

## **Appendix D**

### **Characteristics of Physical Activity Interventions in the Studies of the General Population**



**Appendix D. Characteristics of physical activity interventions in the studies of the general population**

(Studies are sorted by intervention setting)

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Hillsdon et al., 2002 <sup>97</sup>	1	Primary/health care Home/telephone In person Telephone Health promotion specialist Unknown telephone caller	1 30-minute session in person 6 3-minute motivational interviewing phone consultations over 34 weeks	Stage of change None	Not specified Not specified Not specified Not specified	Written feedback/verbal encouragement Benefits and barriers Assessment of motivation and confidence Exploring concerns about taking up regular PA Helping with decision making None	Motivational Interviewing
	2	Primary/health care Home/telephone In person Telephone Health promotion specialist Unknown telephone caller	1 30-minute session in person 6 3-minute phone consultations over 34 weeks to give direct advice	None None	Not specified Moderate Intensity 5 days/week 30 minutes Aerobic activity	Education on why one should exercise None	Health Belief Model
Bull et al., 1998 <sup>113</sup> Bull et al., 1999 <sup>57</sup>	1	Primary/health care In person Mail Family physician Pamphlet	1 3-minute physician advice session 1 mailed standardized pamphlet	None None	Not specified Moderate Intensity 5 days/week 30 minutes Not specified	Education on why one should exercise Education on normal response to exercise Benefits and barriers Written feedback/verbal encouragement Self efficacy enhancement Problem solving Education on how to exercise Injury concerns were discussed None	Transtheoretical Model Social Cognitive Theory

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Primary/health care In person Mail Family physician Pamphlet	1 3-minute physician advice session 1 mailed tailored pamphlet	Stage of change Other psychological variables None	Not specified Moderate intensity 5 days/week 30 minutes Not specified	Education on normal response to exercise Education on why one should exercise Benefits and barriers Self efficacy enhancement Education on how to exercise Written feedback/verbal encouragement Problem solving None	Transtheoretical Model Social Cognitive Theory
Step toe et al., 2000 <sup>75</sup> Step toe et al., 1999 <sup>58</sup> Step toe et al. 2001 <sup>131</sup> Hilton et al., 1999 <sup>130</sup>	Control	Primary/health care In person Nurse	1 contact: 'usual care' in a primary care clinic	None Diet Smoking cessation	Not specified Moderate to vigorous 12 sessions per month Not specified	Benefits and barriers Written feedback/verbal encouragement Suggestions about different activities Education on why one should exercise None	None
	1	Primary care/health care In person Nurse	3-6 contacts: 1 'usual care' visit with a nurse in a primary care clinic 2-3 20-minute counseling sessions 1-2 phone consultations to encourage behavior change	Stage of change Diet Smoking cessation	Not specified Moderate intensity 12 sessions per month Not specified	Skill building Incentives and contracts Self monitoring Goal setting Relapse prevention Benefits and barriers Education on why one should exercise None	Transtheoretical Model

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Kreuter & Strecher, 1996 <sup>155</sup>	1	Primary/health care Computerized feedback system Mail Physician Mailing	1 physician office visit 1 mailing	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	Written feedback/verbal encouragement Education on why one should exercise None	None
	2	Primary/health care Computerized feedback system Mail Physician Mailing	1 physician office visit 1 mailing	Risk factor status Stage of change Other psychological variables Diet Smoking cessation	Not specified Not specified Not specified Not specified	Written feedback/verbal encouragement Benefits and barriers Relapse prevention Education on why one should exercise None	Health Belief Model Transtheoretical Model
Halbert et al., 1999 <sup>132</sup> Halbert et al., 2000 <sup>59</sup>	Control	Primary/health care Not specified Possibly physician advice Exercise specialist	20-minute diet counseling session with exercise specialist May have received exercise advice from physician	None Diet	Not specified Not specified Not specified Not specified	None None	None
	1	Primary/health care In person Possibly physician advice Exercise specialist	3 visits with the exercise specialist (baseline, 3 months, 6 months) May have received exercise advice from physician	Individualized based on progress, enthusiasm, health None	Not specified Moderate Intensity 3+ days/week 20+ minutes Aerobic	Benefits and barriers Self efficacy enhancement Goal setting Self monitoring Education on why one should exercise None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Harland et al., 1999 <sup>135</sup>	Control	Primary/health care In person Not specified	1 contact: Test results packet with information on health habits, leaflets on local exercise opportunities, and brief advice targeted by test results	Results of baseline fitness testing Diet Smoking cessation	Not specified Not specified Not specified Not specified	Written feedback/verbal encouragement Benefits and barriers Education on why one should exercise Information on local exercise opportunities None	None
	1	Primary/health care or exercise facility (participant choice) In person Health visitor	2 contacts: Test results packet with information on health habits, leaflets on local exercise opportunities, and brief advice targeted by test results plus 1 40-minute motivational interview within 2 weeks	Results of baseline fitness testing Stage of change Diet Smoking cessation	Not specified Not specified Not specified Not specified	Benefits and barriers Education on why one should exercise Written feedback/verbal encouragement None	Motivational Interviewing Transtheoretical Model

