

Supplementary file 2: Characteristics of studies included in this systematic review.

Authors Year Design	Population	Group	Sample Size (M/F) Age (years)	Key component of intervention		
				Content	Frame	Format/ Dose
Park ³² 2020 RCT	Diabetes	Gain- frame	26 (10/16) 65.65±10.61	Content pertaining to diabetic complications in diabetes.	Gain framing presented positive outcomes resulting from adherence to a diabetes care regimen, showing a patient success story about proper diabetes self-care.	Video 1
		Loss- frame	26 (6/20) 64.92±12.21		Loss framing presented undesirable consequences resulting from failure to comply with a diabetes care regimen, showing a story about a patient with diabetic complications caused by inadequate diabetes self-care.	
Paragas ³³ 2019 Quasi- experim ental study	Diabetes	Gain- frame	55 (25/30) 58.95±10.25	Definition of diabetes, teachings about blood glucose monitoring; proper diet and exercise; oral hypoglycemic agents; recognition, treatment, and prevention of hypoglycemia and hyperglycemia.	Gain-framed video comprised 10 positive outcomes of adherence to diabetes self-care in the last scenes of videos, e.g. one statement was “If you maintain good control of your blood glucose, the acid in your blood will be normal, and being comatose will be prevented,” with a scene showing a healthy person.	Video/ Lecture 1
		Loss- frame	55 (25/30) 58.60±10.23		Loss-framed video contained 10 negative outcomes of non-adherence in the last scenes of videos, e. g. one version was “If you do not maintain good control of your blood glucose, the acid in your blood will be elevated that could lead to being comatose,” with a scene showing a comatose patient.	
		No- frame	55 (24/31) 58.96±9.74		Standard approach of providing health teachings about diabetes self-care, with no message framing.	
Keyworth ³⁴ 2018 RCT	Psoriasis	Gain- frame	217(75/126)	Information about the effects of health behavior change on either psoriasis symptoms or CVD risk.	Gain-framed message addressed the positive outcomes for adherence to the health behaviors, e. g. “Research shows that risk factors for cardiovascular disease include smoking, having a poor diet, having insufficient physical activity, and drinking excessive amounts of alcohol. By making changes to your lifestyle, you [lower] your risk of cardiovascular disease.”	Sheet 1
		Loss- frame	41.23±14.31		Loss-framed message addressed the negative outcomes for not adherence to the health behaviors, e. g. “Research shows that risk factors for cardiovascular disease include smoking, having a poor diet, having insufficient physical activity, and drinking excessive amounts of alcohol. By [not] making changes to your lifestyle, you [increase] your risk of cardiovascular disease.”	
Li ³⁵	Diabetes	Gain-	211	The pamphlet included a brief	Gain-framed pamphlet contained the benefits of PA participation, including physical (11 items: e.g., improve	Pamphlet

2017 RCT		frame	(101/110) 71.41±6.80	description of PA participation in Hong Kong, the recommended PA level.	muscle strength), psychological (8 items: e.g., improve mood), and social (4 items: expand social network) domains.	1
		Loss-frame			Loss-framed pamphlet contained the absence of benefits of PA participation. The contents of the benefits were identical between the gain- and loss-framed messages, with differences only in the framing of the messages.	
Hirschey ³⁶ 2016 RCT	CRC	Gain-frame	78 (36/42) 64.3 (29.9–98.4)	Tips on how to become more physically active with examples of activities of MIPA; protective influence of PA on CRC co-morbid conditions; inverse relationship between PA and risk of cancer-specific mortality and all-cause mortality.	Gain-framed version addresses the benefits of being physically active.	Pamphlet / taken home to read
		Loss-frame			70 (35/35) 65.4 (43.2–88.5)	
Bassett ³⁷ 2013 RCT	SCI	Gain-frame	94 (57/37) 45±12	Benefits or risks quotations from SCI experts and patients and research evidence.	Gain-framed messages outlined the benefits of engaging in regular LTPA (i.e. Adding LTPA to your day can help you manage your pain gain framed)	Online message 1
		Loss-frame			Loss-framed messages outlined the risks of not engaging in regular LTPA. (i.e., By not adding LTPA to your day you miss an opportunity to manage your pain)	
		No-frame		Usual care	The control group did not receive any additional information.	
Zhao ³⁸ 2012 RCT	Chronic diseases	Gain-frame	1108 (411/697)	Messages addressing perceived need and perceived concerns about medications, messages content was held the same across the two frames.	Gain-framed messages outlined the benefits of adherence to medication taking (i.e. You may wonder whether you really need your prescription medication. But taking your medicine as directed is very important even if you don't feel sick. It's the first step toward long-term health. Talk to your doctor about your medicine and changes you can make to your lifestyle to help manage your condition.)	Online message 1
		Loss-frame			40-85	

		No-frame		Usual care	The control group did not receive any additional information.	
Trupp ³⁹ 2011 RCT	CVD with OSA	Gain-frame	26 (19/7) 29-74	A brief, about 50 seconds educational video about CPAP was provided.	Gain-framed video positively focused on the benefits associated with CPAP use.	Video 1
		Loss-frame	29 (17/12) 38-77		Loss-framed video negatively emphasized the negative consequences that may occur if CPAP was not worn as directed.	
Janke ⁴⁰ 2011 RCT	Chronic pain	Gain-frame	62 (61/1)	Messages stressed the importance of the patient playing an active role in their pain care and techniques could use to help manage pain.	Gain-framed messages emphasized the gains patients would make if they engage in these behaviors.	Pamphlet 1
		Loss-frame	50		Loss-framed messages focused on the losses they would realize if they did not do these things.	
Grady ²³ 2011 RCT	Diabetes	Gain-frame	155 (64 /91) 61.2±11.4	The video addressed topics about foot care such as cleaning procedures, toenail care, footwear use, and foot and footwear inspection procedures.	Gain-framed version offered the positive outcome that can accrue by appropriate foot care, e.g. “Good foot care can help you avoid the serious complications of nerve and blood vessel damage, and keep your feet healthy” (with a picture of healthy feet).	Video 1
		Loss-frame			Loss-framed version offered the negative outcome that can accrue if the desired behavior is not followed, e.g. “Poor foot care can lead to the serious complications of nerve and blood vessel damage, and unhealthy feet” (with a picture of a foot with an infected sore).	
McCall ⁴¹ 2004 RCT	CVD	Gain-frame	16 (15/1)	Statements regarding the effects of exercise in relation to CAD.	Gain-framed condition listed 10 gain-framed statements regarding the benefits of exercise in relation to the progression of CAD. (i.e., Regular exercise will help you maintain a healthy body weight.)	Sheet /taken home to read
		Loss-frame	13 (12/1)		Loss-framed condition with the same 10 statements phrased in a loss-framed manner. (i.e., By not exercising regularly, you decrease your chances of keeping a healthy body weight.)	
		No-frame	20 (19/1)	Usual care	The control group did not receive any additional information.	

Abbreviations: CAD: Coronary artery diseases; CRC: Colorectal cancer; CVD: Cardiovascular disease; LTPA: Leisure time physical activity; MIPA: Moderate intensity physical activity; NR:

Not report; OSA: Obstructive sleep apnea; PA: Physical activity; RCT: Randomized controlled trial; SCI: Spinal cord injury; T2D: Type 2 diabetes.