



## Promises and pitfalls of #Relapse narratives in Destigmatization: The mediating role of emotions

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### ABSTRACT

The disclosure of recovery journeys on social media by individuals with substance use is a growing trend, but its impact on public attitudes toward stigmatized groups is not well-understood. To address this gap, an experiment was conducted with 1,438 U.S. adults who viewed a series of Instagram posts about a person's recovery journey. Participants were randomly assigned to view posts that either included a relapse episode or not. Structural equation modeling was used for data analyses. The results revealed that presenting a relapse narrative increased feelings of compassion, anger, and pity. In addition, mediation analyses provided evidence supporting the role these emotions played in mediating the effects of a relapse narrative on stigma beliefs and desire for social distance. These findings prompt a reevaluation of digital storytelling practices in health communication strategies, aiming for a balanced representation that can effectively reduce stigma and promote community support for those navigating substance use recovery. It is recommended to incorporate the study's insights into educational content, therapeutic interventions, and policy formulations to foster a more supportive and understanding environment for individuals in recovery.

### 1. Introduction

Stigmatization serves as a substantial impediment to the recovery journey of individuals grappling with substance use, notably hindering the free exchange of personal narratives and impeding the pursuit of treatment (Krendl & Perry, 2023; Schomerus et al., 2011). The digital era, marked by the proliferation of social media platforms, offers an unprecedented space for individuals to divulge sensitive and personal information, even those pertaining to stigmatized identities (Luo & Hancock, 2020). This newfound digital openness lays the groundwork for the formation of supportive communities, uniting individuals through strategies such as common hashtag usage to tackle the challenges posed by stigma (Andalibi et al., 2015, 2017). Especially for those battling alcohol use disorders (AUD), the online world, rich in supportive networks, emerges as an alternative path to traditional recovery support systems like Alcoholics Anonymous (Gauthier et al., 2022). Yet, the implications of online self-disclosure, especially on societal perceptions, remain shrouded in uncertainty (Neubaum et al., 2020). While online sharing may indeed bridge the divide between the public and recovering individuals, enhancing awareness and diminishing stigma, it also runs the risk of inadvertently trivializing the substantial challenges these individuals face, thereby watering down empathetic responses

(Neubaum et al., 2020; Schreurs & Vandenbosch, 2021).

To address this gap, the current research seeks to unearth the potency of online recovery narratives in bringing normalization to the stories of those with substance use, specifically focusing on AUD (Krendl & Perry, 2023; Russell et al., 2021). It casts a spotlight on the public's reactions to recovery tales posted on Instagram. The study leverages insights from previous research on narrative influences (McGinty et al., 2015; Zhuang & Guidry, 2022), zeroing in on the exposure to relapse narratives within the expansive context of recovery journeys. The focus on AUD and Instagram is driven by the high incidence of alcohol misuse in the United States, its alarming societal and public health repercussions, including over 140,000 annual deaths (Centers for Disease Control and Prevention, 2022), and Instagram's visual content's potential to wield a greater impact on stigma (Andalibi et al., 2015, 2017).

To navigate the multifaceted dimensions related to destigmatization (Bartsch et al., 2018), this study evaluates both stigma beliefs and desire for social distance as outcome variables. This study also probes into emotional responses as the underlying mechanism, explaining the effects of a relapse narrative on destigmatization. The study employs diverse media personae to bolster theoretical understanding and offer practical guidance for leveraging social media platforms in digital destigmatization.

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### 1.1. Relapse narrative

A narrative centered on relapse within the context of AUD is characterized by an individual's recounting of their return to alcohol consumption following a period of abstinence (Lu, 2023b). Despite the prevailing trend of positivity on social media platforms (Schreurs & Vandenbosch, 2021), the dissemination of experiences marked by setbacks, such as relapse episodes, is not uncommon (Gauthier et al., 2022; Russell et al., 2021). Such disclosures, though integral to portraying the multi-faceted nature of recovery, carry inherent risks, including potential social ostracization (Andalibi et al., 2017). The frequent occurrence of relapse among individuals navigating AUD recovery underscores the critical need for a balanced narrative that does not gloss over the complexities and challenges of the recovery journey (Sliedrecht et al., 2019). The omission of relapse episodes from recovery narratives may inadvertently perpetuate a misconception of a seamless recovery trajectory, potentially fostering adverse perceptions towards those experiencing relapse.

