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Aggression begets aggression: Psychological dating aggression perpetration in young adults from the perspective of intergenerational transmission of violence

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Abstract
The aim of this study was threefold: (1) to evaluate the factorial validity of the Psychological Aggression (PA) subscale of the Conflict Tactics Scales–Adult Recall version (CTS2-CA), (2) to investigate the prevalence of and gender differences in psychological dating aggression perpetration (PDAP; restrictive engulfment, denigration, hostile withdrawal, and dominance/intimidation), and (3) to explore a proposed path from witnessing interparental psychological aggression perpetration to PDAP via acceptance of psychological aggression as a mediator and gender as a moderator of the mediation. For the first purpose, college students ($N = 275$) completed father to mother and mother to father forms of the PA subscale of the CTS2-CA. Exploratory factor analyses yielded a single-factor solution for the father to mother (55.86% of the variance) and mother to father (49.12% of the variance) forms. For the second and third purposes, a separate sample of 1015 dating college students (69.6% women) completed the Multidimensional Measure of Emotional Abuse and Abuse subscale of the Intimate Partner Violence Attitude Scale-Revised, along with the PA subscale of the CTS2-CA. Gender differences emerged in the prevalence of restrictive engulfment (85.8% for women and 80.3% for men) and hostile withdrawal (96.3% for women and 91.1% for men). Moderated-mediation analyses revealed that women college students who witnessed more mother to father psychological aggression perpetration tended to hold more accepting attitudes towards psychological aggression and, in turn, perpetrated more psychological aggression against their partners. Common assumptions that boys are more likely to imitate fathers, whereas girls are more likely to imitate mothers and women [but not men] commit verbal aggression may together explain our findings from the perspective of the intergenerational transmission of violence hypothesis. For future research, we suggest investigating the proposed model with the experience of psychological aggression from the parents to the child, which may provide further insights.

Keywords Witnessing interparental psychological aggression · Acceptance of psychological aggression · Psychological dating aggression perpetration · Gender · Young adults

Psychological dating aggression perpetration (PDAP) has been on the radar of researchers for quite some time as it is the most common form of dating violence. Among dating college students, its occurrence is alarmingly high (e.g., Leisring, 2013) -with a peak between the ages of 18 and 25 (Johnson et al., 2014) - worldwide, including Turkey (e.g., Toplu-Demirtaş et al., 2019). Gender differences are not typically evident (e.g., Toplu-Demirtaş et al., 2019; Torres et al., 2012). Often ignored and deemed invisible, the adverse effects of psychological aggression on mental health are intense (e.g., Arriaga & Schkeryantz, 2015; White & Satyen, 2015). Nevertheless, college students despise psychological aggression in dating relationships (e.g., Williams et al., 2012; Toplu-Demirtaş et al., 2020), which makes them more vulnerable to its effects. Moreover, there is strong longitudinal evidence that psychological aggression predicts the onset of physical violence (e.g., Schumacher & Leonard, 2005; Murphy & O'Leary, 1989). Thus, we believe that PDAP merits further investigation.

One theoretical framework to explain the aggression in romantic relationships is the social learning theory (SLT).

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Initially proposed by Bandura (1973), the theory alleges that behaviors are acquired by observations, imitations, and provisions of rationales. The SLT has extensive support in the literature through the intergenerational transmission of violence (ITV) hypothesis (Widom, 1989). Simply stated, it asserts that witnessing interparental and/or experiencing parental aggression in one's family of origin paves ways for later use and/or receipt of aggressive acts in adult relationships, including dating (O'Leary, 1988; Riggs & O'Leary, 1989). The hypothesis also posits that the effect of witnessing interparental aggression on aggression perpetration may manifest itself via cognitive processes, one of which is acceptance of aggression (O'Keefe, 1998). Guided by this hypothesis, in the current study, we narrowed our focus on PDAP, witnessing interparental psychological aggression perpetration, and acceptance of psychological aggression in a dating sample.

Although modeling PDAP from the perspective of the ITV sounds reasonable, the literature is limited and fails to delve deep into the associations. One possible explanation for this might be the absence of a validated measure for witnessing interparental psychological aggression perpetration. Moreover, the concept of psychological aggression is flourishing with a trend of conceptualizing it as a multifactorial construct instead of unifactorial. Moving towards a multifactorial conceptualization, we noticed that the literature is short on the prevalence of and gender differences in PDAP both in Western and non-Western countries, including Turkey.

Therefore, the present paper intends to add to the literature in several ways. First, it investigates the prevalence of gender differences in PDAP, keeping its multifactorial nature in mind. It then provides evidence for the construct validity of the Psychological Aggression subscale of the CTS2-CA (Straus et al., 1995). Finally, it explores the potential underlying mechanisms of PDAP from the perspective of the ITV hypothesis with gender as a moderator.

PDAP: Definition, Measurement, Prevalence, and Gender Difference

By PDAP, we refer to "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" (Lawrence et al., 2009, p. 20). To operationalize the concept, we used the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999), which allowed us to explore PDAP, due to its multifactorial design and other features (please see Toplu-Demirtaş et al., 2018 for further discussion). Restrictive engulfment involves isolating, restricting, monitoring, and controlling acts towards the partner. Denigration includes verbal attacks on the partner's body, appearance, personal identity, and sexuality. Hostile withdrawal comprises of behaviors such as avoiding partner and/or withholding emotional availability during or after the conflict to make the partner insecure about the relationship. Dominance/intimidation incorporates more intense acts and verbal attacks designed to get the partner to surrender control of the relationship.

