The Mediating Role of Dissociation and Shame in the Relationship Between Emotional Trauma and Maladaptive Daydreaming

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Maladaptive daydreaming (MD) is a clinical condition in which an extensive fantasy activity replaces human interactions and generates impairments in work and relationships. In this study, we aim to observe the role of emotional trauma, shame, and dissociation in MD. We recruited a group of 162 self-diagnosed maladaptive daydreamers (women: $N = 135$, 83.3%), aged 18 to 54, in an online MD group. Participants filled out a survey, including measures of MD, dissociation, traumatic experiences and shame. A multiple mediation model showed that dissociation and shame fully mediated the relationship between emotional trauma and MD severity in the sample. These findings suggest that people suffering from MD may benefit from clinical interventions that address their tendencies to absorb themselves into daydreaming to cope with impairing feelings of shame.

Keywords: emotional trauma, dissociation, maladaptive daydreaming, mediation, shame

Daydreaming is a normal and universal activity of the human mind (Klinger, 2009). It can be defined as an off-task thought (Singer, 1975; Smallwood, Obonsawin, & Heim, 2003) that happens in a conscious but resting state (i.e., in the default mode of the brain functioning; Raichle et al., 2001). Daydreaming constitutes a broad activity that may include fanciful thoughts, imaginary scenarios, reminiscing, future planning, and fantasizing (e.g., thinking about a past discussion or an argument with a friend and imagining oneself to act differently). Therefore, daydreaming may serve several adaptive functions, such as fostering problem-solving and creativity as well as relaxing the mind with breaks between different tasks (McMillan, Kaufman, & Singer, 2013; Schooler et al., 2011). However, even though it is not pathological by itself, the tendency to absorb oneself into daydreaming can become pervasive for some individuals. In these cases, it is possible to distinguish between a potentially adaptive type of daydreaming that might help the individual to find a temporary retreat from distress and a pathological condition of maladaptive daydreaming (MD). Immersive daydreaming can be defined as "a condition in which individuals spend a significant portion of their time immersed in mental imaginings and elaborate daydreams" (West & Somer, 2020, p. 2). The pathological version of immersive daydreaming is MD. This term is used to define an "extensive fantasy activity that replaces human interaction and/or interferes with academic, interpersonal, or vocational functioning" (Somer, 2002, p. 199).

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The experience of maladaptive daydreamers (MDers) is characterized by excessive, vivid, and elaborated fantasies that might last several hours, accompanied by an increased sense of presence in the daydream on both a sensorial and emotional level (Somer, Somer, & Jopp, 2016a). In fact, MDers usually listen to evocative music and engage themselves in kinesthetic activities, such as pacing, rocking, and swinging, to facilitate absorption in their fantasies (Bigelsen & Schupak, 2011; Somer, 2002; Somer et al., 2016a). The reality testing of MDers is intact, and they always know the differences between their fantasies and the external world (Bigelsen & Schupak, 2011; Schimmenti, Somer, & Regis, 2019; Somer, Somer, & Jopp, 2016b); nonetheless, their daydreaming is so intense and pervasive that it has a negative impact on their lives and relationships.

To date, MD is not included in diagnostic classification systems, such as the *Diagnostic and Statistical Manual of Mental Disorders–5* (American Psychiatric Association, 2013) or the *International Statistical Classification of Diseases and Related Health Problems–11* (World Health Organization, 2019). Nevertheless, there is a growing number of people who seek support for this condition, complaining that their MD was minimized, misdiagnosed, or not taken seriously by the therapists (Bigelsen, Lehrfeld, Jopp, & Somer, 2016; Somer et al., 2016a). Further, MDers can spend more than half of their day daydreaming alone (Bigelsen et al., 2016). Research on MDers has shown that they often experience a craving for fantasizing, to the point that they lose control over daydreaming and then feel very distressed, or even sick, when trying to stop this behavior (Bigelsen & Schupak, 2011; Somer et al., 2016a, 2016b; Somer, Lehrfeld, Bigelsen, & Jopp, 2016).

So, even though daydreaming is regarded as an enjoyable and pleasant activity by MDers, it also leads them to a vicious circle of distress, social isolation, and shame that might further increase the urge to daydream (Bigelsen & Schupak, 2011; Somer, 2002; Somer et al., 2016a, 2016b). Such a vicious circle resembles what is observed in addictive behaviors, in which the use of substances or involvement in excessive behaviors can be paradoxically reinforced by the negative feelings and cognition related to the addictive behaviors (Caretti et al., 2018; Perales et al., 2020; Schimmenti, Sideli, La Marca, Gori, & Terrone, 2019).

