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RESEARCH ARTICLE

AGGRESSIVE BEHAVIOR WILEY

The effect of aggressive fantasizing on aggressive inclinations: Moderating effects of dispositional anger expression

Mathias Twardawski[1] | Eva-Maria Angerl[1] | Jill Lobbestael[2]

[1]Department of Psychology, Ludwig-Maximilians-Universität München, Munich, Germany

[2]Department of Clinical Psychological Science, Maastricht University, Maastricht, The Netherlands

Correspondence

Mathias Twardawski, Social Psychology Lab, Department of Psychology, Ludwig-Maximilians-Universität München, Leopoldstr. 13, D-80802 München, Germany.
Email: m.twardawski@lmu.de

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Abstract

Experiencing victimization or mistreatment often induces feelings of anger. The catharsis hypothesis suggests that venting anger may aid in alleviating these negative emotions. Although this hypothesis has faced criticism, therapeutic interventions rooted in catharsis are employed to assist victims in managing their anger. One notable application of the catharsis principle in psychotherapeutic practice with victims involves engaging in aggressive fantasies: Victims who harbor aggressive fantasies against their offenders are supported in working with these fantasies to navigate the complex emotions arising from their victimization. Research investigating the effects of aggressive fantasizing on victims has yielded inconsistent findings, with some studies indicating positive and others suggesting negative outcomes. Herein, we examine whether (instructed) aggressive fantasizing diminishes (catharsis hypothesis) or heightens (escalation hypothesis) subsequent aggressive inclinations compared to non-aggressive fantasizing. Additionally, the moderating role of victims' dispositional tendencies to express anger, specifically Anger Expression-out and Anger Expression-control, in the relationship between aggressive fantasizing and aggressive inclinations was examined. We recruited individuals ($N = 245$) who had experienced victimization through highly unfair treatment and instructed them to imagine confronting their wrongdoer using either aggressive or non-aggressive communication. Participants then reported their aggressive inclinations. Data supported the escalation hypothesis, revealing that aggressive fantasizing amplifies subsequent aggressive inclinations. Importantly, individuals with higher Anger Expression-out demonstrated greater susceptibility to this effect; whereas, Anger Expression-control did not moderate the link between aggressive fantasizing and inclinations. These findings further challenge the catharsis hypothesis and underscore the role of dispositional anger expression tendencies on the effects of aggressive fantasizing.

KEYWORDS

aggression, aggressive fantasizing, catharsis, state-trait anger expression inventory, STAXI, victimization

1 | INTRODUCTION

Experiences of victimization and mistreatment are pervasive, ranging from minor instances like receiving impolite remarks from strangers to more significant events like workplace bullying, sexual harassment, or physical assault. These experiences often elicit negative emotions, with anger being a predominant response (Aquino et al., 2004). To cope with and recover from such incidents, common wisdom advises individuals to vent their anger. This advice stems from the belief that venting anger benefits mental well-being, whereas suppressing anger might be detrimental. Expressions like "blow off steam" and "let it out" underscore this belief, suggesting that the act of releasing anger is cathartic and may provide emotional relief (Bushman et al., 2001; Verona & Sullivan, 2008).

The idea of emotional release is not only widespread among the general public but also entrenched in scientific discourse, often referred to as the catharsis hypothesis. The origins of this hypothesis can be traced back to Aristotle proposing that experiencing intense emotions, particularly through observing tragic plays, had a cleansing effect on the individual (Nichols & Efran, 1985). This idea was later adapted into psychology, most prominently by Josef Breuer and Sigmund Freud (Breuer & Freud, 1895), positing that suppressing anger could lead to psychological damage while expressing anger could cleanse the psyche from its detrimental effects. In contemporary terms, the catharsis hypothesis proposes that releasing strong emotions, especially anger, either directly or vicariously, serves as a mechanism for reducing aggressive tendencies[1] and promoting emotional balance (Geen & Quanty, 1977).

Over decades, psychologists have examined the catharsis hypothesis, debating whether relieving anger reduces felt anger and aggressive inclinations or exacerbates them. For instance, with the emergence of modern media, discussions have arisen regarding the influence of violent media on real-world aggression. This research challenges the catharsis hypothesis by demonstrating that exposure to violence in media tends to heighten rather than alleviate aggressive tendencies (Anderson & Bushman, 2018; Bushman, 2016; but also see Drummond et al., 2020).

In the context of psychotherapy, however, some techniques are based on the catharsis hypothesis, proposing that individuals should engage with their anger to promote mental health (Feshbach, 1984; Gentile, 2013). For example, in expressive-experiential psychotherapy (e.g., expressive writing; Pennebaker, 1997; Zhan et al., 2021), patients are guided to allow themselves to feel and express their emotions (e.g., anger). One notable application of catharsis in psychotherapy, especially with victims of misconduct, involves working with aggressive fantasizing (Haen & Weber, 2009; Seebauer et al., 2014). Victims often harbor fantasies about taking aggressive revenge against their offenders. This can be painful and distressing, particularly when these fantasies are unwanted, uncontrollable, or deeply loaded with emotions such as shame or guilt (Horowitz, 2007). In therapy, patients are guided to acknowledge and process the complex emotions arising from their victimization. Working through aggressive fantasies may be part of this and, thus, employed to alleviate detrimental thoughts and accompanying emotions (Arntz, 2012; Horowitz, 2007).

