

# Does True Crime Increase Negative Affect, Or Negative Affect Lead to True Crime? A Cross-lagged Analysis on the Dynamics of Consuming Frightening Media

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## **Abstract**

Even in today's high-choice media landscape, people are drawn to stories of crime and murder, best exemplified by the massive appeal of the true crime genre. Interestingly, while studies report negative effects of violent media on consumers, newer avenues in horror research suggest that frightening media may act as training grounds for coping with anxiety. We investigated both perspectives in a two-week daily diary study on positive and negative affect (anxiety, anger) and true crime consumption (data collected in 2024). Cross-lagged multilevel modelling (Bayesian estimation) was applied to data of  $n = 199$  participants to examine if affect on day  $n$  predicted true crime consumption on the following day ( $n + 1$ ) and vice versa. We found that today's anxiety positively predicted violent true crime consumption of tomorrow, and in turn, violent true crime consumption of today positively predicted positive affect of tomorrow. These findings corroborate the idea that anxiety may motivate engagement with self-relevant negative media worlds like true crime for emotion regulation, which may yield affective benefits. Conversely, we did not find that true crime consumption increased anxiety or anger, which adds nuances to the idea of fear and aggression cultivation by crime portrayals in the media.

*Keywords:* crime media, horror, anxiety, aggression, emotion regulation

## Introduction

In the modern media landscape, nothing seems to be quite as entertaining as dark and gruesome stories about crime and murder. Both fictional crime and true crime media portray a wide variety of human violence and criminality, including assault, kidnappings, sex crimes, or serial killings and seem to be ever growing in popularity, as evident from podcast charts, book sales, or streaming statistics. This human fascination with crime is intriguing both from the perspective of what needs consumers seek to fulfil by engaging with crime media (uses and gratifications framework, Blumler & Katz, 1974), and from the perspective of cultivating fear and aggression through violent media worlds (media cultivation theory, Gerbner, 1969, also see Romer et al., 2014). Clearly, the question how media portrayals of crime may resonate with individuals is not novel in literature (Callanan & Rosenberger, 2015; Chiricos et al., 1997). However, compared to fictional crime dramas or violent horror movies, true crime stories are real and narrate true events from recent and distant history (even if sensationalism is possible)<sup>1</sup>, and may thus have a greater personal impact due to stronger emotional engagement and perceived relevance. There is indeed some theoretical and empirical work contrasting fictional vs. true crime in terms of consumer motivations and effects on emotion and cognition around crime (Chadee et al., 2019; Hawkins & Scherr, 2017; Rhea & Taylor, 2024, Weitzer & Kubrin, 2004). Still, the true crime genre has been largely neglected when it comes to the question why people are drawn to media violence and how it may affect their feelings and perceptions of reality (see Perchtold-Stefan et al., 2024). This is surprising, as the modern true crime industry is huge and allows personalized consumption in countless ways (e.g., type of crime, status of investigation, degree of violence, style of narration) due to the sheer availability of content in various formats, making it distinct from non-customizable crime TV programs of the past decades (see Chadee et al., 2019). Additionally, while fictional violence and horror is preferred by men (Clasen et al., 2020;

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<sup>1</sup> We recognize that this distinction is not always straightforward, as fictional crime may be strongly inspired by true events, and stories published under the true crime label may be heavily modified and dramatized to entertain a wider audience.

Martin et al., 2019), the true crime audience is predominantly female (Boling & Hull, 2018; McDonald et al., 2021), making it a unique phenomenon worthy of investigation.

In this paper, we seek to provide insights into two pressing questions around true crime consumption that have emerged in literature: For one, is true crime consumption driven by certain (negative) affective states and by implication, need for emotion regulation as has been suggested for fictional horror consumption (Scrivner, 2021ab; Scrivner et al., 2023)? Second, is there a negative impact of true crime consumption on people's affect, in terms of increased anxiety and anger, or lower positive affect after engaging with scary true crime worlds (e.g., Anderson & Bushman, 2018; Callanan & Rosenberger, 2015)? In our investigation, we employ a daily diary approach over the duration of two weeks to examine if dynamic changes in positive affect, as well as anxiety and anger may impact true crime consumption and vice versa, that is, if affect predicts true crime consumption, or if true crime consumption predicts affect in daily life. Overall, both questions integrate well into the only recently emerging psychological framework on causes and consequences of true crime consumption (McDonald et al., 2021; Perchtold-Stefan et al., 2024, 2025).

### ***Perspective I: Affective and affect-related motives for true crime consumption***

Media frameworks like the mood management theory (Knobloch & Zillmann, 2002) or media uses and gratifications (Blumler & Katz, 1974) suggest that individuals select media content based on their social and emotional needs, which on the one hand, may imply improving negative emotions by consuming positive, uplifting media content. Yet on the other hand, individuals may deliberately choose media content that matches and validates their negative feelings (see Greenwood & Long, 2009), and offers opportunities for emotion regulation that resonate with current affective states (Bartsch et al., 2008; Scrivner et al., 2023; Kjeldgaard-Christiansen, 2024). With regard to the often called "paradox" of horror consumption, researchers have presented persuasive arguments that frightening media worlds may offer critical opportunities for emotion regulation and personal growth, as controlled and safe exposure to horror may improve emotional clarity, tolerance of negative somatic experiences, and build up cognitive reappraisal skills (Scrivner et al., 2021, 2023;

Scrivner, 2021b). For these reasons, horror media may be particularly appealing for individuals higher in anxiety, as it allows engagement with fear in a controlled and predictable way (showing parallels to cognitive behavioral and exposure therapy, see Scrivner, 2021b). Although this therapeutic idea of horror is still fairly theoretical, individuals high in trait anxiety do report a higher preference for horror fiction (Kiss et al., 2024; also see Scrivner, 2021b), and state anxiety seems to be linked to choosing horror movies for entertainment (Strizhakova & Krcmar, 2007). So, what does this tell us for potential affective motives for true crime consumption?