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Primary/health care or exercise facility (participant choice) In person Health visitor	2 contacts: Test results packet with information on health habits, leaflets on local exercise opportunities, and brief advice targeted by test results plus 1 40-minute motivational interview within 2 weeks plus 30 vouchers entitling free access to exercise facility	Results of baseline fitness testing Stage of change Diet Smoking cessation	Not specified Not specified Not specified Not specified	Benefits and barriers Incentives and contracts Written feedback/verbal encouragement Education on why one should exercise Accessibility	Motivational Interviewing Transtheoretical Model
	3	Primary/health care or exercise facility (participant choice) In person Mail Health visitor	6 contacts in 3 months: Test results packet with information on health habits, leaflets on local exercise opportunities, and brief advice targeted by test results plus 5 40-minute motivational interview over 12 weeks	Results of baseline fitness testing Stage of change Diet Smoking cessation	Not specified Not specified Not specified Not specified	Benefits and barriers Written feedback/verbal encouragement Education on why one should exercise None	Motivational Interviewing Transtheoretical Model

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	4	Primary/health care or exercise facility (participant choice) In person Mail Health visitor	6 contacts in 3 months: Test results packet with information on health habits, leaflets on local exercise opportunities, and brief advice targeted by test results plus 5 40-minute motivational interview over 12 weeks PLUS 30 vouchers entitling free access to exercise facility	Results of baseline fitness testing Stage of change Diet Smoking cessation	Not specified Not specified Not specified Not specified	Incentives and contracts Benefits and barriers Written feedback/verbal encouragement Education on why one should exercise Accessibility	Motivational Interviewing Transtheoretical Model
Kerse et al., 1999 <sup>60</sup>	1	Primary/health care In person Not specified	Not specified (Intervention to doctors was 5 sessions over 2-3 months. Intervention to patients (from doctors) not described)	None None	Not specified Not specified Not specified Not specified	Not specified None	None
Eckstrom et al., 1999 <sup>136</sup>	1	Primary/health care In person Physician advice	Not specified	Stage of change None	Not specified Not specified Not specified Not specified	Not specified None	Transtheoretical Model



Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Graham-Clarke & Oldenburg, 1994 <sup>117</sup> A Fresh Start	1	Primary/health care In person General practitioner	1 video 1 health risk assessment	Stage of change Risk factor status Diet Smoking cessation	Not Specified Not specified Not specified Not specified	Education on why one should exercise Benefits and barriers Self monitoring Goal setting Skill building Education on normal response to exercise Education on how to exercise Relapse prevention None	Transtheoretical Model
	2	Primary/health care In person General practitioner	1 Health Risk Assessment 1 video 1 set of self-help booklets	Stage of change Risk factor status Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on why one should exercise Benefits and barriers Self monitoring Goal setting Skill building Education on normal response to exercise Education on how to exercise Relapse prevention None	Transtheoretical Model
Green et al., 2002 <sup>61</sup>	Control	Primary/health care Mailing Physician signed letter	1 mailing	Risk factor status Diet Smoking cessation	Not specified Not specified Not specified Not specified	None None	None
	1	Primary/health care Phone call Mail Telephone Physician Behavioral health specialist	5 contacts in 3 months: 2 mailings 3 motivational counseling phone calls (20-30 minutes each)	Risk factor status Diet Smoking cessation	Not specified Moderate intensity Frequency not reported 30 minutes Not specified	Benefits and barriers Goal setting Problem solving Social support None	Transtheoretical Model

