

Introduction/background

Coronary artery bypass graft (CABG) and valve replacement (VR) are the most common heart surgeries used in the treatment of cardiovascular disease (CVD) (World Health Organization (WHO) 2010). They consist of a variety of open heart surgical procedures and have been shown to be effective in enhancing quality of life (Society of Thoracic Surgeons 2010).

Despite their advantages, CABG and VR are associated with the occurrence of symptoms within the first three weeks following surgery (Cebeci and Çelik 2008). Adequate prevention and management of these symptoms demand performance of specific self-care behaviours post-discharge aimed at preventing complications and enhancing recovery within the home environment (Heart and Stroke Foundation of Canada (HSFC) 2008; Fredericks et al 2009). Self-care is defined as the care taken by individuals towards their own health and well being: and encompasses the actions needed to lead a healthy life; meet one's social, emotional, and psychological needs; be able to care for a long-term condition; and to prevent further illness (World Health Organization (WHO), 2005). Self-care involves personal health maintenance performed by the individual and does not require shared management or assistance from a spouse or caregiver. It is the engagement in activities that are learned and aimed at promoting healthy functioning. The activities are reflective of an individual's beliefs, health status, and traits (Orem 2001). Following cardiac surgery, self-care is crucial for preventing complications, hospital readmissions, and emergency room visits.

The performance of self-care behaviours following CABG and/or VR has been examined in few studies (Gillis et al 1993; Fredericks et al 2009). Systematic reviews, experimental designs, and non-experimental studies using similar samples, setting, and data collection methods have reported validity in the performance of self-care behaviours during the first month of home recovery (Gillis et al 1993; Khan et al 1998; Fredericks et al 2009). On average, patients are expected to engage in self-care behaviours on a daily basis during their first month of home recovery (Artinian et al 2002). These behaviours relate to: managing incision and respiratory complications; activity performance; medication management; monitoring nutrition and fluid intake; and symptom prevention. Findings suggest patients do not consistently engage in self-care behaviours during their home recovery period, due to the onset of complications and an increase in hospital readmission rates (Khan et al 1998; Fredericks et al 2009). However, findings indicate the number of self-care behaviours performed during the first month of recovery ranges between 0-3 (Khan et al 1998; Fredericks et al 2009). The variability in the number of self-care behaviours performed may be due to individuals' socio-demographic characteristics and health profile such as age, gender, culture, education, marital status, type of surgical procedure performed and number of co-morbid conditions. These characteristics may affect the individual's ability to engage in self-care behaviours; inadequate self-care may result in the onset of complications leading to increased rates of re-hospitalization and emergency room visits (Fredericks et al 2010a). Understanding the influence of socio-demographic characteristics and

health profile on performance of self-care behaviours will guide efforts at developing tailored interventions that are relevant and consistent with the needs of various sub-groups of patients who have had CABG and/or VR.

Study Aim

The aim of this study was to determine the amount of variance in performance of self-care behaviours that is accounted for by socio-demographic characteristics and health profile in patients who have undergone heart surgery. The specific objectives were: 1) to explore the extent to which age, gender, culture, education, and marital status influence performance of self-care behaviours and 2) to determine the amount of variance in performance of self-care behaviours that is accounted for by type of surgical procedure performed (e.g. CABG, VR, CABG and VR) and the number of comorbid conditions with which the patient presented.

To date, no studies have examined the relationship between health profile and self-care behaviour performance following cardiac surgery. For this study, health profile included the type of surgical procedure (isolated CABG, isolated VR, CABG in combination with VR, where an isolated CABG and isolated VR are considered simple open heart surgical procedures, while CABG in combination with VR is considered a complex open heart surgical procedure) performed and the number of co-morbid conditions present.

Methods

Research Design

A quantitative, non-experimental design was used to address the study purpose. Ethics approval was obtained from the appropriate ethics committees. Within 24-48 hours of admission to the CVS units, data were collected from eligible consenting patients on socio-demographic and clinical characteristics in a face-to-face interview. Data related to self-care behaviours were collected at 1 week post-hospital discharge by telephone. This time period was deemed appropriate, as this is the time in which it is anticipated that patients will engage in a significant number of self-care behaviours as a result of their recent hospital discharge and fluctuating recovery (Jaarsma et al 2002; Fredericks et al 2006).

