construct	Items	SRW	SMC	M	SD	ITC	α	Subscale α
Restrictive engulfment	1	.72	.51	1.40	1.69	.62	.75	.80
	2	.57	.32	.84	1.42	.49	.77	
	3	.57	.33	.47	1.08	.51	.77	
	4	.65	.43	.80	1.44	.61	.75	
	5	.69	.48	.91	1.37	.59	.75	
	6	.53	.28	1.36	1.75	.48	.78	
	7	.49	.24	.25	.80	.42	.79	
Denigration	8	.74	.55	.61	1.31	.66	.78	.82
	9	.85	.72	.23	.80	.71	.78	
	10	.70	.48	.20	.78	.69	.78	
	11	.49	.24	.95	1.51	.50	.83	
	12	.84	.71	.25	.84	.67	.78	
	13	.55	.30	.23	.70	.55	.81	
	14	.45	.21	.20	.68	.45	.82	
Hostile withdrawal	15	.71	.50	2.15	1.70	.64	.87	.88
	16	.76	.58	2.83	1.78	.70	.86	
	17	.70	.49	1.36	1.57	.68	.86	
	18	.56	.32	1.12	1.57	.55	.88	
	19	.58	.33	.70	1.27	.55	.88	
	20	.83	.69	1.84	1.81	.77	.85	
	21	.84	.70	1.91	1.76	.75	.85	
Dominance/intimidation	22	.64	.41	.94	1.49	.60	.82	.84
	23	.77	.59	.74	1.42	.72	.80	
	24	.81	.66	.21	.82	.68	.80	
	25	.77	.59	.19	.78	.68	.81	
	26	.79	.63	.40	.99	.76	.79	
	27	.37	.13	.13	.62	.36	.84	
	28	.53	.28	.27	.82	.48	.83	

Note. α = Cronbach's α if item deleted. MMEA-TR = Multidimensional Measure of Emotional Abuse - Turkish version; SRW = standardized regression weight; ITC = item-total correlations.

The associations of the subscales of the MMEA-TR with physical assault were significant and positive for the perpetration dimension (Table 4). The physical assault correlations for DEN ($r = .42, p = .001$) and D/I ($r = .50, p = .001$) were stronger than the correlations for RE ($r = .24, p = .001$) and HW ($r = .17, p = .001$). For victimization, physical assault was significantly and positively associated with RE ($r = .21, p = .001$), DEN (r

TABLE 4. Means, SDs, α s, and Intercorrelations Among the MMEA-TR subscales and Physical Assault, Attachment, Social Desirability, and Relationship Satisfaction

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Restrictive Engulfment P	1	.42**	.53**	.46**	.24**	.09	.28**	.05	-.30**	.58**	.41**	.61**	.43**	.24**
2. Denigration P		1	.48**	.57**	.42**	.20**	.02	-.10	-.37**	.38**	.68**	.43**	.48**	.43**
3. Hostile Withdrawal P			1	.55**	.17**	.17*	.19**	-.15*	-.34**	.50**	.39**	.70**	.50**	.19**
4. Dominance/Intimidation P				1	.50**	.10	.17**	-.10	-.24**	.47**	.56**	.58**	.76**	.42**
5. Physical Assault P					1	.00	.17*	-.03	-.13	.23**	.27**	.22**	.41**	.80**
6. Avoidant Attachment						1	.00	-.04	-.42**	.25**	.05	.07	.11	.00
7. Anxious Attachment							1	.09	-.21**	.08	.11	.18**	.20**	.12
8. Social Desirability								1	.03	-.09	-.05	-.07	-.05	-.05
9. Relationship Satisfaction									1	-.32**	-.26**	-.34**	-.29**	-.21**
10. Restrictive Engulfment V										1	.47**	.55**	.46**	.21**
11. Denigration V											1	.47**	.57**	.25**
12. Hostile Withdrawal V												1	.52**	.23**
13. Dominance/Intimidation V													1	.42**
14. Physical Assault V														1
<i>M</i>	9.16	3.94	15.73	5.08	2.68	46.99	70.73	10.53	36.60	9.90	3.68	14.74	4.09	2.20
<i>SD</i>	8.01	5.29	9.34	6.25	7.29	18.88	20.80	2.50	5.50	8.03	5.54	9.95	6.18	6.10
α	.74	.68	.83	.72	.87	.88	.87	-	.85	.73	.70	.86	.77	.86

Note. P = perpetration; V = victimization; MMEA-TR = Multidimensional Measure of Emotional Abuse.