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Keyserling et al., 2002 <sup>150</sup> Keyserling et al., 2000 <sup>232</sup>	Control	Primary/health care Mail American Diabetes Association pamphlets	1 mailing	None Diet	Not specified Not specified Not specified Not specified	None None	None
(Note: this group is NOT included in the analysis because they had no 3 month followup)	1	Primary/health care In person Counselor	4 individual clinic based counseling sessions in 6 months	Individualized counseling Disability status (chair exercises for non-ambulatory participants) Diet	Not specified Moderate intensity 7 days/week 30 minutes Aerobic and non-aerobic activity	Benefits and barriers Goal setting Self-monitoring Education on why one should exercise Written feedback/verbal encouragement Problem solving None	Behavior Change Theory
	2	Primary health care Community In person Telephone Counselors Community Diabetes Educators	19 contacts over 12 months: 4 individual clinic based counseling sessions in 6 months 3 group sessions over 12 months 12 monthly calls from community diabetes educator	Individualized counseling Disability status (chair exercises for non-ambulatory participants) Diet	Not specified Moderate intensity 7 days/week 30 minutes Aerobic and non-aerobic activity	Social Support Benefits and barriers Goal setting Self-monitoring Education on why one should exercise Written feedback/verbal encouragement Problem solving None	Behavior Change Theory
Smith et al., 2000 <sup>164</sup>	1	Primary/health care In person General practitioner	1 physician's visit with physical activity advice	None None	Not specified Not specified Not specified Not specified	None None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Primary/health care In person Mail General practitioner Booklet	2 contacts in 6-10 weeks: 1 physician's visit with physical activity advice 1 stage matched brochure mailed home 2 weeks later	Stage of change None	Not specified Not specified Not specified Not specified	None None	Transtheoretical Model
Knutsen & Knutsen, 1989 <sup>151</sup> Knutsen & Knutsen, 1991 <sup>152</sup> Thelle et al., 1976 <sup>154</sup>	1	Primary/health care Home In person Mail Unknown letter writer Home-visit physicians Newsletters	2 years: 1 letter 2 home visits (1 from a physician, 1 from a dietician) 2 phone calls 8 newsletters Offer of repeated lipid testing at 2 years	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on why one should exercise Education on available community opportunities for physical activity None	None
Luepker et al., 1994 <sup>49</sup> Jacobs et al., 1986 <sup>142</sup> Mittelmark et al., 1986 <sup>144</sup> Carlaw et al., 1984 <sup>141</sup>	1	Community Worksite School Telephone In person Mass media Not specified	5 years: Community wide interventions with multiple individual programs	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	Written feedback/verbal encouragement Skill building Education on why one should exercise Modeling Social support Incentives and contracts Social marketing None	Social Learning Theory Diffusion of innovation theory
Miller et al., 2002 <sup>78</sup>	1	Community Mail Mail	1 mailing	None None	Not specified Not specified Not specified Not specified	Benefits and barriers Education on why one should exercise None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Community Preschools/childcare center In person Mail Mail Other moms	1 discussion session to explore barriers to physical activity participation in moms with young children 1 mailing 1 phone call after group discussion Postings on bulletin boards at childcare centers as to physical activity opportunities Other intervention activities less well defined	None None	Not specified Not specified Not specified Not specified	Benefits and barriers Social support / networking Provision of equipment Social advocacy Capacity building Lobbying exercise providers to provide childcare or convenient class times Formation of walking groups Education on why one should exercise Accessibility	None
Caserta & Gillett, 1998 <sup>115</sup> Gillet et al., 1996 <sup>63</sup> Gillet & Caserta, 1996 <sup>79</sup>	1	Community In person Experienced geriatric nurse practitioner	64 classes in 16 weeks	None None	Not specified Vigorous intensity 3 days/week 30 minutes Aerobic and non-aerobic activity	Social support Education on normal response to exercise Education on why one should exercise Self monitoring Written feedback/verbal encouragement Accessibility	None
	2	Community In Person Experienced geriatric nurse practitioner	16 classes in 16 weeks	None None	Home Vigorous intensity 3-5 days/week 30 minutes Aerobic activity	Self monitoring Education on normal response to exercise Written feedback/verbal encouragement Education on why one should exercise None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Elder et al., 1995 <sup>148</sup> Mayer et al., 1994 <sup>233</sup>	1	Community In person/phone Counselors were students in public health/health sciences. Classroom facilitators were project coordinator, students, & retired health professionals.	11+ contacts in 24 months: Health risk assessment feedback counseling 1 set written materials 2 followup phone calls at 5 month intervals 8 health education classes	Individualized by exercise preferences or goals Risk factor status Diet Home safety Motor vehicle safety	Not specified Moderate 30 minutes 3x weekly Aerobic	Goal setting Written feedback/verbal encouragement Skill building Education on why one should exercise Problem solving Self-monitoring Self-evaluation Self-reinforcement None	Social Learning Theory Kanfer's model of Self-Control & Self-Change Model