However, such catharsis-based psychotherapeutic interventions have faced criticism (e.g., Lilienfeld, 2007). Nearly half a century ago, Geen and Quanty (1977) examined the literature and found only limited support for the positive effect of catharsis in clinical settings. Influential voices like Bandura have even called for suspending catharsis theory in psychotherapy, suggesting that venting anger does not effectively release aggressive impulses. Instead, Bandura proposed that positive emotions experienced during aggressive catharsis could actually reinforce aggressive behavior (Anderson & Bushman, 2018; Bandura et al., 1961). This rationale aligns with various aggression theories (Bushman & Anderson, 2023): Script theory (Huesmann & Eron, 1984), for example, posits that imagining aggressive behaviors, like observing or enacting them, reinforces corresponding behavioral scripts (Nagtegaal et al., 2006; Smith et al., 2009; Watt et al., 2013). These scripts are linked to normative beliefs about the acceptability of aggression, thereby increasing the likelihood of future aggressive behaviors (Huesmann & Eron, 1984). This aligns with the General Aggression Model (Anderson & Bushman, 2002) and is grounded in simple learning processes: Behaviors that are repeatedly rehearsed, whether in reality or fantasy, become ingrained and are more likely to be enacted in the future (Gentile, 2013).

Despite this theoretical foundation, evidence regarding the effects of aggressive fantasizing on victims is rather mixed. Some studies suggest that such fantasizing aids healing and alleviates feelings of helplessness, providing victims with cathartic relief (Arntz et al., 2007; Goldner et al., 2019; Haen & Weber, 2009). This aligns with findings indicating that imagined aggressive behavior can reduce physiological arousal (Hokanson & Edelman, 1966; Verona & Sullivan, 2008). Conversely, other studies indicate that aggressive fantasizing can evoke negative emotions and rumination, amplifying anger and aggressive tendencies (DiBlasi & Kassinove, 2022; Grisso et al., 2000; McCreery & Kathleen Krach, 2018; Poon & Wong, 2021). Similarly, research shows that venting anger exacerbates aggressive inclinations (Bushman, 2002; Bushman et al., 2001), partly due to individuals experiencing positive emotions during venting (Bushman et al., 1999). Consequently, aggressive fantasies are considered a risk factor for actual aggression (Smith et al., 2009). However, much of this research remains correlational, limiting its capacity to establish causal relationships (e.g., DiBlasi & Kassinove, 2022; Nagtegaal et al., 2006; Smith et al., 2009), with only few exceptions. Seebauer et al. (2014), for example, instructed participants to watch a movie depicting disturbing interactions (e.g., physical violence against helpless victims) and then engage in strategies to deal with the depicted situations, including aggressive fantasizing, before reporting their emotional states (e.g., angry, anxious, and positive emotions). Results revealed no differences between aggressive and non-aggressive fantasizing conditions in people's emotional states. Importantly, however, participants in this experiment were only spectators of a trauma movie, not victims, and the event was experimentally induced, not autobiographical.

Given this equivocal literature, the present study aims to experimentally investigate the impact of (instructed) aggressive fantasizing on actual victims' aggressive inclinations. Building on the theorizing outlined above, we propose two competing hypotheses:

Catharsis hypothesis. Instructed fantasizing about aggressive acts against the offender will lead to reduced aggressive inclinations compared to fantasizing involving conflict resolution without aggression.

Escalation hypothesis. Instructed fantasizing about aggressive acts against the offender will lead to heightened aggressive inclinations compared to fantasizing involving conflict resolution without aggression.

Crucially, inconsistencies in research concerning the cathartic effects of aggressive fantasizing also suggest the need for a more nuanced perspective and the need to study boundary conditions that could influence the effects of catharsis on victims' subsequent aggressive inclinations. Correspondingly, Smith et al. (2009, p. 314) pointed out that "little attention has been paid to the role of variables that interact with aggressive fantasizing. The possibility exists that certain demographic, cognitive, personality, and situational factors influence the relation between aggressive fantasizing and aggressive behavior." In the present research, we address this by testing the hypothesis that (instructed) engagement in aggressive fantasizing leads to different effects on aggressive inclinations depending on victims' personality dispositions—more specifically, their general tendency to experience and express anger.