However, MD is a complex condition, and it is still difficult to categorize it into an already defined diagnostic class. Since its discovery, MD has been differently conceptualized in various ways, such as a dissociative disorder related to traumatic experiences (Somer, 2002), an obsessive–compulsive spectrum disorder (Somer, 2018), an attentional deficit disorder (Somer, 2018), and a behavioral addiction (Pietkiewicz, Nęcki, Bańbura, & Tomalski, 2018; Schimmenti et al., 2019).

Developmental Predictors of Maladaptive Daydreaming

Dissociative experiences are a prominent part of MD, which is especially true regarding dissociative absorption (Schimmenti et al., 2019; Somer, 2018). Dissociative absorption refers to the propensity to focus on internal or external stimulus, neglecting the external world by entering into an altered state of consciousness (Soffer-Dudek, Lassri, Soffer-Dudek, & Shahar, 2015; Tellegen & Atkinson, 1974). Although dissociative absorption can represent a normal experience (Kihlstrom, 2005), the intense and pervasive tendency to immerse oneself in inner fantasies may be considered a pathological version of absorption (Somer, 2018). Furthermore, research shows that dissociative absorption is strongly associated with other dissociative domains, such as detachment and compartmentalization. In fact, recent findings suggest that different alterations in consciousness generate dissociative experiences (Schimmenti & Sar, 2019), which is consistent with some reported experiences of MDers (Ross, 2018; Somer, 2002).

Furthermore, it is known that most MDers are affected by prominent feelings of shame (including a sense of self-defectiveness and feelings of inadequacy and unworthiness; Pietkiewicz et al., 2018; Schimmenti et al., 2019) that are additionally fostered by the presence of the MD itself (e.g., one MD patient reported, "I was too embarrassed to talk to my therapist about it"; see Somer et al., 2016b, p. 475). In a vicious circle, MDers may use their daydreaming as a mean to cope with shameful feelings through a pathological detachment from reality and ab-

sorption into a fanciful retreat (Schimmenti et al., 2019).

Where do these tendencies to cope with shame feelings originate? According to Bigelsen and Schupak (2011), about 27% of MDers experienced physical, emotional, or sexual abuse during childhood. Many researchers indeed reported an increased prevalence of traumatic experiences in MDers, even though traumatization has been conceptualized as a predictor of MD only in the context of other risk factors (Bigelsen & Schupak, 2011; Schimmenti et al., 2019; Somer et al., 2016b). In this context, it is noteworthy that the traumatic experiences more frequently reported by MDers involved episodes of emotional neglect and emotional abuse in the family. For example, some MDers reported their experiences by saying, "My mom was sick a lot and there were a lot of fights and shouting. I felt very bad at home"; "I grew up with some physically but mostly emotionally abusive people. I was always the scapegoat"; and "When I was younger my mother who had many problems left me alone and rarely engaged with me" (Somer et al., 2016b, p. 474). These painful episodes may represent an emotional trauma for the individual, especially if they are conceived as an expression of a global configuration of the relationship between the child and their parents. This kind of relationship is characterized by a lack of emotional reciprocity and a disavowal of the emotional and physical needs of the child (Schimmenti & Caretti, 2010, 2016). Emotional trauma, unlike other forms of abuse (e.g., physical or sexual abuse), is sneaky and silent because it does not produce evident external signs. In fact, it involves covert phenomena of abuse (such as critical parenting or scapegoating) that often initiate further forms of traumatization (Bifulco & Schimmenti, 2019). Actually, emotional trauma is equally as insidious and dangerous as other types of trauma and can foster psychopathology (Brewin, Andrews, & Valentine, 2000; Infurna et al., 2016; Schimmenti & Bifulco, 2015; Varese et al., 2012; Weinberg, Beeghly, Olson, & Tronick, 2008). Importantly, pathological dissociation is one of the psychological results of emotional trauma (Sar, Akyüz, & Doğan, 2007; Schimmenti & Caretti, 2016; Schimmenti, 2017; Tamar-Gurol, Sar, Karadag, Evren, & Karagoz, 2008). Pathological dissociation indicates a lack of the integration of the normal functions of the mind such as memory, consciousness, and embodiment (Cardeña, 1994).