* $p < .05$. ** $p < .01$.

= .25, $p = .001$), HW ($r = .23$, $p = .001$), and D/I ($r = .42$, $p = .001$). The associations were low to moderate in magnitude.

We found mostly significant and positive, yet fairly small correlations between the subscales of the MMEA-TR, avoidant attachment, and anxious attachment as illustrated in Table 4. For perpetration, avoidant attachment was correlated only with DEN ($r = .20$, $p = .001$) and HW ($r = .17$, $p = .05$). RE ($r = .28$, $p = .001$), HW ($r = .19$, $p = .001$), and D/I ($r = .17$, $p = .001$), but not DEN ($r = .02$, $p > .05$) were associated with anxious attachment. For victimization, significant correlations were found for anxious attachment with D/I ($r = .20$, $p = .001$) and HW ($r = .18$, $p = .001$), and for avoidant attachment with RE ($r = .25$, $p = .001$).

We also assessed validity of the MMEA-TR by examining its relation to social desirability. As displayed in Table 4, only RE had a significant correlation with social desirability, which was small in magnitude ($r = -.15$, $p = .05$) for the perpetration dimension. For the victimization dimension, the relations were all nonsignificant.

For further validation, we tested correlations between the subscales of the MMEA-TR and relationship satisfaction. For the perpetration dimension, all correlations were in the negative direction. The weakest correlation was to D/I ($r = -.24$, $p < .001$) and the strongest to DEN, $r = -.37$, $p < .01$. For the victimization dimension, the associations followed a similar pattern, with significant negative correlations in the low-to-moderate range of magnitude (see Table 4).

Reliability of the MMEA-TR

We calculated Cronbach's alpha coefficient (α) for each subscale of the MMEA-TR both for perpetration and victimization to evaluate internal consistency. For perpetration, Cronbach's α for RE, DEN, HW, and D/I were computed as .74, .68, .83, and .72, respectively. For victimization, Cronbach's α was .73 for RE, .70 for DEN, .86 for HW, and .77 for D/I. The examination of Cronbach's α if item deleted recommended no deletion of any item as illustrated in Table 2. The overall α s for perpetration and victimization dimensions of the MMEA-TR were .89 and .90, respectively.

DISCUSSION

The study was intended to adapt the MMEA into Turkish and to assess its preliminary psychometrics in a collectivistic culture. Our results confirmed the original factor structure with satisfactory evidence for construct validity, verifying its multidimensionality (both for perpetration and victimization dimensions) as distinct and related constructs in a collectivistic culture, similar to previous findings in the United States (Murphy et al., 1999) and Italy (Bonechi & Tani, 2011). We also cross-validated the factor structure in an older sample, only for perpetration dimension, and obtained similar results.

Each subscale in the MMEA-TR was represented by the items hypothesized in the original scale. However, despite significant loadings on their hypothesized factors, in our results, item 27 "Driving recklessly to frighten the other person" in D/I for the perpetration dimension and item 11 "Criticizing the other person's appearance" in DEN for the victimization dimension had relatively poor factor loadings. Item 27 loaded better (.25 vs. .37) in the older sample, which was comprised of master's and doctoral students. Contrary to graduate students, a great majority of undergraduate students may

prefer public transportation in Turkey. Thus, item 27 may not be applicable to the experiences of undergraduate students simply because they do not drive. Adding a “nonapplicable” response choice could have better reflected their experiences. Considering item 11, “appearance” might have been confusing as to whether it refers to clothing or facial/physical beauty. Clarifying the word “appearance” in the Turkish scale might prevent confusion of the participants in future implementations. We considered these two items’ relatively poor loadings as possible reflections of participant profile and language nuances rather than cultural. We kept them due to statistical reasons (significant loadings, $p < .001$ and no modification offers) along with the aforementioned explanations. We also suggest close examination of these two items in further studies with the MMEA-TR.