Research on true crime motives is far from conclusive, with proposed motives ranging from boredom over escapism to voyeurism (Boling & Hull, 2018; McDonald et al., 2021; Vitis & Ryan, 2023) which however, also partly overlap with fictional crime consumption (Rhea & Taylor, 2024). Still, next to morbid curiosity as a general interest in negative things (Oosterwijk, 2017; Scrivner, 2021a), researchers speculate that true crime consumption in women specifically may be driven by defensive vigilance (McDonald et al., 2021), which refers to knowledge acquisition about dangerous situations to better prepare for aversive events in real life, like becoming the victim of a violent crime. Given that fear of crime is higher in women than men (Fox et al., 2009; Hilinski et al., 2011) and is associated with a reduced quality of life (Alfaro-Beracoechea et al., 2018; Stafford et al., 2007), anxiety around crime and victimization may indeed motivate women to engage with true crime content to reduce uncertainty, experience control over frightening narratives, and regulate negative emotions (Scrivner, 2021b). Tentatively supporting this idea with cross-sectional data, Perchtold-Stefan et al. (2024) found that women's true crime consumption was more strongly motivated by defensive vigilance and at a trend, emotion regulation than men's, and that individuals higher in anxiety and fear of victimization consumed more true crime content. Similarly, McDonald et al. (2021) had found that women with a higher fear of sexual assault reported a higher frequency of true crime consumption, specifically to learn defensive strategies for preventing attacks.

Taking this as support for the idea that anxiety and fear of crime may drive true crime consumption for threat coping and emotion regulation, we could expect that anxiety predicts true

crime consumption in our daily diary study. However, there are also opposing perspectives: First, anxious people may be primarily drawn to recreational horror because its scary and violent aspects are blatantly fictional, and, same as in fictional crime media, the killers, criminals, or monsters are usually caught at the end, tension is resolved, and justice is served. This is not the case for true crime, which often does not feature a satisfying resolution (e.g., cold cases, negligent police work, wrongful conviction) and lacks retributive justice for heinous crimes like serial murder. Thus, the question is whether anxious individuals attribute the same benefits proposed for playing with fear in fictional horror to more realistic true crime (Andersen et al., 2020; Scrivner et al., 2023). Second, the cross-sectional link between anxiety, fear of crime, and true crime consumption can also be interpreted in the reverse direction – that engagement with violent true crime worlds may increase anxiety, fear of crime, and potentially, aggression, which leads us to perspective II.

### ***Perspective II: Negative effects of true crime consumption on affect and well-being***

Research has demonstrated that violent and crime-related media can have negative effects on individuals. The influential early cultivation theory by Gerbner et al. proposed broad effects of heavy television viewing of violence and crime on fear and mistrust, and thus, a heightened sense of danger, as people align their social reality with what is shown on TV (mean world syndrome, Gerbner, 1969). Contemporary meta-analyses have extended cultivation research to other media formats like social media and online news and still find small, but significant relationships between cumulative media exposure and threat perceptions (see Hermann et al., 2023, Romer et al., 2014). In this regard, crime news, but also fictional violent crime TV have been linked to increased fear of crime and risk perception (Romer & Jamieson, 2014; Nellis & Savage, 2012; Smolej & Kivivuori, 2006). Moreover, consumption of fictional crime shows was found to influence juror decision-making on forensic evidence (CSI effect) and support for capital punishment (Schweitzer & Saks, 2007; Kort-Butler & Hartshorn, 2011; but see Hawkins & Scherr, 2017). Yet, studies also stress the relevance of interindividual characteristics and news preferences (e.g., general vs. alternative news) for media effects on consumers (Andersen et al., 2024; Callanan & Rosenberger, 2015; Rosenberger et al.,

2023), which may explain why some studies find no link between media portrayals of crime and anxiety (Chadee et al., 2019; Roche et al., 2016; Shi et al., 2019). In sum, while evidence that crime media influences consumer cognition and affect is mixed, the idea that true crime could have more pronounced effects is intuitively attractive. Perceived realism of fictional content, i.e., the extent to which stories seem to capture the real world, was found to moderate media effects on consumers (Busselle & Van den Bulck, 2019; Lippman et al., 2014). As true crime stories are based on real events and likely elicit a stronger feeling of personal relevance, this may make it more difficult to distance oneself from elicited emotions and thoughts (*"It's not real"* or *"This could never happen"*), which may have a stronger impact on cognition and affect (see Perchtold-Stefan et al., 2024, 2025). Delivering some support for this idea, Kort-Butler and Hartshorn (2016) found that only non-fictional crime shows on TV ("true crime") were linked to higher fear of crime and lower trust in the justice system, a link that was not found for fictional crime dramas. Accordingly, we could also expect that true crime consumption predicts anxiety in our daily diary study.