Clinical observations and empirical research suggest that emotional trauma, dissociation, and shame are closely linked (Bose, 2016; Dyer et al., 2017; Irwin, 1998; Lewis, 1992; Schimmenti, 2012; Talbot, Talbot, & Tu, 2004). Therefore, it is possible that if an emotional trauma intervenes along with other risk factors in the life of an individual, this might foster feelings of shame and a tendency to dissociate and absorb oneself into more satisfying internal scenarios. The dissociative tendencies, in turn, might foster further feelings of shame, because the pervasive immersion in the internal world can generate difficulties with real relationships and life tasks, promoting in the end the development of MD. In line with this hypothesis, it might be possible that MD play a compensatory (albeit dysfunctional) role in some cases, as it might serve to help the individual coping with the overwhelming condition of emotional trauma.

The Current Study

In this study, our main aim was to investigate the role played by emotional trauma, dissociation, and shame in MD in a sample of self-reported MDers. On the basis of the theoretical considerations concerning the potentially predictive role of emotional trauma, dissociation, and shame in the development of MD, we predicted that a multiple mediation model would adequately fit our data. In this model, the predictive association between emotional trauma and MD severity would be mediated by dissociation and shame.

In depth, our model predicts that the scores on emotional trauma will be positively related to dissociation and shame scores, that dissociation and shame scores will increase MD scores, and that dissociation scores further increment shame scores. Moreover, the predictive association between the scores on emotional trauma and MD will be reduced or even become nonsignificant after the inclusion of dissociation and shame scores in the model. The model configuring the investigated variables in a multiple mediated relationship is presented in Figure 1.

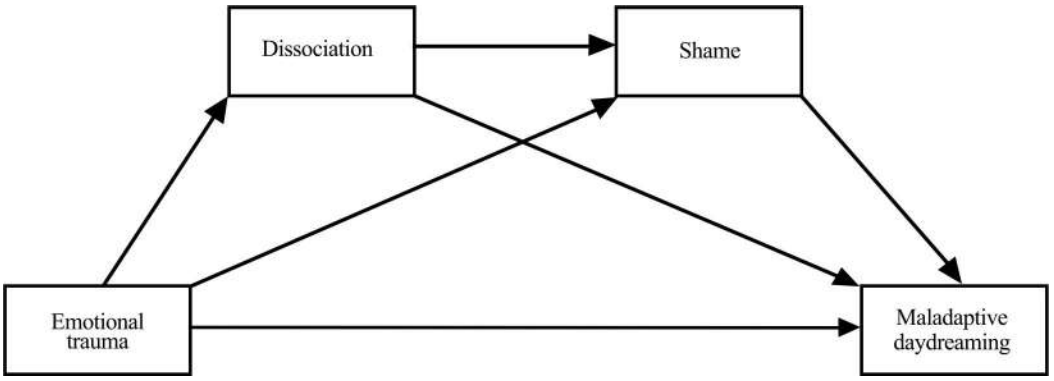

Figure 1. Conceptual model of the multiple mediation analysis.

Method

Participants

One hundred sixty-two self-diagnosed MDers ($n = 135$ female, 83.3%) participated in this study. They were aged between 18 and 54 years ($M = 26.31$, $SD = 7.62$) and had an average level of education of 14.46 years ($SD = 2.60$). They were members of a private self-help group for MDers in Facebook (https://www.facebook.com/groups/219162185131780/). Group members had to recognize themselves in the following description before being accepted as a member of the group: "Live a parallel life in your imagination. Or more lives. Your fantasy is like a drug. It steals hours, days, years of your life. You are not alone. You are not crazy. Simply, you suffer from maladaptive daydreaming." There were no gender differences in relation to participants' age, $t(160) = .47$, $p = .64$, or years of education, $t(160) = -.77$, $p = .44$.

