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Abstract

Background: People with drug and/or alcohol problems often experience feelings of shame and guilt, which have been associated with poorer recovery. Self-forgiveness has the potential to reduce these negative experiences. **Methods:** The current study tested theorized mediators (acceptance, conciliatory behavior, empathy) of the relationships between shame and guilt with self-forgiveness. A cross-sectional sample of 133 individuals (74.4% male) receiving residential treatment for substance abuse completed self-report measures of shame, guilt, self-forgiveness, and the mediators. **Results:** Consistent with previous research, guilt had a positive association with self-forgiveness, whereas shame was negatively associated with self-forgiveness. Acceptance mediated the guilt and self-forgiveness relationship and had an indirect effect on the shame and self-forgiveness relationship. **Conclusions:** These findings emphasize the importance of targeting acceptance when trying to reduce the effects of shame and guilt on self-forgiveness.

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Self-Forgiveness, Shame and Guilt in Recovery from Drug and Alcohol Problems

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Abstract

People with drug and/or alcohol problems often experience feelings of shame and guilt, which have been associated with poorer recovery. Self-forgiveness has the potential to reduce these negative experiences. The current study tested theorised mediators (acceptance, conciliatory behaviour, empathy) of the relationships between shame and guilt with self-forgiveness. A cross-sectional sample of 133 individuals (74.4% male) receiving residential treatment for substance abuse completed self report measures of shame, guilt, self forgiveness and the mediators. Consistent with previous research, guilt had a positive association with self-forgiveness while shame was negatively associated with self-forgiveness. Acceptance mediated the guilt and self-forgiveness relationship and had an indirect effect on the shame and self-forgiveness relationship. These findings emphasise the importance of targeting acceptance when trying to reduce the effects of shame and guilt on self-forgiveness.

Keywords: shame; guilt; substance use disorder; acceptance; recovery

1. Introduction

Individuals who misuse substances are a highly stigmatised population (1, 2, 3) and feelings of shame and worthlessness may be associated with this stigmatisation (4, 5, 6). Problem substance users also have higher levels of anger than non-problem substance users (7), and it has been suggested that this may be a defence against the shame associated with substance misuse (8). Both anger and resentment have in turn been found to be negatively related to forgiveness (9, 10). The importance of managing such negative emotions associated with substance misuse has been highlighted previously, for example, in the 12-steps of Alcoholics Anonymous (AA) which indicate that resentment is a manifestation of pride and a major barrier to recovery (11, 12, 13).

Increasing forgiveness is one potential mechanism for reducing the negative effects of resentment on recovery. There are several types of forgiveness, including forgiveness of others, self-forgiveness (14, 15, 16), and receiving forgiveness from others (17, 18). Forgiveness of others is the most commonly researched form of forgiveness and receiving forgiveness is the least commonly studied (13). Forgiveness of others is central to the 12-step model of AA (13) and has been positively associated with recovery measures (12). However, it has been shown that self-forgiveness may be as relevant to recovery as forgiveness of others (12, 10, 19).

Though interest in self-forgiveness and problem substance use is increasing, the mechanisms by which self-forgiveness operates on recovery are unclear. Preliminary evidence suggests one mechanism may involve increasing one's purpose in life by addressing the shame and guilt associated with a substance use disorder (10). This is important as the relationship between shame and substance use has been theorised as cyclical, with substance misuse leading to shame and shame leading to

substance misuse (5, 6). The identification of self-forgiveness as a possible target for addressing the shame-use cycle is promising. However, research on shame and guilt is relatively limited and has been complicated by unreliable measures (20) and poorly differentiated shame and guilt constructs (5). Thus an explanation of the distinction between the two constructs is warranted

Shame fundamentally involves a perception of a flawed self (8) often accompanied by feelings of worthlessness and powerlessness (21, 22). In contrast, guilt involves perceptions of flawed behaviours; when feeling guilty an individual perceives their past behaviours as being flawed but may still perceive themselves as a worthwhile person (21). Guilt has previously been conceptualised as maladaptive (20), such that negative outcomes are erroneously attributed to an individual's behaviour (23). Shame-free guilt, on the other hand, may be considered adaptive as it can motivate an individual to engage in suitable reparative actions (21). A theory of shame and guilt (8, 20) has been developed where the constructs are differentiated as described above.

Though issues of shame, guilt and self-forgiveness may be relevant to substance misuse treatment, there are relatively few models available for guiding research. One of the main models of self-forgiveness, shame and guilt comes from Hall and Fincham (24) (Figure 1).

[INSERT FIGURE 1 HERE]

Their model proposes that shame operates directly on self-forgiveness, whereas guilt operates indirectly via empathy and conciliatory behaviour (see Figure 1). In this model, conciliatory behaviour refers to the act of engaging in behaviours that are intended to make amends for a previous transgression (e.g. apologising) (22) and empathy refers to the ability to accurately perceive another's feelings (25).

