Examination of the Reliability and Validity of a Cardiac Self-Blame Attributions (CSBA) Scale

Kadie M. Harry[1], Alex J. Francisco[1], Jacob M. Marszalek[1], Jillian M. R. Clark[1], Kalon R. Eways[1], Samantha M. Harris[1], Andrew J. Smith[1,2], & Kymberley K. Bennett[1]

[1]University of Missouri-Kansas City
[2]Truman Medical Center

OBJECTIVES

1) To assess the reliability of a multiple-item measure of self-blame attributions in a cohort of patients with cardiovascular disease who are eligible for cardiac rehabilitation at an urban, safety-net hospital.

2) To evaluate the validity of a multiple-item measure of self-blame attributions in a cohort of patients with cardiovascular disease who are eligible for cardiac rehabilitation at an urban, safety-net hospital.

BACKGROUND

Cardiovascular Disease

- Cardiovascular disease (CVD) is the leading cause of death in the United States, contributing to approximately 600,000 deaths each year
- CVD is a condition for which patients readily search for a cause
- Cardiac rehabilitation (CR) programs are recommended secondary prevention programs
- CR includes both monitored exercise and lifestyle change classes focusing on diet, stress management, and pharmacology for 3 sessions per week for 12 weeks

Self-Blame Attributions

- Behavioral self-blame (BSB) is the tendency to blame one's past behaviors
- Characterological self-blame (CSB) is the tendency to blame stable aspects of one's disposition

Mixed Findings for Self-Blame

- Both types of self-blame (SB) have been associated with negative and positive adjustment processes
- One possible explanation for these discrepancies is the lack of a validated, multiple-item measure of SB attributions in patients with CVD

METHOD

Procedures

- Patients completed surveys while they were recovering from a cardiac procedure pre-hospital discharge

Instrument Development

- After editing the items based on feedback from two subject matter experts and pilot-testing to assess face validity, the final scale included 14 items, including 7 measuring BSB and 7 measuring CSB

Participants

- Sample (***N* = 60**)
  - Mean age = **56.1 years** (***SD* = 10.5**)
  - Predominantly male = **68%**

Table 1. Patient Demographics

Insurance Status	Insured (37.6%) Uninsured (62.4%)
Marital Status	Partnered (28.5%) Not partnered (71.5%)
Ethnicity	European American (56.7%) African American (38.3%) Hispanic (5.0%) American Indian (1.7%) Hawaiian/Pacific Islander (1.7%)
Education	8th grade or less (3.5%) Some high school (22.1%) Graduated high school (38.4%) Technical school/2-year community college (8.1%) Some college (18%) College degree (6.4%) Beyond college (3.5%)
Diagnosis	MI (69.2%) PCI (87.8%) Stable Angina (0.6%)

Original Cardiac Self-Blame Attributions (CSBA) Scale Items

1. How much do you blame yourself for past behaviors that may have caused your cardiac event?
2. To what extent do you accept fault for behaviors that may have caused your cardiac event?
3. How much do you think your past behaviors contributed to your cardiac event?
4. To what extent do you believe that a change in your behavior could have prevented your cardiac event?
5. To what extent do you feel accountable when thinking about past behaviors that may have caused your cardiac event?
6. *How much do you believe that your past behaviors were NOT responsible for your cardiac event? (Item deleted)*
7. How much do you blame the type of person you are for your cardiac event?
8. When discussing possible causes of your cardiac event with important people in your life, to what extent have you blamed your past behavior?
9. To what extent do you accept fault that your personal characteristics may have caused your cardiac event?
10. To what extent do you believe that a change in the type of person you are could have prevented your cardiac event?
11. How much do you blame your personality for your cardiac event?
12. *How much do you believe that your cardiac event was NOT attributable to your character? (Item deleted)*
13. How much do you blame yourself for being the type of person who has bad things, like a cardiac event, happen to them?
14. When discussing possible causes of your cardiac event with important people in your life, to what extent have you blamed your personality?

