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HARMFUL ATTRIBUTIONS: THE ROLE OF MIND PERCEPTION

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Introduction: Drawing from literature in social and clinical psychology, we explore mechanisms associated with the lack of empathy for people who engage in self-injurious behaviors. **Methods:** Using implicit and explicit measures across three samples, we tested whether knowledge of prior self-injury impacts observers' empathy, perceived agency, perspective taking, and willingness to help a target individual. **Results:** We found in Studies 1-2 that observers report decreased empathy, perceive less agency, and make more dispositional attributions toward a person who engages in deliberate self-injury, compared to accidental injury. Study 3 indicates that observers perceive a target who engaged in deliberate self-injury to have lower agency. Furthermore, when evaluating a target who has been victimized, observers report less empathy, compassion, and likelihood of helping if the target has a history of deliberate self-injury. Perceived agency accounted for decreased empathy, whereas empathy accounted for lower likelihood of helping. **Discussion:** Our findings imply that observers may be better able to empathize with people with a history of self-injury if they focus on the agency of the individual and situational causal explanations for the behavior.

Keywords: person perception, empathy, agency, attribution, self-injury

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The authors have no conflict of interest to declare. The data that support the findings of this study are available from the corresponding author upon reasonable request.
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An outpouring of support and calls for greater awareness and public responsibility greeted the tragic circumstances around the recent passings of designer Kate Spade and chef Anthony Bourdain. Yet the demonstrations of empathy that emerged (Carey, 2018) were a striking departure from the neglect that often awaits those who suffer from self-injurious behaviors (Lindgren, Wilstrand, Gilje, & Olofsson, 2004).

The social ostracism and stigma that mental health patients often face (Herman, 1997) can perpetuate the harmful cycle they experience and pose further obstacles to their treatment. Even medical personnel have reported attributing injurious behaviors to manipulative and attention-seeking traits (Anderson, 1997; Platt & Salter, 1987; Vivekananda, 2000). Patients often report feeling dehumanized, undervalued, and ignored by frontline medical staff (Lindgren et al., 2004). This stands in contrast to the themes of acknowledgement and empathic connection that can begin the process of recovery (Herman, 1997) and have been highlighted as core to medical education (Riess, Kelley, Bailer, Dunn, & Phillips, 2012).

EMPATHY AND STIGMATIZED POPULATIONS

As an other-oriented emotional response (Batson, Lishner, Cook, & Sawyer, 2005), empathy is associated with feelings of sympathy, helping behaviors, compassion, and acts of tenderness. Empathy may be prompted involuntarily and automatically (Hoffman, 2000), through mimicry of expression cues, the pairing of feelings of distress with cues of distress, and the direct association with one's own experiences. Two other processes require higher-order cognitive functioning: mediated association (i.e., the association of cues from others with one's own experiences, mediated by the semantic processing of information about others) and perspective-taking. These processes allow a person to empathize with somebody who is not actually present.

Perspective-taking and a tacit awareness of others correspond with role-taking, sympathy, and empathy, and allows us to bring another's situation into focal perspective (Wegner & Guiliano,

1982), like experiencing it ourselves. In so doing, we become aware of that individual's unique situation and have the ability to imagine another's goals, rather than simply attributing events to traits (Hoffman, Mischel, & Mazze, 1981). Empathizing with another person, however, can be impeded even when that individual is displaying signs of distress.

For example, medical personnel have reported non-empathic responses to patients who engage in non-suicidal self-injury (NSSI; i.e., non-socially sanctioned self-inflicted body tissue damage without intent to die), disclosing that they often feel rage, disgust, and frustration toward these individuals (Zila & Kiselica, 2001). Although NSSI has emerged as a growing and pervasive health problem, patients who self-injure often do not receive adequate mental health evaluation and care (Anderson, 1997; Cooper et al., 2005; Lindgren et al., 2004; McAllister & Estefan, 2002; Vivekananda, 2000; Zila & Kiselica, 2001).

These trends are alarming when we consider that NSSI is a risk factor for subsequent suicide attempts (Nadkarni, Parkin, Dogra, Stretch, & Evans, 2000; Brent et al., 1993; Shaffer et al., 1996). Cooper and colleagues (2005) found that the risk of suicide increases 50 to 100 times within the first 12 months after an episode of self-injury. The risk of suicide in this population is estimated to be between 13 and 16% annually (Lacey & Evans, 1986). However, healthcare workers treat patients with serious suicidal intent more empathically than patients who self-injured (Anderson, 1997). This suggests that some of the preventative benefits of frontline treatment may not be realized.