Rates of PDAP have been remarkably high from the earlier studies. For example, Harned (2001) reported that 85% of women and 84% of men performed aggressive acts towards their partners. The most frequently performed type of aggression was emotional abuse (78% for women; 77% for men), followed by isolation (64% for women; 61% for men), intimidation and threats (58% for women; 63% for men), and economic abuse (8% for women; 12% for men). In another study, Leisring (2013) obtained the following rates of PDAP: 95% restrictive engulfment, 93% hostile withdrawal, 59% denigration, and 35% dominance/intimidation among 348 heterosexual dating college women. Research on the prevalence rates of PDAP in Turkey is in its infancy and thus very limited. In Turkey, Toplu-Demirtaş et al. (2019), using the MMEA, revealed that 89.3% and 90.5% of the dating college women and men used isolating, restricting, monitoring, and controlling behaviors (restrictive engulfment) towards their partner within the past six months. In a more recent study, 92.6% of women and 79.5% of men reported using at least one instance of psychological abuse (Toplu-Demirtaş & Fincham, 2020). Gender comparisons of PDAP evinced none or minimal differences that were usually found to be against women (Harned, 2001; Hines & Saudino, 2003; Shorey et al., 2008; Torres et al., 2012; Toplu-Demirtaş & Fincham, 2020; Toplu-Demirtaş et al., 2019).

Witnessing Interparental Psychological Aggression and PDAP

The ITV (Widom, 1989) simply asserts that growing up in aggressive families teaches the children to perform aggressively or accept other people acting aggressively. In either case, aggression is perceived as acceptable, which in turn, promotes perpetration or victimization. Exposure to aggression while growing up in an abusive family usually happens in one of two ways; (1) witnessing interparental aggression and (2) experiencing parent to child aggression. In the present paper, we focused on witnessing. Moreover, we preferred to individually investigate witnessing aggression as witnessing (1) father to mother and (2) mother to father, since we assumed that gender-specific associations might appear.

Interestingly, there has been scarce research on the association between witnessing interparental psychological aggression perpetration and PDAP, unlike research on physical dating aggression. The limited available evidence has been far from conclusive and includes some contradictory findings. For example, in a dating sample, Alexander et al. (1991) did not find a direct association between observation of physical interparental aggression and verbal aggression. They instead found that male (not female) college students who observed physical interparental aggression held more gender-related messages, which might affect their use of verbal aggression in adult relationships later on. Similarly, witnessing interparental physical violence did not emerge as a predictor of psychological abuse in college students (Cascardi et al., 2020). Contrary to this finding, in their longitudinal investigation with married or in-relationship individuals, Cui et al. (2010) discovered that individuals who experienced and witnessed verbal aggression in the family, committed verbal aggression toward their spouses and partners with no gender differences reported. In another study, female participants who reported witnessing parental conflict were more prone to be victimized by their partners (Karakurt et al., 2013).

Some other researchers differentiated clearly between witnessing interparental aggression and exposure to parental aggression. Avakame (1998), for instance, revealed that witnessing father to mother physical aggression in childhood was directly and positively linked to committing psychological aggression in adulthood. Although the link was evident for both genders, a married sample rather than dating was used. On the contrary, Gover et al. (2008) observed no association between witnessing interparental physical aggression and the current use of psychological aggression in a large sample of college students. Kennedy et al. (2002), taking things a step further, inquired about the effect of witnessing interparental psychological aggression on later reports of relationship conflict in 73 heterosexual couples' adult relationships. To evade memory biases, they asked participants to keep a diary regarding their conflict experiences twice a day over 28 days period. Opposed to their hypotheses, they did not obtain any evidence on the link between witnessing and reports of agreed-conflict days both for females and males.

Different from most research, Black et al. (2010) investigated the association of currently witnessing interparental aggression to dating aggression in emerging college students who responded to a self-report survey regarding their own and parents' ongoing use of psychological aggression. Although a small amount of variance for psychological (14%) dating violence was explained, observing parental psychological aggression predicted the perpetration of psychological dating aggression. The results of regression analyses revealed no differences between men and women.

In sum, as apparent from the literature review, the association between early witnessing experiences and later use of PDAP has conceptually been established, but the findings are mixed, which is mostly due to the type of aggression studied (i.e., an index of physical and psychological aggression), the sample utilized (i.e., male-only, female-only, or married/dating), the inconsistency between antecedent and outcome variable (i.e., physical witnessing, psychological aggression), and inability to separate types of witnessing (i.e., father to mother and mother to father). Responding to the need for further investigation and clarification, the present study explores the associations between witnessing mother to father and father to mother psychological aggression and PDAP among male and female college students.

The Role of Acceptance of Psychological Aggression as a Mediator

Obviously, not every college student born into an aggressive family develops psychologically aggressive behaviors toward their dating partners. Indeed, the nonsignificant or significant but modest relationships between witnessing and committing psychological aggression call for research into the mitigating and extenuating factors, one of which might be accepting attitudes towards violence as proposed by the SLT (Bandura, 1973). There is voluminous literature on the associations of acceptance of psychological aggression and psychological dating violence (e.g., Capezza & Arriaga, 2008; Clarey et al., 2010; Fincham et al., 2008; Temple et al., 2016). Fincham et al. (2008), for example, investigated the link between attitudes toward psychological aggression and the use of psychological aggression in a sample of 687 college students, half of which were currently in a dating relationship, utilizing a longitudinal design. Attitudes toward psychological aggression (abuse and control) at first wave were used to predict psychological aggression at the first and second waves. Findings indicated that attitudes towards control and abuse were positively correlated with psychological aggression gauged at time one. After the initial perpetration was controlled, attitudes toward abuse (but not control) measured at the time one predicted later use of psychological aggression at time two. The results did not vary by gender. Fincham et al. (2008) concluded that favorable attitudes of accepting aggression were related to immediate and later use of psychological dating aggression.

