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# Stigma and Health

## Public Perceptions of Self-Harm—A Test of an Attribution Model of Public Discrimination

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# Public Perceptions of Self-Harm—A Test of an Attribution Model of Public Discrimination

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This cross-sectional, questionnaire-based study applied Corrigan, Markowitz, Watson, Rowan, and Kubiak's (2003) attribution model of public discrimination toward individuals with mental ill-health to explore public perceptions of self-harm—an underresearched topic, given the size and scale of the problem of self-harm. Participants (community-based adult sample,  $N = 355$ , aged 18–67 years) were presented with 1 of 10, first-person, vignettes describing an episode of adolescent self-harm and completed self-report measures assessing dispositional empathy, familiarity with self-harm (professional; personal), perceived dangerousness, personal responsibility beliefs, emotional responses toward the person depicted in the vignette and helping/rejecting intentions. Vignettes were manipulated across conditions for the controllability of the stated cause (controllable; uncontrollable; unknown), stated motivation for self-harm (intrapersonal; interpersonal; unknown) and presentation format (video; text). Across the sample, attitudes were largely tolerant, with significantly higher levels of sympathetic than fearful or angry responding and significantly higher endorsement of helping responses than avoidance, segregative or coercive approaches. The manipulation of controllability of cause (controllable; uncontrollable), but not stated motivation (intrapersonal; interpersonal), was related to differences in cognitive, emotional or behavioral responding. Taken together, results were largely consistent with the attribution model, suggesting this may be a useful framework for understanding public perceptions of self-harm.

*Keywords:* self-harm, nonsuicidal self-injury, suicide, motivations, stigma

Self-harm, defined as “self-injury or self-poisoning irrespective of the apparent purpose of the act” (National Institute for Health & Care Excellence, 2004, p. 6), remains a significant behavioral health concern. Engaging in self-harm affords people a means of coping with

difficult experiences and can therefore be viewed as a behavioral manifestation of psychological distress (Chapman, Gratz, & Brown, 2006; Laye-Gindhu & Schonert-Reichl, 2005). As well as being indicative of intolerable internal experience, self-harm is one of the most robust predictors of death by suicide (Bergen, Hawton, Waters, Cooper, & Kapur, 2010); those with a history of self-harm are identified as a priority high-risk group in the National Suicide Prevention Strategy for England (Department of Health, 2012), given that “suicide risk among self-harm patients is hundreds of times higher than the general population” (Owens, Horrocks, & House, 2002, p. 193). The World Health Organization (2014) outlines suicide prevention as a global imperative.

While stigma is a common in response to a variety of mental health concerns (e.g., schizophrenia, depression; Angermeyer, Matschinger, & Corrigan, 2004), to date there exists limited empirical data addressing public perceptions of

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self-harm. The extant literature is restricted both in scale and scope; the majority of studies only explore the attitudes and responses of health care professionals, with particular emphasis on nursing staff.

Hospital-based data demonstrates that self-harm is a leading cause of both presentation and acute medical admission to general hospital in the U.K. (Clements et al., 2016). However, these rates represent conservative “tip-of-the-iceberg” estimates of the extent of the behavior (McMahon et al., 2014; Townsend, 2014). Research from community samples indicates that rates of engagement with emergency medical services are low (Hawton, Rodham, Evans, & Weatherall, 2002; Madge et al., 2008; Whitlock, Eckenrode, & Silverman, 2006).

Given the notable impact of self-harm among community samples, coupled with low-levels of formal help seeking and presentation to services, public attitudes and helping/discriminating responses warrant investigation. The importance of understanding factors underpinning public responding is further amplified as presentation to medical services does not guarantee amelioration of, or support for, psychological distress; 50–60% of those who do attend hospital following self-harm are treated in an exclusively medical capacity, receiving no psychosocial assessment (Bennewith, Peters, Hawton, House, & Gunnell, 2005; Hawton et al., 2012), despite NICE guidance on the Longer Term Management of Self-Harm (National Collaborating Centre for Mental Health, 2012). Given the barriers to obtaining statutory support and the distress associated with self-harm, it is paramount to delineate factors associated with an increased propensity to help in community respondents—not least as initial disclosures tend to occur within informal, social networks, with help in the first instance sought from family and friends (Rowe et al., 2014). Understanding public perceptions of self-harm may be central to understanding barriers to informal support provision.

### Public Attitudes and Helping

Self-harm remains “poorly understood” (Royal College of Psychiatrists, 2010, p. 6). Individuals are often blamed for their self-harmful behavior, with their acts often interpreted in a limited and stigmatized manner,

frequently as “attention-seeking” and “manipulative” in nature (Long, Manktelow, & Tracey, 2013; McCann, Clark, McConnachie, & Harvey, 2007; Ross & Goldner, 2009). Self-harm can evoke strong emotional reactions, with disclosures eliciting responses of confusion, frustration, anger, fear, anxiety, discomfort, and even disgust (Heath, Toste, Sornberger, & Wagner, 2011; Long et al., 2013; Marzano, Adler, & Ciclitira, 2015).

Exploring this perception is important, not only because stigmatizing attitudes can have an adverse impact on individuals’ wellbeing and psychological development, but because these attitudes can act as a barrier to help-seeking (Owens, Hansford, Sharkey, & Ford, 2016; Sirey et al., 2001); individuals who self-harm may be reluctant to seek help as they feel ashamed or have reservations as to how others may react. Negative attitudes not only dissuade individuals from seeking help but also lead to the withholding of helping behaviors (Heath et al., 2011; Owens et al., 2016).

The availability and provision of help is important, as social support can function as a protective factor for self-harm. Where help was available, Nock, Prinstein, and Sterba (2009) reported the cessation of progression from contemplation to behavior in 20.7% of non-suicidal self-injurious thoughts and 34.6% of suicidal thoughts. Help was operationalized as simply having someone to talk to. Thus, there is scope for wider provision of help and support—not just professional but also personal. It is, therefore, important to ascertain not only factors that may affect the interpretation of self-harmful behaviors, but also those that predict the provision or denial of a helping response. The literature suggests controllability of cause, with theoretical pertinence in attributional analysis (Weiner, 1980, 1985), and perceived motivations (Knowles, Townsend, & Anderson, 2013) may be key variables to consider.

### Attribution Models of Public Discrimination

Weiner (1980, 1985) proposed a theoretical framework to explain the relationship between stigmatizing attitudes and discriminatory behavior. The attributional model is stated to “generalize over a variety of helping situations” (Weiner, 1980, p. 197) and asserts that in-

creased attribution of controllability leads to decreased provision of help as well as increased rejecting behaviors; a desire for social distance. This attribution–behavior relationship is not direct. Rather, it is mediated by affective responses. Thus, the model predicts an attribution–affect–behavior process.

Corrigan, Markowitz, Watson, Rowan, and Kubiak (2003) applied Weiner's (1980, 1985) attribution model to provide a comprehensive theoretical account of public discrimination towards individuals with mental ill-health. The model proposes that three cognitive-emotional components determine helping/rejecting behavior: (a) the attribution process, (b) a danger appraisal process, and (c) the effects of familiarity (see Figure 1).

The model posits that causal attribution engenders inferences regarding personal responsibility (blame). The mediating mechanism of perceived personal responsibility precedes affective responses (e.g., anger; pity; fear) which, in turn, influence an individual's propensity to help/reject. Controllability of cause is associated with increased perceived personal responsibility, leading to anger and increased rejecting behavior. The converse is true; negative behaviors judged beyond the control of the individual are attributed to be outside their responsibility. This elicits responses of sympathy associated with an increased provision of helping. The second cognitive-emotional component is danger; increased perceived dangerousness (e.g., danger or threat to others) being positively associated with segregation and a desire for social distance. The model suggests this is due to elevated fear in the absence of a mediating attribution. The final component of the model is

the effect of familiarity; increased familiarity (with the mental health condition concerned) being associated with decreased perception of dangerousness, fear, and rejecting behaviors.

### Current Study

Initial empirical investigations provide support for an attribution process in responding to self-harm within health care staff professionals and trainees (Law, Rostill-Brookes, & Goodman, 2009; Mackay & Barrowclough, 2005; Wheatley & Austin-Payne, 2009). Further, there is some evidence that affective responses and personal responsibility beliefs are related to behavior responding in teaching professionals (Heath et al., 2011) and prison staff (Marzano et al., 2015). However, there is a dearth of research exploring factors influencing "general population" perceptions of self-harm. For example, while Law et al. (2009) included a comparison non-health-care group (physics/astronomy) this was a small ( $n = 53$ ) and potentially homogenous student sample. The present study builds upon existing literature by applying Corrigan et al.'s (2003) model of public discrimination to explore attributions and affective/behavioral responding to adolescent self-harm behavior in a broad community sample. To the best of our knowledge, this is the first study that applies the theoretical framework to assess public perceptions of self-harm.