Empathy can be divided into "other-orientated empathy" and "personal distress-empathy". Other-oriented empathy involves feelings of compassion and concern for unfortunate others (26). Personal distress empathy refers to feelings of anxiety and discomfort when observing another individual's distress during a negative experience (26). In general, conciliatory behaviour and other-oriented empathy are thought to mediate the guilt-self-forgiveness relationship by motivating an individual to engage in reparative or conciliatory behaviours, such as apologising (22).

In contrast to guilt, shame is theorised to have a direct negative relationship with self-forgiveness (24) because the self-focus inherent in shame inhibits an ability to engage in conciliatory behaviours or experience empathy (24).

1.1. Empirical research on Hall and Fincham's Self-Forgiveness Model

Rangganadhan and Todorov (27) tested the guilt-proneness and shame-proneness pathways of the self-forgiveness model (24). There was a negative association between shame-proneness and self-forgiveness and a positive association between guilt-proneness and conciliatory behaviour and guilt-proneness and empathy (27). However, guilt-proneness, conciliatory behaviour and other-oriented empathy were not significantly associated with self-forgiveness (27). The results indicated that shame-proneness and personal distress, but not guilt-proneness and other-oriented empathy, may inhibit self-forgiveness.

Hall and Fincham's (24) model was also adapted for application with alcohol and other substance use (28). Individuals with high levels of state shame and low levels of self-forgiveness had significantly higher levels of alcohol consumption. The results imply that individuals who are highly ashamed and unwilling or unable to engage in self-forgiveness may be more likely to misuse alcohol (28). However, because data was drawn from college students rather than a clinical population, the

degree to which the results can be generalised to individuals in substance use treatment is unclear.

1.2. The Present Study

In summary, self-forgiveness has been found to be positively associated with a recovery from substance misuse (12). Shame and guilt are theorised to be the primary mechanisms being addressed by self-forgiveness (24, 10). Empirical research has found that shame-proneness and guilt-proneness are associated with substance misuse (5), aggression (22), stigma (29) and mental health (21, 19); however, the interaction of self-forgiveness, guilt-proneness and shame-proneness in the addiction process remains relatively unexplored (27, 19). Empirical validation and exploration of the mechanisms inherent in self-forgiveness is important in order to clarify its relevance to substance abuse treatment (24, 19).

This study used an amended model (see Figure 2) based on the previous findings of Hall and Fincham (24) and Rangganadhan and Todorov (27) to test the predictors of self-forgiveness in substance abusing populations. This revised model is unique in that it differentiates the two dimensions of empathy (other-orientated empathy and personal distress empathy) and also introduces acceptance as a predictor of self-forgiveness.

[INSERT FIGURE 2 HERE]

1.2.1 Acceptance and self-forgiveness

Acceptance (30) is theorised to address the shame and stigma inherent in problematic substance use (31, 3). Acceptance involves an individual consciously acknowledging a current or past experience without any judgement or attempts to change it; allowing the experience to be exactly as it is or was (32). Acceptance is a component of psychological flexibility (conscious connection with the present

moment); which sits on a continuum with psychological inflexibility (difficulty connecting with the context of a situation) (33). Experiential avoidance is a component of psychological inflexibility and is "the attempt to alter the form, frequency, or situational sensitivity of private events even when doing so causes behavioural harm" (30, p. 7). Experiential avoidance is theorised to occur in reaction to the painful experience of shame (21) often motivating drug or alcohol use (34).

The relevance of acceptance to the self-forgiveness process among substance misusers has received little empirical attention. A randomised clinical trial investigated the role of a 6 hour Acceptance and Commitment Therapy (ACT; 35) workshop on self-stigma among problematic substance users (36). At a 4 month follow-up, when compared to treatment as usual, the ACT intervention resulted in reduced shame-proneness, fewer days of substance use, and higher treatment utilisation (36). Although the ACT intervention had multiple components, the reduction in shame-proneness (36), as well as self-stigma during the intervention (29), suggests that acceptance may effect reductions in shame-proneness and be relevant to the self-forgiveness process.

1.3. Aims and Hypotheses

The present study tests the revised self-forgiveness model (Figure 2) in a sample of individuals in residential treatment for drug and alcohol problems. It was therefore hypothesised that: 1) guilt-proneness and shame-proneness will be positively correlated; 2) the relationship between guilt-proneness and self-forgiveness will be mediated by other-oriented empathy, conciliatory behaviour and acceptance, and; 3) the relationship between shame-proneness and self-forgiveness will be mediated by personal distress empathy and acceptance.

2. Materials and Methods

2.1. Participants

Participants were drawn from five Australian Salvation Army residential treatment services located in Sydney, New South Wales Central Coast, Canberra and Brisbane. These residential recovery service centres provide an eight to ten month treatment program for individuals with alcohol, drug and gambling use problems. The focus of this study was on alcohol and drug misuse. Upon entering the program clients progress through a 6-stage, group-based treatment process. This treatment process involves a combination of skills training, psycho-education, 12-step based interventions and individual counselling. Clients are also provided with vocational training, pastoral counselling and on site volunteer work activities, such as gardening or working in the kitchen.