Setting and Patient Population

The settings for this study were 2 CVS units at university-affiliated teaching hospitals in a large Canadian city. The accessible population included individuals having CABG with 1-5 grafts and/or VR. In both units, the average length of stay was 5 days. The mean patient age was 67.6 years, and the male/female ratio was 3:1. Patients were ethnically diverse. Approximately 70% of the accessible population met the eligibility criteria.

Sample Inclusion Criteria, Sampling Technique, Sample Size

Participants were selected if they met the following eligibility criteria: underwent CABG and/or VR; were literate in English; oriented to time, place, and person as ascertained by their nurse; and had access to a working phone at home.

A convenience sampling technique was used in which available consenting patients were entered into the study until the required sample size

was reached. The sample size was determined using Cohen's (1992) criteria which encompasses 1) the number of groups (1), 2) an alpha level of 0.05 (attempting to avoid a type II error), 3) a pre-set B or power of 0.8, (Cohen 1992) and 4) an anticipated moderate effect size of 0.6 reflecting the association between self-care behaviour performance and the anticipated relationship between socio-demographic characteristics and health profile as identified in the diabetic population (Ciechanowski et al; Lin et al 2004). The criteria identified above were used to identify the study's desired sample size of 248 patients using Cohen's tables.

Instruments

Standard questions were used to collect information related to the age, gender, culture, educational level, marital status, type of procedure (isolated CABG, isolated VR, CABG and VR), and number of co-morbid conditions.

Performance of self-care behaviours was measured at 1 week following discharge with the Revised Self-Care Behaviour Scale (RSCB) (Artinian et al 2002). The RSCB is a self-report tool has been used extensively in the cardiovascular surgical population and contains 29-items that relate to behaviours patients are expected to perform following heart surgery (Fredericks et al 2010b). The average time for scale completion is 10 minutes. These behaviours relate to post-operative incision and pulmonary complications, activity performance, medication management, and symptom management. The items on the scale range from performing each behaviour "none of the time" (0) to "all of the time" (5) (Artinian et al). Summing the scores obtained for each item, yields

a total scale score which can range between 0 to 145 (Artinian et al). A high score indicates more frequent performance of self-care behaviours (Artinian et al). A content validity index of 0.82 was established by a panel of experts. The scale's internal consistency reliability was assessed using split half reliability (Cronbach's alpha = 0.79). The Cronbach's alpha obtained in this study was 0.72.

Procedures

Patients who met the eligibility criteria were invited to participate in the study within 24-48 hours of admission to the CVS units. Screening of eligible study participants was conducted by unit staff using the study inclusion criteria. The researcher approached all patients interested in hearing about the study to explain study in detail, and obtain consent. This procedure for recruiting study participants was based on similar strategies used in studies whose sample consisted of cardiovascular surgical patients (Fredericks 2010b). Self-care data were collected over the phone at one week following hospital discharge. A trained nurse using a standardized data collection protocol conducted all data collection interviews. Chart review was conducted to extract data on clinical characteristics.

Analysis

Descriptive statistics that included frequencies, measures of central tendency, and dispersion were performed to characterize the sample. Multiple regression analyses were used to determine the amount of variance in the performance of self-care behaviours that was accounted for by socio-

demographic characteristics and health profile in patients who underwent heart surgery.

Results

Two hundred and sixty-four patients who met the eligibility criteria were approached to participate in the study. Two hundred and forty-eight patients completed the study (response rate = 93.9 %), with twelve individuals declining to participate. Reasons for non-enrollment were: feeling unwell (n = 8) and lack of interest (n = 4). The research team was unable to contact four (n = 1.5%) study participants at the 1 week data collection time point. If study participants could not be reached after an initial phone call, two additional calls were made. If a third unsuccessful attempt to contact a study participant was made, then the individual was deemed to no longer be interested in continuing with the study and no further attempt was made to contact them.

The participants had an average age of 63.7 years (SD = 10.1), were predominantly married (75.6 %) men (78.2 %) with non-university education (74.4 %). About half of the study participants had bypass surgery (42.8%) with three bypass grafts (48.1 %) being reported. Twenty-nine percent of the sample had VR, while 28.2 % of the sample had CABG and VR procedures. The majority of the sample reported on average four co-morbid conditions (67.9%). The most frequently reported co-morbid conditions were high blood pressure (96.4 %), high cholesterol (82.7 %), diabetes (83.2 %), arthritis (32.5 %), and thyroid (18.2 %). More than half of the study participants was first generation Canadians (63.1%) with English, Irish, or Scottish (60.3 %) being the most common culture

represented in the sample, followed by Indian (32.6 %), Greek (23.5 %), Italian (19.6 %), and Chinese (7.1 %).