Existing literature, including a recent meta-analysis, has underscored the effectiveness of personal narratives in mitigating stigma, especially those told in the first-person point of view (Chung & Slater, 2013; Ma et al., 2018; Zhuang & Guidry, 2022). However, research specifically addressing the impact of relapse narratives remains notably sparse. Norman et al. (2017) conducted a comparative analysis of narratives emphasizing the recovery journey of individuals with schizophrenia against those highlighting the symptoms and adversities faced by these individuals. The latter bears resemblance to relapse narratives as both underscore the challenges inherent in a stigmatized condition. Their findings revealed that narratives centered on recovery were significantly more efficacious in diminishing stigma associated with schizophrenia than those focused on suffering. Conversely, McGinty et al. (2015) explored the incorporation of relapse episodes within recovery narratives related to schizophrenia, finding no significant differences in destigmatization outcomes whether relapse was mentioned or not. However, McGinty et al.'s (2015) study utilized third-person narratives devoid of visual content, contrasting sharply with the rich, visually-driven, and first-person narratives typical of platforms like Instagram, which encapsulate a palpable progression over time. More recently, Lu (2023b) demonstrated that relapse narratives on social media did not directly influence attitudes towards individuals who relapsed. Instead, these narratives indirectly shaped attitudes through mediators such as parasocial interaction and identification, suggesting a more complex relationship between relapse narratives and audience response (Lu, 2023b).

Given the paucity of comprehensive research on the nuanced impacts of relapse narratives and the mixed findings from previous studies, this study seeks to delve deeper into the complex relationship between relapse narratives and public attitudes. This exploration is particularly pertinent given the unique format and immediacy of social media storytelling, which may amplify or alter the narrative effects observed in previous research:

**RQ1:** Does the presence (vs. absence) of a relapse narrative within a recovery journey story influence stigma beliefs and desire for social distance?

### 1.2. Emotions

This study proposes emotions, defined as internal mental states responsive to external stimuli (Nabi, 2019), as an important psychological mechanism explaining the effects of a relapse narrative within a recovery journey story. Despite evidence underscoring the pivotal role of emotions in shaping stigmatized attitudes towards individuals with substance use, there is a dearth of empirical investigations into how specific emotions distinctly affect these attitudes (Krendl & Perry, 2023). Specifically, this study investigates three emotions (i.e., compassion, anger, and pity) that are relevant to the use of a relapse

narrative. Compassion, a typically positive emotion, is an awareness of and sensitivity to the suffering experienced by oneself and others, coupled with a dedicated resolve to mitigate and forestall this suffering (Gilbert, 2015; Goetz et al., 2010). In interpersonal contexts, compassion is more likely to be felt by a perceiver when the actor is not considered at fault for their own failure (e.g., having a relapse episode during their recovery journey). This, in turn, leads to more pro-social actions and positive attitudes toward the actor (Weiner, 2006).

On the other hand, anger, a negative emotion, is experienced when there is a perceived offense and triggers a desire to condemn and punish the offender (Lazarus, 1991). Perceivers are more likely to experience anger when they believe the actor is responsible for their failure, resulting in negative attitudes toward the actor (Weiner, 2006). Given the divergent impacts of these two emotions, compassion has been shown to decrease, while anger increases, stigmatization of another person or group (Weiner, 2006).

A third emotion relevant to relapse narratives is pity. Pity is an ambivalent emotion felt in response to another's negative situation that is perceived as uncontrollable (Weiner, 2006). It can elicit two types of response: a desire to help the person in need and a desire for social distance from them through downward social comparison (Bartsch et al., 2018). However, research has demonstrated that, in contrast to compassion, pity can actually increase stigmatization, potentially due to perceiving another in need as incompetent (Bartsch et al., 2018).

Given the complexities of making accurate attributions about a situation, it is possible for a perceiver to experience all three emotions – compassion, anger, and pity – simultaneously, although the intensity of each emotion may vary (Bartsch et al., 2018). In reaction to relapse narratives, the audience might experience compassion, stemming from empathy for the individual's ongoing struggle, anger, triggered by perceived shortcomings in maintaining abstinence, and pity, a response to both the individual's suffering and perceived inability to overcome their challenges. Hence, it is predicted that:

**H1:** The relapse narrative present (vs. absent) condition will increase (a) compassion, (b) anger, and (c) pity.

Given that the literature reviewed above shows that compassion reduces stigmatization while anger and pity increase stigmatization, it is hypothesized that:

**H2:** (a) compassion will be associated with decreased stigma beliefs, whereas (b) anger and (c) pity will be associated with increased stigma beliefs.