A total of 217 clients receiving treatment at these services were invited to participate. Participants provided tacit consent which involved provision of an information sheet highlighting that participation was voluntary and that clients could choose not to participate by returning their incomplete questionnaire in the provided drop box. Tacit consent was conveyed by completing the questionnaire and returning it. Participants were not required to sign a consent form in order to increase their anonymity to the researchers. Study goals, participation requirements, and survey items were explained verbally and in writing, including the voluntary nature of the study and the right to withdraw participation before completion. One hundred and fifty clients returned completed surveys, resulting in an initial response rate of 69%. Surveys that had illegible responses, an obvious response set, were missing an excessive amount of data (defined as 15%, indicated by two or more missing pages), or indicated that the client was being treated only for a gambling addiction were

removed from the study (n=17). This resulted in a final sample of 133 participants, a

61% response rate, consisting of 99 males (74.4%) and 34 females. The average age

of the participants was 37.52 years ($SD = 11.24$), with the average length of their

current treatment being 16.64 weeks ($SD = 12.87$), approximately four months.

Participant demographic information is reported in Table 1.

[INSERT TABLE 1 HERE]

2.2. Measures

A brief background information questionnaire was used to collect participant

demographics and treatment histories. Items for this background information

questionnaire were adapted from the Brief Treatment Outcome Measure (37).

Examples of areas assessed by these background information questions include: the

primary substance of misuse, frequency of use, length of substance use problem, and

previous treatment histories.

2.2.1. Shame and guilt

Dispositional shame and guilt was measured with the Test of Self-Conscious

Affect-3 (TOSCA-3; 38). The scale is comprised of 16 brief scenarios (11 negative

and 5 positive) to which participants indicate the likelihood of responding in ways

which reflect the cognitive, behavioural and affective aspects of shame and guilt. The

responses are rated on a 5-point Likert scale ranging from 1 (not likely) to 5 (very

likely). A sample scenario is, "You are out with a group of friends and you make fun

of a friend who is not there." A sample shame response is, "You would feel

small…like a rat." A sample guilt response is, "You would apologise and talk about

the person's good traits." The shame and guilt subscales have been found to have

adequate reliability with Cronbach alphas ranging from of .77 to .88 and .69 to .83

respectively (27, 38). In a previous study, internal consistency for the shame subscale

was acceptable, .91, but low for the guilt subscale, .57 (39). Reliabilities for all measures used in this study are presented in Table 2.

2.2.2. Self-forgiveness

The Heartland Forgiveness Scale (HFS; 15) is an 18 item scale assessing dispositional forgiveness of the self. Three subscales encompass forgiveness of self, others and situations. Participants rate how true each item is for them on a 7-point Likert scale (1 = almost always false of me to 7 = almost always true of me). For the purpose of the current research only the 6 item self-forgiveness subscale was used ("Learning from bad things that I've done helps me get over them"). The HFS forgiveness of self subscale has been shown to have acceptable reliability (α = .80) (27).

2.2.3. Acceptance

Both psychological flexibility and experiential avoidance were measured via the Acceptance and Action Questionnaire – Substance Abuse (AAQ-SA; 33). This scale is specifically designed to capture acceptance and experiential avoidance in substance abusing populations (33). Participants were asked to rate how true or untrue the series of 18 statements were for them. This measure is comprised of two subscales: values commitment ("I try to achieve my sobriety goals, even if I am uncertain that I can") and defused acceptance ("My urges and cravings get in the way of my success"). Participants responded a 7-point scale ranging from 1 (never true) to 7 (always true). The AAQ-SA has shown high internal consistency (α = .85).

2.2.4. Empathy

The Empathic Concern and Personal Distress subscales of The Interpersonal Reactivity Index (IRI; 26) were used to assess cognitive and emotional components of empathy. Participants were provided with 27 statements, each depicting a situation

designed to capture self-reported empathy. Participants are asked to rate how well each statement describes them (1 = does not describe me well to 5 = describes me very well). The Empathic Concern (other-oriented empathy) subscale assesses the experience of other-oriented feelings of compassion and concern ("I often have tender, concerned feelings for people less fortunate than me"). The Personal Distress subscale assesses the experience of self-oriented discomfort or unease in response to the distress of others during stressful situations ("When I see someone who badly needs help in an emergency, I go to pieces"). Cronbach's alpha for the subscales is acceptable (Empathic Concern: $\alpha = .69$, Personal Distress: $\alpha = .78$) (26, 27).

2.2.5. Conciliatory behaviour

The Conciliatory Behaviour Scale (CBS; 27) is a 7 item measure assessing reparative strategies or behaviours that may be executed following a transgression. Participants were asked to rate each statement on a scale from 1 (strongly disagree) to 5 (strongly agree). The items are summed so that high scores indicate greater conciliatory behaviours ("I feel better once I apologise or admit to my wrongdoing"). Item 5 is reverse scored. The scale has an acceptable reliability ($\alpha = .76$) (27).