Godin et al., 1987 <sup>116</sup>	1	Community In person Not specified	2 contacts: 1 lab visit for fitness test 1 lab visit to hear results of test	None None	Not specified Not specified Not specified Not specified	None None	None
	2	Community In person Not specified	2 contacts: 1 lab visit for fitness test and health age appraisal 1 lab visit to hear results	Individualized None	Not specified Not specified Not specified Not specified	None None	None
	3	Community In person Not specified	2 contacts: 1 lab visit for health age appraisal 1 lab visit to hear results	Individualized None	Not specified Not specified Not specified Not specified	None None	None
Owen et al., 1987 <sup>161</sup>	Control	Community In person Certified fitness instructors	24 classes over 12 weeks	Schedule/time preference None	Exercise facility Moderate intensity 2 days/week 60 minutes Aerobic	None None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	1	Community In person Certified fitness instructors	24 classes over 12 weeks 1 meeting with certified fitness instructor 2 homework assignments	Schedule/time preference None	Exercise facility Home Moderate intensity 2 days/week 60 minutes Aerobic	Benefits and barriers Education on why one should exercise Goal setting Problem solving Education on normal response to exercise Self-management Self monitoring Planning a personal schedule of programmed exercise Resuming exercise safely after time off Planning future exercise patterns Gradual fading of instructor guidance Education on how to exercise None	None
Owen et al., 1987 <sup>77</sup>	Control 1	Community Not applicable Not applicable	No intervention: control group was made up of those who were offered an intervention but then refused intervention	Not applicable Not applicable	Not applicable Not applicable Not applicable	Not applicable Not applicable	Not applicable
(This second external comparison group is not included in the results or evidence table)	Control 2	Community In person Qualified fitness instructor	24 fitness classes in 12 weeks (2 days/ week)	None None	Community Not specified 2 days/week Aerobic and non-aerobic activity	“Program contained elements derived from behavioral theories and emphasized training in self-management methods” <sup>77</sup> None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Community Mail Not specified	2 mailings in 12 weeks	None None	Not specified Not specified Not specified Aerobic and non-aerobic activity	Planning strategies Setting up environmental cues to exercise Self-reinforcement Self-talk strategies Education on normal response to exercise Education on why one should exercise Benefits and barriers Relapse prevention Incentives and contracts Self monitoring Problem solving None	None
	3	Community Mail Not specified	7 mailings in 12 weeks (The only difference between groups 2 and 3 was spreading out the mailings differently)	None None	Not specified Not specified Not specified Aerobic and non-aerobic activity	Planning strategies Setting up environmental cues to exercise Self-reinforcement Self-talk strategies Education on normal response to exercise Education on why one should exercise Benefits and barriers Relapse prevention Incentives and contracts Self monitoring Problem solving None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Pereira et al., 1998 <sup>64</sup> Kriska et al., 1986 <sup>162</sup>	1	Community Mail Telephone In person Exercise leader Unknown caller Peers Unknown home visitor	16+ contacts in 2 years: 16 group walking sessions in 1 <sup>st</sup> 8 weeks followed by 'frequent' social gatherings, phone calls, letters, and occasional home visits over the remainder of the 2 year intervention	Preference of walking alone or in a group None	Community Moderate intensity 7 miles walked per week Aerobic activity	Social support Goal setting Incentives and contracts Problem solving Written feedback/verbal encouragement None	None
Eaton et al., 1999 <sup>50</sup> Carleton et al., 1995 <sup>166</sup> Carleton et al., 1987 <sup>165</sup> McGraw et al., 1989 <sup>169</sup> Marcus et al., 1992 <sup>167</sup> Levin et al., 1998 <sup>168</sup> Pawtucket Heart Health Program	1	Community Worksite School Religious institutions In person Mail Volunteer peers Local media Health educators and counselors Community recreation programs	7 years: Community wide intervention with 3 specific physical activity interventions: Exercity, Get Fit, and Imagine Action	Reading level Stage of change Diet Smoking cessation	Community, schools, worksites, churches Moderate intensity 3-5 days/week 15-60 minutes Aerobic activity	Social support Skill building Education on why one should exercise Maintenance strategies Self monitoring Goal setting Self-reinforcement Written feedback/verbal encouragement Benefits and barriers Relapse prevention Problem solving Incentives and contracts Self efficacy enhancement Accessibility	Social Learning Theory Transtheoretical Model



Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Belisle et al., 1987 <sup>74</sup>	Control	Community/sports center In person Exercise leader	20 contacts in 10 weeks	None None	Exercise facility Not specified Not specified 3 days/week 45-50 minutes Aerobic and non-aerobic activity	Skill building Injuries Importance of regular program attendance Education on normal response to exercise Education on why one should exercise Accessibility	None
	1	Community/sports center In person Exercise leader	20 contacts in 10 weeks: Health education content is the only difference between the 2 groups	None None	Exercise facility Not specified Not specified 3 days/week 45-50 minutes Aerobic and non-aerobic activity	Relapse prevention Problem solving Self monitoring Education on why one should exercise Energy expenditure of various activities Keeping record/habit maintenance Critical situations Awareness of abstinence violation effect Education on normal response to exercise Self management Skill building Accessibility	Relapse Prevention Model
Belisle et al., 1987 <sup>74</sup>	Control	Community/sports center In person Exercise leader	11-14 contacts in 10 weeks	None None	Exercise facility Not specified Not specified 3 days/week 45-50 minutes Aerobic and non-aerobic activity	Skill building Injuries Importance of regular program attendance Education on normal response to exercise Education on why one should exercise Accessibility	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	1	Community/sports center In person Exercise leader	11-14 contacts in 10 weeks	None None	Exercise facility Not specified Not specified 3 days/week 45-50 minutes Aerobic and non- aerobic activity	Relapse prevention Problem solving Self monitoring Education on why one should exercise Energy expenditure of various activities Keeping record/habit maintenance Critical situations Awareness of abstinence violation effect Education on normal response to exercise Self management Skill building Accessibility	Relapse Prevention Model
Kreuter et al., 2000 <sup>133</sup> Bull et al. 1999 <sup>134</sup>	1	Primary care/home Mail Mail	1 mailing (general, not personalized)	None Diet Smoking cessation	Not specified Not specified Not specified Aerobic activity	Education on why one should exercise Ways to begin and maintain physical activity Benefits and barriers Following a 3 month physical activity plan None	Transtheoretical Model
	2	Primary care/home Mail Mail	1 mailing general advice, personalized by having name of patient printed on top of first page	Generic material but personalized using the patient's name Diet Smoking cessation	Not specified Not specified Not specified Aerobic activity	Education on why one should exercise Ways to begin and maintain physical activity Benefits and barriers Following a 3 month physical activity plan None	Transtheoretical Model