**H3:** (a) compassion will be associated with decreased desire for social distance, whereas (b) anger and (c) pity will be associated with increased desire for social distance.

Therefore, this study proposes a conceptual model (Fig. 1), grounded in the theoretical framework of narrative persuasion, which posits that engaging with stories can lead to changes in beliefs, attitudes, and behaviors by fostering emotional engagement with characters (Busselle & Bilandzic, 2009). Furthermore, it integrates insights from the stigma reduction literature, which suggests that specific emotional responses play pivotal roles in influencing individuals' stigmatized attitudes (Krendl & Perry, 2023). Through this model, this study seeks to illuminate the specific emotional pathways through which relapse narratives may shape stigma beliefs and desire for social distance, offering valuable insights for both theory and practice in the realm of public health communication and stigma reduction.

## 2. Method

### 2.1. Participants

This study commenced following the approval from the Institutional Review Boards at the University of Michigan. In December 2022, a diverse group of 1,599 U.S. adults, each receiving compensation of \$2.3, was recruited by Prolific, an online platform for participant recruitment. Prolific offers data of high quality from a wide-ranging sample of U.S.

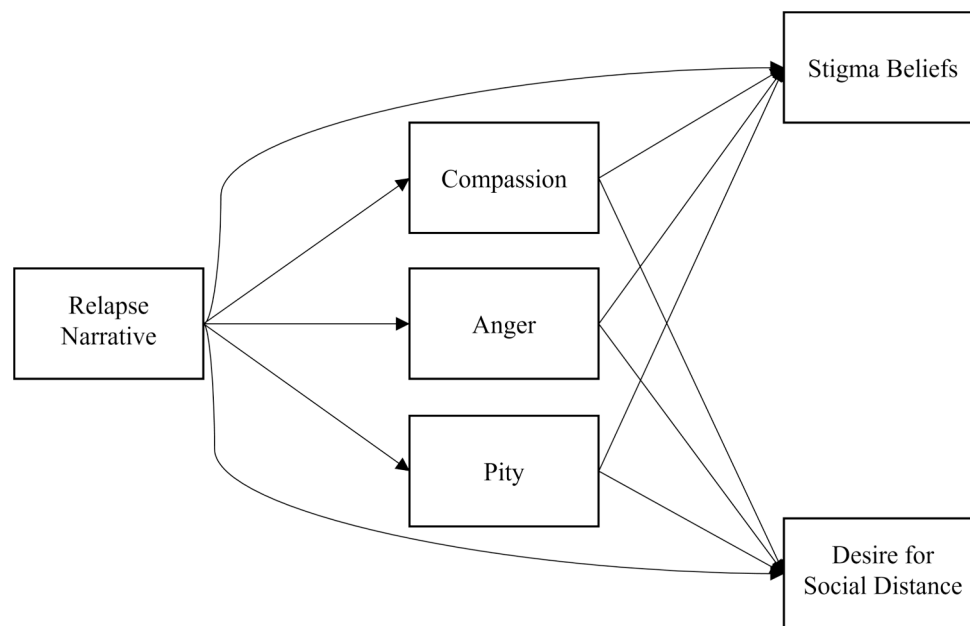


Fig. 1. Proposed Conceptual Model.

adults (Douglas et al., 2023). Given the study's emphasis on exploring stigmatizing attitudes among the U.S. general public, the target demographic was the general adult population of the U.S., rendering Prolific an appropriate platform for this research. To ensure the integrity and reliability of the research, participants were filtered based on certain criteria. Those whose survey completion time was more than three absolute deviations above the median were omitted, following the guideline proposed by Leys et al. (2013). Furthermore, participants unable to correctly answer one of three attention check questions or those who omitted responses to crucial survey questions were excluded. This screening resulted in a refined sample size of 1,438 participants. Given the absence of prior research data concerning the effect size in similar studies, the effect size was conservatively set at a small value ( $f = .10$ ). To achieve .95 power, an *a priori* power analysis identified a desirable sample size of 1,302 for the total effect of the relapse conditions, positioning the final 1,438 participants as optimal for this study.