2.3. Procedures

A group recruitment meeting was held at each Salvation Army recovery service centre. All clients currently in treatment at the service centre were invited to attend these group recruitment meetings. During these meetings the requirements of the study were explained. Clients were also informed that participation was completely voluntary and would not influence their treatment or relationship with the Salvation Army. Clients were provided with a participant information sheet and measures. Completed measures were placed in a drop box located at the front of the room. Clients not wishing to participate in the study simply returned the incomplete

measures into the drop box. The study received ethical review and approval from the University of Wollongong Human Research Ethics Committee.

2.4. Data Analytic Strategy

Missing values were excluded from all analyses using listwise deletion due to the low rates of missingness (<10%). As a further precaution, the dataset was analysed to determine whether data were "missing completely at random" (MCAR) (40). The data met this assumption as indicated by a non-significant result to Little's MCAR test (χ^2 = 44.65, df = 64, p = .97) (41).

The data satisfied all analysis assumptions, with the exception of normality. Visual inspections of the variables' distributions (42) showed guilt-proneness, other-oriented empathy, and conciliatory behaviour to be negatively skewed. Transformations failed to correct these violations of normality preventing complete model testing so non-parametric equivalents were adopted as required.

Gramzow and Tangney (43) recommend controlling for the associated variance between shame-proneness and guilt-proneness. This was achieved by regressing the shame-proneness and guilt-proneness subscales onto each other and in each case saving the standardized residuals, resulting in shame-free guilt-proneness, and guilt-free shame-proneness scores. Unless otherwise stated, it is these residual scores that are reported in the results of our analyses.

Spearman's Rho bivariate correlations were run for associations between the variables. Due to the use of residual shame- and guilt-proneness variables, the correlations between these, and the mediating variables, are semi-partial. Measures of central tendency and internal consistency for each scale are presented in Table 2.

Two multiple mediation analyses with 5000 bootstrap resamples were used to test Hypotheses 2 and 3. Bootstrap resampling does not impose normality

assumptions (44) so was therefore suitable for our data. Each model used self-forgiveness as the dependent variable (for a review of multiple mediation analyses see 44). The first multiple mediation model tested whether the relationship between guilt-proneness and self-forgiveness would be mediated by other-oriented empathy, conciliatory behaviour and acceptance (see Figure 3). The second model tested whether the relationship between shame-proneness and self-forgiveness would be mediated by personal distress empathy and acceptance (see Figure 4).

<div align="center">3. Results</div>

3.1. Correlations between Variables

The shame-proneness and guilt-proneness scales were positively correlated (r = .48, p < .001) before regressing the constructs to remove their shared variance. When guilt-free shame-proneness, and shame-free guilt-proneness were correlated a negative association was found (r = -.45, p < .01). The bivariate correlations presented in Table 2 provide support for associations between the investigated constructs. The correlations between constructs were generally in the low to moderate range.

<div align="center">[INSERT TABLE 2 HERE]</div>

3.2. Multiple Mediation

<div align="center">[INSERT TABLE 3 HERE]</div>

3.2.1. Model A: Mediators between guilt and self-forgiveness

The results of the multiple mediations are shown in Table 3. In the first multiple mediation model (Figure 3) guilt-proneness predicted other-oriented empathy (β = 2.67, p < .001); conciliatory behaviour (β = 2.70, p <.001); and acceptance (β = 6.37, p < .001); while acceptance predicted self-forgiveness (β = .18, p < .001). Bootstrapping found a significant indirect effect for acceptance (β = 1.18, 95% CI [.476, 2.175]). When the mediators were entered into the model, the total effect of

guilt-proneness on self-forgiveness ($c = 1.830$, $p = .01$) decreased and became

statistically non-significant ($c' = 1.292$, $p = .09$); indicating that acceptance fully

mediated guilt-proneness and self-forgiveness.

[INSERT FIGURE 3]

3.2.2. Model B: Mediators between shame and self-forgiveness

In the second mediation model (Figure 4) shame-proneness predicted

acceptance ($\beta = -4.52$, $p < .01$) and personal distress empathy ($\beta = 1.53$, $p < .001$);

while acceptance predicted self-forgiveness ($\beta = .14$, $p < .001$). Bootstrapping found a

significant indirect effect for acceptance ($\beta = -.66$, 95% CI [-1.531, -.129]. When the

mediators were entered into the model, the total effect of shame-proneness on self-

forgiveness ($c = -3.667$, $p = .001$) decreased but remained significant ($c' = -2.788$, $p =$

.001); indicating that acceptance partially mediated shame-proneness and self-

forgiveness.

[INSERT FIGURE 4]

4. Discussion

Before the variance was statistically partialled, the results showed a moderate

strength positive correlation between shame-proneness and guilt-proneness. This was

in accord with previous findings (45) and provides support for the study's first

hypothesis – that guilt-proneness and shame-proneness would be positively

correlated. However, the manner in which these two constructs directly influence self-

forgiveness was shown to differ, with (guilt-free) shame-proneness predicting self-

forgiveness in a negative direction and (shame-free) guilt-proneness in a positive

direction. Rangganadhan and Todorov (27) also found this pattern, albeit with a non-

significant relationship between guilt-proneness and self-forgiveness. Thus, the results

further support the theory that guilt-proneness, though often conceptualised as a maladaptive construct (23), may positively influence recovery from problematic substance use by promoting self-forgiveness. In contrast, shame-proneness may inhibit recovery by reducing the propensity to forgive oneself.