The study aims to extend understanding of responding to self-harm by considering the effect of motivation (reasons to engage in self-harm), as well as controllability of cause, on responsibility beliefs, affective responding and the endorsement of helping/discriminating be-

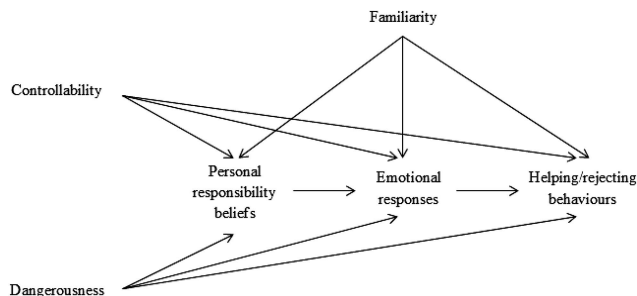


Figure 1. Familiarity, attribution, and danger appraisal processes in public discrimination toward individuals with mental ill-health. Model diagram adapted from Corrigan et al. (2003).

haviors. The perceived functionality of self-harm has been proposed as a key factor associated with negative or dismissive responding. Specifically, if self-harm is perceived to be socially motivated, the individual may be more likely to be blamed for their behavior and less likely to experience helping responses (Knowles et al., 2013). Consequently, it is hypothesized that interpersonal motivations, as well as increased controllability of cause, will lead to a propensity to attribute higher levels of personal responsibility for self-harm. In turn, and consistent with attribution theory, increased blame will be associated with lower levels of sympathetic responding and heightened endorsement of both fear and anger, resulting in reduced willingness to help and increased support for discriminatory strategies. In line with a danger appraisal process, it is hypothesized that there will be a positive correlation between perceived dangerousness and fear, in the absence of an association between danger and personal responsibility beliefs.

Finally, this study extends existing literature by refining the assessment of familiarity with self-harm, considering demographic factors and exploring the effect of dispositional empathy. Law et al. (2009) found that increased familiarity led to heightened levels of sympathy and reduced levels of anxiety, anger, and perceived dangerousness. However, Law and colleagues employed an additive measure of familiarity that did not distinguish between personal and professional awareness. While research suggests that increased professional familiarity with self-harm is associated with decreased negativity and worry (Wheatley & Austin-Payne, 2009), the relative contribution of personal and professional experience remains unclear. Therefore, the present study uses two measures of familiarity: personal and professional. Regarding empathy, it is hypothesized that those with higher levels of dispositional empathy will demonstrate higher endorsements of sympathetic responding and a willingness to help, whereas those lower in empathy will show a greater propensity to attribute personal responsibility and an increased endorsement of discriminatory responses. The effect of age will be explored, given that age is associated with dispositional empathy (Mestre, Samper, Frías, & Tur, 2009) and stigmatizing attitudes to mental illness (Corrigan et al., 2003; Eisenberg,

Downs, Golberstein, & Zivin, 2009). In line with Corrigan et al. (2003), it is hypothesized that age will be negatively correlated with both fearful and angry responding

## Method

### Participants

Three hundred and fifty-five adult participants took part in the study (73.5% female). Participants ranged in age from 18–67 years ( $M = 25.65$ ,  $SD = 10.95$ ). Four participants (1.1%) did not indicate their age. The majority of the sample (84.5%) was white (2.3% black, 7.0% Asian, 2.8% mixed background, 3.4% unspecified/other). Participants were a self-selected sample responding to posters (e.g., university campuses, community settings), social media (e.g., Facebook), e-mail and word-of-mouth advertisement. A composite score was calculated to broadly assess the community sample's familiarity with self-harm (personal and professional familiarity; possible range 2–18). The majority of the sample (73.4%) had low-to-moderate familiarity with self-harm, (low, 2–6,  $n = 134$ ; moderate, 7–12,  $n = 125$ ).

### Design and Procedure

All data were collected via a cross-sectional, community-based survey, administered online. The experiment followed a  $2 \times 2 \times 2 + 2$  between-subjects design: controllability of cause (controllable vs. uncontrollable)  $\times$  2 stated motivation (intrapersonal vs. interpersonal)  $\times$  2 presentation type (text vs. video presentation) with hanging control comparisons (unknown cause/intent) in each presentation format (text vs. video). The inclusion of the comparison group is important, as many individuals who engage in self-harmful behaviors are unable to identify clear motivational antecedents, believe they behave without distinct motivation, or are ambivalent (Csipke & Horne, 2008; Royal College of Psychiatrists, 2010). Participants were randomly allocated to condition, via Randlink.

**Vignette.** Participants were presented with a hypothetical case vignette depicting a young female who has self-harmed:

*My name is Megan and I am 17. I deliberately cut my arms legs and stomach with a sharp instrument, re-*

*sulting in wounds.* [Stated cause, e.g., abuse; Stated motivation, e.g., relief]

The demographic characteristics and method of injury were guided by the literature and aimed to be representative of community self-harm (Bergen et al., 2010; Hawton, Harriss, & Rodham, 2010; Hawton et al., 2002; McDougall, Armstrong, & Trainor, 2010). The vignettes were manipulated on two dimensions: controllability of cause and stated motivation of self-harm. In line with the manipulation employed by Law et al. (2009), the stated cause of Megan's self-harm was either controllable ("I think I do this because I misuse drugs") or uncontrollable ("I think I do this because I was abused when younger").<sup>1</sup> Stated intention was either interpersonal communicative ("I wanted to show other people how desperate I was feeling") or intrapersonal affect-regulatory ("I wanted to get relief from a terrible state of mind"). The comparison condition was phrased, "I am not sure why I did this to myself. I do not know what I wanted to happen as a result."

The first-person nature of the vignette is a notable departure from the frequently employed third-person perspective. This aims to be a more ecologically valid depiction of how those outside the medical professions receive information regarding an individual's self-harm. Participants were randomized to receive either a traditional text-based vignette, or a video vignette. Improved reasoning, exploration and evaluation of the case information have been reported following the presentation of a video vignette, compared to following a written vignette containing the same information (Balslev, De Grave, Muijtjens, & Scherpbier, 2005). Furthermore, while written case histories may be more familiar to health care professionals, the video format is arguably closer to face-to-face disclosures within informal support networks. Therefore, it is important to explore any effect presentation format has on attributions, appraisals and affective and behavioral responses.

Vignettes were controlled for length, containing 43–45 words. No information regarding suicidal intent (or the lack thereof), nor psychiatric diagnosis, was provided. In video vignettes an 18-year-old actress delivered the lines with neutral tone and expression. The video was shot

face-on from shoulders upwards, against a neutral background. Both video and text vignettes were hosted externally of the questionnaire, allowing participants to review the information at any stage during study completion.

## Measures

**Demographics.** Age and gender demographics were captured.

**Attributions, affective responding and helping behaviors.** The Attribution Questionnaire (AQ27; Corrigan et al., 2003) is a 27-item self-report measure that assesses attitudes, emotions and behavioral responding (helping, avoidance, segregation, coercion). Designed to capture stigmatizing attitudes and discriminatory behaviors toward individuals with mental health difficulties, the measure contains 9, 3-item subscales: blame (e.g., "I would think that it was Megan's own fault that she is in the present condition";  $\alpha = 0.638$ ), anger (e.g., "I would feel aggravated by Megan";  $\alpha = 0.888$ ), pity<sup>2</sup> (e.g., "How much sympathy would you feel for Megan?";  $\alpha = 0.707$ ), help (e.g., "How certain would you feel that you would help Megan?";  $\alpha = 0.808$ ), danger ("I would feel unsafe around Megan";  $\alpha = 0.844$ ), fear (e.g., "How frightened of Megan would you feel?";  $\alpha = 0.889$ ), avoidance (e.g., "If I were an employer, I would interview Megan for a job [reverse scored]";  $\alpha = 0.818$ ), segregation (e.g., "I think it would be best for Megan's community if she were put away in a psychiatric hospital";  $\alpha = 0.817$ ) and coercion (e.g., "How much do you agree that Megan should be forced into treatment with his doctor even if she does not want to?";  $\alpha = 0.608$ ). Scores for each subscale are totaled. Higher scores indicate higher endorsement of construct.