A possible driver of the lack of empathy for patients who engage in self-injurious behaviors is the inability to understand the goal of self-injury. There exist some socially acceptable examples of bodily self-mutilation, typically decorative or aspects of rites of passage that may serve a cultural purpose such as maintaining social structure in the community (Myers, 1992). However, these behaviors are distinct from pathological self-injury (Favazza & Favazza, 1987), which occurs outside of mainstream culture and lacks the shared meaning of ritualized self-injury. Yet self-injurious behaviors can often be used to relieve tension, anxiety, or other unwanted mood states (Haines, Williams, Brian, & Wilson, 1995; Nock & Prinstein, 2004) and the negative attributions that the public often make about such behaviors—that patients are prompted by a desire to gain attention—lack empirical support.

People are generally motivated to empathize by attempting to understand others' psychological states and personality traits (Marangoni, Ickes, Garcia, & Teng, 1995). However, although empathic accuracy tends to increase with exposure to the target group, even specialized training on the nature of self-injury did not yield an increase in empathic attitudes (McAllister & Estefan, 2002). To examine why empathizing might be especially difficult in the case of stigmatized behavior, we build on work on mind perception and attributions towards situational versus dispositional factors for behaviors (Jones & Nisbett, 1971). It may be that empathizing with an individual who self-injures is difficult because the target is acting in ways incongruent with typical self-perseveration characteristics of goal-directed agents, thereby decreasing perceptions of mind and impeding perspective-taking. Furthermore, as a self-inflicted injury, conceptions of a just world may reinforce the idea that the consequences of self-injury are deserved (Lerner & Simmons, 1966).

Earlier research has also found that individuals who adopt an empathic stance when interacting with another person tend to provide explanations for that person's behavior that are more situational and less dispositional (Regan & Totten, 1975). The reverse may also be true —the empathic process can be interrupted if observers are prevented from taking the perspective of the target and attribute behavior to dispositional rather than situational factors. This may be another mechanism through which people become less able to empathize with patients who self-injure

EXPERIMENTAL OVERVIEW

We use both implicit and explicit measures to determine how observers respond to self-injurious behaviors and to provide insights into the mechanisms behind non-empathic responses. We hypothesized that knowledge of prior deliberate self-injury would attenuate observers' empathic response, mind attribution, and perspective-taking with target individuals.

In Study 1, we tested whether information about self-injury would affect others' mind perception, understanding, and likeability of the target, as well as people's ability to take the target's perspective. In Study 2, we compared the empathy and perspec-

tive-taking prompted by non-suicidal self-injurious versus suicidal behaviors. Finally, in Study 3, we examined whether empathy and helping behavior would be affected and if perceived agency would account for any effects.

STUDY 1

Study 1 tested whether the knowledge of deliberate versus accidental self-injurious behaviors would prompt shifts in attitudes and attributions about the target individual.

METHOD

PARTICIPANTS

A sample of 128 was needed to have adequate power ($1 - \beta = .80$) to detect a medium effect ($d = .50$) (Faul, Erdfelder, Lang, & Buchner, 2007). Participants ($N = 160$) ranged in age ($M = 19.52$, $SD = 2.25$) and gender (65.6% female), and 31.3% reported a lifetime history of non-suicidal self-injury (NSSI).

PROCEDURES

Participants were randomized into: Accidental Self-Injury (ASI; $n = 80$) and Deliberate Self-Injury (DSI; $n = 80$). Participants were instructed to read a vignette about Jenny, identical except for one sentence: "Earlier this morning, after feeling extremely anxious and upset, Jenny [accidentally (ASI) /purposely (DSI)] cut herself on the arm with a kitchen knife" (Appendix A). Participants then completed items on mind perception (agency and experience), an explanation task to gauge perceived traits and goals, and an overall evaluation about Jenny.

MATERIALS

Mind Perception Scale (MPS). The MPS (Gray, Gray, & Wegner, 2007) was designed to measure the degree to which a participant believes a target displays two dimensions of mind: agency and

experience. Items measuring agency include self-control, morality, memory, emotion recognition, planning, communication, and thought. Items measuring experience include hunger, fear, pain, pleasure, rage, desire, personality, consciousness, pride, embarrassment, and joy. The scale is comprised of 18 questions such as "How much is this person capable of experiencing pride?" Participants indicated the degree to which they agree with the statement on a seven-point scale that ranges from 1 (cannot or has none) to 7 (can or has). Separate scores for Agency ($\alpha = .87$) and Experience ($\alpha = .88$) were totaled.