4.1. Mediators of Guilt, Shame and Self-Forgiveness

The multiple mediation models further clarified how shame-proneness and guilt-proneness interact with self-forgiveness. It was demonstrated that guilt-proneness positively predicts other-orientated empathy and conciliatory behaviour (Figure 3), while shame-proneness positively predicts personal distress empathy (Figure 4). Both guilt-proneness and shame-proneness also predicted acceptance. However, as with their relationship with self-forgiveness, the direction of these relationships differed, with guilt-proneness positively predicting acceptance and shame-proneness negatively predicting acceptance (Figure 3 and 4 respectively). The current results imply that the discomfort of guilt-proneness may lead to more empathy for others, motivate a person to engage in reparative actions (e.g. apologise) and promote acceptance of themselves, while shame-proneness may increase personal distress and inhibit self-acceptance; potentially by keeping the substance misuser focused on their discomfort (24).

Though shame-proneness predicted personal distress empathy, and guilt-proneness predicted other-orientated empathy and conciliatory behaviour, these constructs did not in turn predict self-forgiveness and thus did not mediate the relationships between shame-proneness, guilt-proneness and self-forgiveness. Previous research with non-clinical populations has also found these non-significant relationships (27). Rather, what emerged from the multiple mediations was that only acceptance mediated the relationships between guilt-proneness and self-forgiveness

and shame-proneness and self-forgiveness. Together, these results indicate that if a person is able to sit with (accept), rather than avoid unpleasant emotions (46) towards the self in shame, and past transgressions in guilt, then they may increase their propensity to engage in self-forgiveness.

Based on the current findings, a revised model could be proposed (Figure 5). It is noted however, that research into self-forgiveness is in its infancy and the constructs investigated here are not exhaustive (24).

[INSERT FIGURE 5 HERE]

4.2 Limitations and Future Directions

The main limitation of the present study is its cross-sectional design which prevents causality from being established. For example, it is possible that self-forgiveness predicts the degree of shame-proneness and guilt-proneness experienced rather than shame-proneness and guilt-proneness predicting self-forgiveness. In relation to this, there may be other constructs relevant to self-forgiveness that were not included in the models being tested (24). Future research can begin to expand the model in order to capture all the constructs determining self-forgiveness and determine causality via longitudinal research.

Data gathered from participants only related to the length of addiction and did not span addiction severity or comorbid disorders. High comorbidity of co-occurring mental disorders in Australian residential substance use disorder clients has been reported (47). Future research would benefit from investigating disease and addiction severity to identify whether the current results apply across all stages of severity or in the presence of comorbidity.

Further limitations of the study include that the data was drawn from religiously affiliated treatment centres, the final response rate was 61%, and the

sample primarily comprised males (74.4%). These limitations restrict the generalizability of the current findings beyond the current sample. However, our results are similar to those obtained with other samples in differing settings (27, 28). Future research would benefit from utilising balanced gender and secular treatment comparison groups.

Current forgiveness therapies focus on guilt and shame as barriers to the self-forgiveness process (48). However, high shame-proneness may impede forgiving one self, while guilt-proneness emerged via acceptance as a potential facilitator of self-forgiveness. Future avenues for investigation include whether the beneficial outcomes of self-forgiveness, such as decreased substance use (28) and motivation to seek help and enter treatment (49, 12), may be achieved by addressing high levels of shame-proneness in treatment (5).

Further, investigating ACT (35) with its emphasis on acceptance in substance abuse treatment may prove beneficial as it addresses ineffective control strategies (substance use) and experiential avoidance (unwillingness to accept negative thoughts, feelings or emotions) (50). Acceptance is central to the 12-steps of AA (particularly steps 4 and 5) as a client needs to honestly explore and acknowledge themselves and their past transgressions in order to progress through treatment (11). Thus, future research into the utility of acceptance skills in substance abuse treatment could prove useful by potentially encouraging those in recovery to sit with, rather than avoid, unpleasant emotions promoting the recognition of shame (49) and the motivation to self-forgive.

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Figure 1. Hall and Fincham's (2005) model of self-forgiveness.

Figure 2. The revised model of self-forgiveness.

Figure 3. Multiple mediation model testing other-oriented empathy, conciliatory behaviour and acceptance as mediators between guilt-proneness and self-forgiveness.