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	3	Primary care/home Mail Mail	1 mailing Personalized and individualized advice according to answers to physical activity survey	Stage of change Exercise preferences and goals Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on why one should exercise Ways to begin and maintain physical activity Benefits and barriers Following a 3 month physical activity plan Caloric expenditure of preferred activity Specific physical activity goal set by patient Types of physical activity patient preferred None	Transtheoretical Model
Marcus et al., 1998 <sup>73</sup> Bock et al., 2001 <sup>114</sup>	Control	Home Mail AHA self-help manuals	4 mailings in 6 months: General self-help	None None	Not specified Not specified Not specified Not specified	Education on why it is important to exercise Skill building Goal setting Education on how to exercise safely Relapse prevention How to use rewards None	None
	1	Home Mail Computerized feedback system Individualized self-help materials	4 mailings in 6 months: Tailored stage matched self-help	Stage of change None	Not specified Moderate intensity 5 days/week 30 minutes Aerobic activity	Education on why it is important to exercise Modeling Written feedback/verbal encouragement Incentives and contracts Self efficacy enhancement Benefits and barriers Social support None	Transtheoretical Model

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Blalock et al., 2000 <sup>76</sup>	Control	Home Mail Brochure	1 mailing	None Diet	Not specified Not specified Not specified Not specified	Education on why one should exercise None	None
	1	Home Mail Brochure	2 mailings	None Diet	Not specified Not specified Not specified Not specified	Education on why one should exercise (information only)	None
	2	Home Mail Brochure	2 mailings	None Diet	Not specified Not specified Not specified Not specified	Action plan behavioral focus Education on why one should exercise Goal setting Benefits and barriers None	Precautions adoption process model
	3	Home Mail Brochure	2 mailings	None Diet	Not specified Not specified Not specified Not specified	Information PLUS action plan with behavioral focus Education on why one should exercise Goal setting Benefits and barriers None	Precaution adoption process model
Chen et al., 1998 <sup>145</sup>	Control	Home Mail Telephone Not specified	1 mailing 1 5 minute phone call	None None	Not specified Moderate intensity Not specified Aerobic activity	Incentives and contracts Education on why one should exercise Benefits and barriers Education on how to exercise None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	1	Home Mail Telephone Trained telephone counselors	6 20-30 minute phone calls 6 mailings over 5 weeks	Individual tailoring None	Not specified Moderate intensity 3-5 days/week 30-60 minutes Aerobic activity	Self-efficacy Education on how to exercise Goal setting Social support Skill building Benefits and barriers Relapse prevention Incentives and contracts Education on why one should exercise Problem solving Written feedback/verbal encouragement None	Social Cognitive Theory
Burke et al., 1998 <sup>65</sup>	Control	School Not specified Not specified	2 10 week school terms	None None	School Not specified 3-5 days/week not specified Not specified	None None	None
	1	School In person Teachers	2 10 week school terms 'WASPAN' program only	Fitness levels Diet	School Not specified 3-5 days/week 15-25 minutes/session Not specified	There were 6 classroom lessons to 'establish a rationale' for the physical activity program. It is likely that the content was behavioral, but the specifics are not provided. None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	School In person Teachers Parents	2 10 week school terms 'WASPAN' program PLUS enrichment, which involved parents for monitoring and encouragement	Fitness levels Exercise preferences Diet	School Home Not specified 3-5 days/week 15-25 minutes Not specified	Goal setting Written feedback/verbal encouragement There were 6 classroom lessons to 'establish a rationale' for the physical activity program. It is likely that the content was behavioral, but the specifics are not provided. None	None
Dale et al., 1998 <sup>146</sup> Dale & Corbin, 2000 <sup>66</sup>	Control	School In person Teachers	1 school year (Traditional PE)	None None	School Not specified Not specified Not specified	None None	None
	1	School In person Teachers	5 contacts a week for 1 school year: Concept based PE: 1 weekly classroom health education session, 1 weekly session in gymnasium, 3 weekly sessions of sports activities	None None	School Moderate Intensity 5 days/week duration not reported Aerobic activity	Skill building Education on why one should exercise Education on normal response to exercise Self monitoring Goal setting Written feedback/verbal encouragement None	None
Howard et al., 1996 <sup>56</sup>	1	School In person Not specified	5 40-minute health education sessions over 5 weeks	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on normal response to exercise Education on why one should exercise None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Lovibond et al., 1986 <sup>156</sup>	Control	Worksite In person Mail Therapist	17 contacts in 6 months: 4 individual counseling sessions (did NOT include CHD risk projections or behavioral components. These sessions focused on health education) 12 group sessions 1 mailing	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on normal response to exercise Education on why one should exercise Written feedback/verbal encouragement Goal setting Social support Modeling Social reinforcement Problem solving None	Social Learning Theory
	1	Worksite In person Mail Therapist	17 contacts in 6 months: 4 individual counseling sessions (more personalized than control group, including CHD risk projections. But no behavioral components.) 12 group sessions 1 mailing	Risk factor status Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on normal response to exercise Education on why one should exercise Social reinforcement Written feedback/verbal encouragement Stimulus control Goal setting Self monitoring None	Social Learning Theory