Perspective-Taking. After reading the vignette about the target, participants completed an explanation task, used as a measure of the degree to which participants would be able to take on Jenny's perspective and understand her subsequent behavior in terms of her goals: "After going to the hospital, Jenny takes the subway to Chinatown. In Chinatown, she enters a shop selling Chinese imports and purchases 100 paper umbrellas. Please think of a possible explanation for Jenny's action of buying the umbrellas and write it in the space below."

Three blind judges coded the response content on the basis of the extent to which the answer contained a possible goal (e.g., Jenny purchased the umbrellas because she was having a party and wanted to put them in tropical drinks) and the extent to which the answer referred to a trait (e.g., Jenny purchased the umbrellas because she is crazy). Responses were scored on each dimension from 0 (did not contain any indication of the attribute) to 5 (clearly stated the attribute using unambiguous language). Inter-rater reliability (i.e., ICC[2,3]) was .93 for goal ratings and .93 for trait ratings.

Feelings About Jenny. Given a lack of validated measures assessing state empathy, individual items were used to assess self-reported empathy, along with other feelings about Jenny (i.e., likeability and understanding) on a 7-point Likert scale (1—Strongly Disagree to 7—Strongly Agree). Items included: "I find that I can empathize with Jenny," "I like Jenny," and "I understand Jenny's actions."

Participants also completed a feeling questionnaire containing emotion adjectives assessing feelings toward Jenny rated on a 7-point Likert scale (1—Not At All to 7—Extremely) and summed to create a scale ($\alpha = .91$). Items included: "I feel [sym-

TABLE 1. Study 1 Means (M), Standard Deviations (*SD*), and Intercorrelations

	M(*SD*)	1	2	3	4	5	6	7
1. Agency	29.51(8.15)	—						
2. Experience	55.25(10.61)	.67**	—					
3. Goal Avg	2.68(1.72)	.34**	.13	—				
4. Trait Avg	2.09(1.88)	-.36**	-.12	-.73**	—			
5. Empathy	4.19(1.60)	.44**	.42**	.20**	-.07	—		
6. Compassion	18.60(6.65)	.44**	.30**	.16*	-.15	.56**	—	
7. Likeability	3.98(1.35)	.53**	.42**	.23**	-.18*	.68**	.56**	—
8. Understanding	3.66(1.78)	.43**	.36**	.20*	-.15	.49**	.37**	.47**

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

pathetic / warm / compassionate / tender] toward Jenny" and "I feel moved by Jenny," (i.e., Batson, 1991; Batson et al., 2007). Given that this measure (a) assesses sympathy (Escalas & Stern, 2003), and (b) does not assess empathy directly (e.g., I empathize with Jenny) or assess components of empathy (i.e., feeling the same emotions as or being able to take on a target's perspective), it was interpreted as a measure of compassion.

Manipulation Check. Participants were asked to rate on a 7-point Likert scale (1—strongly disagree to 7—strongly agree) whether they believed Jenny had cut herself on purpose (i.e., I think Jenny cut herself on purpose.). Participants in the ASI condition ($M = 2.80$, $SD = 1.59$) were significantly less likely to think that Jenny cut herself on purpose than those in the DSI condition ($M = 6.03$, $SD = 1.28$), $t(151.07) = -14.10$, $p < .001$, $d = 2.23$.

RESULTS

See Table 1 for descriptive statistics and Table 2 for all values per condition.

MIND PERCEPTION

Participants in the ASI condition reported that Jenny had greater agency, $t(158) = 4.63$, $p < .001$, $d = .73$, and experience, $t(158) = 2.22$, $p < .05$, $d = .35$, than those in the DSI condition.

TABLE 2. Studies 1 and 2 Means (*M*) and Standard Deviations (SD) by Condition

	Study 1		Study 2		
	ASI	DSI	ASI	DSI	SSI
	M(*SD*)	*M*(*SD*)	*M*(*SD*)	*M*(*SD*)	*M*(*SD*)
Agency	32.31(8.09)	26.70(7.23)	40.77(8.42)	35.42(9.71)	36.00(10.77)
Experience	57.09(10.36)	53.41(10.61)	65.86(12.79)	65.02(11.44)	64.02(13.09)
Goal Avg	3.11(1.62)	2.25(1.71)	3.85(1.11)	2.94(1.69)	3.20(1.62)
Trait Avg	1.59(1.83)	2.59(1.80)	.85(1.17)	1.80(1.58)	1.87(1.65)
Empathy	4.58(1.33)	3.81(1.75)	5.63(1.09)	3.98(1.81)	4.64(1.96)
Compassion	19.19(6.03)	18.01(7.20)	25.75(5.72)	21.85(7.38)	24.26(8.09)
Likeability	4.31(1.15)	3.65(1.45)	5.05(1.14)	4.04(1.53)	4.26(1.64)
Understanding	4.29(1.52)	3.04(1.81)	5.16(1.41)	3.38(1.93)	3.91(2.12)

Note. ASI: Accidental Self-Injury; DSI: Deliberate Self-Injury; SSI: Suicidal Self-Injury.