Another often debated question is whether consumption of violent media promotes anger and aggressive behavior. The General Aggression Model (Allen et al., 2018; Anderson & Bushman, 2018) underlines both short- and long-term processes through which media violence may foster aggression, with short-term effects including activation of aggressive cognitions, imitation behavior (e.g., copycat aggression in children), increased anger and physiological arousal. Proposed long-term effects are consolidation of aggressive scripts in memory, disinhibition through beliefs that aggression is "normal", and desensitization, which may also relate to reduced empathy and prosocial behavior (see Krahé, 2024, for a recent summary). In support, both cross-sectional and longitudinal studies find positive effects of violent media consumption on anger and aggression (Anderson et al., 2010, 2017; Burkhardt & Lenhard, 2022; Krahé & Möller, 2010), which also emerge as small effects in meta-analyses (Bushman & Huesmann, 2006; Ferguson et al., 2020). Looking at crime entertainment media, studies also found that higher viewer aggression was linked to more consumption of violent crime and action dramas (Banerjee et al., 2009; Gibson et al., 2016), although curiously, Gibson et al.

(2016) found stronger aggression links to consumption of reality TV. For true crime, this could imply that habitual consumption of detailed and realistic acts of human violence may increase anger and aggression in consumers through similar mechanisms as proposed by the General Aggression model, perhaps more strongly than for fictional crime media, if we assume more emotional engagement and physiological arousal by violence that is real (Chadee et al., 2019; Perchtold-Stefan et al., 2025). Accordingly, we may expect that true crime consumption predicts anger in our daily diary study. Still, other researchers regard the media violence – aggression link in a more nuanced way, with some failing to find any association (Ferguson & Colwell, 2018, Ferguson et al., 2020), or reporting substantially diminished effects when interindividual differences like trait aggression or abusive parenting are taken into account (Elson & Ferguson, 2014, Ferguson et al., 2015), which complicates expectations for true crime consumption. Cross-sectionally, true crime indeed shows small positive correlations with self-reported trait aggression (Perchtold-Stefan et al., 2024), which however, may also indicate that aggressive individuals selectively prefer violent media (see Breuer et al., 2015).

### **The present study**

The purpose of the present study was to investigate the direction of associations between affect (positive affect, anxiety, anger) and true crime consumption based on the above-mentioned perspectives, to shed light on previous cross-sectional findings. By applying a two-week, smartphone-based daily diary method in combination with cross-lagged multilevel modelling, we tested if true crime consumption is more likely the result of certain affective states and potentially associated emotion regulation motivations, or if true crime consumption more likely influences affect in terms of increased anxiety or increased anger. To determine whether obtained effects are specific to true crime consumption, fictional crime consumption (fictional crime entertainment media) was controlled in all models.

### **Methods**

#### ***Transparency and openness***



We report how we determined our sample size, all data exclusions, all manipulations, and all measures in the study. All data, analysis code, and research materials are available at the Open Science Framework: [https://osf.io/hkd5v/?view\\_only=3de94962d0b149fc9b0e429e6865feff](https://osf.io/hkd5v/?view_only=3de94962d0b149fc9b0e429e6865feff). Data were analyzed using R, version 4.4.0 (R Core Team, 2024) and the package R package brms (Version: 2.18.0; Bürkner, 2017). This study's design was pre-registered prospectively, before data were collected (aspredicted.org, #180137, <https://aspredicted.org/sv72-5dqz.pdf>).

### **Participants**

Sample size was determined based on previous similar daily diary studies (Deng et al., 2021; Kovács et al., 2024; Rominger et al., 2024) and rough (frequentist) a priori-power analysis that suggested a minimum of  $n \sim 100$  participants. Yet, due to a much higher response rate than anticipated, 251 participants ultimately filled in our online surveys. The survey was open to any interested participant over the age of 18. Data was collected between July and November 2024. We only included participants who filled in the daily diary throughout two consecutive days at least<sup>2</sup>. This resulted in a sample of  $n = 199$  participants (160 women, 28 men, 1 diverse, 10 no data<sup>3</sup>) with a mean age of 23.33 years ( $SD = 4.58$ ). All participants were German speaking adults currently residing in Austria or Germany. We did not record data on race or ethnicity. In terms of education, the majority of the sample had at least a high school degree (63.5%), with 24.9% holding a Bachelor's degree, and 10.1% holding a Master's degree. 87.3% of the sample self-identified as "true crime fans", 12.7% considered themselves "not fans". Self-reported income was positively skewed, with most participants (74.20%) in the lower income brackets. All participants gave informed consent before participating in the daily diary and were financially compensated for their participation (40 € in total).

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<sup>2</sup> Please note that this deviates from the pre-registration, in which we initially planned to only include participants with a minimum of 11 out of 14 entries (~75%). However, previous reviewer feedback for a different cross-lagged study suggested a less strict approach to better make use of all available data. Importantly, running our analyses with a reduced sample size (180 participants with at least 11 entries) did not change any of our results with the full sample.

<sup>3</sup> Due to a mismatch of anonymized, participant-generated codes in the online survey and the daily diary, information on gender, age, and education of these participants is not available.

### ***Daily diary method***

After filling in an online survey on demographics and other traits<sup>4</sup>, participants received an email with download instructions for ESMira (Lewetz & Stieger, 2024), an open-source experience sampling app that can be accessed via PC, tablet, or smartphone. For this study, participants were encouraged to install the app on their smartphones in order to conveniently receive the daily prompts to fill in the diary. Each day, prompts to fill in the survey were sent out at 7 p.m., with two additional reminders at 8 p.m., and 9 p.m., though participants could fill in the survey until 11.30 p.m. on the same day. After 14 days, the prompts ended automatically. The survey included ratings on positive and negative affect (PANAS) followed by questions on true crime consumption, and questions on fictional crime consumption<sup>5</sup>. Participants could start the daily diary on any day, with technical support available for the entire duration of the study, which lasted from July to November of 2024. Overall, participants were instructed to keep up their true crime and other media habits as usual, and that true crime consumption was not expected to participate in the study.