The most prominent approach to capturing people's tendency to experience and express anger is the State-Trait Anger Expression Inventory (STAXI) which distinguishes three anger expression styles: Anger Expression-out, Anger Expression-in, and Anger Expression-control (Spielberger, 1988). Anger Expression-out refers to the tendency to frequently experience anger and to express it toward others or objects in a physically or verbally aggressive manner. Anger Expression-in refers to the tendency to frequently experience anger but to suppress it through ignoring or denying it. Anger Expression-control refers to a form of anger management where both the expression of anger and the emotion itself are regulated, for instance, through self-soothing or distraction (Brodie et al., 2019; Spielberger, 1988).

Considering these anger expression tendencies, an interaction between (instructed) aggressive fantasies and dispositional Anger Expression-out becomes plausible: Anger Expression-out is associated with an overall heightened aggressive inclination due to a combination of high approach motivation and low inhibition (Brodie et al., 2019; Kim et al., 2022; Smits & Kuppens, 2005). High Anger Expression-out scores, thus, reflect a propensity to react with aggression rather than suppress it. Furthermore, individuals with high Anger Expression-out scores are more inclined to perceive aggression as a legitimate way to express anger (Bushman et al., 2001). Importantly, such normative beliefs moderate the relationship between aggressive fantasizing and aggression: Environments in which aggression is normatively accepted for anger management exhibit a positive correlation between aggressive fantasizing and aggressive behavior, whereas environments opposing aggression exhibit a negative correlation (Lesser, 1957; Smith et al., 2009). Consequently, high levels of Anger Expression-out, and corresponding normative beliefs, may reinforce the translation of aggressive scripts generated by fantasizing into actual aggressive behavior; whereas low levels of Anger Expression-out may inhibit such processes (Levinson et al., 2011).

Based on this theorizing, we predict an interaction effect between (instructed) aggressive fantasizing and dispositional Anger Expression-out:

Anger Expression-out hypothesis. Engagement in aggressive fantasizing (vs. non-aggressive fantasizing) more strongly leads to aggressive inclinations, the higher individuals' dispositional Anger Expression-out.

Relatedly, despite being conceptually distinct, Anger Expression-control is negatively related to Anger Expression-out (Spielberger et al., 1995). This implies that as individuals more strongly control their emotions in anger-inducing situations, their inclination to express anger aggressively diminishes, and vice versa. Correspondingly, Anger Expression-control is negatively related to people's tendency to engage in physical aggression (Brodie et al., 2019). Based on script theory, the inclination to control anger may further be accompanied by corresponding behavioral scripts and normative beliefs that act as inhibitory forces (Huesmann & Eron, 1984). Consequently, Anger Expression-control may moderate the effect of (instructed) aggressive fantasizing on aggressive inclinations. There is some literature corroborating this hypothesis: Parrott and Giancola (2004) have shown that individuals are more prone to act aggressively while under the influence of substances (and thus, disinhibited); yet, this correlation depends on their dispositional Anger Expression-control, with higher scores corresponding to lower tendencies toward aggression. Herein, we theorize that high levels of Anger Expression-control may inhibit the effect of aggressive fantasizing on subsequent aggressive tendencies; whereas low levels of Anger Expression-control may reinforce this effect.

More precisely, we predict an interaction effect between (instructed) aggressive fantasizing and dispositional Anger Expression-control:

Anger Expression-control hypothesis. Engagement in aggressive fantasizing (vs. non-aggressive fantasizing) more strongly leads to aggressive inclinations, the lower individuals' dispositional Anger Expression-control.

2 | THE PRESENT RESEARCH

In the present research, we conducted an experiment to examine whether aggressive fantasizing results in reduced (i.e., catharsis hypothesis) or increased (i.e., escalation hypothesis) aggressive

inclinations among victims. We further investigated the moderating role of victims' dispositions on the effect of aggressive fantasizing, in particular, their Anger Expression-out and Anger Expression-control.[2] We, therefore, recruited participants who reported being treated very unfairly by another person within the past 24 months preceding their participation in the study. Using a memory reactivation task (Strohm et al., 2019), we reactivated their victimization memory before randomly assigning participants to either of two between-subjects conditions (both guided by audio instructions): fantasizing about confronting their wrongdoer using aggressive versus non-aggressive behavior. Finally, participants reported their aggressive inclinations using self-report measures.[3]

The study was preregistered (https://aspredicted.org/mn5wz.pdf). We report how we determined our sample size, data exclusions, all manipulations, and measures. Materials, data, codebook, analysis scripts, and supplementary results are available on the Open Science Framework (OSF; https://osf.io/efhd2). The research protocol for the conducted study received ethical approval by a local Institutional Review Board (IRB).

3 | METHODS

3.1 | Sample

We conducted an a priori power analysis using G*Power (Faul et al., 2009) to determine the required sample size for a linear multiple regression (fixed model, R^2 increase), aiming to detect a small to medium-sized effect of $f^2 = 0.05$ with a power of $1-\beta = .90$, given $\alpha = .05$. This yielded a necessary sample size of $N = 288$ participants. We preregistered to collect data until we obtained $N = 288$ valid cases, after applying our exclusion criteria (see below), or until June 22, 2022, if a minimum of $N = 223$ valid data sets were acquired (ensuring a power of $1-\beta = .80$). We closely monitored both sample size and participation validity during the data collection period but did not conduct any analyses before data collection was completed.