**Empathy.** The Interpersonal Reactivity Index (IRI; Davis, 1980, 1983) gauges individual differences in dispositional empathy. Specifically, the 28-item measure assesses empathy associated with the distress of others, as op-

<sup>1</sup> An independent pilot study ( $N = 50$ ), confirmed the validity of drug misuse and childhood abuse as controllable and uncontrollable causes,  $Z = -6.087$ ,  $p < .001$ ,  $r = .609$ .

<sup>2</sup> While the AQ27 uses the term *pity*, it may be more appropriate to consider this subscale to measure sympathetic concern ("How much concern would you feel for Megan?"; "How much sympathy would you feel for Megan?"; "I would feel pity for Megan").

posed to broader emotionality. The multidimensional index contains four subscales: perspective taking (e.g., “Before criticizing somebody, I try to imagine how I would feel if I were in their place”;  $\alpha = .813$ ), fantasy (e.g., “When I watch a good movie, I can very easily put myself in the place of a leading character”;  $\alpha = .812$ ), empathic concern (e.g., “When I see someone being taken advantage of, I feel kind of protective toward them”;  $\alpha = .761$ ) and personal distress (e.g., “When I see someone who badly needs help in an emergency, I go to pieces”,  $\alpha = .812$ ).<sup>3</sup> Scores for each subscale are totaled. Higher scores indicate higher endorsement of construct.

**Familiarity with self-harm.** Participants rated their professional and personal familiarity with self-harm on a series of 9-point semantic differential scales. Professional familiarity was conceptualized as “experiences having been studied or having encountered them as part of your work”. Personal familiarity was defined as “either people you know or yourself being affected by an experience.” Higher scores indicate increased familiarity.

## Data Analysis

Data were analyzed using SPSS V21 and PROCESS. Preliminary examinations of the data revealed that the overall level of missing values was extremely low, with a maximum of 1.4% missing data for a single item (IRI 28). However, 57 participants (16.05%) had missing data on at least one scale item, indicating that, while although the overall level of missing data is low, excluding missing data would restrict the sample size considerably. Little’s Missing Completely at Random (MCAR) Test indicated that data was missing at random,  $\chi^2(1879) = 1909.052, p = .309$ . Replaced values for missing data were therefore computed using the expectation maximization (EM) technique. All analyses were conducted using this imputed data set.<sup>4</sup>

Personal and professional familiarity were assessed on single item measures. In all instances of missing data for familiarity and age, cases were excluded pairwise. All AQ27 and empathy subscales were non-normally distributed. Therefore, all analyses used do not rely on assumptions of normality.

First, the effect of vignette presentation style on personal responsibility beliefs, emotional responding and helping/rejecting behaviors was explored via a series of Mann–Whitney *U* tests. In the absence of substantial differences between the presentation groups, text and video vignette conditions were collapsed. Wilcoxon signed-ranks test were conducted to assess how positive or negative responding to self-harm was across the sample, before the relationships outlined in the attribution model were explored via a series of Spearman’s Rho correlations. In line with the analysis outlined by Corrigan and colleagues (2003), the attribution model and effect of experimentally manipulating controllability of cause (controllable; uncontrollable) was tested via a series of bootstrapped OLS multivariate regression analyses. Here, Sobel tests were conducted to assess for mediation relationships. The relationships between stated motivation and AQ27 variables were explored to test assertions that the reasons for behavior engagement may be important in understanding public attitudes and responding. Finally, a series of Kruskal–Wallis tests compared endorsement of AQ27 variables between experimental conditions to explore the effect of presenting with unknown cause and motivation for self-harm.

## Results

### Preliminary Analyses

**The effect of presentation style (video and text) of vignette on endorsement of blame, affective responses and propensity to help/reject.** With the exception of pity, where those in the text condition report significantly higher levels of sympathy than those exposed to video vignettes ( $U(353) = 13093.500, p = .006, r = -.145$ ), no difference in attributions of personal responsibility, emotional responses or endorsement of supportive or discriminatory behaviors were observed between participants in the text and video conditions. Given the absence of a difference in personal responsibility beliefs, and the mediating role of blame

<sup>3</sup> Cronbach’s alphas for noncomputed data: fantasy,  $\alpha = .813$ ; empathic concern,  $\alpha = .762$ ; perspective taking,  $\alpha = .812$ ; personal distress,  $\alpha = .814$ .

<sup>4</sup> In the noncomputed data, the direction of observed associations remained unchanged.



outlined in attribution theory, the text and video conditions were collapsed.

**Covariates.** A series of Spearman's Rho correlations indicated that dispositional empathy was related to affective responses, perceived dangerousness, personal responsibility beliefs and helping/rejecting behaviors. (see Table 1).

Age was also related to responding. Older participants were less likely to blame Megan for her self-harm ( $r(349) = -.114, p = .034$ ), as well as being less likely to perceive her as dangerous ( $r(349) = -.184, p < .001$ ). They were also less angry ( $r(349) = -.119, p = .026$ ) and were less likely to advocate for segregative ( $r(349) = -.191, p < .001$ ) and coercive strategies ( $r(349) = -.154, p = .004$ ). There was no significant relationship between age and sympathetic ( $r(349) = .020, p = .704$ ) or fearful ( $r(349) = -.103, p = .055$ ) emotional responses. Age was also not related to the intention to help Megan ( $r(349) = .005, p = .928$ ), or avoid her ( $r(349) = -.089, p = .098$ ). The relationships between age and both perceived dangerousness and tendency to advocate for segregation survived conservative Bonferroni correction. Age and dispositional empathy were therefore adjusted for in multivariate analyses testing the attribution model.

### Public Attitudes to Self-Harm: How Positive Was Responding Toward "Megan"?

A series of Wilcoxon signed-ranks test were conducted to explore perceptions and responding across the whole sample. Overall, emotional responding was more positively than negatively valenced, with significantly higher levels of sympathetic responding relative to fearful ( $Z = -14.758, p < .001, r = -.783$ ), or angry ( $Z = -13.605, p < .001, r = -.722$ ), emotional reactions. Similarly, the endorsement of helping responses was significantly greater than the support for avoidant responses ( $Z = -13.118, p < .001, r = -.696$ ), segregative ( $Z = -16.280, p < .001, r = -.864$ ), and coercive approaches ( $Z = -15.117, p < .001, r = -.802$ ; see Table 1).

Considering the relative endorsement of discriminatory behavior, segregation received significantly lower levels of support than both avoidance ( $Z = -14.913, p < .001, r = -.0791$ ) and coercion approaches ( $Z = -15.$

$526, p < .001, r = -.824$ ). Avoidance received more support than coercion ( $Z = -3.105, p = .002, r = -.165$ ).

### Testing Corrigan et al.'s (2003) Attribution Model of Public Discrimination—Univariate Analyses

A series of Spearman rank correlations were calculated to examine the relationships between dependent variables across the sample. The pattern of associations were consistent with the public discrimination model (Corrigan et al., 2003); specifically, higher personal responsibility beliefs (blame) were associated with higher levels of fear and anger and lower levels of pity. In turn, increased fear and anger were related to decreased endorsement of direct helping and a propensity to endorse avoidance, segregation and coercive responding, whereas higher levels of pity were associated with an increased likelihood of helping and lower levels of discriminatory behaviors (see Table 1).

### Testing Corrigan et al.'s (2003) Attribution Model of Public Discrimination—Multivariate Analyses

Variables were entered into a series of multivariate bootstrapped (1,000 sample) OLS regressions to explore the effect of experimentally manipulating controllability (controllable vs. uncontrollable cause) on cognitive, emotional and behavioral responding to self-harm. Analyses adjusted for age and empathy.

**The effect of controllability, familiarity, and dangerousness on attributions of personal responsibility beliefs.** Increased personal familiarity with self-harm led to reduced endorsement of blame. Increased perceived dangerousness was associated with increased blame. As hypothesized, there was a significant effect of controllability; when Megan's self-harm was associated with a controllable cause, participants endorsed higher levels of personal responsibility (blame; See Table 2, Equation 1).