On average, study participants performed 3 (SD = 1.1) self-care behaviours during their first week of home recovery. The most commonly performed self-care behaviours (Table 1) included: taking pills as the doctor prescribed (97.9 %), use of spirometer (91.9 %), taking prescribed pain medication as needed (91.9 %), and performance of deep breathing and coughing exercises (86.7 %).

Preliminary data screening included examination of histograms of scores on all eight variables (self-care behaviours, age, gender, culture, education, marital status, type of surgery, and number of co-morbidities) and examination of scatter plots for all pairs of variables. Univariate distributions were reasonably normal with no extreme outliers; bivariate relations were fairly linear, all slopes had the expected signs, and there were no bivariate outliers. Standard multiple regression was performed. All predictor variables were entered in one step. Zero-order, part, and partial correlations of each predictor with self-care behaviour were requested. Results for the standard multiple regression are summarized in Table 2. The overall regression, including seven predictors, was statistically significant, $R = .31$, $R^2 = .10$, adjusted $R^2 = .07$, $F(7, 237) = 3.905$, $p < .001$.

Discussion

Predicting self-care behaviour scores from the socio-demographic characteristics and health profile of patients who have undergone heart surgery is difficult as only 10 % of the variance in self-care scores is accounted for by the

regression. Thus, 90% of variability found in self-care scores is accounted for by other variables. This finding is in contrast to research that has examined the influence of socio-demographic factors within non-surgical populations on treatment-seeking behaviours (Grover et al 2006; Bourne 2009), as well as studies that have suggested that patients in deprived communities and ethnic minorities are less likely to self-care (Department of Health 2005). Further work is needed to understand the influence of socio-demographic factors, as well as health profile on the engagement in self-care within the surgical population. Specifically, a comprehensive examination of the role of socio-demographic factors in predicting self-care following heart surgery is needed that includes examining occupation, family income, as well as urbanization.

With regards to the variability in self-care that is accounted for by other variables, this may be due to the presence of psychological factors. In particular, the most common psychological factors identified following CABG and/or VR include anxiety, depression, delirium, dementia, and memory loss (Selnes et al., 2003). However, the influence of these factors on performance of self-care behaviours has not been examined.

Moderate to severe levels of anxiety and depression have been reported following open heart surgery (Tully et al 2008). These elevated levels of anxiety and depression have been found to last up to 6 weeks following CABG and/or VR. Selnes et al (2003) suggest heightened levels of anxiety and depression may impede performance of self-care behaviors by interfering with efficient and

realistic planning as well as the individual's ability to cope during the home recovery period.

Furthermore, Fasken et al (2001) reported that approximately half of all cardiovascular surgical patients experience some form of short term dementia, delirium, or memory loss following CABG. Similarly, Newman et al (2001) identified cognitive decline was present in 53 % of his study sample (n = 261 patients) at the time of hospital discharge, 36% at 6 weeks, 24 % at six months, and 42% at 5 years. Thus, these heightened rates of neurocognitive decline following heart surgery may influence an individual's ability to engage in the performance of self-care behaviours.

Limitation

A limitation associated with this study is that only self report measures of self care were used, with responses being obtained by telephone, rather than face to face. This makes validation and verification difficult.

Conclusions/recommendations

Presently, 10% of the variability in performance of self-care behaviours is accounted for by socio-demographic characteristics and patients' health profile. Replication of all parts of this study should occur to ensure that findings are accurate. As the results obtained are reflective of only one study, but confirm theoretical propositions, the reader should have minimal to moderate confidence in the findings. As well, interpretation of the results may be limited since data related to cardiac severity type in which to stratify sample was not obtained.

Of particular importance is the amount of variability that is due to other factors. Ninety percent of the remaining variability could not be accounted for. Nurses should be aware that even though they attempt to incorporate age, gender, culture, education, marital status, type of surgery and number of co-morbidities into their educational interactions with patients, additional factors may be influencing performance of self-care behaviours which may need to be taken into account. Theoretical evidence suggests a relationship between psychological factors and behaviour performance. Further examination of the influence of these factors is needed. In particular, future research should examine the amount of variance in self-care behaviour performance that can be predicted by anxiety, depression, delirium, dementia, and memory loss.