We recruited participants who reported that they had experienced victimization through very unfair treatment by another individual within the past 24 months and continued to experience significant distress as a result. Exclusion criteria included a diagnosis of posttraumatic stress disorder or ongoing psychotherapeutic treatment. Participants were required to be at least 18 years old, proficient in the German language, and able to participate in the study in an environment conducive to good audio perception (e.g., by using headphones). The recruitment strategy included personal approach, mailing lists, social media, and a research participation platform used by registered students for course credit. Participants received course credit or had a chance to win gift vouchers (4 × 25€) in exchange for participation.

By June 22, 2022, we had not reached the initially planned sample size of $N = 288$ valid cases and, thus, continued collecting data until we exceeded a sample size of $N = 223$. This sample was assembled as follows: Initially, 474 participants started the experiment and 309 (65%) finished it. As preregistered, we excluded 55 participants who answered the attention check question incorrectly and an additional 9 participants who indicated that they did not participate attentively (Meade & Craig, 2012). In sum, our final sample consisted of $N = 245$ participants (191 female; 53 male; 1 other; age range: 18–82; $M = 33.96$, $SD = 14.56$).

3.2 | Measures and procedure

The study was conducted in German and administered online via *SoSciSurvey* (Leiner, 2019). After providing informed consent and demographic information, participants completed the German version of the STAXI. This inventory comprises 44 items assessing the experience, expression, and control of anger across five subscales: *State Anger*, *Trait Anger*, *Anger Expression-in*, *Anger Expression-out*, and *Anger Expression-control* (Schwenkmezger et al., 1992). At this point of the study, Trait Anger and the three Anger Expression scales were measured. Trait Anger is measured using 10 items to assess how frequently angry feelings are experienced over time. One example item is "I get angry very easily." Each Anger Expression scale consists of eight items. Before responding to the scale, participants were prompted to indicate how they typically react in frustrating situations. Anger Expression-out assesses how frequently anger is expressed in physical or verbal aggression. Example items are "I do things like slam doors" and "I lose my temper." Anger Expression-control assesses how frequently a person attempts to control angry feelings by actively calming themselves. Example items are "I keep my emotions under control" and "I can stop myself from getting angry." Anger Expression-in assesses how often angry feelings are experienced but suppressed. Example items are "I boil inside but don't show it" and "I am more angry than I generally admit." Responses on all four scales are provided on a 1 (*almost never*) to 4 (*almost always*) Likert-type scale. All four scales showed high internal consistency (Trait Anger: $\omega_t = .84$; Anger Expression-out: $\omega_t = .84$; Anger Expression-in: $\omega_t = .83$; Anger Expression-control: $\omega_t = .84$).

Subsequently, participants were introduced to an adapted version of the memory reactivation task (Strohm et al., 2019), aiming to identify a particularly relevant intrusive memory of a victimization experience, reactivate that memory, and identify the most distressing moment within the memory, referred to as the "hotspot" (necessary for the subsequent intervention). To obtain a specific memory for the task (which was important in the case of longer-lasting life events or repeating aversive events), participants were asked to specify one concrete situation in which they were victimized by another individual (referred to this person as "the opponent" throughout the study) within the past 24 months and from which they continued to be significantly affected. For memory reactivation, participants were then instructed to provide a brief description of the "hotspot," asking, "What moment within this situation did you perceive as particularly distressing?" After this task, participants reported their current emotional state using the State Anger subscale of the STAXI. The State Anger subscale consists of 10 items assessed on a scale

ranging from 1 (*not at all*) to 4 (*very much*), with example items including "I am furious" and "I am in a bad mood." The scale exhibited very high internal consistency (ω_t = .92).

Participants were then randomly assigned to one of two experimental conditions. In both conditions, participants received audio-guided instructions (Twardawski et al., 2021) with an average duration of approximately 7:30 min, containing three parts. In the first part of the audio, participants received instructions on the general procedure of the imagination task. Participants were advised to conduct the task with their eyes closed, immersing themselves in the situation using all their senses.

In the second part, participants were guided to revisit their victimization memory in as much detail as possible. We prompted this using questions on the course of the situation (e.g., "How does the situation begin?," "What happens next?"), the details of the situation (e.g., "How does the opponent look?," "What does the opponent's voice sound like?"), as well as the feelings of the participant in the situation ("How do you feel during the situation?"). We then gave participants some time to reactivate their memory of the distressing situation up until its "hotspot." This was instructed as follows: "Please allow the memory to unfold as vividly as possible in your mind's eye, until you reach the hotspot you mentioned earlier. This refers to the point in your memory where the emotional distress reached its peak for you. I will now take a short break to give you time to reach this point. In a few seconds, we will continue together."