Moreover, previous studies revealed that witnessing interparental aggression may put people at risk of accepting their own or others' aggression due to desensitization. Considering psychological aggression, Aloia and Solomon (2013) studied this association in 74 females and 40 males, aged between 18 through 23. The perceptions of college-aged students about the acceptability of verbal aggression were

associated with their exposure to verbal aggression in the family ($r = .47$). The association became most influential for students with higher motivational systems with aggression. Findings also showed that students reported more positive accepting attitudes for verbal aggression when they recalled more interparental verbal aggression during childhood, and they were more sensitive to possible conflict situations.

The Current Study

Although the ITV hypothesis provides a reasonable theoretical background to predict psychological dating aggression, interestingly, the predominant focus in the literature has been on explaining physical dating violence, particularly among adolescents. There has not been sufficient research on the direct and indirect associations between witnessing interparental psychological aggression and later use of psychological aggression in dating relationships. The limited literature has failed to differentiate between (1) witnessing and experiencing psychological aggression and (2) witnessing father to mother, and mother to father psychological aggression. One other reason might be the lack of studies that utilized a specific standardized measure to gauge witnessing mother to father and father to mother psychological aggression. The role of gender has been presented as crucial, yet the role of gender was sorely under-researched in the previous studies. Furthermore, research on the multifactorial view of psychological aggression has been scant as well. By psychological aggression, researchers have mostly referred to verbal or emotional aggression only. This unidimensional view has prevented us from delving deeper into psychological dating aggression. Very few studies investigated the prevalence of multiple forms of PDAP.

Thus, given the literature's deficiencies, additional research is called to grasp and tell the associations between witnessing interparental aggression, attitudes towards and perpetration of psychological dating aggression. The present study, therefore, has three purposes. The first one is to provide factorial validity evidence of the Psychological Aggression (PA) subscale of the CTS2-CA (Straus et al., 1995). The second one is to explore the prevalence of and gender differences in PDAP. The last one is to document the mediating role of acceptance of psychological aggression from (1) mother to father and (2) father to mother witnessing psychological aggression perpetration and PDAP in young college adults with gender as a moderator. Regarding the third purpose, we specifically expected that:

H1. Witnessing mother to father psychological aggression will indirectly be related to more PDAP through higher acceptance of psychological aggression, and

H2. Witnessing father to mother psychological aggression will indirectly be related to more PDAP through higher acceptance of psychological aggression.

We further examined whether gender moderated the indirect associations in H1 and H2. However, as the role of gender is either lacking or controversial in the literature, we do not offer any hypotheses concerning moderation.

Method

Participants

The sample consisted of 1015 undergraduate and graduate students in a dating relationship and registered in the public and private universities in a large Midwestern city in Turkey. Of 1015 dating college students, 706 were women (69.6%), and 304 (30.0%) were men. Five (.04%) identified themselves as gender-other (genderless, queer, etc.). The students' ages fluctuated between 17 and 35, with a mean of 23.18 ($SD = 3.30$). Participants represented public (69.2%) and private (30.8%) universities. A total of 663 (65.3%) students were undergraduates and 329 (32.4%) were graduate-level students, with 2.3% identifying as others in terms of college level.

One out of five (18.7%) participants stated to be in a cohabiting relationship. The remaining (81.3%) described their relationships as dating. The relationship length was around two years ($M = 22.47$ in month; $SD = 22.81$), with a range of 125 months (min = 1 and max = 126). Most participants (72.1%) defined their current relationship as stable and serious. The participants were in frequent face-to-face contact with their partners, with 33.9% having contact several times a week, 25.4% every day, and 14.8% more than once a day. A substantial percentage of dating students (39.1%) in college intended to marry their current partners. Regarding the history of dating, 84.4% of them have had one or more dating relationships prior to their current one.

Data Collection Instruments

Demographic Information

A short demographic form was employed to collect participants' backgrounds (e.g., sex, age, name of the university, and grade level). Questions regarding relationship characteristics were also included such as length of the relationship in months, current relationship status (dating, cohabiting), type of current relationship (don't know/no idea, casual, stable/serious), frequency of face to face contact (less than a month, once a month, once every two week, once a week, several times a week, every day, more than once a day), future of current

relationship (we'll get married, we'll stay together, I will break off, my partner will break off, don't know/no idea), and prior relationship status (never had a relationship before, had one, had more than one).

PDAP

The four subscales of the Turkish version (Toplu-Demirtaş et al., 2018) of the Multidimensional Measure of Emotional Abuse (MMEA; Murphy & Hoover, 1999) were used to assess psychological aggression perpetration. The seven-item Restrictive Engulfment subscale measures an individual's behaviors to isolate, restrict, monitor, or control their partner's activities and social contacts, with items such as: "I secretly searched through the other person's belongings." The seven-item Denigration subscale gauges behaviors and verbal attacks to humiliate and degrade to reduce their partner's self-esteem and self-worth (e.g., "I called the other person a loser, failure, or similar term."). The seven-item Hostile Withdrawal subscale includes behaviors such as avoiding one's partner during conflict or withholding emotional availability to punish the partner with items such as, "I refused to have any discussion of a problem." The seven-item Dominance/Intimidation subscale involves behaviors such as intense verbal aggression and threats to produce fear and submission (e.g., "I became angry enough to frighten the other person."). Each item was rated on an 8-point scale based on occurrence, from never to more than 20 times in the past six months. Scores are obtained by summing the response categories chosen by the participant. Higher scores reflect more psychological aggression perpetration. Cronbach's alpha for the MMEA was as followed; Restrictive Engulfment (α = .79), Denigration (α = .83), Hostile Withdrawal (α = 88), and Dominance/Intimidation (α = .81) in the current use.