Procedure

This cross-sectional study expands a previous research (Schimmenti et al., 2019) approved by the internal review board for psychological research of University of Foggia, in which a group of self-diagnosed MDers was compared to a control group to test the psychometric properties of the Italian version of the Maladaptive Daydreaming Scale (MDS-16; Somer et al., 2016; Somer, Soffer-Dudek, Ross, & Halpern, 2017), the most known self-reported measure for the screening of MD. The original study involving 135 MDers partially overlaps with our sample. We recruited participants by contacting the administrator of the Facebook self-help group, who accepted to advertise the study in the page. The administrator disseminated the link to the survey, accompanied by a description of the objectives of the study. Participants who agreed to participate in the study anonymously answered an online survey after signing an electronic informed consent. After collecting the data, we performed statistical analyses to test the study hypotheses. We conducted the study according to the Helsinki Declaration (World Medical Association, 2013).

Measures

The survey included questions concerning sociodemographic variables (e.g., gender, age, and years of education) and self-reported measures on MD, emotional trauma, dissociative experiences, and shame feelings.

Maladaptive Daydreaming Scale–16. The MDS-16 (Somer et al., 2016; Somer et al., 2017) is a 16-item self-report questionnaire that assesses the presence and severity of MD. MDS-16 scores are on an 11-point Likert scale ranging from 0% to 100%, with 10% intervals. Total MDS-16 scores are calculated by averaging all of the MDS-16 item scores, with higher scores indicating higher levels of MD. The Italian version of the MDS-16 used in this study (Schimmenti et al., 2019) has shown accurate psychometric properties, a two-factor structure (Factor 1: Interference With Life; Factor 2: Sensory-Motor Retreat). A cut-off value of 51 or above at the MDS-16 was identified to distin-

guish between MD cases and noncases with good sensitivity and specificity.

Experiences of Shame Scale. The Experiences of Shame Scale (ESS; Andrews, Qian, & Valentine, 2002) is a 25-item self-report measure that assesses experiences of shame, asking participants to rate questions on a scale ranging from 1 (*not at all*) to 4 (*very much*). Higher ESS scores indicate higher levels of shame. A cutoff score of 71 was identified for discriminating between pathological and nonpathological shame. The Italian translation of the measure used in the current study substantially replicated the good psychometric properties of the original version (Velotti, Garofalo, Bottazzi, & Caretti, 2017).

Traumatic Experiences Checklist. The Traumatic Experiences Checklist (TEC; Nijenhuis, Van der Hart, & Kruger, 2002) is a self-report instrument that evaluates the lifetime presence of 29 types of potentially traumatic experiences. The total score on the TEC is the sum of the presence of all traumatic events. Furthermore, different subscores can be calculated with the TEC depending on the clinical or research objective (Krüger & Fletcher, 2017; Nijenhuis et al., 2002). Consistent with other studies (e.g., Schimmenti et al., 2017), we calculated the scores on emotional trauma by summing up the six items concerning experiences of emotional neglect and abuse (scores ranging from 0 to 6). The TEC has shown adequate reliability and good convergent and predictive validity (Nijenhuis et al., 2002), even at the item level (Schimmenti, 2018).

Dissociative Experience Scale–II. The Dissociative Experience Scale–II (DES-II; Carlson & Putnam, 1993) is a 28-item self-report measure assessing several types of dissociative experiences (e.g., absorption, detachment, amnesia, depersonalization, derealization, identity confusion, and compartmentalization). We asked participants to circle a number to show what percentage of the time they experience dissociative symptoms on an 11-point scale ranging from 0% (*never*) to 100% (*always*) with 10% intervals. Total DES-II scores are calculated by averaging all of the DES-II item scores. A cut-off score above 30 is widely used to identify pathological dissociation (Carlson et al., 1993). In addition to the total score, we calculated the three factor scores of the DES-II, namely absorption, depersonalization/derealization, and amnesia (De Pasquale, Sciacca, & Hichy, 2016; Olsen, Clapp, Parra, & Beck, 2013). Researchers have sometimes criticized the use of DES-II factor scores in the literature, mainly because of the limited replication of the factor structure (Schimmenti, 2016) and because scores on the DES-II absorption factor tend to be normally distributed, whereas scores on the DES-II derealization and amnesia factors are usually skewed to the right and, thus, are indicative of abnormality (Kunzendorf, Crosson, Zalaket, White, & Enik, 1999). However, a majority of the studies report these scores, as researchers have demonstrated that they might have clinical and prognostic utility (De Pasquale et al., 2016). This limitation notwithstanding, the DES-II has shown good psychometric properties across the world (Carlson & Putnam, 1993). The Italian version used in this study showed high internal consistency, adequate item-to-scale homogeneity, good split-half reliability, and good convergent validity (Schimmenti, 2016).