The gender distribution was as follows: males represented 48.4 %, females 49.2 %, transgender individuals 0.9 %, and other gender categories 1.5 %. The participants' average age stood at 39.7 years ( $SD = 13.4$ ). The median education level was a bachelor's degree and the median annual household income bracket ranged from \$50,000 to \$74,999. A breakdown of racial and ethnic backgrounds is as follows: 75.1 % White, 8.3 % Black, 6.7 % Asian, 6.5 % Hispanic or Latine, 0.5 % American Indian or Alaska Native, 0.1 % Native Hawaiian or other Pacific Islander, 1.7 % identified as other racial or ethnic types, and 1.0 % opted not to answer. Upon comparing the demographic characteristics of participants in this study with those reported in the U.S. census data (U.S. Census Bureau, 2024), it was noted that the sample from this study exhibited a higher level of educational attainment and comprised a greater proportion of individuals identifying as White, alongside a smaller representation of individuals identifying as Black or Hispanic/Latine.

## 2.2. Design and stimuli

This study was conducted using the Qualtrics platform. Participants were informed that they would be viewing a series of Instagram posts, followed by a questionnaire. Participants were randomly allocated to one of 16 experimental conditions as part of a 2 (relapse narrative: present vs. absent)  $\times$  2 (viewing order: chronological vs. reverse-chronological)<sup>1</sup>  $\times$  4 (media persona) between-subjects factorial design. The Instagram posts used in the study were modeled after an extensive review of genuine Instagram recovery journey posts. Before the post-viewing phase, every participant was introduced to the Instagram profile of a selected media persona. This profile display included essential details such as the name, Instagram handle, profile photograph, and a concise account description outlining the media persona's commitment to sharing their sobriety, mental health, and fitness progress. Participants were then oriented about the structure of the post-viewing stage, where they would view nine posts, each on a separate webpage. The full collection of stimuli is accessible at <https://tinyurl.com/muxvzksf>.

Within the nine posts, seven were consistent across all conditions, depicting the media persona's ongoing recovery journey including sobriety celebrations, completed workouts, and partner support. The fourth and fifth posts varied based on the inclusion or exclusion of the relapse narrative. In the relapse absent condition, these two posts maintained a similar positive and persistent recovery theme. Conversely, in the relapse present condition, these posts highlighted a moment of relapse where the media persona consumed alcohol amidst their recovery journey. Ensuring uniformity, the length of these two posts was maintained across both conditions. The subsequent post, identical in both scenarios, was deliberately vague, allowing participants to interpret it as either a recovery post-relapse post (in the relapse present condition) or a continuous improvement post (in the relapse absent condition). All conditions concluded with a final post, celebrating the media persona's nine-month sobriety milestone, symbolizing their

<sup>1</sup> As this manuscript focuses on the total effect of the relapse condition, the viewing order manipulation is not discussed further and is reported elsewhere (Lu, 2023b). Notably, the viewing order manipulation did not interact with the relapse condition to influence variables reported in this manuscript. Nevertheless, the viewing order condition and its two-way interaction with the relapse condition was controlled for in all the reported analyses.

transient triumph over alcohol addiction.

The study also incorporated four distinct media persona conditions.<sup>2</sup> Each condition maintained consistent text but varied the represented individual's sex, race, and age. This variation ensured the diversification of names, Instagram handles, and photographs across conditions, enabling a within-study replication to evaluate the effects across variations within a message category (Brashers & Jackson, 1999).

### 2.3. Measures

For all participants, the order of measures progressed from emotions, through stigma beliefs, to desire for social distance. Within these measures, individual items were randomized to mitigate potential biases arising from the order in which the items were presented.