In the third part, participants were told that they would imagine a continuation of the situation by envisioning themselves confronting their opponent. The nature of the confrontation differed between conditions. In the non-aggressive fantasizing condition, participants were instructed to imagine communicating with their opponent based on the four principles of non-violent communication as outlined by Rosenberg (2015): observation, feelings, needs, and requests. Specifically, participants were instructed to communicate with their opponents in a calm and neutral manner (i.e., without evaluation), focusing on what they observed in the situation and how they perceived the behavior shown by the opponent (i.e., observation; e.g., "What I remember is how you screamed at me"). Subsequently, participants were instructed to express the emotions triggered by this behavior (i.e., feelings; e.g., "This made me feel uncomfortable and humiliated") and identify the underlying need that had been violated by the action (i.e., needs; e.g., "This did not meet my need for safety and to be treated respectfully"). Lastly, participants were instructed to formulate a specific request aimed at satisfying this need (i.e., requests; e.g., "Would you be willing to apologize?"). In the aggressive fantasizing condition, by contrast, participants were instructed to imagine communicating with their opponent by fully discharging their anger without any limits, except that we focused on verbal rather than physical anger expression in our instructions (for ethical reasons and to increase the chance that all participants would be able to imagine the situation). Participants were encouraged to raise their voices, employ derogatory language, and make threats toward their opponents. Subsequently, participants were prompted to articulate the kind of response they believed they deserved from the opponent and the reparations they demanded.

After completing the audio-guided treatment, we assessed participants' aggressive inclinations with 12 items. One item measured participants' anger toward the opponent in future encounters. Participants were asked to imagine meeting the opponent again and rate their level of anger ("Imagine that you would meet the person again. How angry would you be at him/her?") on a 6-point Likert-scale ranging from 1 (*not at all*) to 6 (*very*). Three items assessed participants' readiness to respond with verbal, physical, or object-oriented aggression if the victimization event were to happen right now (van Teffelen et al., 2021). One example item is "I would physically harm the person (for example pushing him/her, physically threatening or hurting)." These items were assessed on a 6-point Likert-scale ranging from 1 (*completely disagree*) to 6 (*completely agree*). Additionally, we constructed eight potential reactions one could show toward the opponent in a future encounter (e.g., "How likely would it be that you would yell at the person?" or "How likely would it be that you would threaten the person?"), and participants rated the likelihood of showing these behaviors on a scale ranging from 1 (*not at all likely*) to 6 (*very likely*). As preregistered, we collapsed these 12 items to one scale showing high internal consistency, ω_t = .89.[4]

Finally, participants responded to several control questions, including items assessing the *perceived intrusiveness* of the task with four questions (ω_t = .80), one attention check on the content of the imagery task, and one item asking whether participants think they participated attentively ("use-me" item; see Meade & Craig, 2012). Then, participants received feedback on their score on the STAXI scales, before they were thanked for their participation and debriefed. The full material of the experiment is provided in our supplementary material on the OSF (https://osf.io/efhd2).

4 | RESULTS

4.1 | Intercorrelations between study variables

All analyses were conducted using R (Version 4.1.1). Table 1 presents the correlations and descriptive statistics for all STAXI dimensions and aggressive inclinations. Most importantly, aggressive inclinations was strongly positively correlated with Anger Expression-out, and weakly negatively correlated with Anger Expression-control. Additionally, aggressive inclinations was positively correlated with Anger Expression-in, Trait Anger, and State Anger. As theorized, the correlation between Anger Expression-out and Anger Expression-control was negative and large.

4.2 | Preregistered analyses

4.2.1 | Catharsis versus escalation hypothesis

As depicted in Figure 1, participants in the aggressive fantasizing condition exhibited stronger aggressive inclinations (M = 2.12,

TABLE 1 Correlations and descriptives of all STAXI dimensions and aggressive inclinations.

Variable	*M*	*SD*	1	2	3	4	5
1. Anger Expression-out	1.50	0.45					
2. Anger Expression-control	2.99	0.53	−.52***				
3. Anger Expression-in	2.26	0.61	.08	.23***			
4. Trait Anger	1.90	0.49	.63***	−.47***	.31***		
5. State Anger	2.09	0.73	.24***	−.17**	.24***	.29***	
6. Aggressive Inclinations	1.84	0.76	.43***	−.15*	.17**	.26***	.22***

Abbreviations: *M*, mean; *SD*, standard deviation; STAXI, State-Trait Anger Expression Inventory.
*$p < .05$; **$p < .01$; ***$p < .001$.