Data Analysis

We computed descriptive statistics for all variables investigated in the study. Then, we evaluated gender differences using the independent-sample *t* test. We examined the associations between variables through Pearson's *r* correlations. Also, we examined the proposed multiple mediation model using Process Macro for SPSS (Hayes, 2013), applying Model 6 with 5.000 bias-corrected bootstrap samples. The model aimed to test whether dissociation and shame mediated the relationship between emotional trauma and MD. The predictor and the mediators were mean-centered to minimize collinearity. We included the sociodemographic variables (i.e., age, gender, and years of education) as covariates in the model to reduce the risk of biased results. We set a *p* value of .05 as the criterion for statistical significance (for bootstrap analyses, if the 95% confidence interval [CI] includes 0, then the effect is not significant, and if 0 is not in the interval, then the effect is statistically significant; see Hayes, 2013). Finally, we replicated the multiple mediation model including the DES-II factor scores (e.g., absorption, depersonalization/derealization, and amnesia) rather than its total scores as potential mediators, to examine if all of the DES-II factors are directly involved in MD.

Table 1
Descriptive Statistics and Gender Differences

	Full sample ($N = 162$)		Male ($n = 30$)		Female ($n = 132$)		
Statistic	*M*	(*SD*)	*M*	(*SD*)	*M*	(*SD*)	*t*(160)
Age	26.31	(7.62)	26.90	(7.54)	26.18	(7.66)	.47
Years of education	14.46	(2.60)	14.13	(2.50)	14.54	(2.62)	−.77
MDS-16	69.95	(13.72)	67.25	(15.78)	70.56	(13.19)	−1.19
MDS-16-F1	69.97	(17.95)	70.88	(18.03)	69.76	(17.99)	.31
MDS-16-F2	69.92	(15.56)	63.63	(18.45)	71.35	(14.53)	−2.50*
Shame	76.19	(15.41)	69.47	(18.94)	77.72	(14.13)	−2.70**
Dissociation	28.79	(15.04)	24.36	(14.63)	29.79	(15.00)	−1.80
Emotional trauma	2.67	(1.54)	2.00	(1.62)	2.83	(1.49)	−2.70**

Note. MDS-16 = 16-item Maladaptive Daydreaming Scale total scores; MDS-16-F1 = MDS Interference With Life scores; MDS-16-F2 = MDS Sensory-Motor Retreat scores; Shame = Experiences of Shame Scale total scores; Dissociation = Dissociative Experiences Scale–II total scores; Emotional trauma = sum of Traumatic Experiences Checklist scores on emotional abuse and neglect.
* $p < .05$. ** $p < .01$.

Results

Table 1 shows the descriptive statistics for the full sample and differentiated by gender. Our sample obtained high scores in all measures. MDS-16 scores ranged from 25 to 96.25 ($M = 69.95$, $SD = 13.72$), with 148 participants (91.35%) above the formal cutoff of 51 for the screening of MD. Dissociation scores ranged from 2.86 to 76.79; the mean score was 28.79 ($SD = 15.04$), and 67 participants (41.35%) were above the cutoff of 30. Shame scores ranged from 38 to 100 with a mean score of 76.19 ($SD = 15.41$), and 98 participants (60.49%) were above the cutoff of 71. Participants also reported an average of 2.67 emotionally traumatic experiences ($DS = 1.54$) out of six endorsable experiences. The independent sample *t* test revealed statistically significant sex differences, with women reporting higher shame, emotional trauma, and use of MD as a sensory-motor retreat (the second factor of the MDS-16) than men. There were no sex differences in relation to participants' age or years of education.

Table 2 shows the correlations between the investigated variables. In particular, MDS-16 total scores and Factor 2 scores showed positive and significant associations with ESS scores, DES-II scores, and emotional trauma scores. The scores on MDS-16 Factor 1 also showed positive and significant associations with ESS scores and DES-II scores but not with emotional

Table 2
Pearson's r Correlations Between the Investigated Variables

Variable	2	3	4	5	6	7	8
1. Age	.38**	−.14	−.04	−.19*	−.09	−.12	−.03
2. Years of education	—	−.02	.00	−.04	−.05	−.03	−.09
3. MDS-16		—	.85**	.79**	.43**	.42**	.20*
4. MDS-16-F1			—	.34**	.38**	.28**	.14
5. MDS-16-F2				—	.31**	.42**	.19*
6. Shame					—	.27**	.31**
7. Dissociation						—	.33**
8. Emotional trauma							—