Furthermore, as theoretical evidence suggests a relationship between psychological factors and self-care behaviour performance, nurses should simultaneously continue to assess for and manage these factors following surgery, in addition to collecting empirical evidence to support theoretic propositions.

In order to assess for neurocognitive decline (i.e. short term dementia, delirium, or memory loss) following CABG and/or VR, nurses should consider using a validated measure such as the NEECHAM Confusion Scale (Neelon 1996) or the Delirium Observation Screening (DOS) Scale (Schuurmans et al 2003). To assess for depression, the Beck Depression Inventory (BDI) (Beck, 2006) can be used; while anxiety can be measured using the Spielberger State Anxiety Questionnaire (1995). These tools are quick and easy to use in the

clinical setting. Even though this study did not assess for neurocognitive decline, depression and anxiety; clinicians should still assess and manage these symptoms. A number of studies have been conducted that indicate the presence of short term dementia, delirium, memory loss, depression, and/or anxiety. Yet these symptoms are not routinely addressed in the clinical setting. Thus, clinicians should continue to assess and integrate their management into their overall routine of care.

Key point sentences

- * 10% of the variability in performance of self-care behaviours is accounted for by socio-demographic characteristics and patients' health profile
- * 90% of the remaining variability could not be accounted for
- * Theoretical evidence suggests a relationship between psychological factors and behaviour performance. Thus, these factors may be influencing the performance of self-care behaviours
- * Future research should examine the amount of variance in self-care behaviour performance that can be predicted by anxiety, depression, delirium, dementia, and memory loss
- * Various tools that are quick and easy to use in clinical settings have been suggested to assess for neurocognitive decline, depression and anxiety

References

- Artinian NT, Magnan M, Sloan M, Lange MP (2002) Self-care behaviors among patients with heart failure. *Heart Lung* **31**: 161-172
- Beck AT (2006) *Depression: Causes and Treatment*. University of Pennsylvania Press, Philadelphia
- Bourne PA (2009) Social determinants of self-evaluated good health status of rural men in Jamaica. *Rural Remote Health* **9(1280)**: 1-13
- Canadian Institute of Health Information (2011). *Health systems characteristics*. http://www.cihi.ca/cihi-ext-portal/internet/en/document/health+system+performance/indicators/health/indic_def_character_10 Accessed 7 September 2011
- Carroll L, Gilroy PJ, Murra J (2003) The effect of gender and self-care behaviours on counselors' perceptions of colleagues with depression. *J Couns Dev* **81**: 70-78
- Cebeci F, Çelik S (2008) Discharge training and counseling increase self-care ability and decrease post-discharge problems in CABG patients. *J Clin Nurs* **17**: 412-420
- Ciechanowski PS, Katon WJ, Russo, JE, Hirsch IB (2003) The relationship of depressive symptoms to symptom reporting, self-care and glucose control in diabetes. *Gen Hosp Psychiatry* **25(4)**: 246-252.
- Cohen J (1992) *Statistical power analysis for the behavioral sciences*. L. Erlbaum Associates, Hillsdale, NJ

Department of Health(2005) Public attitude to self-care.

[http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4111260)

[PublicationsPolicyAndGuidance/DH_4111260](http://www.dh.gov.uk/en/Publicationsandstatistics/Publications/PublicationsPolicyAndGuidance/DH_4111260) Accessed 24

January 2012

Eastwood JA, Doering LV (2005) Gender differences in coronary artery disease.

J Cardiovasc Nurs **5**: 340-351

Fasken LL, Wipke-Tevis DD, Sagehorn KK (2001) Factors associated with

unplanned readmission following cardiac surgery. Prog Cardiovasc Nurs

3: 107-115

Fredericks S, Guruge S, Sidani S, Wan T (2010a) Post-operative patient

education: A systematic review. Clin Nurs Res **19(2)**: 144-164

Fredericks S, Ibrahim S, Puri R (2009) Coronary Artery Bypass Graft Surgery

patient education: A systematic review. Prog Cardiovasc Nurs **24(4)**: 162-

168

Fredericks S, Lo J, Ibrahim S, Leung J (2010b) An examination of the difference

in performance of self-care behaviours between white and non-white

patients following CABG surgery: A secondary analysis. Can J

Cardiovasc Nurs **20(4)**: 21-29

Fredericks S, Sidani S, Shugurenski D (2006) The effect of anxiety on learning

outcomes post-CABG. Can J Nurs Res **40**: 127-140

Gillis CL, Gortner SR, Hauck WW, Shinn JA, Sparacino PA, Tompkins C (1993)