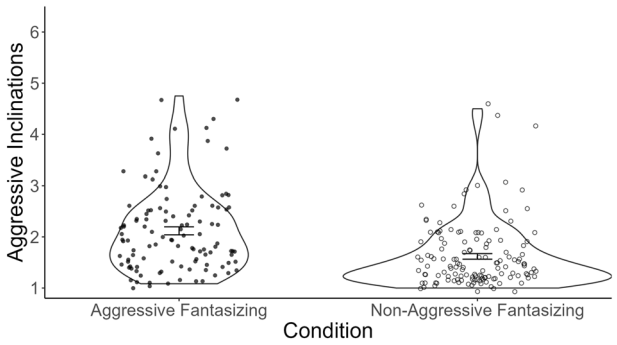

FIGURE 1 Means and distributions of participants' aggressive inclinations in the two conditions. Error bars represent 1 standard error of the mean. [Color figure can be viewed at wileyonlinelibrary.com]

SD = 0.82) than participants in the non-aggressive fantasizing condition (*M* = 1.62, *SD* = 0.63). To test this difference for statistical significance, we conducted a two-tailed Welch's *t*-test,[5] confirming the escalation hypothesis that posits an aggression-enhancing effect of aggressive fantasizing (vs. non-aggressive fantasizing), $t(201.71) = 5.24$, $p < .001$, $d = 0.69$, 95% CI [0.43–0.95].

4.2.2 | Anger Expression-out hypothesis

We examined our hypothesis that engaging in aggressive fantasizing (vs. non-aggressive fantasizing) more strongly leads to aggressive inclinations, the higher individuals' dispositional Anger Expression-out by conducting a multiple linear regression with the experimental condition (contrast coded: 1 = aggressive fantasizing condition; −1 = non-aggressive fantasizing condition), Anger Expression-out, and their interaction as predictors of aggressive inclinations. Anger Expression-out and aggressive inclinations were z-transformed.

The overall regression model was significant, $F(3, 241) = 37.81$, $p < .001$, $R^2 = 0.31$. In line with the *t*-test results reported above, the regression analysis yielded a significant main effect of the experimental manipulation, β = .33, $t(241) = 6.22$, $p < .001$. Additionally, Anger Expression-out had a significant positive effect on individuals' aggressive inclinations, β = .57, $t(241) = 8.69$, $p < .001$. Most central for the hypothesis, we found a significant interaction between the experimental manipulation and Anger Expression-out, β = .16, $t(241) = 2.81$, $p < .001$. Further examining the simple slopes revealed that the association between Anger Expression-out and aggressive inclinations was positive in both conditions, but notably stronger in the aggressive fantasizing condition, β = .64, $t(241) = 7.17$, $p < .001$, compared to the non-aggressive fantasizing condition, β = .33, $t(241) = 4.93$, $p < .001$. This further supports our hypothesis. Figure 2 (left panel) displays the interaction of the experimental manipulation with Anger Expression-out on aggressive inclinations.

4.2.3 | Anger Expression-control hypothesis

We tested our hypothesis that engaging in aggressive fantasizing (vs. non-aggressive fantasizing) more strongly leads to aggressive inclinations, the lower individuals' dispositional Anger Expression-control by conducting a multiple linear regression with the experimental manipulation (contrast coded: 1 = aggressive fantasizing condition; −1 = non-aggressive fantasizing condition), Anger Expression-control, and their interaction as predictors of aggressive inclinations. Anger Expression-control and aggressive inclinations were z-transformed.

The overall regression model again yielded statistical significance, $F(3, 241) = 13.04$, $p < .001$, $R^2 = 0.13$. The main effect of the experimental manipulation was significant, β = .35, $t(241) = 5.74$, $p < .001$. Moreover, Anger Expression-control exhibited a significant negative effect on individuals' aggressive inclinations, β = −.18, $t(241) = -2.98$, $p = .003$. Most central for the hypothesized effect, however, we did not find a significant interaction between experimental manipulation and Anger Expression-control, β = .00, $t(241) = 0.01$, $p = .996$. Contrary to our predictions, the slopes of Anger Expression-control on aggressive inclinations were almost identical in the aggressive fantasizing condition, β = −.18, $t(241) = -1.91$, $p = .058$, and the non-aggressive fantasizing condition, β = −.18, $t(241) = -2.38$, $p = .018$, as shown in Figure 2 (right panel).