Note. MDS-16 = 16-item Maladaptive Daydreaming Scale total scores; MDS-16-F1 = MDS Interference With Life scores; MDS-16-F2 = MDS Sensory-Motor Retreat scores; Shame = Experiences of Shame Scale total scores; Dissociation = Dissociative Experiences Scale–II total scores; Emotional trauma = sum of Traumatic Experiences Checklist scores on emotional abuse and neglect.
* $p < .05$. ** $p < .01$.

trauma scores. There was also evidence that MDS-16 total scores were correlated with all DES-II factor scores (r = .49 for absorption, r = .34 for depersonalization/derealization, r = .27 for amnesia, all ps < .05). We also replicated these patterns of correlations with DES-II scores when considering MDS-16 factors scores (r ranging from .19 to .46, all ps < .05).

The results of multiple mediation analysis entirely supported our initial hypotheses. After controlling for gender (male coded as 1, female as 2; t = −.38, p = .70, *n.s.*), age (t = −1.19, p = .24, *n.s.*, B = −.16, SE = .13, 95% CI [–.42, .10]) and years of education (t = .62, p = .57, *n.s.*, B = .22, SE = .39, 95% CI [–.60, 1.16]), the scores on emotional trauma were positive predictors of dissociation (t = 4.03, p < .001, B = 3.02, SE = .75, 95% CI [1.54, 4.50]) and shame scores (t = 2.22, p = .006, B = 2.22, SE = .80, 95% CI [0.64, 3.79]). Dissociation positively predicted shame (t = 2.17, p = .03, B = .18, SE = .08, 95% CI [0.02, 0.34]) and MD scores (t = 4.39, p < .001, B = .29, SE = .07, 95% CI [0.16, 0.43]), and shame scores positively predicted MD scores (t = 4.64, p < .001, B = .30, SE = .07, 95% CI [0.17, 0.43]). The previously positive and significant association between emotional trauma scores and MD scores (t = 2.36, p = .02, B = 1.67, SE = .71, 95% CI [0.27, 3.06]) became not significant after the inclusion of the mediators in the model (t = −.08, p = .94, *n.s.*, B = −.05, SE = .67, 95% CI [−1.37, 1.26]). The final model was significant, $F(4,157)$ = 2.56, R^2 = .06 (t = 8.30, p = .04, B = 65.63, SE = 7.91, 95% CI [50.01, 81.25]). Also, the bootstrap analysis showed that emotional trauma scores have indirect effects on MD scores (B = 1.72, SE = .45, 95% CI [0.93, 2.65]), through dissociation scores (B = .89, SE = .29, 95% CI [0.38, 1.50]), shame scores (B = .67, SE = .30, 95% CI [0.16, 1.32]), and the relationship between dissociation scores and shame scores (B = .16, SE = .10, 95% CI [0.03, 0.39]). Therefore, in our sample, dissociation and shame fully mediated the relationship between emotional trauma and MD (see Figure 2). Concerning the three multiple mediation models with DES-II factor scores rather than the DES-II total scores as potential mediators, we found that the model resulted as significant only when the absorption factor scores were included as a mediator, ($F(6,155)$ = 13.77, R^2 = .35, t = 4.95, p = <.001, B = 38.24, SE = 7.72, CI [22.99, 53.49]). The other two mediation models were not significant because neither amnesia scores (t = .57, p = .57, B = .05, SE = .08, 95% CI [−0.11, 0.21]) nor depersonalization/derealization scores (t = 1.93, p = .06, B = .12, SE = .06, 95% CI [−0.00, 0.24]) predicted shame.

Discussion

In this study, we add to previous research on MD by showing that MD is related to emotional trauma, dissociation, and shame (Schimmenti et al., 2019; Somer, 2002; Somer et al., 2016b). We observed a high prevalence of MD, pathological dissociation, and shame in our sample.