Acceptance of Psychological Partner Aggression

The 7-item Abuse subscale of the Turkish version (Toplu-Demirtaş et al., 2017) of the Intimate Partner Violence Attitude Scale-Revised (IPVAS-R; Fincham et al., 2008) measures acceptance attitudes of psychological aggression, regarding threats, verbal attacks, blame, and hurt (e.g., "As long as my partner doesn't hurt me, "threats" are excused."). Participants respond using a 5-point Likert scale from "strongly disagree" to "strongly agree." Higher scores display more accepting attitudes toward psychological aggression. Cronbach's alpha for the Abuse subscale was .64.

Witnessing Inter-Parental Psychological Aggression Perpetration

The 7-item Psychological Aggression (PA) subscale of the CTS2-CA (Straus et al., 1995) was used to assess young adults' recall of their parents' psychologically aggressive acts toward each other during childhood. Each item is rated on a 7-point scale based on the number of times an individual remembers psychological aggression between their parents as a child while growing up. As suggested by Straus et al. (1995), an index of recalling psychological aggression was created separately for mother-to-father and father-to-mother responses by summing the individual item scores. A sample item to illustrate as such ——"mother insulted or swore at father" for witnessing mother to father psychological aggression, and "father insulted or swore at mother" for witnessing father to mother psychological aggression. As recommended by Straus et al. (1995), the researchers did not limit participants' recollection of their parents' behavior to a specific age period. Instead, the more broad term "while growing up" was used in the instructions. Participants who did not witness a parental-type relationship as children (e.g., were raised by a single parent or by someone other than their parents) were invited to leave this part of the survey blank. These cases were dropped from further analysis.

The PA subscale makes use of the same Conflict Tactics Scales-Revised (CTS-R) items, which were translated and evaluated in terms of their psychometric characteristics by Turhan et al. (2006) in a sample of married women in Turkey. The witnessing inter-parental psychological aggression measures have not been used alone as a separate construct with a Turkish sample. Thus, in the current study, we performed exploratory factor analyses separately for the mother-to-father and father-to-mother forms to validate the subscale's proposed unidimensionality.

Piloting the CTS2-CA

Participants. To provide construct validity evidence, the CTS2-CA was piloted with the data, which was not merged with the moderated mediation analyses' data. In the pilot study, the sample composed of 275 dating college students after we omitted five cases due to the following reasons: (1) being raised by someone else other than the parents, (2) having grown up at an orphanage, or (3) having a single parent from an early age due to loss, separation, and divorce. These cases were omitted because the instruments require participants to witness interparental psychological aggression while growing up. Of 275 participants, 191 (69.5%) identified as women, 83 (30.2%) as men and one as gender-other, aged from 18 to 32 ($M = 22.22$ $SD = 2.30$). A majority of the sample (88.2%) reported a current dating relationship, and the rest were cohabiting (11.8%). Their relationship duration was around two years ($M = 24.71$, $SD = 25.10$). Most (79.6%) defined the relationship as stable and serious.

Data Collection Procedure. The first author collected data conveniently through a paper and pencil survey

following the instructors' approval for in-class administration. She verbally informed the possible candidates of the purpose, conditions of participation (being voluntary, 18 years and older, undergraduate, and having at least one month in a current relationship), and risks (evoking abuse). Those who gave consent were reminded that they have the right to withdraw anytime without any explanation. It took no longer than 15–20 min to complete the survey. The data collection was carried out with the permission of the Human Subjects Ethics Committee.

Data Analysis. As there were no previous attempts, we conducted two independent Explanatory factor analyses (EFA) to provide evidence of construct-related validity and followed the steps below; modification of the items and construct validity and reliability analyses.

The CTS2-CA – Psychological Aggression utilizes the items of the CTS-R (Straus et al., 1995), which was earlier translated into Turkish (Turhan et al., 2006). Thus, we did not undergo the standard process of content validation, cognitive interview, etc. Instead, we only modified the subjects so that the item from the original scale "I insulted or swore at my partner" was converted to "My father insulted or swore at my mother" and "My mother insulted or swore at my father." Once modified, the instrument was in its final version to collect data.

Assumptions of Factor Analysis. The sample size was large enough ($N = 275$), concerning the "minimum observation number per variable is 20" ratio proposed (Hair et al., 2006). For the mother to father form, the check of Bartlett's Test of Sphericity (BTS; .853) and Kaiser Mayer Olkin [KMO; $\chi^2\,(21) = 579.33$, $p < .001$] revealed that the dataset was sufficient for factor analysis. For the father to mother form, the BTS (.891) and KMO [$\chi^2\,(21) = 838.27$, $p < .001$] were adequate as well. By the correlation matrix, we further inspected the intensity of intercorrelations among the items. We observed that the correlations varied between .319 and .590 ($p < .01$) for the mother to father form, and .354 and .690 ($p < .01$) for father to mother form, all higher than .300 (Tabachnick & Fidell, 2007). To determine the number of factors, we relied on two criteria: Kaiser's criterion (eigenvalues greater than 1) and Catell's scree test.

Factor Analysis. The EFA results, for mother to father form, displayed a single factor solution (eigenvalue for Factor 1 = 3.438), explaining 49.12% of the total variance. As illustrated in Table 1, the factor loadings ranged between .487 and .711. For the father to mother form, the EFA -again- yielded a single factor solution (eigenvalue for Factor 1 = 3.910) with a total variance of 55.86%. The lowest factor loading was .462 (see Table 1).

Reliability. Cronbach's alphas for mother to father and father to mother forms were .82 and .86, respectively, displaying satisfactory reliability (Nunnally, 1978).