### ***Affect***

Each day, participants rated 20 items of the German version of the Positive and Negative Affect Schedule (PANAS; Krohne et al., 1996), according to positive affect (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, active) and negative affect (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid). Analyses for negative affect were run separately for anxiety (scared, nervous, afraid) and anger (upset, hostile, irritable). The reliability of positive affect, negative affect, as well as negative affect subscales were good for both between person (positive:  $RkR = 0.83$ , anxiety:  $RkR = 0.80$ , anger:  $RkR = 0.89$ ) and within person

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<sup>4</sup> This study was part of a larger data collection (see pre-registration) and also included measures of empathy, curiosity, morbid curiosity, personality, negative life experiences, and trait well-being.

<sup>5</sup> The daily diary also included single-items that asked for need for affect, need for cognition, need for emotion regulation, and overall well-being, which are not part of the present investigation, as they are more likely to show associations with true crime consumption on the same day.

(positive:  $R_c = 0.87$ , anxiety:  $R_c = 0.78$ , anger:  $R_c = 0.65$ ). The ICC showed that 28.7%, 39.4%, and 25.4% of the sum variance were due to between-person differences for PA and anxiety and anger.

### ***True crime consumption***

Each day, participants reported

a) *overall true crime consumption*: if they had consumed any content (coded as 0 “no” or 1 “yes”), along with which formats they consumed (books, TV, podcasts, news, etc.)<sup>6</sup>

b) *duration of true crime consumption*: for how long they had consumed (estimated time in minutes),

c) *violence of the consumed content* (How violent was the true crime content that you consumed?

This refers to explicit depictions and descriptions of acts of violence; rated from 1 = not violent to 5 = extremely violent, alternatively 0 = did not consume true crime),

d) *intended true crime consumption before sleep* (Are you planning to consume true crime today to fall asleep? coded as 0 “no” or 1 “yes”).

In total, 1013 days (46.83%) of the 2163 days were without true crime consumption. Nine participants (4.69% of the total sample) did not consume true crime throughout the duration of the study. Of all true crime formats, true crime podcasts (38.81%) and social media content (32.54%) were consumed the most, followed by TV (16.83%), news (7.62%), books (2.14%), and movies (2.06%). ICC analyses indicated that 22.5% of variance of overall true crime consumption, 23.8% of duration of true crime consumption, 24.8% of violence in true crime consumption, and 33.3% of intended true crime consumption before sleep were due to between-person differences.

### ***Fictional crime consumption***

The questions for fictional crime consumption were identical to the ones on true crime consumption. In the only survey prior to the daily diary, 57.7% of participants self-identified as “fans of fictional crime”, while 38.1 % identified as “not fans, and 4.2% did not give an indication to either. In total, 460 days (21.27%) of the 2163 days were without fictional crime consumption. Of all fictional

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<sup>6</sup> Specific consumption of true crime formats was not analyzed in this study to avoid an inflated number of statistical analyses, and because we did not have specific hypotheses for specific true crime formats.

crime formats, TV (52.74%) and books (22.12%) were consumed the most, followed by movies (11.91%), social media (7.37%), podcasts (4.91%), and news (0.95%). All participants consumed fictional crime at least once throughout the duration of the study. ICC analyses indicated that 29.6% of variance of overall fictional crime consumption, 33.6% of duration of fictional crime consumption, 30.5% of violence in fictional crime consumption, and 33.2% of intended fictional crime consumption before sleep were due to between-person differences.

### **Statistical analyses**

Multilevel cross-lagged panel models with random intercepts for participants were used to examine bidirectional pathways linking true crime consumption and affect (positive, anxiety, anger) across days (Schuurmann et al., 2016; for similar applications, see Rominger et al., 2024; Wekenborg et al., 2022). For true crime consumption, overall consumption, duration of consumption, violence in consumption, and intended consumption before sleep (4) were used as different variables of interest. Fictional crime consumption (either overall, duration, violence, or intended consumption before sleep, depending on the tested true crime variable) was used as a covariate to test the robustness of effects. Our cross-lagged approach allows to investigate the directionality of associations next to estimating their relations. Each variable at the time point of measurement (day  $n$ ) predicts variables at the next time point of measurement (day  $n+1$  = cross-lagged component). These associations are controlled for longitudinal stability (autoregressive component). The results indicate how the constructs at the initial time point influence changes in other constructs, relative to the baseline, while accounting for the effects of other pathways. The R package *brms* (Version: 2.18.0; Bürkner, 2017; non-informative priors, 4 chains, 20,000 iterations, and 50% warm-up) was used to fit Bayesian models for estimating the parameters in the multilevel cross-lagged models for different aspects of true crime consumption and specific affect by using the probabilistic programming language Stan. When the dichotomized variables of overall true crime consumption, consumed formats, and true crime consumption before sleep on the next day were used as outcome variables, Bernoulli distribution was applied. When outcome variables were duration of true crime consumption and

violence of true crime consumption, or affect on the next day, Gaussian distribution was applied. Due to the high proportion of zeros in overall true crime consumption, we applied a Zero-Inflated Poisson models to account for excess zeros in the data. Effects were interpreted as meaningful when the credible intervals (CIs) did not include zero.

## **Results**

### **Preliminary analyses**

Overall true crime consumption on day  $n$  did not predict overall true crime consumption on day  $n + 1$  (with positive affect:  $b = 0.04$ , 95% CI  $[-0.2074, 0.2823]$ ), with anxiety:  $b = 0.04$ , 95% CI  $[-0.2104, 0.2788]$ , with anger:  $b = 0.04$ , 95% CI  $[-0.2115, 0.2779]$ ).