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Worksite In person Mail Therapist	17 contacts in 6 months: 4 individual counseling sessions (personalized, including CHD risk projections. Behaviorally based.) 12 group sessions 1 mailing	Risk factor status Individual needs Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on normal response to exercise Education on why one should exercise Social reinforcement Written feedback/verbal encouragement Contingency management Stimulus control Goal setting Self monitoring None	Social Learning Theory



Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Edmundson et al., 1996 <sup>118</sup>	Control	School In person	3 PE classes per week for 2.5 -3 school years	None None	School Not specified	Not specified Not specified	None
Luepker et al., 1996 <sup>53</sup>		Physical education teachers			3 days/week 30 minutes		
Nader et al., 1999 <sup>52</sup>					Not specified		
Perry et al., 1997 <sup>119</sup>							
Simons-Morton et al., 1997 <sup>120</sup>							
Stone et al., 1996 <sup>121</sup>							
Nader et al., 1996 <sup>122</sup>							
McKenzie et al., 2001 <sup>123</sup>							
McKenzie et al., 1996 <sup>124</sup>							
McKenzie et al., 1994 <sup>125</sup>							
Hearn, 1992 <sup>126</sup>							
McKenzie et al., 1995 <sup>127</sup>							
Elder et al. 1994 <sup>149</sup>							

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	1	School Home In person Sent home through student Classroom teachers Physical education teachers	3 PE classes per week for 2.5 -3 school years Home program for ½ of intervention schools Plus, changes in health education and school lunch program	Language Diet Smoking cessation	School Home Moderate intensity 3+ days/week 30 minutes Aerobic activity	Self efficacy enhancement Provision of equipment Education on normal response to exercise Education on why one should exercise Skill building Incentives and contracts Social support Written feedback/verbal encouragement Self monitoring Modeling/rehearsing Social norm setting Accessibility	Social Cognitive Theory Social Learning Theory
Nader et al., 1989 <sup>129</sup> Nader et al., 1986 <sup>128</sup>	1	School Telephone Mail In person Family-oriented newsletter with mail-in contest Trained graduate students	18 contacts in 1 year: 12 weekly sessions then 4 monthly sessions then 2 bi-monthly sessions	Language Diet	School Vigorous intensity 1 day/week 25 minutes Aerobic activity	Self monitoring Goal setting Behavioral rehearsal modeling Self-regulation skills Incentives and contracts Written feedback/verbal encouragement Social support Problem solving Benefits and barriers Self efficacy Education on normal response to exercise Education on why one should exercise Education on how to exercise Accessibility	Social Learning Theory