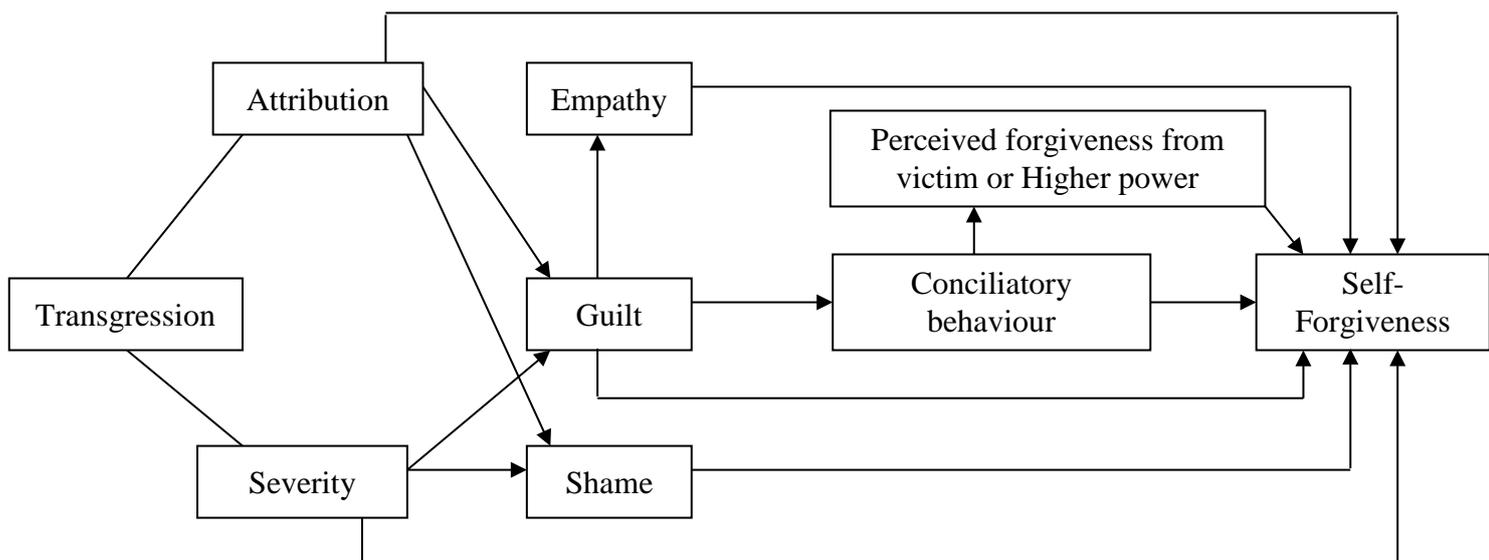Notes: Coefficients are unstandardised and broken lines represent non-significance.

*** = $p<0.001$; ** = $p<0.01$; c = total effect of X on Y; c' = direct effect of X on Y via M.
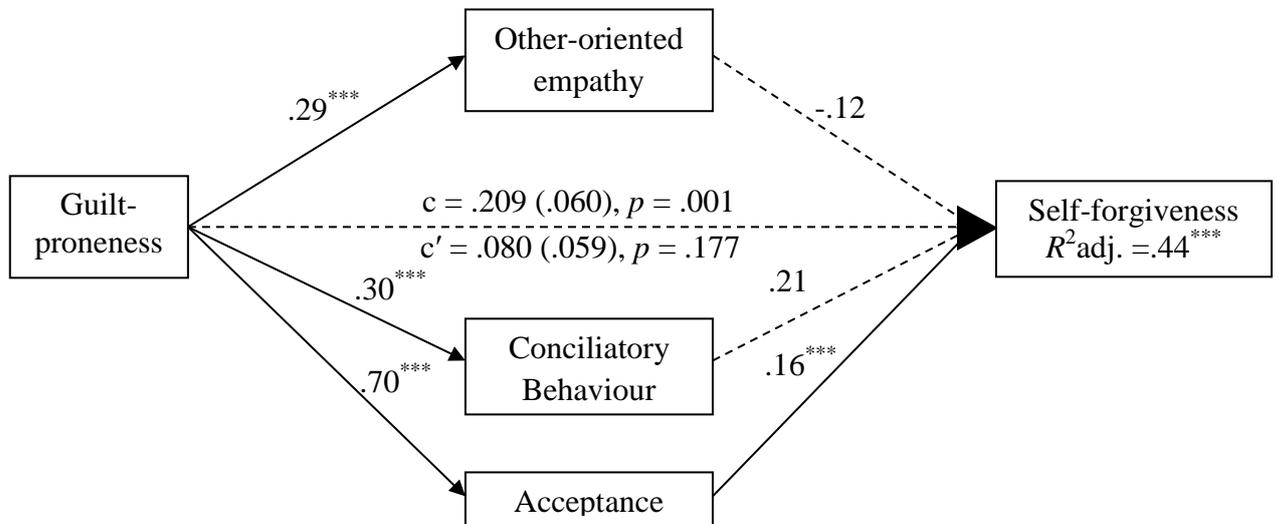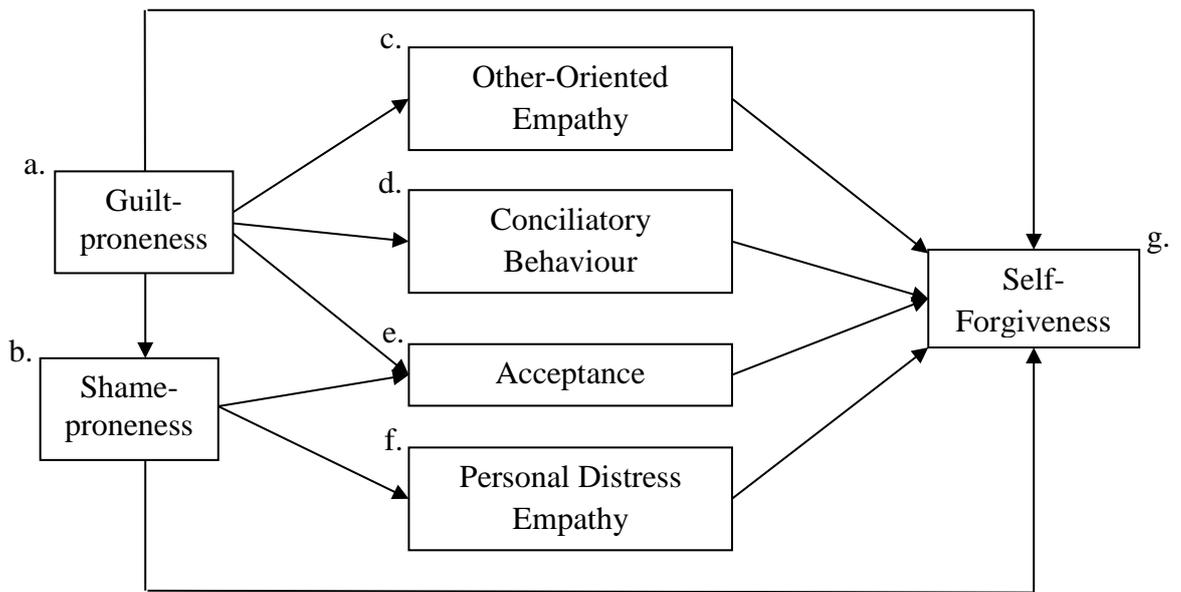
Figure 4. Multiple mediation model testing acceptance and personal distress empathy as mediators between shame-proneness and self-forgiveness.