Data Collection Procedure

The first author gathered the data via an online survey [MetuSurvey] after permission from the Human Subjects Ethics Committees of the universities was obtained. The survey link was shared through multiple outlets, including personalized student e-mail accounts, the announcement on universities' official websites, flyers around campus, and social media accounts (i.e., Facebook and Twitter). Students who consented were voluntary, over 18 years old, an undergraduate/graduate student, and had a current dating relationship for at least one month participated in the survey. We assured confidentiality and anonymity with an informed consent form. 5157 people attended the online survey, 3968 of them discontinued for some reason (not meeting the requirements of participation, the length of the survey, boredom, the design of the online survey, the sensitivity of the topic, and saving but not returning to complete the survey)

Table 1 Factor Loadings (FL) of the Scale Items, Percentage of the Variances, Eigenvalues, and Cronbach Alphas

Mother to Father *FL*	Items	Father to Mother *FL*
.701	Insulted and swore at the other (1)	.811
.523	Called the other fat or ugly (2)	.462
.487	Destroyed something belonged to the other (3)	.559
.679	Shouted or yelled at the other (4)	.624
.711	Stomped out of the room or house or yard during a disagreement (5)	.795
.681	Said something to spite the other (6)	.714
.663	Threatened to hit or throw something at the other (7)	.866
3.438	Eigenvalue	3.910
49.119	Variance	55.860
.823	Alpha	.865

Mother to Father = witnessing mother to father psychological aggression perpetration; Father to Mother = witnessing father to mother psychological aggression perpetration

and the remaining students (1176) completed the survey. In data screening, 161 of them were excluded because of being enrolled at a public or private university in a city or country other than those included in this study and Turkey, respectively. The average time for a participant to complete the survey was around 15 min.

Data Analysis

We started with chi-square analyses to reveal the prevalence of gender differences in self-reported psychological aggression perpetration. Following, we carried out correlation analyses regarding gender to investigate the relationships among variables. While doing so, we also computed an overall index of psychological aggression perpetration with the sum of each type of aggression. We included it in the correlation analyses to discuss whether separate moderated mediation analyses are necessary for each independent variable. To decide upon, we first conducted the moderated-mediation analyses independently for restrictive engulfment, denigration, hostile withdrawal, and dominance/intimidation. After, we repeated the moderated-mediation analysis with the overall index of psychological aggression. We saw that the analyses revealed the same indirect effects for the four independent variables and a single index of psychological aggression. To reduce the number of analyses, we decided to report the analysis with the overall index of PDAP.

Finally, we employed two different moderated-mediation analyses via PROCESS (Model 59, Hayes, 2013, 2.041), an add-on macro for SPSS. Model 59 enables us to test mediation [indirect effect of witnessing (1) mother to father or (2) father to mother psychological aggression on PDAP through accepting attitudes of aggression and moderation (conditional effect of gender; 0 = woman; 1 = man) on the indirect effect, simultaneously. We tested each model using 10,000 bootstrap samples.

Results

Frequency Analyses

The chi-square analysis results indicated that differences in the prevalence of only two distinct forms of psychological aggression in the past six months concerning gender were significant (Table 2). College women (85.8%) compared to men (80.3%) used more restrictive engulfment-related behaviors towards their dating partners, $\chi^2(1, n = 1010) = 4.95$, $p = .026$, $\Phi = -.070$. Similarly, more women (96.3%) than their male (91.1%) counterparts committed hostile withdrawal-related behaviors, χ^2 $(1, n = 1010) = 11.55$, $p < .001$, $\Phi = -.107$). Contrary to these findings, we found no differences between women and men in denigration (54.8% vs. 50.0%; $\chi^2(1, n = 1010) = 1.98$, $p > .05$, $\Phi = -.044$), and domination/intimidation related behaviors (56.4% vs. 55.1%; $\chi 2(1, n = 1010) = 1.42$, $p > .05$, $\Phi = -.038$) directed towards dating partners.

Correlation Analyses

As illustrated in Table 3, acceptance of psychological aggression was significantly and positively related to the study variables, varying from small (e.g., gender, $r = .14$, $p < .01$) to medium effects (e.g., psychological aggression perpetration, $r = .40$, $p < .01$), with one exception (witnessing inter-parental aggression). There was a positive association between witnessing father to mother and mother to father psychological aggression, $r = .47$, $p < .01$). The links from psychological aggression perpetration to all study variables were significant and positive, except for gender, $r = -.05$, $p > .05$.

Moderated-Mediation Analyses

As presented in Table 4, for the first hypothesis [witnessing mother to father psychological aggression], the first model, in which acceptance of psychological aggression was the outcome, was significant, $R^2 = .026$, F (3, 1006) = 9.21, $p < .001$. However, only gender predicted acceptance of

Table 2 Frequencies of psychological dating aggression perpetration regarding gender

Variables	Women (*N*; *f*) (706; 69.9%)	Men (*N*; *f*) (304; 30.0%)	Chi Square
Restrictive Engulfment	606; 85.8%	244; 80.3%	$\chi^2 = 4.95^*$, $\Phi = -.070$
Denigration	387; 54.8%	152; 50.0%	$\chi^2 = 1.98$, $\Phi = -.044$
Hostile Withdrawal	680; 96.3%	277; 91.1%	$\chi^2 = 11.55^{**}$ $\Phi = -.107$
Dominance/ Intimidation	398; 56.4%	159; 52.3%	$\chi^2 = 1.42$ $\Phi = -.038$

Total N = 1010. Five cases were deleted as identified as gender-other

$^{**}p < .01$; $^{*}p < .05$

Table 3 Cronbach alphas, means, standard deviations, and intercorrelations among study variables