**Emotions.** Participants indicated how much they felt each of the listed emotions while viewing the Instagram posts on a 5-point scale (1 = *Not at all*, 5 = *A great deal*), a method commonly utilized to assess emotional reactions to media content (Niedenthal & Ric, 2017). There were five items for **compassion** (Batson et al., 1997): moved, soft-hearted, tender, compassionate, and sympathetic ( $M = 3.27$ ,  $SD = 1.05$ ;  $\alpha = .92$ ), four items for **anger** (Yang et al., 2010): angry, outraged, frustrated and disappointed ( $M = 1.19$ ,  $SD = 0.44$ ;  $\alpha = .80$ ), and two items for **pity** (Bartsch et al., 2018): pity and sorry for ( $M = 1.79$ ,  $SD = 0.92$ ;  $r_{SB} = .75$ ). The compassion scale, rooted in the Empathic-Concern Index, has been consistently shown to possess high reliability and validity across various studies differing in experimental induction methods, participant demographics, and contexts (see Batson, 2023 for a review). While the scales for anger and pity are not as widely established as that for compassion, they have been employed in multiple studies exploring emotional reactions to media, demonstrating satisfactory reliability and validity (Bartsch et al., 2018; Yang et al., 2010). Confirmatory factor analyses within this study revealed a singular factor for both the compassion and anger scales, underscoring their construct validity. The reliability of these emotion scales was confirmed to be good, as indicated by high Cronbach's alphas and Spearman-Brown coefficient.

**Stigma beliefs.** Participants indicated their agreements with the following items a 5-point scale (1 = *Strongly disagree* to 5 = *Strongly agree*; Palamar et al., 2011): alcohol addiction is morally wrong; people with alcohol addiction are lazy; people with alcohol addiction are weak minded; people with alcohol addiction have no future; most people with alcohol addiction are not well-educated; people with alcohol addiction are dishonest; people with alcohol addiction make me angry ( $M = 1.86$ ,  $SD = 0.79$ ;  $\alpha = .87$ ). This scale, originating from Palamar et al. (2011), was initially developed to gauge stigma towards users of various illicit substances. It has demonstrated robust criterion, construct, and incremental validity within the original study conducted with a diverse group of emerging adults in New York City (Palamar et al., 2011). Furthermore, it has been successfully applied and validated in subsequent research across different settings to investigate stigma towards individuals facing various health challenges (Griffiths et al., 2016). Confirmatory factor analyses in the current study endorsed its unidimensional structure, and the reliability test affirmed the scale's reliability, as evidenced by a high Cronbach's alpha.

**Desire for social distance.** Participants responded to a series of statements on a 5-point scale (1 = *Strongly disagree* to 5 = *Strongly agree*; Brown, 2011), gauging their willingness to engage in various social situations with a person with alcohol addiction. These situations included working closely with, having such a person marry into their

family, living next door to, renting a room to, and recommending for a job. These items were all reverse-coded so that a larger number represents a stronger desire for social distance ( $M = 3.23$ ,  $SD = 1.06$ ;  $\alpha = .90$ ). Originally developed by Link et al. (1987) to measure social distance from individuals with mental disorders, this scale was adapted by Brown (2011) for assessing attitudes towards people with substance use issues. Its psychometric reliability and validity have been affirmed across various health conditions and participant demographics in previous studies (Brown, 2011). Confirmatory factor analyses in this study supported its unidimensional structure, while reliability testing corroborated the scale's internal consistency, as reflected by a high Cronbach's alpha.

### 2.4. Analyses

Structural equation modeling (SEM) with a maximum likelihood estimator in Mplus 8.9 was used for investigating the proposed research question, hypotheses and the overall conceptual model. The bootstrapping method was implemented using 5,000 bootstrap samples and 95 % confidence interval (CI). Non-symmetric  $p$  values were also calculated for significance testing (Asparouhov & Muthen, 2021). To test H1(a)-(c) and H2(a)-(c) as well as the conceptual model in Fig. 1, a structural model (Model 1), which included all the paths in Fig. 1, the paths from the viewing order condition (chronological = 1, reverse-chronological = -1) and the two-way interaction between the relapse narrative condition (present = 1, absent = -1) and the viewing order condition to compassion, anger, pity, stigma beliefs, and desire for social distance, and the covariance between the error terms of stigma belief and desire for social distance, and of compassion, anger and pity, was built and assessed. Bootstrap-based mediation analyses were also performed using the MODEL INDIRECT command, assessing conventional indirect effects (i.e., products of regression coefficients; Hayes, 2017).

An additional structural model (Model 2) was constructed to answer RQ1, which assessed the total effect (i.e., the sum of the direct and indirect effect) of the relapse condition on stigma beliefs and desire for social distance. This model included the relapse condition, the order condition, and their two-way interaction as the exogenous variables, and stigma beliefs and desire for social distance as the endogenous variables.