However, duration of true crime consumption on day  $n$  predicted duration of true crime consumption on day  $n + 1$  (with positive affect:  $b = 0.11$ , 95% CI  $[0.0626, 0.1640]$ ; with anxiety:  $b = 0.11$ , 95% CI  $[0.0615, 0.1625]$ , with anger:  $b = 0.11$ , 95% CI  $[0.0618, 0.1629]$ ).

Violence of true crime content on day  $n$  predicted violence of true crime content on day  $n + 1$  (with positive affect:  $b = 0.07$ , 95% CI  $[0.0162, 0.1173]$ , with anxiety:  $b = 0.07$ , 95% CI  $[0.0154, 0.1165]$ , with anger:  $b = 0.07$ , 95% CI  $[0.0171, 0.1187]$ ).

Intended true crime consumption before sleep on day  $n$  predicted intended true crime consumption before sleep on day  $n + 1$  (with positive affect:  $b = 0.41$ , 95% CI  $[0.0949, 0.7278]$ ; with anxiety:  $b = 0.42$ , 95% CI  $[0.1045, 0.7328]$ ; with anger:  $b = 0.43$ , 95% CI  $[0.1124, 0.7453]$ ).

All these results remained similar when the equivalent of fictional crime consumption on day  $n$  and day  $n + 1$  was added to the cross-lagged models.

### **Testing effects of positive and negative affect on true crime consumption**

#### ***Positive affect***

Positive affect did not predict overall true crime consumption of day  $n + 1$  ( $b = 0.05$ , 95% CI  $[-0.1273, 0.2277]$ ), duration of true crime consumption on day  $n + 1$  ( $b = -1.15$ , 95% CI  $[-4.3483,$

1.9966]), violence in consumed content on day  $n + 1$  ( $b = 0.01$ , 95% CI [-0.1062, 0.1344]), or intended true crime consumption before sleep ( $b = -0.03$ , 95% CI [-0.2455, 0.1828]).

All these results remained similar when the equivalent of fictional true crime consumption on day  $n$  and day  $n + 1$  was added to the cross-lagged models.

### **Anxiety**

Anxiety did not predict overall true crime consumption of day  $n + 1$  ( $b = -0.09$ , 95% CI [-0.2571, 0.0783]), duration of true crime consumption on day  $n + 1$  ( $b = 1.67$ , 95% CI [-1.3285, 4.6841]) or intended true crime consumption before sleep on day  $n + 1$  ( $b = -0.05$ , 95% CI [-0.2418, 0.1539]). However, anxiety positively predicted violence in true crime consumption on day  $n + 1$  ( $b = 0.12$ , 95% CI [0.0008, 0.2292]). See Figure 1A.

When the equivalent of fictional true crime consumption on day  $n$  and day  $n + 1$  was added to the cross-lagged models, the positive effect of anxiety on violence of true crime content on day  $n + 1$  remained ( $b = 0.11$ , 95% CI [0.0007, 0.2284]).

### **Anger**

Anger did not predict overall true crime consumption of day  $n + 1$  ( $b = 0.06$ , 95% CI [-0.0814, 0.2000]), duration of true crime consumption on day  $n + 1$  ( $b = -0.17$ , 95% CI [-2.6897, 2.3427]), violence in true crime consumption on day  $n + 1$  ( $b = -0.01$ , 95% CI [-0.1084, 0.0807]), or intended true crime consumption before sleep on day  $n + 1$  ( $b = -0.08$ , 95% CI [-0.2447, 0.0821]).

All these results remained similar when the equivalent of fictional true crime consumption on day  $n$  and day  $n + 1$  to the cross-lagged models.

## **Testing effects of true crime consumption on positive and negative affect**

### **Positive affect**

Neither overall true crime consumption ( $b = -0.04$ , 95% CI [-0.1006, 0.0144]), duration of true crime consumption ( $b < 0.01$ , 95% CI [-0.0003, 0.0010]), nor intended true crime consumption before sleep ( $b = -0.02$ , 95% CI [-0.0858, 0.0475]) predicted positive affect on day  $n + 1$ . However, violence

of true crime content positively predicted positive affect on day  $n + 1$  ( $b = 0.02$ , 95% CI [0.0017, 0.0343]). See Figure 1B.

All these results remained similar when the equivalent of fictional true crime consumption on day  $n$  and day  $n + 1$  was added to the cross-lagged models. The positive effect of violence of true crime content on affect on day  $n + 1$  remained ( $b = 0.02$ , 95% CI [0.0021, 0.0352]).

[Insert Figure 1 about here]

### **Anxiety**

Neither overall true crime consumption ( $b = <-0.01$ , 95% CI [-0.0619, 0.0555]), duration of true crime consumption ( $b < 0.01$ , 95% CI [-0.0004, 0.0008]), nor violence in true crime consumption ( $b < 0.01$ , 95% CI [-0.0123, 0.0210]) predicted anxiety on day  $n + 1$ . However, intended true crime consumption before sleep negatively predicted anxiety on day  $n + 1$  ( $b = -0.08$ , 95% CI [-0.1531, -0.0149]).

When the equivalent of fictional true crime consumption on day  $n$  and day  $n + 1$  was added to the cross-lagged models, the negative effect of intended true crime consumption before sleep on day  $n$  on anxiety on day  $n + 1$  remained ( $b = -0.09$ , 95% CI [-0.1575, -0.0189]).

### **Anger**

Neither overall true crime consumption ( $b < -0.01$ , 95% CI [-0.0736, 0.0709]), duration of true crime consumption ( $b < 0.01$ , 95% CI [-0.0007, 0.0008]), violence in true crime content ( $b = 0.01$ , 95% CI [-0.0127, 0.0283]), nor intended true crime consumption before sleep ( $b = -0.05$ , 95% CI [-0.1305, 0.0363]) predicted anger on day  $n + 1$ .