**The effect of controllability, familiarity, and dangerousness on emotional responses to self-harm.** Contrary to the hypothesis, there was no direct effect of controllability or familiarity on sympathetic responding (Equation 2). Increased professional familiarity was associated with lower levels of anger. There was no

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Table 1  
Spearman's Rho Correlations Exploring the Relationship Between Familiarity<sup>a,b</sup>, AQ27 Variables and Dispositional Empathy<sup>d</sup>, *n* = 355

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. Personal familiarity <sup>a</sup>															
2. Professional familiarity <sup>b</sup>	<b>.483***<sup>Δ</sup></b>														
3. Personal responsibility <sup>c</sup>	-.213***	-.105*													
4. Dangerousness <sup>c</sup>	-.240***	-.118*	.247***												
5. Pity <sup>c</sup>	.086	.008	-.323***	-.140**											
6. Anger <sup>c</sup>	-.202***	-.173**	.399***	.549***											
7. Fear <sup>c</sup>	-.277***	-.154**	.205***	.816**	-.303***										
8. Help <sup>c</sup>	.243***	.258***	-.169**	-.332**	.293***	.551***									
9. Avoidance <sup>c</sup>	-.361***	-.175**	.299***	.509**	-.271***	.435***	-.369***								
10. Segregation <sup>c</sup>	-.260***	-.069	.260***	.648**	-.148**	.470***	.594***	.492***							
11. Coercion <sup>c</sup>	-.231***	-.048	.192***	.461**	-.127*	.363***	.441***	-.167**	.571***						
12. Fantasy <sup>d</sup>	.070	.059	-.004	.073	.143***	.007	.051	.109*	-.038	-.035	.049				
13. Empathic concern <sup>d</sup>	.129*	.175***	-.210***	-.181***	.364***	-.289***	-.143**	.387***	-.226***	-.190***	-.081	.293***			
14. Perspective taking <sup>d</sup>	.127*	.090	-.102	-.125*	.165**	-.220**	-.118*	.238**	-.193***	-.164**	-.120*	.118*	.363***		
15. Personal distress <sup>d</sup>	.118*	.056	-.099	.185***	.005	.169***	.225***	-.137***	.027	.095	.153**	.207***	.010	-.127*	
Median (IQR)	5.00 (6.00)	3.00 (5.00)	11.00 (5.00)	6.00 (6.00)	21.00 (6.00)	8.00 (8.00)	5.00 (5.00)	21.00 (7.00)	11.00 (9.00)	4.00 (3.00)	11.00 (8.00)	18.00 (8.00)	21.00 (6.00)	19.00 (7.00)	12.00 (7.00)

Note. <sup>a</sup> Professional familiarity refers to "the experiences having been studied or having encountered them as part of your work"; <sup>b</sup> Personal familiarity refers to "either people you know or yourself being affected by an experience"; <sup>c</sup> As measured by AQ27. <sup>d</sup> As measured by IRI. **Bold** typeface indicates significant relationship when Bonferroni corrected (*p* < .003), <sup>Δ</sup>*n* = 354. <sup>Δ</sup>*n* = 353, two-tailed. IQR = interquartile range.  
\* < .05. \*\* < .01. \*\*\* < .001.

Table 2  
 Multivariate Regressions Exploring the Effect of Controllability, Familiarity and Dangerousness on Attributions of Blame and Emotional Responding ( $n = 274$ )

	Pity <sup>e</sup>			Anger <sup>f</sup>			Fear <sup>f</sup>		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)		
Personal responsibility <sup>e</sup>									
Age	-.146* (-.105--.014)	.129 (-.010--.100)	.091 (-.022--.089)	-.105* (-.110--.004)	-.063 (-.077--.021)	-.008 (-.029--.024)	-.007 (-.029--.024)		
Empathy <sup>a</sup>	-.148* (-.090--.007)	.281*** (.057--.145)	.242** (.044--.125)	-.100 (-.096--.001)	-.057 (-.075--.020)	.028 (-.010--.029)	.029 (-.011--.030)		
Controllability <sup>b</sup>	.234*** (1.134--3.066)	-.074 (-1.623--.338)	-.014 (-1.182--1.012)	.011 (-1.032--1.312)	-.057 (-1.728--.415)	.008 (-.451--.605)	.006 (-.445--.593)		
Familiarity professional <sup>c</sup>	.006 (-.188--.220)	-.044 (-.262--.150)	-.042 (-.288--.152)	-.113* (-.448--.025)	-.115* (-.468--.034)	-.007 (-.105--.080)	-.007 (-.102--.080)		
Familiarity personal <sup>d</sup>	-.151* (-.431--.014)	.065 (-.135--.289)	.026 (-.177--.248)	-.072 (-.351--.085)	-.029 (-.242--.146)	-.062 (-.185--.010)	-.061 (-.186--.006)		
Dangerousness <sup>e</sup>	.263*** (.123--.393)	-.036 (-.154--.095)	.032 (-.097--.157)	.549*** (.340--.842)	.474*** (.428--.752)	.859*** (.716--.865)	.857*** (.713--.861)		
Personal responsibility <sup>e</sup>									
R <sup>2</sup>	.212	.091	.143	.379	.444	.767	.767		
Model	$F(6, 262) = 11.780,$ $p < .001$	$F(6, 262) = 4.352,$ $p < .001$	$F(7, 261) = 6.236,$ $p < .001$	$F(6, 262) = 26.686,$ $p < .001$	$F(7, 261) = 29.808,$ $p < .001$	$F(6, 262) = 143.430,$ $p < .001$	$F(7, 261) = 122.510,$ $p < .001$		

Note. Standardized beta coefficient (bootstrapped 95% confidence interval), bootstrapped (1,000 sample) OLS regressions.

<sup>a</sup> Dispositional empathy as measured by IRI. <sup>b</sup> Controllability of stated cause—reference group noncontrollable cause (abuse). <sup>c</sup> Academic or professional familiarity refers to the experiences having been studied or having encountered them as part of your work. <sup>d</sup> Personal familiarity refers to either people you know or yourself being affected by an experience. <sup>e</sup> As measured by AQ27.

\*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

direct effect of personal familiarity or controllability on angry responding. However, increased levels of perceived dangerousness were related to greater anger toward Megan (Equation 4). Higher dangerousness was related to increased fear responses (Equation 6).

**The mediating effect of personal responsibility beliefs on emotional responding.** Attributions of personal responsibility were then added to these equations. As hypothesized, increased attributions of blame decreased levels of pity (Equation 3) and increased anger (Equation 5). However, there was no effect of blame on level of fearful responding (Equation 7). A series of Sobel tests were conducted to explore the indirect mediation relationships as outlined in Corrigan et al.'s (2003) attribution model.

**Pity.** While there was not a direct effect of controllability on pity, there was a significant indirect effect via personal responsibility beliefs; attributions of blame mediated between controllability and sympathetic responding ( $Z = -2.862, p = .004, b = -.503$ ) such that participants who deemed the cause of Megan's behavior to be under her control were more likely to deem her personally responsible and, in turn, show less pity toward her. Similarly, blame mediated the relationship between dangerousness and pity ( $Z = -2.977, p = .003, b = -.064$ ). This mediated effect suggests an attribution, as opposed to danger appraisal, process operating between perceived dangerousness and sympathetic emotions. While personal familiarity was significantly predictive of blame, attributions of responsibility did not mediate between degree of personal familiarity and level of sympathy ( $Z = 1.928, p = .054, b = .057$ ). As professional familiarity was not predictive of blame, mediation relationships were not explored for pity, fear or anger.

**Anger.** Consistent with the attribution model, judgments of personal responsibility mediated between controllability of cause and anger ( $Z = 3.318, p = .001, b = .788$ ) and perceived dangerousness and anger ( $Z = 3.496, p = .001, b = .095$ ); participants who deemed Megan's behavior to be under her control or who considered Megan to be dangerous were more likely to believe that Megan was responsible for her self-harm. In turn, increased levels of blame were associated with increases in anger toward Megan. Considering angry responses, personal familiarity had an indirect

effect on emotional responding, via personal responsibility beliefs ( $Z = -2.068, p = .039, b = -.085$ ); increased personal familiarity was related to decreased blame. In turn, decreased blame was associated with decreased anger.

**Fear.** Personal responsibility beliefs were not predictive of fearful responding (Equation 7). A significant effect of danger in the absence of mediation suggests that, while attribution processes may explain angry and sympathetic responding, a danger appraisal process operates in anxious responding to self-harm. This is in line with Corrigan's assertion that danger is a key perception in fearful reactions.

**Influences on helping behavior.** First, the effects of controllability of cause, familiarity and perceived dangerousness on the endorsement of helping behaviors were examined (see Table 3, Equation 8). Increased professional familiarity with self-harm predicted higher direct helping, whereas there was no significant effect of personal familiarity. In line with Corrigan and colleagues' (2003) assertions, participants who deemed Megan to be more dangerous show a decreased propensity to help. However, in contrast with attribution theory, there was no direct effect of manipulating stated controllability on helping.

There was no direct effect of blame on propensity to help (Equation 9). Affective responses (pity, anger, fear) were then added in turn in Equations 10–13 to examine whether emotion mediates the effects of personal responsibility belief on propensity to help.