Variables	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*M*	*SD*	*α*
1. Gender	1	.02	−.03	.14**	−.10**	.01	−.04	−.00	−.05	–	–	–
2. Witnessing M to F		1	.47**	.05	.05	.12**	.14**	.10**	.13**	29.83	33.92	.81
3. Witnessing F to M			1	.01	.06	.08	.08*	.12**	.10**	12.06	29.28	.85
4. Acceptance				1	.35**	.35**	.29**	.30**	.40**	13.95	4.13	.64
5. Restrictive Engulfment					1	.40**	.49**	.50**	.78**	6.87	6.87	.79
6. Denigration						1	.45**	.59**	.73**	2.90	5.19	.83
7. Hostile Withdrawal							1	.48**	.83**	12.36	8.88	.88
8. Dominance/Intimidation								1	.77**	2.97	5.00	.81
9. Psychological Aggression									1	25.12	20.36	.91

Gender was coded as women = 0 and men = 1

Witnessing M to F = Witnessing mother to father psychological aggression perpetration;

Witnessing F to M = Witnessing father to mother psychological aggression perpetration;

Acceptance = Acceptance of psychological partner aggression

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

Table 4 Model summary for moderated-mediation

	β	*SE*	*Boot LLCI*	*Boot ULCI*
Independent – Witnessing Mother to Father Psychological Aggression Perpetration				
Model 1: Outcome = Acceptance				
Mother to Father	.0288	.0428	−.0551	.1128
Gender**	1.1781	.4364	.3217	2.0344
Mother to Father × Gender	.0075	.0310	−.0534	−0684
$R^2 = .026$, F (3, 1006) = 9.21, $p < .001$				
Model 2: Outcome = Psychological Aggression				
Acceptance**	.1887	.0606	.0697	.3077
Mother to Father	.0495	.0275	−.0045	.1035
Acceptance × Gender	.0732	.0423	−.0099	.1563
Gender*	−1.6545	.6541	−2.9381	−.3709
Mother to Father × Gender	−.0074	.0199	−.0465	.0318
$R^2 = .192$, F (5, 1004) = 47.97, $p < .001$				
Independent – Witnessing Father to Mother Psychological Aggression Perpetration				
Model 1: Outcome = Acceptance				
Father to Mother	−.0022	.0359	−.0726	.0682
Gender*	1.0656	.4436	.1951	1.9361
Father to Mother × Gender	.0161	.0262	−.0354	.0675
$R^2 = .022$, F (3, 1006) = 7.64, $p < .001$				
Model 2: Outcome = Psychological Aggression				
Acceptance**	.1945	.0607	.0753	.3136
Father to Mother	.0451	.0231	−.0002	.0903
Acceptance × Gender	.0724	.0424	−.0109	.1556
Gender*	−1.4970	.6622	−2.7965	−.1975
Mother to Father × Gender	−.0160	.0169	−.0491	.0171
$R^2 = .186$, F (5, 1004) = 46.01, $p < .001$				

10,000 bootstrap samples

*$p < .05$; **$p = <.01$

psychological aggression, [$\beta = 1.1781$, $t(1006) = 2.6995$, 95% CI (.3217, 2.0344)]. College men were more accepting of aggression. The second model was also significant, $R^2 = .192$, F (5, 1004) = 47.97, $p < .001$. In the second model, gender, [$\beta = -1.6545$, $t(1004) = -2.5294$, 95% CI (−2.9381, −.3709)] and acceptance of violence emerged as the significant predictor of psychological aggression perpetration, [$\beta = .1887$, $t(1004) = 3.1117$, 95% CI (.0697, .3077)]. College women tended to commit more psychological aggression and the acceptance of psychological aggression increased the risk of psychological aggression perpetration. There was evidence of mediation as college students who witnessed more mother to father psychological aggression perpetration were more accepting of psychological aggression and, in turn, more prone to demonstrate psychologically aggressive behaviors (Table 5). However, this indirect effect was evident only for women, [$\beta = .0095$, 95% CI (.0010, .0194)] but not men, [$\beta = .0147$, 95% CI (−.0042, .0403)].

The second independent hypothesis [witnessing father to mother psychological aggression], the first model, in which acceptance of psychological aggression was the outcome, was significant, $R^2 = .022$, F (3, 1006) = 7.64, $p < .001$, but only gender predicted the acceptance of psychological aggression, [$\beta = 1.0656$, $t(1006) = 2.4021$, 95% CI (.1951, 1.9361)]. College men were more accepting of aggression. The second model appeared significant, as well, $R^2 = .186$, F (5, 1004) = 46.01, $p < .001$. In the second model, gender, [$\beta = -1.4970$, $t(1004) = -2.2606$, 95% CI (−2.7965, −.1975)] and acceptance of violence were significant predictors of psychological aggression perpetration, [$\beta = .1945$, $t(1004) = 3.2021$, 95% CI (.0753, .3136)]. College women used more psychologically aggressive behaviors. Besides, those who were more accepting of psychological aggression were also more inclined to perpetrate psychological aggression. We found no evidence of conditional indirect effects for either women, [$\beta = .0037$, 95% CI (−.0040, .0113)] or men, [$\beta = .0101$, 95% CI (−.3796, .0308)].

Table 5 Summary of the mediation effect of witnessing inter-parental psychological aggression perpetration on psychological aggression perpetration through acceptance of violence moderated by gender

				Bootstrapping	
		Product of coefficients		BC 95% CI	
	Gender	β	*Boot SE*	Lower	Upper
Mother to Father					
Indirect effect	Women	.0095	.0047	.0010	.0194
	Men	.0147	.0111	−.0042	.0403
Father to Mother					
Indirect effect	Women	.0037	.0038	−.0040	.0113
	Men	.0101	.0091	−.3796	.0308

Reported BC intervals are the bias-corrected 95% confidence interval of estimates resulting from bootstrap analysis; 10,000 bootstrapped samples

Total N is 1015. The analyses were performed with $N = 1010$. Twenty-nine cases deleted due to five participants identified as gender-other

Discussion

To deepen the understanding of the relationship between witnessing interparental psychological aggression and the use of psychological aggression in dating college students, we tested a model within the framework of the ITV hypothesis. Additionally, we explored the gender differences in psychological aggression keeping a multidimensional view in mind. Furthermore, we provided much-needed factorial evidence of the Psychological Aggression subscale of the CTS2-CA version (Straus et al., 1995).