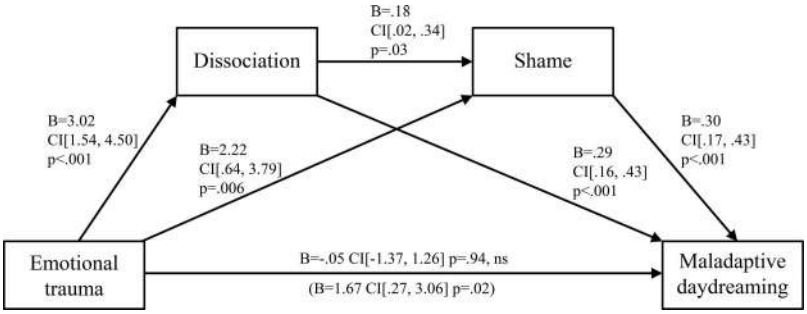

Figure 2. The mediating role of dissociation and shame in the relationship between emotional trauma and maladaptive daydreaming. CI = confidence interval; emotional trauma = sum of Traumatic Experiences Checklist scores on emotional abuse and neglect; dissociation = Dissociative Experience Scale–II total scores; shame = Experiences of Shame Scale total scores; maladaptive daydreaming = Maladaptive Daydreaming Scale–16 total scores.

Furthermore, out of the six emotionally traumatic experiences investigated in the current study, MDers reported more than two emotional traumas on average. This is consistent with the notes added by MDers after the completion of the measures, which included sentences such as, "My mother always threatened me"; "My mother tended to criticize my personal attitudes and behaviors, to make me feel ashamed. This traumatized me!"; and "It was like I didn't exist for my parents" or even "To punish me, my parents took me in front of an orphanage and threatened to leave me there." It is known that unresolved trauma could increase the risk of dissociation and psychopathology (Schimmenti, 2018).

Our sample also displayed high levels of shame. There is convincing evidence that emotional trauma is linked with increased shame feelings (Dorahy, 2017; Franzoni et al., 2013; Platt, Luoma, & Freyd, 2017; Schimmenti, 2012). Researchers have already reported these painful feelings in previous research on MD (Somer et al., 2016b), in which MDers explained that they often experienced withdrawal and intense shame due to the fear of being labeled "crazy" by other people or having some serious mental illness.

Such findings particularly apply to women in our sample, who presented higher levels of emotional trauma and shame compared to men. In this respect, for half a century now, researchers have shown that women are more prone to experience shame feelings than men (e.g., Witkin, Lewis, & Weil, 1968). According to Lewis (1976, 1978), this difference could be due to a greater sensitivity toward others' feelings among women. Also, there is consistent evidence that women are more exposed to potentially traumatic experiences, which might make them more predisposed to feelings of shame (e.g., victimization or violence) than men (Asscher, Van der Put, & Stams, 2015; Breslau, 2002; Dube et al., 2005).

Correlation analysis has indicated that MD was strongly associated with dissociation and shame and more modestly with emotional trauma in our sample. These findings are consistent with previous studies showing that MD is linked to dissociative experiences and to a shaming representation of one's own body, behavior, and character (Bigelsen & Schupak, 2011; Bigelsen et al., 2016; Schimmenti et al., 2019). Overall, these results clearly suggest that MD might represent a severe condition deserving clinical attention.

We also found that the relationship between emotional trauma and MD scores was totally mediated by dissociation and shame, with dissociation further increasing feelings of shame in our mediation model. These results add to previous findings (Bigelsen & Schupak, 2011; Bigelsen et al., 2016; Schimmenti et al., 2019) that illustrate how shame and dissociation are among the predominant characteristics of MD. Moreover, when DES-II factor scores rather than DES-II total scores were included as mediators in the model, it emerged that only the inclusion of dissociative absorption resulted in a fitted model, whereas the other models did not fit the data. This finding is consistent with Schimmenti and Sar's (2019) conceptualization of self-hypnotic trance states resulting from traumatic experiences as the precursors of further clinical symptoms that may or may not include other more severe and impairing dissociative experiences such as depersonalization, derealization, and amnesia.

Overall, our findings suggest that MD may emerge in some cases to avoid unpleasant feelings of shame (Bigelsen et al., 2016). Shame could emerge in turn because severe experiences of dissociative absorption generate a disconnection with the external reality and with relationships (Schimmenti & Caretti, 2016). It is possible that such disconnection serves to paradoxically protect the mind of the individual from dysregulated internal states related to emotional trauma (Schimmenti, 2017). Such interpretation seems consistent with previous literature, in which MDers reported that, albeit impairing in nature, MD also has a protective role for their mind. For example, Bigelsen and Schupak (2011) reported the following statement from an MDer: "[MD] really helped me calm down at times, and it has just made me happy and relaxed during some periods of my life where I could not get a break" (p. 1642); these words are echoed by another MDer from Somer's (2002) original study on MD: "These fantasies, basically, disconnect me from situations that are too painful for me" (p. 204).