**Pity.** As predicted, pity was predictive of willingness to help (Equation 10). Pity also mediated between attributions of blame and the endorsement of helping ( $Z = -3.108, p = .002, b = -.076$ ); participants who considered Megan responsible for her self-harming were less likely to feel sympathetically toward her. In turn, these lower levels of pity predicted decreased helping. The effects of perceived dangerousness ( $Z = .508, p = .611, b = .009$ ) and professional familiarity ( $Z = -.628, p = .530, b = -.020$ ) with self-harm were not mediated by sympathetic emotional responses. Similarly, there was no indirect effect of personal familiarity ( $Z = .358, p = .720, b = .011$ ), or controllability of cause ( $Z = -.222, p = .825, b = -.036$ ) via sympathetic responding.

**Anger.** As hypothesized, those who felt more anger toward Megan were less willing to

assist her (Equation 11). There was a significant indirect effect of attributions of personal responsibility on helping, via anger ( $Z = -3.462, p < .001, b = -.094$ ) and anger also mediated between dangerousness and helping responses ( $Z = -4.056, p < .001, b = -.150$ ). There was no indirect effect of professional familiarity, personal familiarity or controllability.

**Fear.** In contrast with predictions, there was no effect of fear on willingness to help (Equation 12), therefore mediation relationships were not explored.

**Influences on rejecting behavior—avoidance.** As hypothesized, those with higher personal familiarity with self-harm were less inclined to avoid Megan (see Table 4). There was a significant effect of manipulating controllability such that those who believed the cause of Megan's self-harm was controllable were more likely to avoid her. Similarly, increased perceived dangerousness led to increased avoidance (Equation 14). There was no direct effect of personal responsibility beliefs on tendency to avoid (Equation 15).

**Pity.** In line with attribution theory, pity was negatively predictive of avoidance; those who felt sympathetically toward Megan were less likely to want to distance themselves from her (Equation 16). Results of Sobel tests indicated a small indirect effect of personal responsibility beliefs, via pity ( $Z = 2.737, p = .006, b = .070$ ); those who deemed Megan less responsible for self-harming showed increased sympathetic responding toward her and, in turn, lower levels of avoidance. However, pity did not mediate the effect of perceived dangerousness ( $Z = -.498, p = .617, b = -.009$ ) familiarity (personal,  $Z = -.353, p = .724, b = -.010$ ; professional,  $Z = .616, p = .538, b = .019$ ) or controllability ( $Z = .219, p = .827, b = .033$ ) on avoidance.

**Anger.** Angry emotional responses predicted endorsement of avoidance behaviors (Equation 17) and mediated between attributions of blame and the propensity to avoid ( $Z = 2.835, p = .005, b = .085$ ). There was also a significant indirect effect of perceived dangerousness on avoidance, via anger ( $Z = 3.148, p = .002, b = .134$ ); those who believed Megan to be more dangerous showed increased levels of anger toward her and in turn higher levels of avoidance. However, anger did not mediate the effect of familiarity (personal,  $Z = -.488, p = .625, b = -.013$ ; professional,  $Z = -1.772, p = .076, b = -.055$ ), or controllability of

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Table 3  
*Multivariate Regressions Exploring the Effect of Controllability, Familiarity, dangerousness, Attributions of Blame and Emotional Responding on the Endorsement of Direct Helping Responses (n = 274)*

	Helping <sup>e</sup>					
	(8)	(9)	(10)	(11)	(12)	(13)
Age	.056 (-.035-.081)	.057 (-.036-.080)	.031 (-.047-.073)	.037 (-.035-.074)	.056 (-.037-.087)	.021 (-.045-.067)
Empathy <sup>a</sup>	.219** (.028-.125)	.220*** (.023-.118)	.150* (.006-.104)	.202*** (.023-.112)	.224*** (.035-.130)	.152* (.007-.092)
Controllability <sup>b</sup>	.028 (-.719-1.285)	.026 (-.869-1.254)	.030 (-.782-1.205)	.007 (-.974-1.046)	.026 (-.771-1.269)	.016 (-.926-1.067)
Familiarity professional <sup>c</sup>	.221*** (.173-.554)	.221*** (.188-.570)	.233*** (.195-.578)	.184** (.125-.497)	.220** (.168-.566)	.204*** (.166-.543)
Familiarity personal <sup>d</sup>	.062 (-.097-.284)	.064 (-.087-.315)	.057 (-.109-.282)	.055 (-.111-.291)	.057 (-.132-.306)	.047 (-.144-.267)
Dangerousness <sup>e</sup>	-.249*** (-.370-.116)	-.251*** (-.372-.121)	-.261*** (-.366-.153)	-.098 (-.235-.035)	-.148 (-.390-.083)	-.092 (-.317-.155)
Personal responsibility <sup>e</sup>	—	.011 (-.144-.136)	.086 (-.052-.217)	.104 (-.029-.224)	.012 (-.128-.151)	.140* (<.001-.270)
Pity <sup>e</sup>	—	—	.291*** (.161-.441)	—	—	.236*** (.107-.355)
Anger <sup>e</sup>	—	—	—	-.324*** (-.349--.140)	—	-.236** (-.307--.074)
Fear <sup>e</sup>	—	—	—	—	-.121 (-.375-.115)	-.064 (-.361-.164)
R <sup>2</sup>	.197	.197	.269	.255	.200	.300
Model	F(6, 262) = 10.682, p < .001	F(7, 261) = 9.127, p < .001	F(8, 260) = 11.971, p < .001	F(8, 260) = 11.129, p < .001	F(8, 260) = 8.129, p < .001	F(10, 258) = 11.042, p < .001

Note. Standardized beta coefficient (bootstrapped 95% confidence interval), bootstrapped (1,000 sample) OLS regressions.  
<sup>a</sup> Dispositional empathy as measured by IRI. <sup>b</sup> Controllability of stated cause—reference group noncontrollable cause (abuse). <sup>c</sup> Academic or professional familiarity refers to the experiences having been studied or having encountered them as part of your work. <sup>d</sup> Personal familiarity refers to either people you know or yourself being affected by an experience. <sup>e</sup> As measured by AQ27.  
 \* < .05. \*\* < .01. \*\*\* < .001.

Table 4  
*Multivariate Regressions Exploring the Effect of Controllability, Familiarity, Dangerousness, Attributions of Blame and Emotional Responding on the Endorsement of Avoidance Responses (n = 274)*

	Avoidance <sup>e</sup>						
	(14)	(15)	(16)	(17)	(18)	(19)	
Age	-.017 (-.070-.054)	-.008 (-.068-.063)	.010 (-.060-.068)	.005 (-.065-.068)	-.009 (-.070-.055)	.016 (-.051-.068)	
Empathy <sup>a</sup>	-.154** (-.122--.026)	-.144** (-.120--.025)	-.098* (-.095-.001)	-.132* (-.111--.018)	-.140** (-.115--.022)	-.091 (-.090-<.001)	
Controllability <sup>b</sup>	.232*** (1.676-4.094)	.217*** (1.451-3.972)	.214*** (1.505-3.918)	.228*** (1.684-4.121)	.217*** (1.618-4.025)	.225*** (1.690-3.964)	
Familiarity professional <sup>c</sup>	.021 (-.179-.264)	.021 (-.146-.263)	.013 (-.185-.252)	.045 (-.117-.317)	.020 (-.203-.267)	.032 (-.139-.296)	
Familiarity personal <sup>d</sup>	-.205** (-.662--.189)	-.196** (-.657--.151)	-.191** (-.624--.151)	-.189** (-.644--.134)	-.204*** (-.704--.153)	-.198*** (-.649--.170)	
Dangerousness <sup>e</sup>	.481*** (.460-.854)	.463*** (.437-.830)	.470*** (.469-.808)	.364*** (.293-.686)	.589*** (.539-1.082)	.548*** (.492-1.019)	
Personal responsibility <sup>e</sup>	—	.066 (-.098-.287)	.016 (-.167-.233)	.006 (-.180-.189)	.067 (-.092-.283)	-.021 (-.212-.150)	
Pity <sup>e</sup>	—	—	-.193** (-.447-.112)	—	—	-.157* (-.407--.040)	
Anger <sup>e</sup>	—	—	—	.209** (.081-.362)	—	.168** (.036-.332)	
Fear <sup>e</sup>	—	—	—	—	-.146 (-.548-.111)	-.186 (-.574-.052)	
R <sup>2</sup>	.410	.414	.446	.438	.419	.466	
Model	F(6, 262) = 30.395, p < .001	F(7, 261) = 26.321, p < .001	F(8, 260) = 26.128, p < .001	F(8, 260) = 25.346, p < .001	F(8, 260) = 23.417, p < .001	F(10, 258) = 22.481, p < .001	

Note. Standardized beta coefficient (bootstrapped 95% confidence interval), bootstrapped (1,000 sample) OLS regressions.  
<sup>a</sup> Dispositional empathy as measured by IRI. <sup>b</sup> Controllability of stated cause—reference group noncontrollable cause (abuse). <sup>c</sup> Academic or professional familiarity refers to the experiences having been studied or having encountered them as part of your work. <sup>d</sup> Personal familiarity refers to either people you know or yourself being affected by an experience. <sup>e</sup> As measured by AQ27.  
 \* < .05. \*\* < .01. \*\*\* < .001.

cause ( $Z = -1.066, p = .287, b = -.149$ ) on avoidance.