The CFA results validated the a priori single factor structure of the Psychological Aggression subscale of the CTS2-CA version (Straus et al., 1995) both for mother to father and father to mother forms, with a college sample from Turkey. In both forms, the constructs (witnessing interparental psychological aggression) were represented by the seven items proposed, with significant loadings over .40. The positive association between the two forms (r = .47) presented additional evidence for conceptually distinct yet related constructs. As in the literature, college students who indicated more witnessing mother to father psychological aggression perpetration tended to witness more psychological aggression from father to mother (Milletich & Kelley, 2010). Moreover, the positive yet modest associations between witnessing interparental psychological aggression perpetration and PDAP, as evident in the literature (e.g., Milletich & Kelley, 2010), provided further evidence of construct validity. We reported the reliability coefficients as .823 and .865 for the constructs, above the suggested standard of .70 (Nunnally, 1978). In sum, we obtained satisfactory evidence for the reliability and factorial validity of the Psychological Aggression subscale of the CTS2-CA to measure witnessing interparental psychological aggression and justify its initial use in the current study.

As one of the aims, the study tried to find an answer to the question of whether college students commit psychological aggression in their relationships. Unfortunately, they do. 96.3% of the college women indicated withholding emotional availability to punish the dating partner in the past six months. 85.2% reported isolating, restricting, monitoring, and controlling their partners. 56.4% and 54.8% of them admitted using domination/intimidation and denigration-related acts towards their partners, respectively. The finding was roughly in line with Leisring (2013), as she reported 95%, 93%, 35%, and 59% of acts of hostile withdrawal,

restrictive engulfment, denigration, and domination/intimidation, respectively. For men, in the current study, the prevalence rates were 91.1% for hostile withdrawal, 80.3% for restrictive engulfment, 52.3% for domination/intimidation, and 50% for denigration. The same trend was observed for the order of percentage for dating college men, but, unfortunately, no data is available to compare men cross-culturally. In Mcdermott et al. (2016), regardless of gender, 52%, 26%, 73%, and 14% of the participants stated they engaged in at least one form of restrictive engulfment, denigration, hostile withdrawal, or dominance-intimidation behavior.

We investigated gender differences in the prevalence of types of psychological aggression as well. Overall, results demonstrated gender differences for restrictive engulfment and hostile withdrawal. Dating women engaged in more controlling and withholding emotional availability than men. Except for restrictive engulfment, there is not much literature to compare with the findings. What we found was different from the previous literature (Toplu-Demirtaş et al., 2019; Toplu-Demirtaş et al., 2020), considering the rates of controlling behaviors. However, the finding is neither surprising nor stunning as the literature is contradictory regarding the role of gender on the perpetration of psychological aggression. Some studies have revealed gender differences in dating college women (Gover et al., 2008; Muñoz-Rivas et al., 2007; Perry & Fromuth, 2005), while some others did not (Dye & Davis, 2003; Gormley & Lopez, 2010; Harned, 2001; Hines & Saudino, 2003; Jenkins & Aube, 2002; Shook et al., 2000). Moreover, the differences found were minimal in most of the studies. Overall, our findings imply that college students in Turkey perpetrate psychological aggression at alarmingly high rates, which merits further investigation of factors that may mitigate the risk of psychological aggression. The minimal or no gender differences provided additional evidence to the common notion of the reciprocity of psychological aggression (e.g., Follingstad & Edmundson, 2010).

In the moderated-mediation, no direct relationship existed between witnessing father-to-mother psychological aggression and the use of psychological aggression. Moreover, the results also showed a nonsignificant direct relationship between witnessing mother-to-father psychological aggression and the use of psychological aggression. The findings were consistent with some previous results (Alexander et al., 1991; Lohman et al., 2013; Shook et al., 2000) but were inconsistent with some other past outcomes that showed positive associations between witnessing interparental aggression and behaving in a psychologically aggressive way in relationships as an adult (Black et al., 2010; Cui et al., 2010; Karakurt et al., 2013; Kennedy et al., 2002; Reitzel-Jaffe & Wolfe, 2001).

Turning to our moderated-mediation hypotheses, we encountered some intriguing findings. We found that women who witnessed mother-to-father psychological aggression while growing up were more prone to accept psychologically aggressive attitudes, which in turn, led to more use of psychological aggression acts toward their dating partners. The mediation effect was not evident in men, and thus our hypothesis was partially supported. Interestingly, the moderated-mediation results for father to mother psychological aggression did not appear significant, and therefore we could not support our second hypothesis. Given the high correlation between witnessing mother-to-father and father-to-mother psychological aggression in the current study, it is interesting that we found a mediation effect only for witnessing mother-to-father psychological aggression among women. There may be several reasons for this result. Foremost, there is a tendency to perceive women as more likely to perpetrate psychological aggression, and men more likely to be physically aggressive (Williams et al., 2012). In terms of theoretical arguments, the SLT asserts that women tend to model their mothers' behaviors and men their fathers' (Bandura, 1973). Furthermore, we gauged psychological aggression via the Psychological Aggression (PA) subscale of the CTS2-CA, which assesses verbal aggression only - mostly (and untruly) attributed to women, which might further create a gender bias. In summary, the assumption of the SLT (boys to be more likely to imitate fathers, whereas girls would be more likely to imitate mothers), that women commit more verbally abusive acts might explain our only significant finding.