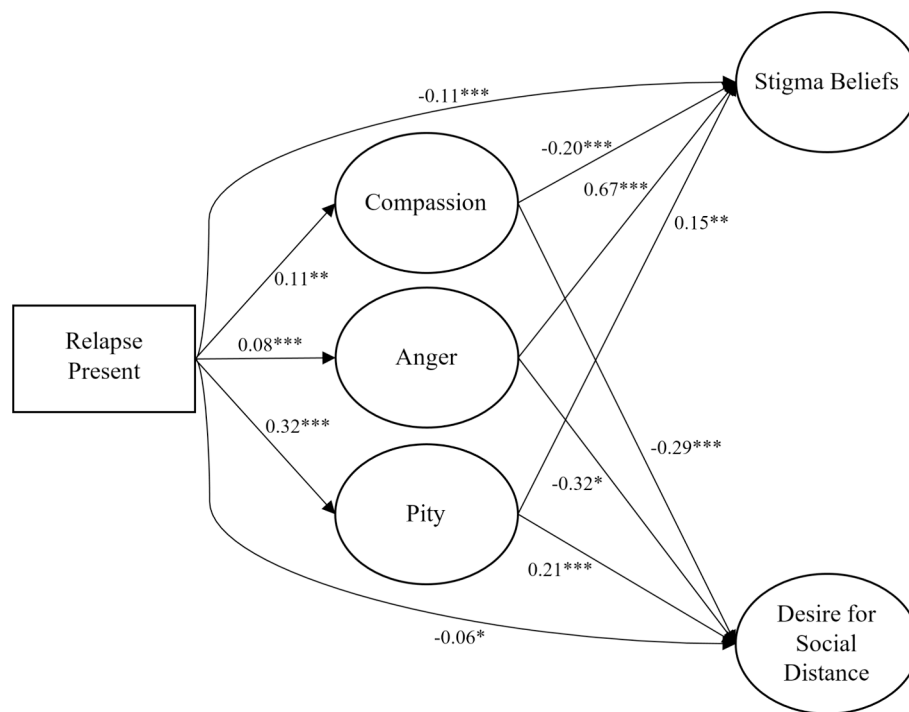
## 3. Results

Fig. 2 presents the results of the full SEM model (Model 1). Its model fit is acceptable (Kline, 2016):  $\chi^2(262) = 796.35$ ,  $p < .001$ , RMSEA = .038 (90% CI = [0.035–0.041]), CFI = .971, SRMR = .037. Based on Model 1, which assessed the total effects of a relapse narrative on various emotions, it was found that there was a total effect of the relapse condition on compassion, anger, and pity. Specifically, the relapse present (vs. absent) condition led to more compassion, anger, and pity. In addition, based on Model 2, no total effects emerged for stigma beliefs ( $b = -0.033$ ,  $SE = 0.022$ ,  $p = .136$ ) or desire for social distance ( $b = -0.057$ ,  $SE = 0.029$ ,  $p = .053$ ). Thus, RQ1 was addressed. H1(a)-(c) were supported.

When it comes to H2 and H3, Model 1 results show that compassion decreased stigma beliefs and desire for social distance, supporting H2(a) and H3(a). Anger increased stigma beliefs, supporting H2(b), but reduced desire for social distance, rejecting H3(b). Pity increased stigma beliefs and desire for social distance, supporting H2(c) and H3(c).

Finally, the mediation results based on Model 1 show that there were indirect effects of the relapse present condition on stigma beliefs via compassion ( $b = -0.022$ ,  $SE = 0.006$ , 95% CI [-0.035, -0.010]), anger ( $b = 0.052$ ,  $SE = 0.011$ , 95% CI [0.031, 0.075]), and pity ( $b = 0.046$ ,  $SE = 0.017$ , 95% CI [0.015, 0.081]). Specifically, the relapse narrative increased compassion, which corresponded with decreased stigma beliefs, while simultaneously elevating anger and pity, both associated with heightened stigma beliefs. There were also indirect effects of the relapse present condition on desire for social distance via compassion ( $b$

<sup>2</sup> A preliminary ANOVA based on the full  $2 \times 2 \times 4$  design was conducted to test the invariance of message effects across different media personae concerning measures reported in this manuscript. Out of the 20 interaction effects, only 1 was significant at  $p < .05$ , which was not predicted by theory and could be attributed to statistical artifact. Thus, the four media persona conditions were combined in the analyses described below.