PERSPECTIVE-TAKING

Participants in the ASI condition emphasized goals to a significantly greater degree as explanation of Jenny's future behavior than those in the DSI condition, $t(158) = 3.28$, $p < .01$, $d = .52$. On the other hand, those in the DSI condition emphasized traits to a significantly greater degree than those in the ASI condition, $t(158) = -3.49$, $p < .001$, $d = .55$.

EMPATHY AND COMPASSION

Participants in the ASI condition reported being able to empathize more with Jenny than those in the DSI condition, $t(147.35) = 3.10$, $p < .01$, $d = .49$. Participants did not differ between condition on compassion for Jenny, $t(153.28) = 1.12$, $p = .27$.

LIKEABILITY AND UNDERSTANDING

Participants in the ASI condition reported liking, $t(158) = 3.20$, $p < .01$, $d = .51$, and understanding, $t(158) = 4.73$, $p < .001$, $d = .75$, Jenny more than those in the DSI condition.

TABLE 3. Study 2 Means (*M*), Standard Deviations (*SD*), and Intercorrelations

	M(*SD*)	1	2	3	4	5	6	7	
1.	Agency	37.46(9.90)	—						
2.	Experience	64.98(12.41)	.85**	—					
3.	Goal Avg	3.34(1.53)	.26**	.24**	—				
4.	Trait Avg	1.49(1.54)	−.07	−.03	−.42**	—			
5.	Empathy	4.77(1.78)	.31**	.21**	.10	−.02	—		
6.	Compassion	23.99(7.25)	.32**	.22**	.11	.04	.70**	—	
7.	Likeability	4.46(1.50)	.39**	.27**	.20*	−.09	.63**	.66**	—
8.	Understanding	4.17(1.98)	.22**	.03	.10	−.02	.66**	.45**	.49**

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

DISCUSSION

Overall, our results suggest that knowledge of deliberate self-injury results in lower levels of perceived agency, experience, and goal attributions, while also increasing trait-based attributions. Participants also reported decreased empathy, liking, and understanding for a target who deliberately engaged in self-injury, compared to one who accidentally injured herself.

It seems that behaviors that are potentially maladaptive are incongruent to observers with perceptions of agency or goal-directed behavior. For deliberate self-injury, this appears to interfere with perspective-taking and the interpretation of non-injury related future behaviors. Although empathy was lower among those presented with a target who intentionally self-injured, compassion was elicited irrespective of empathy. This may have been influenced by the focus of the vignette on the consequences of the injurious behavior.

STUDY 2

Although Study 1 indicated decreased empathy and perceived agency for a target that engaged in deliberate self-injury generally, previous research suggests greater empathic treatment of patients who attempted suicide than those who engaged in NSSI (Anderson, 1997). Thus, in Study 2, we sought to determine whether type of deliberate self-injury (i.e., NSSI vs. suicide at-

tempt) differentially influences mind perception and empathic responses for observers.

METHOD

PARTICIPANTS

A sample of 162 was needed to have adequate power ($1 - \beta = .80$) to detect a medium effect, $f^2(V) = .06$. One hundred seventy-two online participants were recruited from MTurk. Nine participants failed all attention checks and were excluded from analyses. One participant did not complete all main outcome variables and was also excluded from analyses.[1]

The final sample consisted of 162 adults (53.7% female), *Mage* = 36.38, *SDage* = 11.89, with 31.5% of participants endorsing lifetime history of NSSI and 13.0% a suicide attempt history.

PROCEDURES AND MATERIALS

Participants were randomized into: accidental self-injury (ASI; $n = 56$), non-suicidal self-injury (NSSI; $n = 53$), or suicidal self-injury (SSI; $n = 53$). Materials and procedures were similar to those in Study 1 (agency $\alpha = .91$, experience $\alpha = .92$, compassion $\alpha = .90$). The vignettes were also the same as those used in Study 1, except that the NSSI condition specified that, ". . . Jenny purposely cut herself…without intent to die" whereas the SSI condition specified that, "Jenny purposely cut herself . . . with intent to die."