Notes: Coefficients are unstandardised and broken lines represent non-significance.

*** = $p<0.001$; ** = $p<0.01$; c = total effect of X on Y; c' = direct effect of X on Y via M.

Figure 5. A revised model of self-forgiveness based on results from the current research.

Other-Oriented Empathy

Conciliatory Behaviour

Acceptance

Personal Distress Empathy

Guilt-proneness

Shame-proneness

Self-Forgiveness

a. b. c. d. e. f. g.

Other-oriented empathy

Conciliatory Behaviour

Acceptance

Guilt-proneness

Self-forgiveness R^2adj. =.44***

.29***

.30***

.70***

-.12

.21

.16***

c = .209 (.060), p = .001
c′ = .080 (.059), p = .177
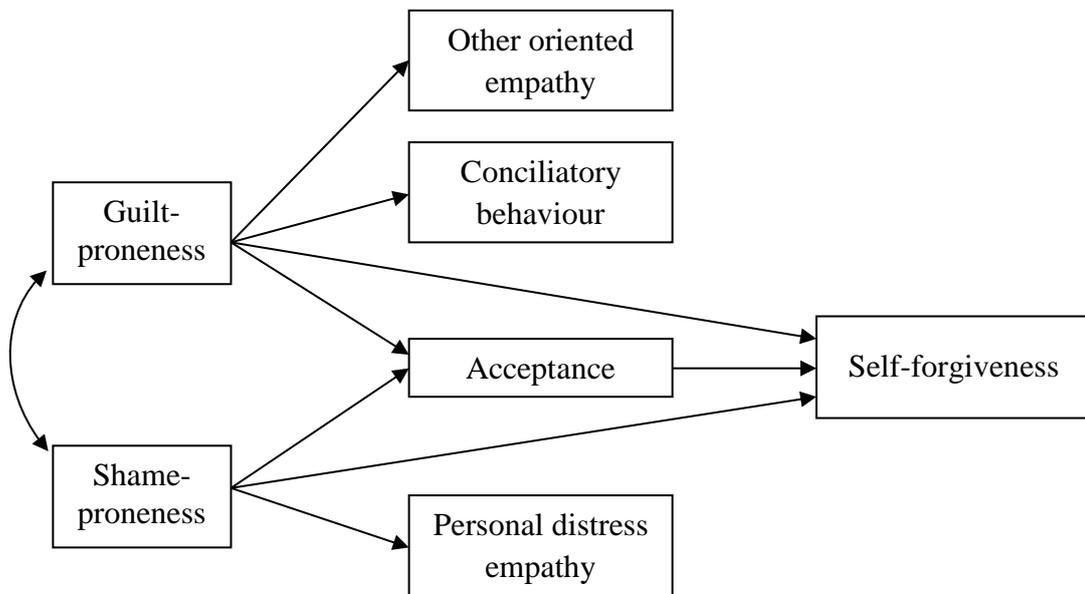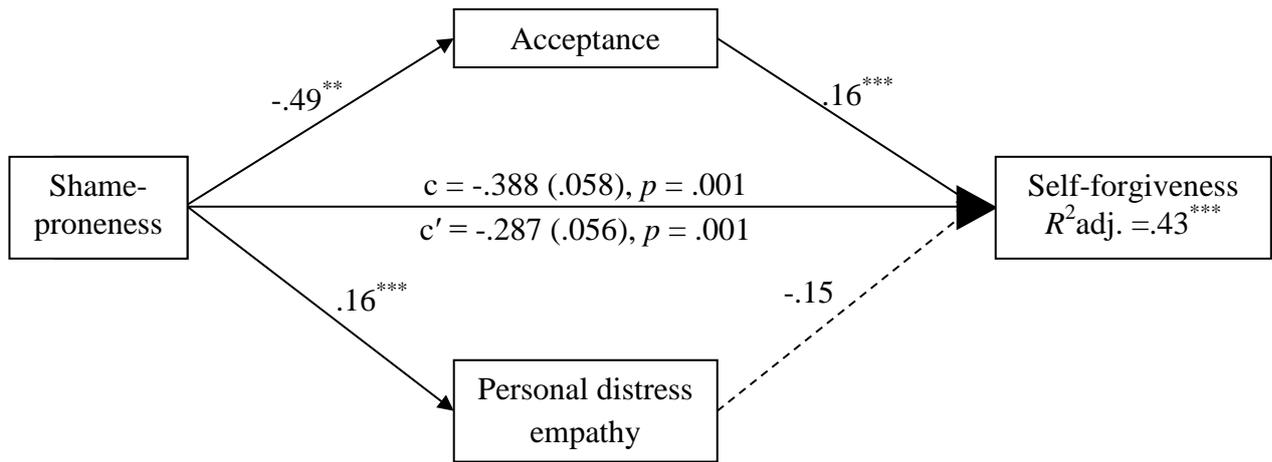
Table 1. Demographic Information.