**Fig. 2.** Final Structural Model

Note. Statistics refer to unstandardized coefficients. To reduce visual clutter, paths involving the viewing order condition and the two-way interaction between the relapse narrative condition and the viewing order condition are not displayed. \* $p < .05$ ; \*\* $p < .01$ ; \*\*\* $p < .001$ .

= -0.031,  $SE = 0.009$ , 95% CI [-0.049, -0.015]), anger ( $b = -0.025$ ,  $SE = 0.010$ , 95% CI [-0.045, -0.005]), and pity ( $b = 0.066$ ,  $SE = 0.021$ , 95% CI [0.026, 0.111]). Thus, while the relapse narrative augmented compassion and anger, leading to a decreased desire for social distance, it also enhanced pity, which contributed to an increased desire for social distance.

Overall, the results of the two SEM models indicate that exposure to a relapse narrative did not have a total effect on either stigma beliefs or desire for social distance, but it influenced these two outcomes indirectly via different emotions.

#### 4. Discussions

Media play a pivotal role in forming stereotypes about individuals dealing with substance use by frequently portraying them negatively, focusing on their criminal actions rather than advocating for supportive recovery solutions (McGinty et al., 2015). Despite this, the realm of social media stands as a potential game-changer. As more marginalized groups openly share their experiences, it could reshape public perception and attitude towards individuals facing substance use. This study represents a significant advancement in the field of public health communication, particularly in understanding the role of social media in shaping attitudes towards individuals with substance use disorders. Its strengths lie not only in addressing the gap identified by Russell et al. (2021) and Krendl and Perry (2023) regarding the impact of digital recovery stories on destigmatization but also in employing a robust methodological approach to exploring this phenomenon within the context of Instagram—a platform at the forefront of narrative sharing in today's digital age. The findings underscore the significant impact of using relapse narratives in driving positive shifts, marked by significant total effects of the relapse narrative on various emotions and its indirect effects on destigmatization.

The exploration of relapse narratives in academic literature, particularly those shared by individuals coping with substance use on social media, remains limited. Similar to McGinty et al. (2015) and Lu (2023b),

this study found no total effects of the relapse narrative on either stigma beliefs or desire for social distance. This outcome can be viewed as somewhat encouraging, suggesting that sharing personal relapse stories does not exacerbate negative public perceptions. However, it also reveals the limitations of relapse narratives in altering public attitudes towards individuals with AUD by merely presenting the challenges faced by a single person from this group. This interpretation should consider the specific context of this study, where the relapse narrative was embedded within a positively framed sobriety journey, potentially diminishing its impact. Given the ecological validity of this approach, mirroring the online self-disclosure trends and positivity bias of social media (MacLean et al., 2015; Schreurs & Vandenbosch, 2021), future studies might explore the effects of standalone relapse narratives.

One of the key strengths of this research is its pioneering exploration of the mediating role of emotions—compassion, anger, and pity—in the relationship between relapse narratives and destigmatization outcomes. This approach significantly extends the nascent body of literature that recognizes emotions as crucial in influencing stigmatized attitudes (Krendl & Perry, 2023). This study not only highlights the complex interplay of these emotions but also offers a nuanced understanding of their differential impacts on stigma beliefs and desire for social distance. It was found that relapse narratives indirectly affected stigma beliefs and desire for social distance through the elicitation of compassion, anger, and pity, identifying emotions as a key, yet underexplored, psychological mechanism in the context of relapse narratives. As anticipated, the inclusion of a relapse narrative intensified all three emotions, indicating a more potent emotional response to narratives featuring relapse episodes. Moreover, this study corroborated past research findings on the divergent impacts of compassion and pity on destigmatization (Bartsch et al., 2018; Weiner, 2006): compassion mitigated stigmatization, while pity had the opposite effect.

However, anger presented contrasting associations with stigma beliefs and desire for social distance. While it is well-documented that negative attitudes might intensify when anger is directed at an individual's perceived failure (Weiner, 2006), the reasons behind anger's