All these results remained similar when the equivalent of fictional true crime consumption on day  $n$  and day  $n + 1$  to the cross-lagged models.

### **Sensitivity analyses**

Anxiety on day  $n$  did not predict violent fictional crime consumption on day  $n + 1$  ( $b = 0.02$ , 95% CI  $[-0.0552, 0.0970]$ ), and violent fictional crime consumption on day  $n$  did not predict more positive affect on day  $n + 1$  ( $b = 0.02$ , 95% CI  $[-0.003, 0.0480]$ ). Intended fictional crime consumption before sleep on day  $n$  also did not predict anxiety on day  $n + 1$  ( $b = -0.05$ , 95% CI  $[-0.1298, 0.0242]$ ). There were no effects for general negative affect (averaged anxiety and anger).

## Discussion

This study investigated if positive and negative affect bidirectionally correlate with true crime consumption via multilevel cross-lagged panel models. We tested assumptions around two research questions: why people consume true crime content and what consequences may result from true crime consumption. Per perspective I, people may consume true crime content to manage negative affect by engaging with mood-congruent stories that allow for a safe experience and regulation of anxiety (Scrivner, 2021b, Scrivner et al., 2023), or aggressive people may seek out violent media (Breuer et al., 2015). This would suggest a path from anxiety and/or anger on day  $n$  to true crime consumption on day  $n + 1$ . For perspective II, based on (violent) media cultivation effects on fear of crime, perception of danger, and aggression (Anderson & Bushman, 2018; Romer & Jamieson, 2014), true crime consumption may increase negative affect. This would suggest a path from true crime consumption on day  $n$  to more anxiety and/or anger on day  $n + 1$ .

Overall, our results suggest bidirectional associations between affect and true crime consumption, involving both anxiety and positive affect, but not anger. These associations fully align with perspective I: Higher anxiety on day  $n$  predicted more violent true crime consumption on day  $n + 1$  and notably, more violent true crime consumption on day  $n$  predicted more positive affect on day  $n + 1$ . As a secondary finding, intended true crime consumption before sleep on day  $n$  predicted lower anxiety on day  $n + 1$ . There were no effects for anger in either direction. All these effects remained stable after controlling for fictional crime consumption on day  $n$  and day  $n + 1$ . There are several aspects worthy of discussion with regard to these findings.



With anxiety predicting violent true crime consumption, and violent true crime consumption in turn predicting more positive affect, this supports the idea that feeling stressed, anxious, and vulnerable may draw people to violent and scary media to cope with their negative feelings (Strizhakova & Krcmar, 2007; Scrivner, 2021b). But why pick true frightening stories over fictional or true positive ones? One vital mechanism suggested by Scrivner and colleagues (preprint, etc.) is that engagement with frightening horror stories allows individuals to shift their anxiety to a more predictable and controllable source, making it substantially easier to engage various emotion regulation strategies and experience agency over one's fears (also see Andersen et al., 2020; Clasen et al., 2020). On this point, research underlines stressor controllability as a critical factor for physiological and behavioral stress responses, as well as associated mental health outcomes (Diener et al., 2009; Maier & Watkins, 2005). If we transfer this idea to true crime, it may allow people who feel vulnerable and anxious to engage with their fears and uncertainties around crime, victimization, and human violence in a safe and controllable way, as a true crime show can be paused or watched/listened to with the lights on or in the presence of others (see Scrivner, 2021b). True crime stories in podcasts specifically are often interrupted by banter, opinions, or consolation by the hosts, and along with true crime content on social media, may give the strong impression that one is not left alone with these frightening true stories, but is part of a like-minded community (see Boling, 2023). With this in mind, certain true crime formats may even allow for and elicit interpersonal and collective emotion regulation (see Goldenberg et al., 2020; Zaki, 2020) of danger and existential threat. In terms of relevance, Oosterwijk (2017) and Vivanco-Carlevari et al. (2024) showed that people are exceptionally curious about dangers and suffering originating from other humans. Further, both morbid curiosity and interest in horror have been rooted in a fundamental human desire to make sense of and prepare for threats (Scrivner, 2021a, Scrivner et al., 2021) – which may explain the tremendous appeal of the true crime genre as a safe but realistic “playground” for coping with fear of crime and mortality. In nice agreement, Taylor (2012) found that mortality salience (thoughts of death) was linked to a higher preference for TV programs with law and justice themes, and interpreted as a terror management response by invoking core values and reliable institutions

of society<sup>7</sup>. Overall, in light of higher true crime interest (McDonald et al., 2021; Perchtold-Stefan et al., 2024) and fear of victimization in women (Fox et al., 2009), true crime consumption could thus be rather gender-specific example of “scary play” with fear of crime.