MANIPULATION CHECK

Participants in the ASI condition ($M = 2.59$, $SD = 1.71$) were significantly less likely to think that Jenny cut herself on purpose than those in the NSSI ($M = 6.57$, $SD = 1.08$, $p < .001$) or SSI ($M = 6.85$, $SD = .36$, $p < .001$) conditions, $F(2,159) = 216.14$, $p < .001$, η^2

1. Results remained similar when included in analyses.

= .73. Participants in the NSSI and SSI conditions did not differ from each other.

RESULTS

See Table 2 for all values per condition and see Table 3 for descriptive statistics.

We tested the effect of condition on mind perception (agency and experience), perspective-taking (goal and trait attributions), and feelings about the target (empathy, compassion, likeability, and understanding) in an overall MANOVA, and found that condition had a significant overall effect on our main outcome variables, $F(16,304) = 4.63$, Wilks' $\lambda = .65$, $p < .001$, $\eta^2 = .20$.

MIND PERCEPTION

The MANOVA indicated a significant effect of condition on agency, $F(2,159) = 5.08$, $p < .01$, $\eta^2 = .06$, but not experience, $F(2,159) = .30$, $p = .74$. Tukey post-hoc tests indicated that participants in the ASI condition reported that Jenny had significantly greater agency than those in the NSSI condition, $p < .05$, and SSI condition, $p < .05$.[2]

PERSPECTIVE-TAKING

As in Study 1, the content of the participants' responses was rated by three judges, who were blind to condition. Inter-rater reliability (i.e., ICC[2,3]) was .95 for goal ratings and .92 for trait ratings.

The MANOVA indicated a significant effect of condition on goal attributions, $F(2,159) = 5.42$, $p < .01$, $\eta^2 = .06$, and trait attributions, $F(2,159) = 8.30$, $p < .001$, $\eta^2 = .10$. Similar to the previous studies, Tukey post-hoc tests indicated that participants in the ASI condition emphasized goals[3] to a significantly greater

2. Participants in the NSSI and SSI conditions did not significantly differ on this dimension.

3. Participants in the NSSI and SSI conditions did not significantly differ on this dimension.

TABLE 3. Study 2 Means (*M*), Standard Deviations (*SD*), and Intercorrelations

	M(*SD*)	1	2	3	4	5	6	7	
1.	Agency	37.46(9.90)	—						
2.	Experience	64.98(12.41)	.85**	—					
3.	Goal Avg	3.34(1.53)	.26**	.24**	—				
4.	Trait Avg	1.49(1.54)	−.07	−.03	−.42**	—			
5.	Empathy	4.77(1.78)	.31**	.21**	.10	−.02	—		
6.	Compassion	23.99(7.25)	.32**	.22**	.11	.04	.70**	—	
7.	Likeability	4.46(1.50)	.39**	.27**	.20*	−.09	.63**	.66**	—
8.	Understanding	4.17(1.98)	.22**	.03	.10	−.02	.66**	.45**	.49**

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

degree as an explanation of Jenny's future behavior than those in the NSSI condition, $p < .05$, but not compared to those in the SSI condition, $p = .06$. Similar to Study 1, participants in the ASI condition emphasized traits[3] to a lower degree than those in the NSSI, $p < .01$, and SSI, $p < .01$, conditions.

EMPATHY AND COMPASSION

The MANOVA indicated a significant effect of condition on empathy, $F(2,159) = 13.63$, $p < .001$, $\eta^2 = .15$, and compassion, $F(2,159) = 4.16$, $p < .05$, $\eta^2 = .05$. Tukey post-hoc tests revealed that participants in the ASI condition reported significantly more empathy[3] toward Jenny than those in the NSSI, $p < .001$, and SSI, $p < .01$, conditions.

Tukey post-hoc tests indicated that participants in the ASI condition reported more compassion[3] for Jenny than those in the NSSI condition, $p < .05$, but did not significantly differ from those in the SSI condition, $p = .52$.

LIKEABILITY AND UNDERSTANDING

The MANOVA also indicated a significant effect of condition on likeability, $F(2,159) = 7.45$, $p < .001$, $\eta^2 = .09$, and understanding, $F(2,159) = 13.58$, $p < .001$, $\eta^2 = .15$. Tukey post-hoc tests revealed that participants in the ASI condition reported that Jenny was more likeable[3] than those in the NSSI, $p < .001$, and SSI, $p < .05$,

conditions. Tukey post-hoc tests also indicated that participants in the ASI condition understood[3] Jenny's actions more than those in the NSSI, $p < .001$, and SSI, $p < .01$, conditions.