For criterion-related validity, we computed correlations between the subscales of the MMEA and physical assault, attachment, social desirability, and relationship satisfaction. The results provided additional support for the validity of the MMEA-TR. As theoretically assumed, the subscales of the MMEA-TR were conceptually distinct yet related constructs (Murphy & Hoover, 1999; Murphy et al., 1999; Toplu-Demirtaş, 2015; Toplu Demirtaş, Hatipoğlu-Sümer, & Fincham, 2017). Consistent with the findings in the original studies and literature, DEN and D/I subscales were closely associated with each other (Bonechi & Tani, 2011; Murphy & Hoover, 1999; Murphy et al., 1999; Ro & Lawrence, 2007; Toplu-Demirtaş, 2015; Toplu Demirtaş et al., 2017) both for victimization and perpetration. In addition, perpetration and victimization dimensions of the MMEA-TR were noticeably linked to each other, because as explicitly pointed out in the literature, psychological aggression tends to be reciprocal (Follingstad & Edmundson, 2010).

The associations of the subscales of the MMEA-TR with physical assault provided additional robust evidence for validity. The findings were perfectly in line with the original results from a sample of U.S. college students (Murphy & Hoover, 1999; Murphy et al., 1999). For example, for perpetration, the association of physical assault with D/I was strongest followed by the associations with DEN, HW, and RE (Murphy & Hoover, 1999; Murphy et al., 1999; Toplu Demirtaş et al., 2017). RE and HW seemed relatively independent from physical assault. The co-occurrence of physical and psychological dating aggression has clearly been documented in the literature (Murphy & Hoover, 1999; Murphy et al., 1999; Ro & Lawrence, 2007; Smith, White, & Holland, 2003; Toplu-Demirtaş, Hatipoğlu-Sümer, & White, 2013; Toplu Demirtaş et al., 2017). Due to the correlational and cross-sectional nature of our study, we do not know whether psychological aggression leads to physical aggression; yet, in the literature, psychological aggression has been considered as a common precursor of physical aggression (Murphy & O’Leary, 1989; O’Leary, Malone, & Tyree, 1994).

We, next, presented further evidence for validity by the correlations between the subscales of the MMEA-TR and insecure attachment. Significant yet modest associations between attachment and different types of psychological aggression (for victimization and perpetration) appeared, which largely mirrored the original findings; attachment insecurity was most closely related to RE and HW (Dye & Davis, 2003; Gormley & Lopez, 2010; Murphy & Hoover, 1999) in particular and psychological aggression in general (Karakurt, Keiley, & Posada, 2013). Specifically, insecurely attached dating college students were most likely to use controlling behaviors to track and limit the partner’s social contacts as well as withhold emotional availability in a punitive manner

during conflict. The finding obtained in the present study that anxious attachment rather than avoidant attachment was associated with psychological aggression is parallel to the earlier findings (Dye & Davis, 2003; Follingstad, Bradley, Helff, & Laughlin, 2002; Gormley & Lopez, 2010).

Virtually all correlations between the MMEA-TR subscales and social desirability were nonsignificant. That is, responses to the subscales of the MMEA-TR were not influenced by the social desirability bias, thus indicating further validity evidence both for perpetration and victimization as in the original studies (Murphy & Hoover, 1999; Murphy et al., 1999).

Finally, we investigated the associations between the subscales of the MMEA-TR and relationship satisfaction. The results yielded persistently negative correlations both for perpetration and victimization. The strongest negative correlation with relationship satisfaction was found for HW, which is characterized by avoidance during a disagreement and withholding emotional availability, for victimization, and for DEN, which involves overt acts and verbal attacks and humiliating and degrading, for perpetration. The findings were evident in Bonechi and Tani (2011) as well. The results also demonstrated that there were differences among the types of psychological aggression. Consistent with Bonechi and Tani (2011), relationship dissatisfaction seemed more related to victimization than perpetration. However, the pattern was different for DEN, in our study. Perpetration of overt acts of DEN such as yelling, ridiculing, and name-calling (in front of others) appeared to associate more with a decrease in relationship satisfaction. The difference might be subtle at first look or it might be due to cultural differences. The absence of such research made it difficult to compare the findings. Additionally, the correlational design of the study prevents us from placing antecedents and consequences that perpetration (and victimization) leads to relationship satisfaction or vice versa. Nevertheless, it is not surprising that college students feel less satisfied in dating relationships in which they are the perpetrators or recipients of psychological aggression characterized by isolation, control, humiliation, degradation, emotional distance, submission, and intimidation (Bonechi & Tani, 2011; Dye & Davis, 2003; Kaura & Lohman, 2007; Kılınçer & Tuzgöl-Dost, 2013; O'Leary et al., 1994; Rhatigan & Street, 2005; Ro & Lawrence, 2007; Toplu-Demirtaş et al., 2013).