Therefore, it seems that some MDers, suffering from intense shame feelings and a sense of self-inadequacy, may become too prone to employ their innate capacity for fantasizing, and

this tendency paradoxically allows them to find shelter in their inner fantasy world, leaving behind their painful feelings. So, it is not surprising that this coping strategy usually begins at childhood and may soon become the preferred means of dealing with everyday stressors for MDers (Somer et al., 2016b). Over time, this initially pleasant and comforting behavior ends to provoke several problems, including an increase in social isolation and shame toward one's own self and unrevealed behavior.

Even if it is not an essential condition for developing MD, emotional trauma seems to represent an important factor involved in the severity of the disorder. From a developmental perspective, different pathways might lead to MD, among them emotional abuse and/or neglect in the family. To cope with the painful situation, the child might excessively recur to dissociation, which might foster excessive absorption and limit the possibility of integrating mental experiences. Dissociation, in turn, might foster deficits in self-regulation and relational functioning (Schimmenti & Caretti, 2016; Schore, 2003), which might increase shame feelings (Schimmenti, 2012). In this case, the excessive activity of daydreaming could play the fundamental role of a paradoxical emotion regulation strategy that provides the individual with an illusory retreat from the unprocessed trauma with its dysregulated feelings (Bromberg, 2006; Schimmenti & Caretti, 2010; Steiner, 1993; Wurmser, 2003).

This study presents some limitations. In fact, the use of self-report measures, as well as the inclusion of a self-diagnosed, and a self-selected group recruited online limits the generalizability of findings. Moreover, even though we controlled for sex in the mediation model, women were considerably overrepresented in our sample, and they scored higher in shame, MD, and emotional trauma than men, suggesting the opportunity to replicate the study with a more balanced sample to increase the reliability of the findings. In addition, the structural relationship between the variables in the multiple mediation model was invoked based on theory, but due to the lack of longitudinal studies, it is impossible to establish causal links with the cross-sectional study to understand the predictors of MD. Therefore, longitudinal studies with clinical and nonclinical samples diagnosed via structured interviews (such as the Structured Clinical Interview for Maladaptive Daydreaming; Somer et al., 2017) are greatly needed in this field to further explore the relationship between MD, emotional trauma, dissociation, and shame. Its limitations notwithstanding, our findings suggest that MD is organized around feelings of shame and increased dissociative experiences of absorption, sometimes rooted in emotional trauma.

Conclusions

Our study highlights a possible developmental pathway that starts from emotional trauma and ends in MD, passing by dissociative absorption and feelings of shame. Therefore, it could be essential in clinical practice to explore the past history and present experience of patients suffering from MD so as to understand the specific origins and maintenance factors of their MD. Empirical findings suggest that shame increases after dissociation induction due to reexperienced trauma (Platt et al., 2017). Matos and Pinto-Gouveia (2010) also suggested that memories of early shame experiences may act as traumatic memories that lead to posttraumatic conditions such as intrusion, hyperarousal, and dissociation. Therefore, considering the potential interactions between emotional trauma, dissociation, and shame, we strongly believe the psychotherapeutic work with MDers should be aimed first at creating and sustaining a therapeutic alliance that promotes an increased sense of security and an anchorage to reality in them. By feeling more secure and more connected to others, these patients may become more prone to process their emotional trauma, and the risk of disorganized mental states becomes reduced for them. In fact, clinical interventions aimed at the recall of traumatic memories should take into account the potentially disruptive effects of shame experiences when these autobiographical narratives are evoked. Thus, the clinician should sustain appropriate affect-regulation strategies, relational security, and mindedness about internal states in MD patients before addressing these traumatic experiences so as to avoid unbearable states of mind organized around shame when entering treatment (Robinaugh & McNally, 2010; Schimmenti, 2012). Overall, from a clinical perspective, it

might be imperative to tailor the interventions with MDers by taking into account the relationship among emotional trauma, dissociation, and shame, which might have fostered the development and maintenance of the disorder.

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