DISCUSSION

Overall, participants attributed less agency and goals, but more traits, toward a target that engaged in deliberate self-injury. Participants also reported less empathy, liking, and understanding for targets that engaged in non-suicidal or suicidal self-injury. Participants reported less compassion toward a target that engaged in NSSI. It may be that engaging in deliberate self-injury without a reason stated (e.g., suicidal intent) is (a) particularly incongruent with goal-directed behavior or (b) not as 'concerning' for observers, and thus less likely to elicit compassion. Overall, results suggest that mind perception and empathy are affected given previous knowledge of deliberate self-injury.

STUDY 3

In Study 3, we sought to determine whether the association between condition and empathy was mediated by perceived agency. We also tested whether knowledge of deliberate versus accidental self-injury influenced how likely an observer would be to help Jenny in an unrelated scenario.

METHOD

PARTICIPANTS

A sample of 128 was needed to have adequate power ($1 - \beta = .80$) to detect a medium effect ($d = .50$). One hundred fifty-two participants were recruited from MTurk. Twenty-three participants failed the attention checks and were excluded from analyses. The final sample included 129 adults (54.3% female), *Mage* = 36.88 and *SDage* = 12.75, with 25.6% of participants endorsing lifetime history of NSSI and 15.5% a suicide attempt history.

PROCEDURES AND MATERIALS

Participants were randomized into: Accidental Self-Injury (ASI; $n = 63$) or Deliberate Self-Injury (DSI; $n = 66$). Participants were presented with the same vignette as in Study 1 and asked to complete the same mind perception measure (agency $\alpha = .92$, experience $\alpha = .93$). Participants then read a new scenario (Supplemental Appendix B) in which Jenny is the victim of a robbery. Participants were then asked to complete the same measures of empathy and compassion (compassion $\alpha = .92$) as in the previous study. They were also asked to complete two new measures, assessing empathy and self-reported helping behavior.

EMPATHY SCALE

The Defendant Empathy Scale (DES; Haegerich & Bottoms, 2000) consists of 6 items assessing aspects of empathy on a 7-point Likert scale (1—Strongly Disagree to 7—Strongly Agree). The DES was developed to assess state (not trait) empathy, differentially from sympathy and similarity, toward a defendant in a mock-trial paradigm following an empathy-induction ($\alpha = .85$; Haegerich & Bottoms, 2000). We adapted the questions to refer to Jenny: "I can really imagine the thoughts running through Jenny's head," "I can really feel what Jenny must have been feeling," "I can experience the same feelings that Jenny experienced," "I can take the perspective of Jenny," "I can really see myself in Jenny's shoes," and "I feel like I can easily take the perspective of Jenny." Inter-item reliability was excellent ($\alpha = .95$).

HELPING BEHAVIOR

Participants were asked to rate from 0 to 100% how likely they would be to help Jenny if they were present.

TABLE 4. Study 3 Means (*M*), Standard Deviations (*SD*), and Intercorrelations

	M(*SD*)	ASI *M*(*SD*)	DSI *M*(*SD*)	1	2	3	4	5	
1.	Agency	37.07(9.56)	40.48(8.38)	33.82(9.54)	—				
2.	Experience	62.54(13.51)	63.40(13.08)	61.73(13.97)	.84**	—			
3.	Empathy Item	6.16(1.00)	6.48(.64)	5.85(1.18)	.30**	.27**	—		
4.	Empathy Scale	35.28(6.30)	36.62(5.45)	34.00(6.81)	.33**	.32**	.73**	—	
5.	Compassion	29.05(5.06)	30.56(4.23)	27.62(5.38)	.24**	.17*	.70**	.74**	—
6.	Helping	77.51(22.32)	83.06(17.54)	72.21(25.08)	.15	.12	.62**	.52**	.59**

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

MANIPULATION CHECK

Participants in the ASI condition ($M = 1.65$, $SD = 1.25$) were significantly less likely to think that Jenny cut herself on purpose than those in the DSI ($M = 6.64$, $SD = .78$, $p < .001$) condition, $t(99.53) = -26.22$, $p < .001$, $d = 4.80$.

RESULTS

Participants did not differ significantly across conditions on demographic variables or non-suicidal self-injury / suicide attempt history. See Table 4 for descriptive statistics.

MIND PERCEPTION

Participants in the ASI condition reported greater perceived agency than those in the DSI condition, $t(127) = 4.21$, $p < .001$, $d = .74$. There were no differences between conditions on perceived experience.