effect in reducing desire for social distance remain less understood. Typically, anger engenders a punitive desire, suggesting that a reduction in social distance might reflect a punitive intent to “punish” the individual more directly. Conversely, recent research suggests that anger primarily seeks to restore equity (Lu, 2023a; van Doorn et al., 2014). In this context, the disruption of equity, caused by a relapse episode, could lead to two different responses: a heightened negative societal attitude towards the relapsed individual (i.e., stronger stigma belief) as a motivational force for sobriety, or increased social support (i.e., reduced social distance) to assist their recovery. Thus, a reduced desire for social distance could also signal an intention to assist the individual in overcoming their challenges. However, the conventional use of desire for social distance as a measure in (de)stigmatization studies, including the current one, often does not clarify the specific motivations behind changes in this measure. This ambiguity underscores the need for future research to explore more nuanced and specific dependent variables, such as measures of punitive versus supportive intentions (Lu, 2023a), to better decipher the underlying motivations associated with desire for reduced social distance. Additionally, further investigation into the multifaceted roles of emotions in digital destigmatization processes more generally could enrich our understanding of how narratives influence public perceptions and behavior towards individuals with substance use disorders.

This study is accompanied by several limitations, presenting avenues for further inquiry. One notable constraint is the investigation’s exclusive focus on the immediate impacts of relapse narratives, leaving the arena of long-term effects and potential sleeper effects on destigmatization uncharted. Moreover, the study’s limitation to a single exposure to a sequence of recovery journey posts may not aptly capture the diverse experiences of followers encountering these posts over extended periods. Future inquiries should probe the holistic impact of continuous interaction with recovery journey narratives, examining consequent attitudinal shifts and their endurance over time. Furthermore, despite utilizing an experimental design, the evaluation of mediators and outcome variables in this study was conducted cross-sectionally, constraining its ability to establish clear causal relationships. Additionally, the research context was confined to an image-based social media platform, which may restrict the applicability of the results to platforms predominantly featuring text or video content. To broaden the validity and applicability of these findings, future studies should consider experimental manipulations of the mediators themselves and extend their investigations across a variety of digital platforms. Lastly, this study’s scope, confined to relapse narratives associated with AUD within the U.S. demographic, further pinpoints a limitation. It is imperative for upcoming studies to expand this domain, exploring varied recovery journey contexts including smoking, drug misuse, and depression, and encompassing diverse cultural and national landscapes to ascertain the broader applicability of the current findings.

The findings from this study reveal complex practical implications for entities involved in creating social media content and public health messages. Notably, while crafting narratives that balance recovery milestones with transparent discussions of challenges like relapses might be important, it is potentially more crucial to consider how these narratives might elicit varied emotional responses from the audience.

Firstly, content creators, including influencers and health advocates, must carefully construct narratives that do not only celebrate recovery but also honestly address the struggles, including relapses. This approach should aim not just to demystify the recovery process but also to foster a culture of understanding and support. For instance, social media campaigns might feature a series of posts that chronicle both the successes and difficulties of recovery, complemented by supportive resources. These narratives should be designed to maximize compassion, which has been shown to decrease stigma and social distancing, thereby promoting a supportive environment.

Secondly, the differential emotional responses to relapse narratives, such as anger and pity, which may have less desirable effects, necessitate

targeted message framing. While fostering compassion is beneficial, it is crucial to mitigate the potentially stigmatizing and distancing effects of pity, and the aggressive tendencies spurred by anger. Narratives that inadvertently inspire pity or anger should be reframed to emphasize empowerment, resilience, and community support. Health communication professionals might benefit from training workshops that focus on how to craft messages that balance these emotional responses effectively.

Thirdly, this study underscores the need for nuanced content moderation policies on social media platforms. Given the dual potential of relapse narratives to either support or hinder recovery efforts, guidelines for content moderation should allow for the sharing of these stories in ways that ensure they are framed within supportive contexts. Collaboration among public health experts, recovery communities, and platform policymakers is vital to develop guidelines that appreciate the complexity of recovery narratives and their varied impacts on public attitudes.

In conclusion, the practical applications of this study are multifaceted, impacting content creation, campaign strategy, policy formulation, and education. By understanding and leveraging the nuanced effects of recovery and relapse narratives, stakeholders can significantly influence public attitudes towards recovery from substance use disorders. It is essential that these narratives are handled with care to minimize potential harm and maximize support for individuals in recovery. The goal should be to use these narratives to build a more supportive and understanding community, recognizing the potential risks and actively working to mitigate them.

#### CRediT authorship contribution statement

**Hang Lu:** Writing – review & editing, Writing – original draft, Visualization, Methodology, Investigation, Formal analysis, Data curation, Conceptualization.

#### Declaration of competing interest

The author declares that he has no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

#### Data availability

Data will be made available on request.

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