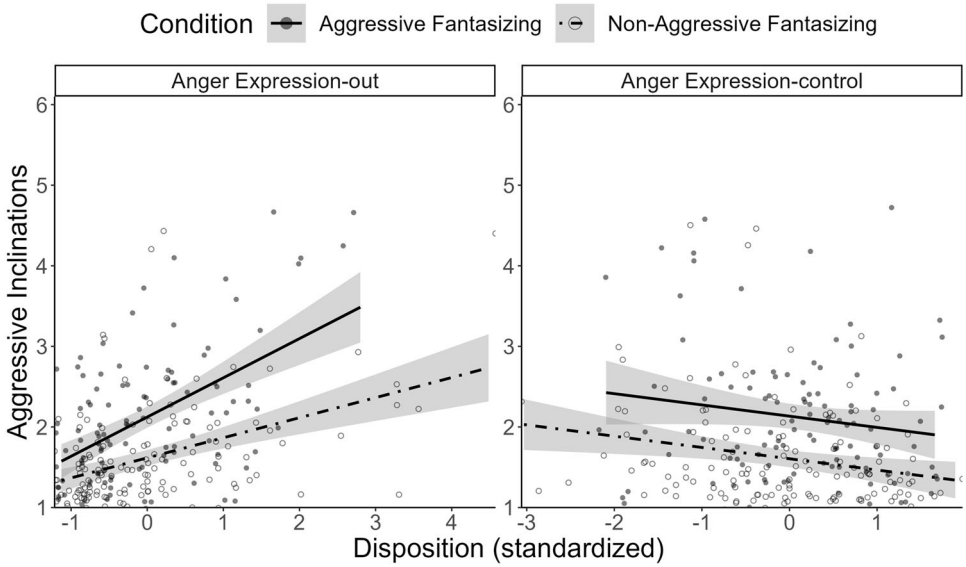

FIGURE 2 Interaction between the experimental manipulation and Anger Expression-out (left panel; z-transformed) and Anger Expression-control (right panel; z-transformed) on aggressive inclinations. [Color figure can be viewed at wileyonlinelibrary.com]

5 | DISCUSSION

Victims of misconduct often grapple with anger (Aquino et al., 2004). The catharsis hypothesis posits that venting this anger helps mitigating aggressive tendencies and promoting emotional balance (Bushman et al., 2001; Geen & Quanty, 1977). The present study investigated a strategy sometimes employed to assist victims that is based on catharsis hypothesis: the engagement in aggressive (revenge) fantasies (Arntz, 2012). Specifically, we examined whether aggressive fantasizing leads to decreased (i.e., catharsis hypothesis) or increased (i.e., escalation hypothesis) aggressive inclinations compared to engagement in non-aggressive fantasizing. Additionally, we examined the moderating role of victims' dispositional anger expression tendencies, specifically Anger Expression-out and Anger Expression-control, on the relationship between aggressive fantasizing and aggressive inclinations. We therefore recruited individuals who had experienced and still ruminate about a very unfair treatment by another individual in the past 24 months. We instructed them to fantasize about confronting their wrongdoers using either aggressive or non-aggressive communication behavior, before reporting their aggressive inclinations.

The present research yielded three crucial findings. First, our data supported the escalation hypothesis, indicating that engaging in aggressive fantasizing heightens individuals' aggressive inclinations. This finding contradicts the catharsis hypothesis and aligns with theoretical predictions linking exposure to aggressive thoughts with aggressive behavior (Bushman & Anderson, 2023). Script theory, for example, posits that aggressive fantasizing contributes to shaping or reinforcing corresponding behavioral scripts and normative beliefs that endorse aggression, thus increasing the likelihood of aggressive behaviors (Huesmann & Eron, 1984). Strikingly, the present research shows that even a single (instructed) engagement in aggressive fantasizing increased people's aggressive inclinations, suggesting that such fantasizing does not have to be recurrent to exert an effect (at least in the short term). Although our findings align with script theory, future research is needed to discern whether the effects stem from reinforced behavioral scripts or the reinforcement of corresponding normative beliefs (or both).

Second, we found a moderating effect of individuals' Anger Expression-out on the relationship between aggressive fantasizing and aggressive inclinations. As hypothesized, engaging in aggressive fantasizing led to stronger aggressive inclinations, the higher individuals' dispositional Anger Expression-out. This, again, is in line with script theory (Huesmann & Eron, 1984): Individuals with high Anger Expression-out supposedly possess pre-existing aggressive behavioral patterns and a heightened acceptance of aggression (Bushman et al., 2001). Engaging in instructed aggressive fantasizing appears to bolster these existing propensities and normative beliefs (Lesser, 1957; Smith et al., 2009), reinforcing pre-existing behavioral tendencies to act aggressively.

However, the observed interaction effect may also have an alternative explanation: Individuals that are less inclined to express anger aggressively (i.e., low Anger Expression-out) might have envisioned milder aggressive behaviors during fantasizing in the experiment compared to those for whom aggression is a normative way of expressing anger (i.e., high Anger Expression-out). Although attention checks ensured participants' attention to the instructions (i.e., that they were aware of what we asked them to imagine), we could not directly assess whether participants' actual fantasies aligned with the instructions. Consequently, interaction effects may also be attributed to variations in the content of fantasies.