Importantly, our study delivers preliminary evidence that this scary play may be beneficial, as violent true crime consumption unidirectionally predicted positive affect, i.e., participants felt better the day after consuming violent true crime. Additionally, intended true crime consumption before sleep predicted lower anxiety the day after. This result is well in line with previous research on the benefits of scary play (see Andersen et al., 2020). Both Kerr et al. (2019) and Scrivner et al. (2023) reported improved mood and lowered anxiety in visitors of haunted houses, in addition to participants’ feeling that they had developed better emotion regulation skills. Similarly, Scrivner et al. (2021) found that fans of contagion and zombie movies experienced less stress during the start of the COVID-19 pandemic, noting that playfully simulating similar scenarios had made them more resilient when faced with a related real-life threat. Our findings suggest that for certain individuals, true crime consumption may act as a similar safe and immersive training ground for emotion regulation (also see Perchtold-Stefan et al., 2024). As a criticism of this interpretation, it can be argued true crime consumption simply improved positive affect because participants consumed media they liked (see Bartsch & Viehoff, 2010; Riddle et al., 2022). However, media enjoyment has also been linked to need satisfaction (Tamborini et al., 2010, 2011), which reverts back to established true crime motives of defensive vigilance and in part, emotion regulation (Perchtold-Stefan et al., 2024). Questioning the path from true crime consumption to positive affect also does not negate the observed path from anxiety to true crime consumption, which aligns with previous findings and ideas on anxiety and horror selection (Kiss et al., 2024; Scrivner, 2021b; Strizhakova & Krcmar, 2007). Moreover, in the cross-sectional study by Perchtold-Stefan et al. (2024), individuals whose true crime consumption was motivated by defensive vigilance reported more adaptive emotion regulation in daily life, and individuals whose true crime consumption was motivated by emotion regulation showed

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<sup>7</sup> Notwithstanding personal trust in the existing justice system, justice may still be a universal value, reflecting the human expectation that behaviors and outcomes should be related (see Taylor, 2012).

higher cognitive reappraisals skills in a test for downregulating anxiety. In sum, while future studies will have to more directly test these mechanisms (from anxiety to horror or true crime consumption to emotion regulation to positive affect), our findings converge with theories on functions of recreational horror and previous empirical studies (see Kjeldgaard-Christiansen, 2024).

As an important note, our paths from anxiety and to positive affect were exclusively obtained for violent true crime consumption. Overall true crime consumption (having consumed or not) and duration of true crime consumption (in minutes per day) did not show any associations with affect. Several explanations may account for this. If we assume that fear of victimization and defensive vigilance motivation drive true crime consumption (see Perchtold-Stefan et al., 2024), it is reasonable that anxious individuals are drawn to more violent true crime stories that simulate their fears about serious physical harm (for women: murder and sexual assault, McDonald et al., 2021; Moore & Shepherd, 2007). This higher personal relevance may also translate into higher immersion into violent true crime, which may provide better opportunities for self-regulation (for the importance of self-relevance in cognitive reappraisal trainings, see Perchtold-Stefan et al., 2023). In addition, the most popular true crime shows focus on homicide (Serial podcast, Dateline NBC TV, Cold Case Files, etc.) suggesting that participants' preferred shows are usually higher in violence. Together with the lack of associations for overall true crime consumption, these results further suggest that type of true crime content, immersion, familiarity, and enjoyment of content may be critical aspects to consider in a more thorough analysis of motives and outcomes around true crime consumption (see Perchtold-Stefan et al., 2024). It is also plausible that links to duration of true crime consumption could have been suppressed by participants' retrospective evening reports of consumption during the day. In this respect, a meta-analysis stressed insufficient correlations between subjective and objective digital media use, hinting at perceptual biases in self-report (see Parry et al., 2022). While in the future, studies could utilize smartphone meta data for tracking true crime consumption via podcast and streaming apps (see Stachl et al., 2020), this may still only capture a portion of consumed true crime content, along with posing ethical and privacy challenges (see Harari et al., 2016).

On a final note, our study did not find evidence that true crime consumption increased anxiety (fear cultivation by crime media, see Romer & Jamieson, 2014) or anger (violent media facilitating aggression, see Anderson & Bushman, 2018). Here, it needs to be noted that while cross-lagged multilevel modeling offers more insights into dynamic changes of affect and behavior than interpretations from cross-sectional studies, this approach still does not allow inference of strict causality, which only controlled experiments can achieve (see Hamaker et al., 2015). Additionally, while our study delivers insights into potential short-term effects of true crime consumption, long-term effects may be different, and more strongly depend on interindividual differences and ingrained media habits (see Andersen et al., 2024; Ferguson et al., 2014, 2015; Rosenberger et al., 2023). For our (lack of) anger findings, we also need to emphasize that while anger (as an emotion) is linked to aggression (as a behavior), anger does not directly or inevitably cause aggression (Bushman & Huesmann, 2010; Lee & DiGiuseppe, 2018), which suggests a daily diary assessment of aggression as the next step in understanding true crime effects (see Pond et al., 2012).

### **Limitations and Outlook**

While we obtained bidirectional links of true crime consumption, anxiety, and positive affect, our time-lag of one day only captures comparatively more long-lasting effects around true crime consumption, and not same day dynamics (but see Karwowski et al., 2017; Rominger et al., 2024, for similar approaches to dynamic affect changes). Thus, when it comes to future true crime daily diaries, multiple assessment per day may be required to better understand more fleeting motives and effects of true crime. We deliberately did not put a strong emphasis on the association between intended true crime consumption before sleep and lower anxiety the next day, as we have no means of verifying that participants followed through on their intentions. Still, our data showed that true crime consumption before sleep on day  $n$  predicted the same on day  $n + 1$ , which fits anecdotal evidence that people like to fall asleep to true crime stories (Vitis & Ryan, 2023), suggesting new avenues of investigating sleep quality and absorption/engagement in true crime stories. Altogether, while the interpretations of our directional effects should be treated as preliminary and with caution, our cross-

lagged daily diary study may nonetheless allow for first insights into relevant mechanisms around true crime consumption (also see Schuurman et al., 2016; Rominger et al., 2024).