Scale: 0 (*Not at all*), 1 (*A little*), 2 (*Somewhat*), 3 (*A lot*), 4 (*Completely*)

RESULTS

- Parallel Analysis and Velicer's Minimum Average Partial Test were first conducted and indicated that two factors should be extracted
- Next, Principal Axis Factoring (PAF) with oblimin rotation was conducted and yielded a 12-item, 2-factor structure explaining 64.04% of the variance
- Two reverse-worded items were removed due to problems with process validity and reliability (see Items 6 and 12)
- Pattern coefficients ranged from .49 to .95. These two factors represented BSB (with 6 items) and CSB (with 6 items)
- Correlation between the two factors ($r = .731$, $p < .05$)
- Internal consistency for the two factors indicated good reliability
  - BSB: $\alpha = .94$ ($M = 13.58$, $SD = 7.55$)
  - CSB: $\alpha = .86$ ($M = 8.18$, $SD = 6.59$)
- The CSBA also showed good discriminant validity with the Health Self-Determinism Index ($r = .005$, $p > .05$)

Table 2. CSBA Items, Components, Coefficients, and Communalities

		1 (BSB)	2 (CSB)	h^2
1.	How much do you blame yourself for past behaviors that may have caused your cardiac event?	**.77 (.86)**	.12 (.66)	.74
2.	To what extent do you accept fault for behaviors that may have caused your cardiac event?	**.83 (.90)**	.10 (.68)	.81
3.	How much do you think your past behaviors contributed to your cardiac event?	**.74 (.85)**	.15 (.67)	.73
4.	To what extent do you believe that a change in your behavior could have prevented your cardiac event?	**.90 (.80)**	-.13 (.49)	.65
5.	To what extent do you feel accountable when thinking about past behaviors that may have caused your cardiac event?	**.95 (.93)**	-.03 (.63)	.86
7.	How much do you blame the type of person you are for your cardiac event?	.18 (.52)	**.49 (.62)**	.40
8.	When discussing possible causes of your cardiac event with important people in your life, to what extent have you blamed your past behavior?	**.56 (.79)**	.34 (.73)	.69
9.	To what extent do you accept fault that your personal characteristics may have caused your cardiac event?	.32 (.73)	**.59 (.81)**	.71
10.	To what extent do you believe that a change in the type of person you are could have prevented your cardiac event?	.13 (.60)	**.68 (.77)**	.60
11.	How much do you blame your personality for your cardiac event?	.02 (.54)	**.75 (.76)**	.58
13.	How much do you blame yourself for being the type of person who has bad things, like a cardiac event, happen to them?	-.02 (.40)	**.61 (.59)**	.35
14.	When discussing possible causes of your cardiac event with important people in your life, to what extent have you blamed your personality?	-.10 (.47)	**.82 (.75)**	.57
	Total Variance Explained			**64.04%**

Pattern coefficients are followed by structure coefficients in parentheses.

CONCLUSIONS

- These findings suggest that the CSBA scale is a reliable and valid measurement tool
- The CSBA scale represents two factors: BSB and CSB

Implications

- Its use within a hospital or CR setting may assist providers in understanding the causal mechanisms that patients assume underlie their diagnoses

Limitations of the Study

- Small sample
- Reliance on self-report data
- May not generalize to all CVD patients

Future Directions

- Future research should explore the predictive validity of this measure for mental and physical health outcomes in patients with CVD

Please address correspondence to Kadie Harry via email at kmhkcc@mail.umkc.edu. This poster was presented at the Society of Behavioral Medicine 36th Annual Meeting and Scientific Sessions, San Antonio, Texas on April 24, 2015.
Acknowledgment: Travel funds for annual meeting attendance provided by the UMKC Department of Psychology and the School of Graduate Studies. This research was supported by the UMKC Department of Psychology, to K. K. Bennett.