A randomized clinical trial of nursing care for recovery from cardiac

surgery. Heart Lung **2**: 125-133

- Grover A, Kumar R, Jindal SK (2006) Socio-demographic determinants of treatment-seeking behavior among chest symptomatic. *Indian J Community Med* **31**: 145-149
- Harkness K, Smith L, Taraba C, MacKenzie E, Gunn H (2005) Effect of a postoperative telephone intervention on attendance at intake for cardiac rehabilitation after coronary artery bypass graft surgery *Heart Lung* **34**: 179-186
- Heart and Stroke Foundation of Canada (2008) Coronary artery bypass surgery. http://www.heartandstroke.com/site/c.ikiQLcMWJtE/b.3831751/k.3BBA/Heart_disease__Coronary_artery_bypass_surgery.htm Accessed 1 September 2011
- Hubbard P, Muhlenkamp AF, Brown N (1984) The relationship between social support and self-care practices. *J Nurs Res* **5**: 266-270
- Jaarsma T, Halfens R, Abu-Saad H, Dracup K, Diederiks J, Tan F (2002) Self-care and quality of life in patients with advanced heart failure: The effect of a supportive educational intervention. *Heart Lung* **29**: 319-330
- Khan JK, McElhinney DB, Hall TS, Merrick SH (1998) Cardiac valve surgery in octogenarians: Improving quality of life and functional status. *Arch Surg* **133**: 887-893
- Lin EHB, Katon W, Von Korff M, Rutter C, Simon GE, Oliver M, Ciechanowski P, Ludman EJ, Bush T, Young B (2004) Relationship of Depression and Diabetes Self-Care, Medication Adherence, and Preventive Care. *Diabetes Care* **27(9)**: 2154-2160

- Neelon VJ, Champagne MT, Carlson JR, Funk SG (1996) The NEECHAM
Confusion Scale: Construction, validation, and clinical testing. *Nurs Res*
45: 324-330
- Newman MF, Kirchner JL, Phillips-Bute B, Gaver V, Grocott H, Jones RH, Mark
DB, Reves JG, Blumenthal JA (2001) Longitudinal assessment of
neurocognitive function after coronary artery bypass surgery. *N Engl J*
Med **344**: 399-402
- Orem DE (2001) *Nursing: Concepts of Practice*. 5th ed. Mosby, St. Louis
- Padula CA (1992) Self-care and the elderly: Review and implications. *Public*
Health Nurs **1**: 22-28
- Renpenning KM, Taylor SG (2005) *Self-care theory in nursing: Selected papers*
of Dorethea Orem. Springer Publishers, New York
- Schuumans MJ, Shortridge-Bagett LM, Duursma SA (2003) The delirium
observation screening scale: A screening instrument for delirium. *Res*
Theory Nurs Prac, **17(1)**: 31-50
- Selnes OA, Grega MA, Borowicz LM, Royall RM, McKhann GM, Baumgartner
WA (2003) Cognitive changes with coronary artery disease: A prospective
study of coronary artery bypass graft patients and non-surgical controls.
Ann Thorac Surg **75**: 1377-1386
- Spector RE (2003) *Cultural diversity in health and illness*. 6th ed. Prentice Hall
Health, New Jersey
- Spielberger CD (1995) *Test Anxiety: Theory, Assessment, and Treatment*. Taylor
& Francis, Washington, D. C

The Society of Thoracic Surgeons (2011) Adult cardiac surgery.

<http://www.sts.org/patient-information/adult-cardiac-surgery> Accessed 10 October 2011

Tully PJ, Baker RA, Knight JL (2008) Anxiety and depression as risk factors for mortality after coronary artery bypass surgery J Psychosom Res **64**:, 3, 285-290

Vale MJ, Jelinek MV, Best JD, Santamaria JD (2002) Coaching patients with coronary heart disease to achieve the target cholesterol: A method to bridge the gap between evidence-based medicine and the “real world” – randomized controlled trial. J Clin Epidemiol, **55**: 245-252

World Health Organization (2005) Preventing chronic diseases: A vital investment.