EMPATHY, COMPASSION, AND HELPING BEHAVIOR

Participants in the ASI condition reported being able to empathize with Jenny more (single-item) than those in the DSI condition, $t(101.54) = 3.73$, $p < .001$, $d = .66$. Participants in the ASI condition also reported more empathy, as measured by the adapted empathy scale, than those in the DSI condition, $t(118) = 2.37$, p

< .05, d = 43. Participants in the ASI condition reported greater compassion for Jenny than those in the DSI condition, $t(127)$ = 3.43, $p < .001$, d = .61. Participants in the ASI condition reported being more likely to help Jenny than those in the DSI condition, $t(116.58) = 2.84$, $p < .01$, d = .50.

AGENCY AND EMPATHY

We examined whether perceived agency mediated the association between condition and empathy (Baron & Kenny, 1986). When using the single-item measure of empathy, in step 1, the predictor (condition) was associated with the outcome (empathy; β = −.31, $p < .001$). In step 2, the predictor was associated with the mediator (perceived agency; β = −.35, $p < .001$). In step 3, the mediator was associated with the outcome, while controlling for the predictor (β = .21, $p < .05$). In step 4, the effect of condition on empathy, controlling for agency, was reduced but still significant (β = −.24, $p < .01$). Sobel's test was significant, z = −2.08, $p <$ .05, indicating partial mediation.

When using the adapted empathy scale as the outcome variable, condition was associated with empathy (β = −.21, $p < .05$) and perceived agency. In step 3, perceived agency was also associated with empathy, while controlling for condition (β = .29, $p < .01$). In step 4, the effect of condition on empathy, controlling for perceived agency, was no longer significant (β = −.11, p = .23). Sobel's test was significant, z = −2.57, $p < .01$, indicating full mediation.

AGENCY, EMPATHY, AND HELPING BEHAVIOR

We examined whether perceived agency also mediated the association between condition and helping behavior. In step 1, condition was associated with help ratings (β = −.24, $p < .01$). In step 2, condition was associated with perceived agency (see above). In step 3, perceived agency was *not* associated with help ratings when controlling for condition (β = .08, p = .40). In step 4, the association between condition and helping, while controlling for agency, was still significant (β = −.22, $p < .05$). Accordingly, Sobel's test was not significant, z = −.83, p = .20; confirming that

perceived agency did not mediate the relationship between condition and helping behavior.

Thus, we examined whether empathy (as measured by a single-item or the adapted empathy scale) mediated the relationship between condition and helping behavior. As previously established, condition was associated with help ratings and either measure of empathy. In step 3, empathy was associated with helping when controlling for condition, whether measured by the single-item ($\beta = .61$, $p < .001$) or the scale ($\beta = .49$, $p < .001$). In step 4, the effect of condition on helping was no longer significant when controlling for empathy (single-item $\beta = -.05$, $p = .46$; empathy scale $\beta = -.14$, $p = .07$). Sobel's test was significant (single-item $z = -3.40$, $p < .001$; empathy scale $z = -2.25$, $p < .05$), indicating full mediation.[4]

DISCUSSION

Our results were consistent with those in our previous studies: participants attributed less agency (but not experience) to a target that had deliberately (vs. accidentally) engaged in self-injury. Participants also reported less empathy and compassion for the target in a later unrelated scenario if the target had a history of deliberate self-injury. Furthermore, participants also indicated that they were less likely to help the target if they had previously read that she had deliberately engaged in self-injury. Interestingly, perceived agency mediated the association between condition and empathy, but not helping behavior. Instead, concurrent self-reported empathy mediated the association between condition and likelihood of helping.

GENERAL DISCUSSION

Our results suggest that agency and situational versus dispositional attributions may be the mechanisms that underlie the difficulties that some people experience when attempting to empathize with those who engage in non-normative, dangerous

4. Of note, similar analyses indicated that perceived agency partially mediated the association between condition and compassion. Compassion also fully mediated the association between condition and help ratings.

behaviors, such as self-injury. In Study 1, participants perceived less agency and experience, and made fewer goal attributions for future behavior (but greater trait attributions) of a target who engaged in deliberate self-injury than one who experienced accidental self-injury. Participants also reported less empathy and understanding for the deliberate self-injuring target, in comparison to the accidental self-injuring target. Study 2 indicated that these effects remain similar regardless of type of deliberate self-injury. Finally, Study 3 suggested that observers report less empathy (and compassion) for, and are also less likely to help, a target with a history of deliberate self-injury in an unrelated situation. Although perceived agency accounted for the decreased empathy, empathy (not perceived agency) accounted for the decreased likelihood of helping.