Delving deeper into the direct moderated associations, we found that gender was the single robust predictor of psychological aggression acceptance; men held more accepting attitudes towards psychological aggression, as evident in the literature (e.g., Dardis et al., 2017; Toplu-Demirtaş et al., 2020). Furthermore, college students who were more accepting of psychologically aggressive attitudes engaged in more psychological aggression toward their partners, which parallels previous findings (e.g., Aloia & Solomon, 2013; Capezza & Arriaga, 2008; Fincham et al., 2008; Reitzel-Jaffe & Wolfe, 2001).

Limitations

This study is not free from limitations, and thus the findings should be evaluated cautiously. First, a mono-method bias might be a possible threat to construct validity due to self-report measures (Heppner et al., 1992). Furthermore, participants were asked to remember psychological aggression occurrence within the past six months and recall their parents' psychologically aggressive acts while growing up; thus, there was a risk of some memory distortion regarding this data. Additionally, participants may have hidden certain information or given socially desirable responses. To overcome the mono method bias, supplementing self-report with

partner-report would be particularly beneficial. We suggest using social desirability as a control variable in future studies to prevent social desirability bias. The sample comprised of college students in dating relationships from conveniently selected private and public universities in a liberal city in Turkey. Therefore, the findings may be generalizable only to this population. However, we also believe that our cautious advice to generalize the results of this study only to this population appears restrictive of the utility of the study. The participants' reports are applicable to similar studies in other romantic relationships because the participants are age-long "custodians" (through observation) of adverse parental examples which they have the opportunity to act out in their emerging relationships. Thus, the study mirrors contemporary problems in romantic relationships and comes very timely as a good addition to the literature in this area. Yet, replication of the research is always encouraged, and while doing so, replication of the research with more diverse and, if possible, random samples would be optimal. Considering diversity, college samples from different cities in Turkey (e.g., rural and urban), age groups (e.g., undergraduate and graduate), and/or subcultures (LGBTI) would strengthen the novel findings of the study. Also, this study is correlational and cross-sectional. Therefore, one cannot infer causality from the results to establish temporal ordering. Finally, participation rates were higher for females (69.6%) than males (30.0%). Females are generally more likely to participate in relationship surveys, and these rates could mean a gender bias was present in the sampling procedures.

Suggestions for Further Research

Emerging adulthood is a period when young adults unearth unacceptable behaviors in romantic relationships, including intimate partner violence (Fincham & Cui, 2010). As the continuity of psychologically abusive relationships across time are apparent (Lohman et al., 2013), it is imperative to identify risk factors. With this motivation, we designed a moderated mediation model based on the ITV hypothesis. Our findings, for the most part, did not support our hypotheses. However, further research is needed to confirm and expand on these findings. Besides, to develop a deeper understanding of psychological dating aggression and test the proposed model's stability, we believe longitudinal research be helpful.

First of all, at a minimum, we suggest the replication of the model tested in this study in different samples. Since we only assessed witnessing interparental aggression as "verbal abuse," we believe future studies will benefit from exploring witnessing interparental aggression as a multidimensional concept. In doing so, the model's predictor and outcome variables will be congruent, as well. Thus, we will get a more nuanced picture of how witnessing interparental aggression operates in the use of PDAP. In the current study, we only focused on perpetration, but future research should explore the model from the perspective of psychological dating aggression victimization. Besides, merely witnessing interparental psychological aggression may not be adequate to grasp the complexity of PDAP. Experiencing, rather than simply witnessing, might be more influential. As quoted in Capaldi and Gorman-Smith (2003, p. 248) "direct treatment of the child by the parent is viewed as more central [than observational learning]." Thus, we believe that investigating the model with the experience of psychological aggression from the parents to the child as an independent variable may provide further insights. More interestingly, rather than retrospective responses, current responses -within the past six or twelve months, as commonly used in the literature- of experiencing parent to child or witnessing interparental aggression might be gathered.

Concluding Remarks

Our findings suggested that witnessing mother to father psychological aggression exerted its effect on PDAP directly through acceptance of psychological aggression in college women, which was a novel contribution to the dating violence literature. We further replicated previous findings -in the Turkish context- that men tended to accept psychological aggression more than women, and acceptance of psychological aggression was a robust predictor of PDAP. Besides, we provided preliminary psychometrics of the Psychological Aggression subscale of the CTS2-CA, which appeared as a sound instrument to gauge witnessing interparental psychological aggression. Finally, this study was the first to report gender differences in the prevalence of self-reported PDAP in a sample of college students in national literature.

Authors' Contributions The first author designed research in collaboration with the second author, collected the data, and performed the statistical analyses. The whole manuscript was written by the first author. She also prepared the manuscript according to the APA 7 and journal guidelines. The second author supervised the first author and did a critical reading with corrections and suggestions. All authors read and approved the final version of the manuscript.

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Data Availability The datasets generated during and/or analyzed during the current study are available from the corresponding author on reasonable request.

Code Availability Not applicable.

Declarations

Conflict of Interests/Competing Interests The authors have no relevant financial or nonfinancial interests to disclose.

Ethical Standards All procedures performed in studies involving human participants were in accordance with the ethical standards of Middle East Technical University [institutional research committee] and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

Consent to Participate/Consent for Publication Informed consent was obtained from all individual adult participants included in the study via the survey link. MetuSurvey link of the study was announced along with the following recruitment statement: "You are invited to participate in a research study which aims to investigate various determinants of psychological dating violence. You must be above 18 years old, an undergraduate/graduate student in Ankara universities, voluntary to participate in the research, and have a current dating relationship. The total time commitment for participation is almost 20 min. Your answers will only be used for the purpose of scientific research. You may stop or withdraw your participation at any time". Additionally, participants were asked to declare that they are willing to participate in the study before moving on with the survey questions.

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