**Fear.** There was no direct effect of fear on propensity to avoid (Equation 18), therefore mediation relationships were not explored.

**Influences on rejecting behavior—coercion.** Those with higher levels of personal familiarity with self-harm demonstrated a reduced propensity to support coercive strategies, whereas increased perceived dangerousness was associated with an increased willingness to enforce treatment (see Table 5). The effect of dangerousness on coercion was not mediated by aversive emotional responding (fear,  $Z = 1.288, p = .198, b = .137$ ; anger,  $Z = 1.605, p = .109, b = .062$ ). There was no direct effect of controllability, professional familiarity (Equation 20), personal responsibility beliefs (Equation 21) or affective responding (Equations 22–25) on tendency to endorse coercion. Mediation relationships were therefore not explored.

**Influences on rejecting behavior—segregation.** Individuals with personal experience of self-harm demonstrated a reduced willingness to support segregative strategies. Those with higher professional familiarity were higher in endorsement of segregation (see Table 6, Equation 26). Conversely, those who deemed Megan to be dangerous showed a greater propensity to segregate. There was no effect of personal responsibility beliefs (Equation 27) or pity (Equation 28) on endorsement of segregation. Participants who felt anger toward Megan demonstrated increased support for segregative strategies (Equation 29). Sobel tests indicated an indirect effect of blame, via anger ( $Z = 2.9536, p = .003, b = .050$ ); those who believed Megan to be personally responsible for her self-harm showed higher levels of anger toward her and, in turn, greater support for segregative strategies. Anger did not mediate between controllability ( $Z = -1.076, p = .282, b = -.087$ ) or familiarity (personal,  $Z = -.491, p = .623, b = -.008$ ; professional,  $Z = -1.805, p = .071, b = -.032$ ) and the propensity to endorse segregation. Results of Sobel tests indicate that the effect of perceived dangerousness on segregative behaviors operates both directly and indirectly through anger ( $Z = 3.309, p < .001, b = .079$ ) and fear ( $Z = 2.800, p = .005, b =$

$.176$ ). This is consistent with a danger appraisal process.

### **The Effect of Motivation for Self-Harm on Blame, Affective Responding, and Propensity to Help or Reject**

A series of bootstrapped OLS regressions were conducted in order to explore whether stated motivations (interpersonal vs. intrapersonal) were related to cognitive, emotional or behavioral responding, when adjusting for age and dispositional empathy. Stated motivation was not predictive of personal responsibility beliefs ( $b = .017, p = .786$ ; Model,  $F(3, 267) = 4.378, p = .005$ ), affective responses (pity,  $b = .037, p = .531$ ; Model,  $F(3, 267) = 8.578, p < .001$ ); anger,  $b = .013, p = .823$ ; Model,  $F(3, 267) = 3.101, p = .027$ ; fear,  $b = .055, p = .386$ ; Model,  $F(3, 267) = 1.818, p = .144$ ), helping ( $b = .024, p = .681$ ; Model,  $F(3, 267) = 6.200, p < .001$ ) or discriminatory behaviors (avoidance,  $b = .021, p = .714$ ; Model,  $F(3, 267) = 3.644, p = .013$ ; segregation,  $b = .028, p = .636$ ; Model,  $F(3, 267) = 4.934, p = .002$ ; coercion,  $b = .038, p = .513$ ; Model,  $F(3, 267) = .699, p = .554$ ). Given the lack of associations with key variables, motivations were not entered into multivariate analyses of the attribution model.

### **Blame, Perceived Dangerousness, Affective Responding and Propensity to Help or Reject in the Absence of Information Regarding Motivation and Cause of Self-Harm**

A series of Kruskal-Wallis tests were conducted to explore the effect of reporting uncertain motivation and cause of self-harm on cognitive, emotional and behavioral responding. Participants in the comparison group (unknown cause/unknown motivation) were less likely to consider Megan responsible than those in the controllable cause/interpersonal intent condition. The same pattern of difference was also observed between comparison and controllable/intrapersonal groups. However, this difference failed to reach statistical significance ( $U = 2211.500, Z = -1.940, p = .052, r = -.159$ ).

The comparison group were lower than both groups with controllable stated cause in endorsement of avoidance. There was no difference in avoidance between groups with a stated

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Table 5  
*Multivariate Regressions Exploring the Effect of Controllability, Familiarity, Dangerousness, Attributions of Blame and Emotional Responding on the Endorsement of Coercive Responses (n = 274)*

	(20)	(21)	(22)	(23)	(24)	(25)
Age	-.056 (-.081-.025)	-.044 (-.079-.029)	-.038 (-.070-.032)	-.037 (-.071-.032)	-.043 (-.077-.030)	-.033 (-.069-.037)
Empathy <sup>a</sup>	.020 (-.036-.052)	.033 (-.034-.056)	.049 (-.028-.063)	.040 (-.030-.059)	.029 (-.036-.053)	.045 (-.027-.061)
Controllability <sup>b</sup>	-.020 (-.1345-.926)	-.040 (-.1492-.691)	-.041 (-.1518-.653)	-.034 (-.1337-.799)	-.041 (-.1574-.686)	-.036 (-.1568-.735)
Familiarity professional <sup>c</sup>	.073 (-.080-.374)	.073 (-.090-.362)	.070 (-.085-.362)	.086 (-.049-.402)	.074 (-.092-.359)	.083 (-.076-.388)
Familiarity personal <sup>d</sup>	-.186** (-.557-.110)	-.173* (-.522-.082)	-.172** (-.530-.074)	-.170** (-.524-.085)	-.164* (-.500-.049)	-.162* (-.509-.046)
Dangerousness <sup>e</sup>	.422*** (.338-.606)	.400*** (.300-.586)	.402*** (.310-.575)	.344*** (.228-.540)	.277* (.020-.557)	.250* (.020-.518)
Personal responsibility <sup>e</sup>	—	.085 (-.043-.227)	.068 (-.069-.218)	.051 (-.101-.202)	.084 (-.046-.232)	.046 (-.085-.204)
Pity <sup>e</sup>	—	—	-.065 (-.222-.058)	—	—	-.041 (-.213-.098)
Anger <sup>e</sup>	—	—	—	.118 (-.017-.225)	—	.094 (-.056-.213)
Fear <sup>e</sup>	—	—	—	—	.144 (-.079-.477)	.124 (-.110-.435)
R <sup>2</sup>	.234	.243	.246	.251	.248	.255
Model	F(6, 262) = 13.579, p < .001	F(7, 261) = 11.961, p < .001	F(8, 260) = 10.631, p < .001	F(8, 260) = 10.869, p < .001	F(8, 260) = 10.701, p < .001	F(10, 258) = 8.854, p < .001

Note. Standardized beta coefficient (bootstrapped 95% confidence interval), bootstrapped (1,000 sample) OLS regressions.

<sup>a</sup> Dispositional empathy as measured by IRI. <sup>b</sup> Controllability of stated cause—reference group noncontrollable cause (abuse). <sup>c</sup> Academic or professional familiarity refers to the experiences having been studied or having encountered them as part of your work. <sup>d</sup> Personal familiarity refers to either people you know or yourself being affected by an experience. <sup>e</sup> As measured by AQ27.

\* < .05. \*\* < .01. \*\*\* < .001.