### **Constraints on generality**

Next to the already noted limitations, given that the vast majority of our sample was composed of young female university students, our results might not generalize to other groups and require replication with other samples that should also scrutinize individual differences that may moderate or mediate true crime – affect links. Still, since studies have shown that the true crime audience is female and young (see Boling & Hull, 2018; Vitis & Ryan, 2023, Perchtold-Stefan et al., 2024), this first daily diary study on true crime consumption directly examines the population most engaged with this media genre, which enhances the relevance of our findings.

### **Conclusion**

In today's high-choice media environment, true crime continues to be a popular entertainment choice, which may be questioned with regard to motives for and consequences of engaging with tales of violent crimes. In this paper, we explored both the idea that certain affect may motivate people towards true crime consumption, and that true crime consumption may yield changes in people's affect (positive, anxiety, anger). In our two-week, cross-lagged daily diary study, anxiety of today positively predicted violent true crime consumption of tomorrow, and in addition, violent true crime consumption of today predict more positive affect of tomorrow. Our findings provide evidence that anxious individuals may use true crime for threat coping and emotion regulation, which matches recent avenues in horror and morbid curiosity research, suggesting that engagement with frightening worlds could be beneficial.

**Data availability statement:** Our data and analysis scripts are available at the Open Science Framework: [https://osf.io/hkd5v/?view\\_only=3de94962d0b149fc9b0e429e6865feff](https://osf.io/hkd5v/?view_only=3de94962d0b149fc9b0e429e6865feff). This research was pre-registered (<https://aspredicted.org/sv72-5dqz.pdf>; AsPredicted #180137)

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Images for Figure 1 were taken from Pixabay: <https://pixabay.com/vectors/smilie-whatsapp-emotion-laugh-face-2762568/>; <https://pixabay.com/vectors/task-red-splash-dirt-painting-1528007/>; <https://pixabay.com/vectors/crime-scene-silhouette-body-ground-29308/>

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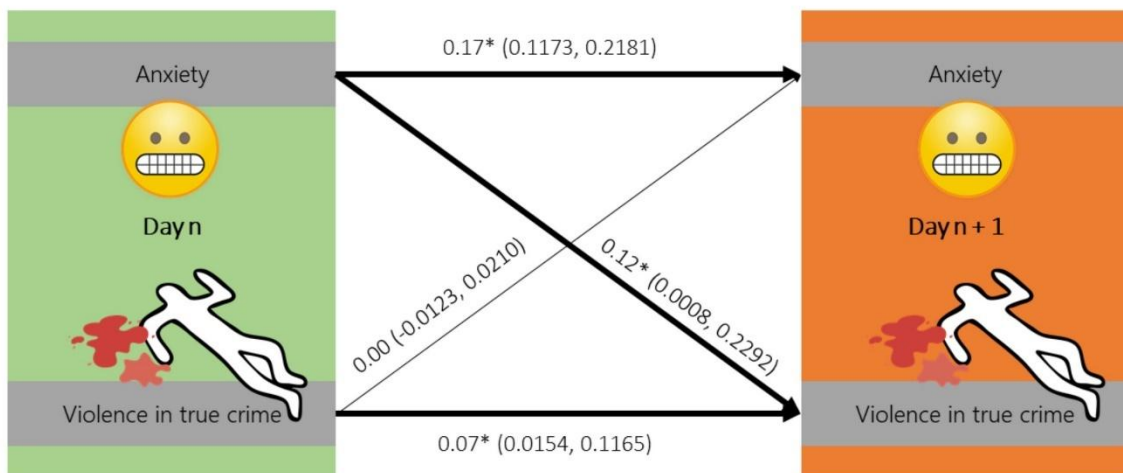
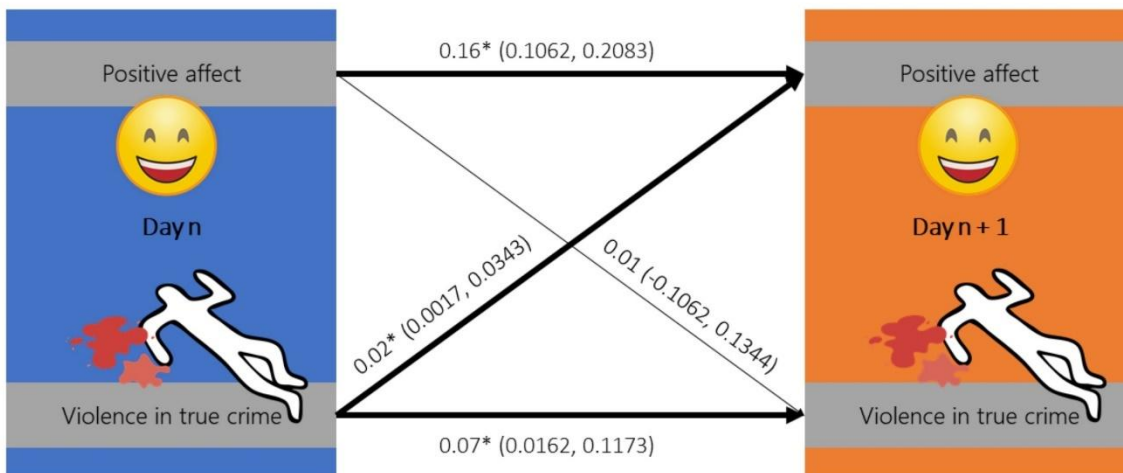
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**A****B**

**Figure 1.** Cross-lagged associations between affect and true crime consumption.

**Figure caption:** Part A illustrates a path from anxiety on day n to violence in true crime on day n + 1. Part B illustrates a path from violence in true crime on day n to positive affect on day n + 1. Numbers indicate unstandardized effect estimates. \*CI does not include zero. CIs are in parenthesis.