Characteristics	*n*	%	*Mean*	*Standard Deviation*
Gender				
Male	99	74.4		
Female	34	25.6		
Age			37.52	11.24
Weeks in treatment			16.64	12.87
Years of substance use problem			17.44	9.37
Times previously treated			2.21	3.10
Previously accessed AA				
Yes	83	62.4		
No	50	37.6		
Self-reported Primary Substance				
Alcohol	69	56.1		
Cannabis	21	17.1		
Amphetamines	20	16.3		
Cocaine	2	1.6		
Heroin	9	7.3		
Other	2	1.6		

Characteristics	*n*	%	*Mean*	*Standard Deviation*
Primary Target of Treatment				
Remaining abstinent	72	55.0		
Stopping use	50	38.2		
Other	5	3.8		
Fulfilling court order	4	3.0		

Table 2. *Means, Semi-Partial, and Spearman's Rho Correlations between Variables.*

	Mean	*Standard Deviation*	Semi-Partial Spearman's Correlations	Spearman's Correlations					
			1	2	3	4	5	6	7
1. Shame-proneness	47.38	10.62	*.79*						
2. Guilt-proneness	62.42	10.44	-.45[**a]	*.85*					
3. Self-forgiveness	25.64	6.61	-.57[**]	.21[*]	*.73*				
4. Acceptance	77.63	16.45	-.27[**]	.32[**]	.45[**]	*.85*			
5. Other-oriented empathy	26.05	5.00	.07	.50[**]	-.04	.10	*.76*		
6. Personal distress empathy	19.24	4.75	.32[**]	-.14	-.32[**]	-.26[**]	.04	*.72*	
7. Conciliatory behaviour	27.38	5.70	.06	.41[**]	.11	.20[*]	.56[**]	-.10	*.87*

Notes: Italicised numeral on the diagonal represent Cronbach's alphas.

N = 103; [a] This correlation reflects the standardised residuals of shame- and guilt-proneness.

[*]=$p<0.05$, [**]=$p<0.01$

Table 3. *Multiple Mediation Analyses Testing Mediators of Self-forgiveness Relationships.*

Independent variable (IV)	Mediator (M)	Effect of IV on M *a*	Effect of M on Dependent variable (DV) *b*	Indirect effect *ab*	Bootstrapping 95% Confidence Interval (CI)	
					Lower	Upper
Guilt-proneness[a]	Other-oriented empathy	2.67***	-.27	-.73	-1.675	.138
	Conciliatory behaviour	2.70***	.03	.09	-.592	.837
	Acceptance	6.37***	.18***	1.18	.476	2.175
Shame-proneness[b]	Acceptance	-4.52**	.14***	-.66	-1.531	-.129
	Personal distress empathy	1.53***	-.16	-.22	-.778	.049

**p<0.01, ***p<0.001

[a] N = 104, [b] N = 106

Guilt-proneness: c = 1.830 (.644), *p* = .01; c′ = 1.292 (.748), *p* = .09

Shame-proneness: c = -3.667 (.542), *p* = .001; c′ = -2.788 (.527), *p* = .001