<http://www.fhi360.org/NR/rdonlyres/eoqqmc3ihpbkrcyejdbxsdi6fyf52ptip4fyyn42lykxkxa37frxmn2antzuidqfrhklcp5kz2i/ManagingChronicCareHV.pdf> Accessed 24 January 2012

World Health Organization (2010) The Atlas of Heart Disease and Stroke.

http://www.who.int/cardiovascular_diseases/resources/atlas/en/ Accessed 7 September 2011

Table 1

Percentage of individuals who performed each self-care behaviour at one week following hospital discharge

<i>Self Care Behavior</i>	%
1. I use my blue breathing machine as described by my healthcare provider.	91.9
2. I perform my deep breathing and coughing exercises at least 3 times every hour.	86.7
3. I clean all of my surgical incisions everyday with soap and water.	81.8
4. I constantly assess all of my incisions for redness, swelling, puffiness, leaks, and tenderness.	80.6
5. I contact my doctor if I notice any redness, swelling, puffiness, leaks, and tenderness.	0.0
6. I contact my doctor when I have abdominal pain.	0.0
7. I increase my walking time by 1 minute every other day, if tolerated	4.8
8. I try to avoid strain (such as putting weight of upper arms, shoulders, back, neck, and chest).	10.5
9. I use the stairs only when necessary	34.6
10. I do not lift, push, or pull objects heavier than 10 lbs	38.3
11. I am physically active (for example, walk) on 3 to 4 days per week.	25.0

12. I take my pills every day as the doctor prescribed.	97.9
13. I always refill my prescriptions on time.	0.0
14. I have a system to help tell me when to take my pills.	0.0
15. I take my prescribed pain medication whenever I need them.	91.9
16. I contact my doctor before stopping, starting, or altering my pain medication	0.0
17. To help reduce my symptoms or fatigue (i.e., feeling tired) or shortness of breath (i.e.: having difficulty breathing), I limit the activities that are hard for me	29.0
18. I spread my activities out over the whole day so I do not get too tired.	27.4
19. I plan rest times during my day.	7.7
20. When I am unable to sleep I use different techniques to help put me to sleep	0.0
21. I try to eat food high in fiber to prevent constipation.	0.0
22. I weigh myself on every day of the week.	38.7
23. I am careful not to drink more than 2 cups of fluids/day.	40.3

24. I contact my doctor when I have gained 2 pounds or more in a day.	0.0
25. I put my feet up when I sit in a chair if swelling is present in my leg.	27.8
26. I try to return, as best as possible to my usual daily activities	18.9
27. I contact my doctor when I feel tired all the time.	0.0
28. I contact my doctor when I have nausea (i.e.: sick to the stomach).	0.0
29. I contact my doctor when I have vomiting.	0.0

Table 2: Results of standard multiple regression to predict self-care from demographic characteristics and health profile

	Self - Care	Age	Sex	Culture	Education	Marital status	Type of Surgery	Number of Co - Morbidities	<i>b</i>	β	<i>sr</i> ²
Age	-.18								-.15 ***	-.16	.03
Sex	-.53	-.01							-2.81 ***	-.12	.01
Culture	-.01	-.06	-.06						-.85	-.04	<.01
Education	.07	-.06	.21	.12					.19	.06	<.01
Marital Status	.20	-.05	.18	.03	.15				4.39 ***	.20	.03
Type of Surgery	-.11	.13	.05	-.05	.12	-.07			-.79	-.07	.01
Number of Co-Morbidities	-.11	.08	-.08	-.16	-.11	-.06	-.09		-3.30	-.09	.01
Mean	15.95	63.78	--- --- --a	----- --b	----- ^c	----- --d	----- _e	1.92	Intercept = 48.29***		
Standard Deviation	9.49	10.10	--- --- --a	----- --b	----- ^c	----- --d	----- _e	.27			
									<i>R</i> ² = .10		
									<i>R</i> ² _{adj} = .07		
									<i>R</i> = .31		

*** *p* < .001

- Sex was coded: 1 = male, 2 = female - mean and standard deviation not reported
- Culture was coded: 1 = Western European, 2 = non-Western European – mean and standard deviation not reported
- Education was coded: 1 = ≥ post-secondary education, 2 = < post-secondary education – mean and standard deviation not reported

- d. Marital status was coded: 1 = single/divorced/widowed, 2 = married/cohabitating – mean and standard deviation not reported
- e. Type of procedure was coded: 1 = isolated CABG, 2 = isolated VR, 3= CABG and VR

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