People regularly make attributions about behavior. However, our results indicate that the failure to understand a person who engages in self-injury exists. It may be this unfamiliarity that blocks the empathic process by making it difficult to view a person who engages in self-injury as capable of goal-directed behavior (i.e., agency) and thus, take on their perspective. This lack of empathy may then make it less likely that an observer offers help to a distressed person with a known history of self-injury. The current results imply that observers, such as medical personnel, may be better able to empathize with patients if they focus on situational causal explanations for behavior instead of dispositional attributions, and interact with patients in a manner that emphasizes their individual agency.

Findings on constructs related to empathy (i.e., compassion) varied across the current studies. It is possible that compassion is not as associated with agency as empathy (or elicited differently). Thus, measures of processes that have been found to be associated with empathy, like mind perception, may be more reliable measures across varied samples. Future studies may examine other implicit measures of empathy, including physiological arousal.

Our findings must be interpreted in light of several limitations. First, the studies were conducted using online survey platforms, constraining the ability to limit distractions while participants read the vignettes and potentially minimizing differences. Second, self-reported measures of empathy, likeability, and understanding were assessed using single item questions, which

may decrease reliability. Studies with larger sample sizes will be needed to further test the reliability and generalizability of these findings.

Future research should examine whether observers' memory of the targets, and not just future behaviors, may be influenced by knowledge of deliberate self-injury. Future studies may also consider examining whether responses to the target differ if the target is male versus female. It would be illuminating to examine whether differences in mind perception and attributions exist among medical professionals (who may better grasp the reasons behind self-injury), and not just the general population. Other stigmatized mental health conditions or other non-normative (but non-dangerous) behaviors may be examined to disentangle whether the non-normative/stigmatized or dangerous nature of self-injurious behaviors account for more of the variance in the effects on mind perception and attributions.

Perceived similarity functions as a source of empathy (Davis, 1994; Krebs, 1975); people are not only more likely to feel empathy for a stranger when they are experiencing a similar need, but also when the perceived similarity is unrelated to the need. Empathic distress increases with familiarity and likeness (Hoffman, 2000); thus, increasing knowledge of the functions of self-injury and how to be supportive may be helpful for family, friends, and medical providers of individuals struggling with self-injury. Our findings underscore the ways in which a more nuanced understanding of empathy, agency, and attributions about targets offers potential levers through which communities and families may be able to mitigate some of the ordinary but harmful responses to self-injurious behaviors.

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APPENDIX A

Jenny is a 21-year old college student. She has lived with her roommate Claire for about 6 months, and they have had a typical roommate relationship with ups and downs. Earlier this morning, after feeling extremely anxious and upset, Jenny **[accidentally/purposely]** cut herself on the arm with a kitchen knife. The 2-inch gash was a little too deep and both Jenny and Claire couldn't get the bleeding to stop. Jenny went to the Emergency Room of her local hospital. She waits for 3 hours in the Emergency Room to be seen, all the while holding a bandage over her wrist to slow the bleeding. The hospital staff does not consider her wound to be life-threatening, so she is a low priority to the nurses.

While she waits she watches Seinfeld reruns on the TV in the waiting room. A nurse calls her name and shows her to a private room. Jenny waits for another 45 minutes until a medical assistant comes in to treat her. The medical assistant applies an antibiotic to the wound which stings. It takes 8 stitches to close the wound, and Jenny will have to go back to the ER in ten days to have the stitches removed.

APPENDIX B

The next day, Jenny decides to meet her friends Sarah and Alex at the mall. Jenny wants to go into a particular store that carries a black dress she likes that looks good on her, but has to split from Sarah and Alex to do so since they want to look in Bloomingdale's. The dress is more expensive than Jenny expected, but the clerk tells her it's the last one so she buys it. As she is leaving the store, she sees a classmate. She talks to him for a little while and they exchange numbers, promising that they will meet later in the week so that he can help her study for an upcoming physics final.

She continues home in a light-hearted mood, and texts Sarah and Alex about making plans to go out for the evening. While walking, Jenny notices that her shoelace is untied and stops to tie it at a bus stop. As she is tying her shoe, a man bumps into her as he is getting on the bus. Jenny apologizes and quickly finishes tying her shoe as the bus departs. As she goes to gather her things, Jenny realizes that her purse is gone and her heart sinks. She is devastated – her identification card, credits cards, apartment key, and phone are all in her purse. She begins to cry, upset and unsure of what to do next.