Table 6  
*Multivariate Regressions Exploring the Effect of Controllability, Familiarity, Dangerousness, Attributions of Blame and Emotional Responding on the Endorsement of Segregative Responses (n = 274)*

	Segregation <sup>e</sup>					
	(26)	(27)	(28)	(29)	(30)	(31)
Age	-.138** (-.075--.017)	-.122** (-.070--.012)	-.114** (-.066--.009)	-.109* (-.064--.005)	-.120* (-.070--.012)	-.105* (-.065--.004)
Empathy <sup>a</sup>	-.126** (-.064--.005)	-.111* (-.059--.004)	-.089* (-.050--.001)	-.099* (-.056--.003)	-.119* (-.058--.006)	-.096* (-.050--.005)
Controllability <sup>b</sup>	-.024 (-.0834--.509)	-.049 (-.1041--.379)	-.050 (-.1058--2.85)	-.037 (-.936--3.80)	-.051 (-.1069--2.98)	-.041 (-.945--.397)
Familiarity professional <sup>c</sup>	.109* (.005--.279)	.108* (.009--.272)	.105* (.003--.273)	.133* (.031--.312)	.110* (.013--.283)	.129* (.046--.312)
Familiarity personal <sup>d</sup>	-.129* (-.315--.019)	-.113 (-.288--.013)	-.111 (-.278--.011)	-.107 (-.276--.004)	-.097 (-.266--.034)	-.093 (-.263--.032)
Dangerousness <sup>e</sup>	.605*** (.349--.590)	.577*** (.334--.570)	.580*** (.339--.553)	.476*** (.265--.486)	.352 (.089--.501)	.298* (.042--.426)
Personal responsibility <sup>e</sup>	—	.105 (-.022--.183)	.082 (-.041--.177)	.044 (-.072--.143)	.103 (-.018--.187)	.040 (-.077--.135)
Pity <sup>e</sup>	—	—	-.092 (-.183--.033)	—	—	-.047 (-.159--.071)
Anger <sup>e</sup>	—	—	—	.213*** (.036--.214)	—	.179* (-.002--.210)
Fear <sup>e</sup>	—	—	—	—	.263 (-.027--.449)	.228 (-.040--.436)
R <sup>2</sup>	.446	.454	.462	.480	.471	.493
Model	F(6, 262) = 35.104, p < .001	F(7, 261) = 31.051, p < .001	F(8, 260) = 27.870, p < .001	F(8, 260) = 29.957, p < .001	F(8, 260) = 28.886, p < .001	F(10, 258) = 25.124, p < .001

Note. Standardized beta coefficient (bootstrapped 95% confidence interval), bootstrapped (1,000 sample) OLS regressions.

<sup>a</sup> Dispositional empathy as measured by IRI. <sup>b</sup> Controllability of stated cause—reference group noncontrollable cause (abuse). <sup>c</sup> Academic or professional familiarity refers to the experiences having been studied or having encountered them as part of your work. <sup>d</sup> Personal familiarity refers to either people you know or yourself being affected by an experience. <sup>e</sup> As measured by AQ27.

\* < .05. \*\* < .01. \*\*\* < .001.

uncontrollable cause and the unknown cause/motivation comparison group (see Table 7). Those in the comparison group were also less willing to endorse coercive strategies than those in any other condition.

### Discussion

The current study explored the effect of stated motivations and controllability of cause on public perceptions of self-harm, specifically personal responsibility beliefs, emotional responses and the propensity to help and reject. In line with Corrigan et al. (2003) our results indicate that controllability of cause and perceived dangerousness led to increased blame, whereas personal familiarity led to reduced blame. While no evidence was found for a direct effect of either controllability of cause or familiarity (personal or professional) on sympathetic or angry responding, personal responsibility beliefs (blame) had both a direct effect on these emotions and mediated the relationship between controllability and affect. Blame also mediated between personal familiarities with self-harm and anger.

Results indicate a direct effect of dangerousness on fear; those who believed Megan to be a risk to others reported more fear toward her. In contrast to sympathetic and angry emotions, where personal responsibility beliefs mediate between perceived dangerousness and affective responding, blame was not predictive of fearful responding. A significant effect of danger in the absence of mediation suggests that, while attribution processes may explain angry and sympathetic responding, a danger appraisal process operates in anxious responding to self-harm. This is consonant with Corrigan et al.'s (2003) assertion that danger is a key perception in fearful reactions. When considering individual differences, subscales of dispositional empathy were differentially associated with personal responsibility beliefs, perceived dangerousness, emotional responding and endorsement of helping and rejecting behaviors. Further, familiarity with self-harm was related to attributions, emotional responses and helping/rejecting behaviors. Considering demographic factors, older participants were less likely to blame Megan for her self-harm, as well as being less likely to perceive her as dangerous. They were also less angry and less likely to advocate for segregative

and coercive strategies. This suggests that individual differences, as well as situational factors, are important influences in appraisal processes related to self-harm.

Professional, but not personal, familiarity with self-harm predicted willingness to help. This divergent pattern of associations highlights the importance of not adopting a summative account of global familiarity. Future research could extend this by not only assessing professional familiarity and personal familiarity independently but also considering the nature or quality of this contact. As predicted, increased perceived dangerousness led to lower helping. However, in contrast to the public discrimination model, there was no direct effect of controllability on helping in response to self-harm. As hypothesized, increased pity led to increased helping, whereas increased anger was associated with a reduced propensity to help. Pity and anger both mediated between blame and help provision. In contrast with hypotheses, there was no effect of fear on willingness to help.

In avoidance, segregation and coercion, those with personal familiarity of self-harm demonstrate a reduced propensity to endorse discriminatory behaviors. In each case, dangerousness also predicted unhelpful responses. In avoidance, in line with the public discrimination model, those who believed the cause of Megan's self-harm was controllable were more likely to avoid her. However, there was no direct effect of controllability in coercion or segregation. There was no direct effect of personal responsibility beliefs on tendency to avoid, coerce and segregate; in avoidant responding, there was an indirect effect of blame, via both pity and anger, and in segregation, anger mediates between personal responsibility beliefs and behavioral responding. Importantly, a different pattern of relationships is observed in coercion; there was no effect of affective responding (fear, anger, pity) on tendency to endorse enforced treatment. Furthermore, while anger mediates between perceived dangerousness and avoidance, segregative and direct helping responses, the effect of dangerousness on endorsement of coercive responses is unmediated by aversive emotional responses. This suggests that a danger appraisal process operates in terms of coercion, whereas avoidance and segregation depend upon an attribution process.

Table 7  
*Blame, Affective Responding and Propensity to Help—Comparing Endorsement Between Experimental Conditions, N = 355*

	(1)		(2)		(3)		(4)		(5)		$\chi^2$	Significant differences (r)
	Mdn	(IQR)	Mdn	(IQR)	Mdn	(IQR)	Mdn	(IQR)	Mdn	(IQR)		
Personal responsibility <sup>a</sup>	11.000	(5.000)	11.000	(5.000)	13.000	(6.000)	11.000	(5.000)	13.000	(7.000)	18.288**	1 < 5 (-.206); 2 < 5 (-.279); 4 < 5 (-.269); 2 < 3 (-.224); 4 < 3 (-.223).
Dangerousness <sup>a</sup>	6.000	(5.000)	6.000	(7.000)	7.000	(6.000)	6.000	(6.000)	7.000	(7.000)	5.504	—
Pity <sup>a</sup>	21.000	(6.000)	21.000	(5.500)	21.000	(7.000)	21.000	(6.000)	20.000	(6.000)	3.154	—
Anger <sup>a</sup>	7.000	(8.000)	7.000	(8.000)	9.000	(9.000)	8.000	(9.000)	8.000	(11.000)	1.926	—
Fear <sup>a</sup>	4.000	(3.500)	5.000	(6.000)	5.000	(5.000)	5.000	(5.000)	5.000	(5.000)	6.069	—
Help <sup>a</sup>	22.000	(7.000)	21.000	(5.500)	21.000	(6.000)	21.000	(7.000)	22.000	(7.000)	1.429	—
Avoidance <sup>a</sup>	11.000	(9.000)	10.000	(8.500)	14.000	(10.000)	10.000	(8.000)	14.000	(9.000)	29.107***	1 < 3 (-.249); 1 < 5 (-.308); 2 < 3 (-.264); 4 < 3 (-.270); 2 < 5 (-.329); 4 < 5 (-.325).
Segregation <sup>a</sup>	3.000	(2.000)	4.000	(4.000)	4.000	(5.000)	5.00	(4.000)	4.000	(4.000)	6.384	—
Coercion <sup>a</sup>	9.000	(6.500)	11.000	(8.500)	12.000	(6.000)	11.000	(7.000)	12.000	(8.000)	12.549*	1 < 5(-.260); 1 < 2 (-.204); 1 < 3 (-.192); 1 < 4 (-.204).

<sup>a</sup>As measured by AQ27, higher scores indicate higher endorsement of construct (possible range of scores 3–27). Mdn = median, IQR = interquartile range.

\* < .05. \*\* < .01. \*\*\* < .001.