In terms of reliability, the subscales of the MMEA-TR demonstrated satisfactory internal consistency. Only the DEN subscale (for perpetration) had a coefficient slightly lower than the commonly accepted cutoff for adequate internal consistency ($< .70$, Nunnally, 1978). Reliability analyses did not make a positive change when any item was excluded. Additionally, Nunnally and Bernstein (1994) argue the acceptability of reliability in the .60 and .70 range. In the second sample, the reliability coefficients improved for all subscales (above .80) for the perpetration dimension.

By and large, the results suggest that the MMEA-TR appeared as a brief yet comprehensive, multidimensional, and psychometrically sound scale to measure psychological dating aggression perpetration and victimization among college students. Psychological aggression was positively related to physical assault and insecure attachment, which serves as possible evidence for a universal rather than cultural perspective. Similarly, the association between psychological aggression and relationship satisfaction was negative, a finding again consistently reported in the literature. Taken all together, there appears to be a cross-cultural similarity in the experiences of psycho-

logical aggression. Yet, future research is needed to gain a better understanding of the role of culture.

The study, nevertheless, is not without limitations. Findings should be interpreted with caution in lieu of these limitations. First, we conveniently gathered data from dating college students in a large state university, which was relatively liberal, and therefore the patterns of relationship behavior may be different in other samples of Turkish college students. Second, we did not ask questions on sexual orientation and gender identity; thus, the sampling method may limit generalizability of the findings (Fraenkel, Wallen, & Hyun, 2012). Third, the study was correlational; therefore, one cannot assume directionality and causality (Fraenkel et al., 2012). Finally, separate analyses for gender could not be carried out due to the modest overall sample size.

Research on psychological dating aggression is still in its infancy in Turkey, and additional research is required to build upon those preliminary findings and to deal with the aforementioned limitations. We recommend cross-validation of the study with (a) more diverse and larger samples, (b) different sampling procedures (random rather than convenient, if possible), and (c) different methodologies (longitudinal rather than cross-sectional). Considering diversity, college samples from different cities in Turkey (e.g., rural and urban), varying age groups (e.g., younger and older), and/or subcultures (lesbian, gay, bisexual, and transgender [LGBTI]) would strengthen the novel findings of the study. Moreover, research into dating relationships among people at similar ages who do not receive a college education is less extensive in the literature and may be particularly important for representing groups from diverse economic backgrounds. Likewise, employing larger samples would help clarify the confirmation of the MMEA-TR regarding gender. Though the literature is contradictory as far as the role of gender in psychological dating aggression is concerned, considering the dearth of research, we find such efforts as valuable for a thorough understanding of psychological aggression. Furthermore, in this study, the associations between attachment and psychological aggression appeared significant yet weak, raising questions as to whether these associations might be mediated or moderated by other important factors. Thus, attempts to investigate the mediational role of different relationship variables such as relationship satisfaction, satisfaction with relationship power, relationship dependency, and jealousy would surely be fruitful in relation to attachment and psychological aggression in a culture largely regarded as collectivist (İmamoğlu, 2003).

Regardless of the limitations, the adaptation of the MMEA seems a promising attempt to fill the need for a psychometrically sound measurement in which to assess psychological aggression among dating college students. Its multidimensionality and brevity may permit researchers to explore psychological aggression in detail. A single composite score is possible as well. Furthermore, adaptation of the MMEA may encourage researchers to conduct cross-cultural studies to investigate differences and similarities of psychological aggression across cultures and to explore the culture-specific or culture-general conceptualization of psychological dating aggression. In the long term, such work may be very helpful in efforts to develop culturally sensitive programs to prevent relationship aggression in young adults.

NOTE

1. We conducted a series of ANOVAs to see if there were differences between the two groups (currently dating and a break-up within the last six month) on the study constructs. We found differences only for relationship satisfaction. Then, we did the correlation analyses without the breakup group, compared the results, and found that the results were not distorted.

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