Third, we predicted that Anger Expression-control would act as an inhibitory factor, regulating impulsive actions and reducing aggressive tendencies potentially initiated by fantasizing (Parrott & Giancola, 2004). However, this hypothesis was not supported, and we can only speculate about the reasons for this. One explanation might be that Anger

Expression-control reflects people's general tendency to attempt to control their anger, which could partly result from common inhibitory factors in the face of conflict, such as social norms or the presence of others (Twardawski et al., 2023). More precisely, people high in Anger Expression-control may be more inclined to regulate aggressive tendencies because they want to conform to social norms. Instructing victims to engage in aggressive fantasizing might have implicitly justified aggression as a viable means of affect regulation, thereby weakening otherwise inhibitory social norms (Finkel & Hall, 2018; Poon & Wong, 2021). Consequently, individuals who typically attempt to control their anger (i.e., those high in Anger Expression-control) because of social norms may have relinquished their attempts at controlling their anger. However, this is speculative and further research is necessary to explore the buffering effect of Anger Expression-control in anger-provoking situations.

Before concluding, several limitations warrant consideration. First, we exclusively measured aggressive inclinations using self-reports, rather than assessing actual aggressive behavior. Self-report measures come with inherent limitations, especially in constructs susceptible to social desirability issues (Lobbestael, 2015). Future research should replicate these findings using behavioral aggression measures. Second, we focused on the short-term effects of aggressive fantasizing. Notably, research suggests that these short-term tendencies may translate into long-term outcomes, such as depression or a heightened risk of heart disease (Zhan et al., 2021). Investigating such long-term consequences represents a valuable avenue for future research. Lastly, participants engaged with situations in which they had personally experienced victimization. This autobiographical approach arguably has advantages (e.g., heightened participant engagement with the task), but also introduces potential variance stemming from diverse victimization experiences: Some people may have experienced (and reported) much worse instances of victimization than others. These experiences may be related to participants' dispositions, such as their tendencies to express anger. Future research may simulate victimization experiences to mitigate this limitation and enhance experimental control. Notwithstanding these limitations, the present findings arguably offer implications for psychotherapy strategies and contribute to our understanding of aggression dynamics. Certainly, practical implications should be considered cautiously, given the experimental nature of our study, which deviates considerably from genuine therapeutic contexts. For example, our method included explicitly instructing participants to engage in aggressive fantasizing, differing fundamentally from typical cases in clinical practice. In therapy, patients typically develop their fantasies themselves, with therapists taking a more passive, moderating role (Arntz, 2012). Bearing this in mind, our findings offer preliminary insights. For instance, interventions incorporating aggressive fantasizing may potentially heighten aggressive tendencies, especially among individuals inclined toward outward expressions of anger. Clinicians may, thus, consider individual differences in anger expression when implementing such interventions.

In conclusion, the present findings suggest that instructing individuals to engage in aggressive fantasizing poses a heightened risk of amplifying aggression, particularly for individuals who possess a general propensity for expressing anger aggressively. This research thus contributes to a deeper understanding of the interplay between aggressive fantasizing, dispositional anger expression tendencies, and aggressive inclinations among victimized individuals. We hope that this paves the way for refined interventions and future investigations in this domain while underscoring the need for a comprehensive investigation of the intertwining factors in aggression dynamics.

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CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

All materials, data, codebooks, and analysis scripts are available on the Open Science Framework: https://osf.io/efhd2.

ETHICS STATEMENT

All procedures performed in studies involving human participants were in accordance with the American Psychological Association's Ethical Principles in the Conduct of Research with Human Participants (2010). The research protocol for both studies received ethical approval from a local Institutional Review Board (IRB).

ORCID

Mathias Twardawski http://orcid.org/0000-0003-0543-277X
Jill Lobbestael http://orcid.org/0000-0001-9205-3115

ENDNOTES

[1] We define aggression as any behavior intended to psychologically or physically harm another person who does not want to be harmed (Bushman & Huesmann, 2010).

[2] We also collected data for all other STAXI factors (State Anger, Trait Anger, Anger Expression-in) and preregistered that we will explore interaction effects with all STAXI factors in secondary analyses. However, we only registered the above-mentioned hypotheses as key hypotheses and will focus on these in the remainder of this article. We report findings from all secondary analyses in our supplementary materials on the OSF. Overall, there were no significant interaction effects between the experimental manipulation and all other STAXI factors.

[3] We also included measures for empowerment and positive and negative affect for exploratory purposes but will report results for these measures in our supplementary materials on the OSF only. In sum, significant effects were: Anger Expression-out on negative affect, Anger Expression-control on empowerment, and a main effect of the experimental manipulation on negative affect. All other main effects and two-way interactions were nonsignificant.

[4] For exploratory purposes, we also assessed participants' *empowerment* (8 items; $\omega_t = .94$, Twardawski et al., 2021) and *positive* (3 items; $\omega_t = .80$) and *negative affect* ($\omega_t = .85$; Watson et al., 1988).

[5] Of note, we did not preregister conducting a *t*-test, as we initially intended to examine the overall differences between conditions based on its main effects within subsequent regression analyses. However, given that *t*-tests are common practice and easier to interpret, we chose to report this additional test—yet, the regression analyses yielded similar results, as reported below.

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