As predicted, those in the controllable cause conditions were significantly higher in attributions of blame than those in the uncontrollable cause conditions. Uncontrollable cause conditions were also significantly lower than controllable cause conditions in the intention to avoid Megan. Contrary to the hypothesis, there were no differences between vignette conditions in perceived dangerousness, emotional responding, helping intentions or segregation.

When considering the effect of reporting uncertain motivation and cause of self-harm on cognitive, emotional and behavioral responding, it is important to note that the comparison group endorsed equivalent levels of personal responsibility beliefs as those in the uncontrollable cause conditions and lower levels than in controllable cause. There were no differences in emotional responses, but the comparison group was lower than the controllable cause groups in avoidance and lower than all other groups in support of coercion. The inclusion of the comparison group is important in giving a more complete account of perceptions of, and responses to, self-harm, given that many people who self-harm are not able to identify clear motivations (Royal College of Psychiatrists, 2010).

Taken together, results of the study indicate that the public discrimination model (Corrigan et al., 2003) may be a useful theoretical framework in explaining public responding to self-harm. However, the variables outlined in the final models explained 30.0% of overall variance in helping behavior (Equation 13) and between 25.5–49.3% (Equations 19, 25, 31) of variance in discriminatory responses. Therefore, other variables are likely to also be important in understanding the dynamics underpinning public perceptions, helping and rejecting behaviors.

Previous research has suggested that perceived functionality of self-harm may be an important factor underpinning attitudes and responding to self-harm (Knowles et al., 2013). However, results of the current study suggest that stated motivation does not affect cognitive, emotional, or behavioral responding. The broader literature indicates an apparent incongruity between stated and perceived motivations, with a bias toward ascribing interpersonal motivations to self-harmful acts of others, assuming that the behavior is undertaken primar-

ily for communicative means (Ramon, 1980; Schnyder, Valach, Bichsel, & Michel, 1999; James & Hawton, 1985; Scoliers et al., 2009). Therefore, to give a more complete understanding, it would be important for future research to consider perceived motivation. Additionally, the exploration of self-punitive and suicidal intent warrants further investigation. Understanding whether similar or divergent processes underpin responding in self-harm behavior considered to be a suicide attempt and that which is not may be important in understanding public discrimination and targeting anti-stigma campaigns.

In contrast to existing research, the current study manipulated presentation format, in order to explore potential differences in responding to text and video-based vignettes. To date, the research using vignettes to explore attitudes has tended to employ text vignettes. Understanding any differences in video vignettes is important especially in public responding where people are more likely to encounter people face-to-face. Participants in the text condition responded more sympathetically to Megan than those in the video vignettes. Given the neutrality in tone and expression portrayed in the video presentation, it is feasible to suggest that participants in the text conditions envisaged Megan to be more overtly distressed and therefore responded more sympathetically. Unpacking these effects is beyond the scope of the current study but could be a useful direction for future research.

Results of the current study indicate that empathy plays an important role in public perception of, and responses to, self-harm. While the present study offers novel insight into the role of empathy in attribution processes, situational empathy should also be considered in future research. This avenue may be particularly fruitful in identifying potentially modifiable targets for anti-stigma interventions.

Overall, results of the current study indicted largely tolerant attitudes, with significantly higher levels of sympathetic affective responses than fearful or angry emotional reactions. Similarly, across the sample, the endorsement of helping responses was significantly greater than the support for avoidant segregative and coercive approaches. These more lenient attitudes are in contrast to the attitudes frequently cited in clinical studies. Furthermore, it stands in oppo-

sition to the suggestion that attitudes held by the general public may be more negatively polarized than those expressed by mental health nursing professionals (Munro & Baker, 2007). The endorsement of segregation was particularly low, indicating that participants did not perceive it to be better for the community if people who self-harm are separated and isolated.

### Limitations

In line with existing research (e.g., Corrigan et al., 2003; Law et al., 2009), the vignettes employed in the current study depicted simple scenarios in which self-harm was attributed to a single cause and driven by a single motivational factor. This potentially reductionist manipulation lacks fidelity, presenting the individual in the abstract, with only minimal reference to the situational context. While this is arguably a valid representation of medical presentation (e.g., presentation to an Accident & Emergency department), in community scenarios those who are confided in are likely to be trusted acquaintances/professionals and, consequently, have a wealth of knowledge pertaining to the individual's background, circumstances, and personal characteristics. A potential extension to the experiment would be to present a more extensive "history" of Megan, followed by an experimental vignette. This approach may offer a more accurate proxy to self-harm disclosures as well as accommodating a more accurate depiction of the complexities of a behavior that may have multiple causes.

While the literature guided the creation of the vignettes in terms of demographics and presentation, these factors may have influenced responding. For example, research indicates that lower controllability is attributed to younger people (Cleaver, Meerabeau, & Maras, 2014; Crawford, Geraghty, Street, & Simonoff, 2003). In turn, there is a propensity for increased tolerance and greater willingness to help when the self-harm relates to children and young people (in comparison to adult populations), given the increased amounts by which the behavior is deemed to be outside the individual's control. It would therefore be important for future research to manipulate the demographics of the individual depicted in the vignette. Factors such as the medical severity of self-harm (Dagnan, Trower, & Smith, 1998) and the perceived likelihood of

repetition (Mackay & Barrowclough, 2005) may also be important in attribution. The demographic characteristics of the study sample also warrant consideration. The majority of the current sample (84.5%) was white and British. The impact of these characteristics is, as yet, unknown. Moving forward, it would be important to test the attribution model, as applied to self-harm, in more ethnically diverse and/or international samples.

Finally, considering the vignette manipulation, it is important to note two further limitations. Firstly, participants may be responding to both the nature and controllability of the cause. For example, results of the General Social Survey suggest that the desire for social distance is greater in response to drug abuse than mental health problems (Martin, Pescosolido, & Tuch, 2000). Consequently, the form the cause takes may confound propensities to avoid, coerce, or segregate. Given the multifaceted nature of self-harm, future work may benefit from exploring whether alternative stated causes effect the magnitude of relationships seen between variables in the attribution model. Further research would also benefit from assessing the perceived controllability of cause. Secondly, the stated motivation for self-harm was intrapersonal or interpersonal (or unknown). Future research may seek to refine this manipulation to consider the type of reinforcement (positive vs. negative) as well as the behaviors' social or automatic functions (Bentley, Nock, & Barlow, 2014).

Computerized research protocols have proven useful in obtaining data on sensitive topics (Tourangeau & Yan, 2007). The increased privacy and anonymity afforded by online completion may also increase participants' ease and enhance disclosure of "unfavorable" attitudes. Indeed, researchers have suggested that behavioral intentions in responding to mental health (including stigma and discrimination) are best assessed using online methodologies (Henderson, Evans-Lacko, Flach, & Thornicroft, 2012). However, even with this reduced socially desirable responding, the extent to which the self-reported attitude and intentions to assist correspond with actual behavior can still be questioned, not least as there were no contingencies associated with the responses (Mackay & Barrowclough, 2005). Future research would benefit from including: (a) a measure of social desirability and (b) a behavioral

helping measure, in addition to self-reported intentions. For example, participants could be given the opportunity to donate a proportion of an inconvenience allowance earned through study participation to a charity supporting those affected by self-harm.

Future research would also benefit from gauging the perceived outcomes of intended actions. For example, included in the coercion subscale is the item, “If I were in charge of Megan’s treatment, I would require her to take her medication” (Corrigan et al., 2003). While low endorsement on this item could be indicative of a reluctance to enforce treatment against Megan’s will, it could also reflect the perceived suitability of medication, in terms of helping; participants may not deem medication (voluntary or enforced) to be potentially beneficial. This may be particularly pronounced in self-harm, given the lack of certainty regarding pharmacotherapy (Hawton et al., 2015, p. 2).

### Implications

Notwithstanding these limitations, the study offers novel insight into public perceptions of self-harm and intended responding. The investigation of public attitudes and behavioral response is paramount in the understanding of stigma, with the view to its abolition and the promotion of help provision. Knowledge of the factors and processes that lead to the increased provision of helping behavior allow campaigns aiming to reduce stigma and increase community acceptance and helping responses to be targeted with increased effectiveness. Results of the current study indicate that, when people are less familiar with self-harm or when they make controllable, internal attributions, they are less likely to show sympathetic or direct helping responses. Taken together, this would suggest that education programs may be effective, especially if they address the fact that self-harm is often a behavior with a complex set of antecedents, associated with distress and multiple life problems (Townsend et al., 2016). As results indicate that angry and sympathetic responses may be particularly important when predicting helping/rejecting behavior, work that aims to nurture compassion and situational empathy may also be beneficial.

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