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
Stevens et al., 1998 <sup>62</sup>	Control	Community Mail Mail	1 mailing	None None	Not specified Not specified Not specified Not specified	Education on why one should exercise None	None
	1	Exercise facility In person Mail Exercise development officer	3 contacts in 10 weeks: 1 mailing 2 in person consultations with exercise development officer	Personalized exercise prescription None	Not specified Not specified Not specified Not specified	Self monitoring Education on why one should exercise Education on normal response to exercise Access to fitness facility	None
Bauer et al., 1985 <sup>51</sup> Rose, 1970 <sup>137</sup> Rose et al., 1980 <sup>138</sup>	1	Worksite Not specified Not specified Nurses	5 or 6 years: Worksite wide interventions with multiple individual programs and more personalized intervention for men at higher risk for coronary heart disease	None Diet Smoking cessation	Not specified Moderate intensity 7 days/week 20 minutes Aerobic activity	Not specified Not specified	None
Gomel et al., 1993 <sup>139</sup> Gomel et al., 1997 <sup>140</sup>	Control	Worksite In person Unknown contact	1 30 minute health risk assessment no counseling on results	None None	Not specified Not specified Not specified Not specified	None None	None
	1	Worksite In person Unknown contact	1 50 minute health risk assessment with counseling on results	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	None None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Worksite In person Unknown contact	1-7 contacts in 10 weeks: 1 50-minute health risk assessment with counseling on results Up to 6 group health education classes	Stage of change Risk factor status Diet Smoking cessation	Not specified Not specified Not specified Not specified	Benefits and barriers Self monitoring Goal setting Relapse prevention Problem solving Written feedback/verbal encouragement None	Transtheoretical Model
	3	Worksite In person Unknown contact	1-7 contacts in 10 weeks: 1 50-minute health risk assessment with counseling on results Up to 6 group health education classes Incentives	Stage of change Risk factor status Diet Smoking cessation	Not specified Not specified Not specified Not specified	Incentives and contracts Self monitoring Goal setting Relapse prevention Benefits and barriers Problem solving Written feedback/verbal encouragement None	Transtheoretical Model
Gemson & Sloan, 1995 <sup>68</sup>	Control	Worksite In person Physician	1 physicians visit	None None	Not specified Not specified Not specified Not specified	None None	None
	1	Worksite Mail In person Computerized feedback system Physician	1 mailing 1 physicians visit	Risk factor status Diet Smoking cessation	Not specified Not specified Not specified Not specified	None None	None
Lombard et al., 1995 <sup>69</sup>	Control	Worksite In person Research assistant Researcher	1 contact in 3 months	None None	Worksite Moderate intensity 3 days/week 20 minutes Aerobic activity	Social support Self-monitoring None	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	1	Worksite In person Telephone Research assistant Researcher	37 contacts in 3 months: Frequent prompting support – 'touching base' by phone	None None	Worksite Moderate intensity 3 days/week 20 minutes Aerobic activity	Social support Self monitoring None	None
	2	Worksite In person Telephone Research assistant Researcher	37 contacts in 3 months: Frequent prompting support – 'verbal encouragement and feedback' by phone	None None	Worksite Moderate intensity 3 days/week 20 minutes Aerobic activity	Social support Goal setting Written feedback/verbal encouragement Self monitoring None	None
	3	Worksite In person Telephone Research assistant Researcher	13 contacts in 3 months: Less frequent prompting support – 'touching base' by phone	None None	Worksite Moderate intensity 3 days/week 20 minutes Aerobic activity	Social support Self monitoring None	None
	4	Worksite In person Telephone Research assistant Researcher	13 contacts in 3 months: Frequent prompting support – 'verbal encouragement and feedback' by phone	None None	Worksite Moderate intensity 3 days/week 20 minutes Aerobic activity	Social support Goal setting Written feedback/verbal encouragement Self monitoring None	None
Mackeen et al., 1985 <sup>157</sup> Remington et al., 1978 <sup>158</sup> Taylor et al., 1973 <sup>159</sup>	1	Worksite Community In person Unknown supervisor	1.5 years	None None	Not specified Vigorous intensity 3+ days/week 60 minutes Aerobic and non aerobic activity	None Accessibility	None

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Mutrie et al., 2002 <sup>70</sup>	1	Worksite Mail Packet	1 contact to encourage walking to commute to work	None None	Community Worksite Not specified Not specified Aerobic activity	Self efficacy enhancement Decisional balance Consciousness raising Practical information to implement intervention Provision of equipment Safety	Transtheoretical Model
O'Loughlin et al., 1996 <sup>67</sup>	1	Worksite In person Not specified	1 contact in 3 months	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	Education on why one should exercise Written feedback/verbal encouragement Goal setting None	None
Ostwald 1989 <sup>160</sup>	Control	Worksite In person Mail Not specified	One all-day seminar Monthly newsletter for 3 months One physical exam	None Diet	Not specified Not specified Not specified Not specified	Education on why one should exercise Written feedback/verbal encouragement None	None
	1	Worksite In person Mail Not specified	One all-day seminar Monthly newsletter for 3 months One physical exam Treadmill test More extensive interpretation of tests than for control group	None Diet	Exercise facility Not specified Not specified Not specified	Education on why one should exercise Written feedback/verbal encouragement Accessibility	None

Author/Year	Groups	Intervention Setting Intervention Mode Intervention Delivery	Intervention Length	Intervention Tailoring Additional Intervention Elements	PA Location PA Intensity PA Frequency/Duration PA Mode	Behavioral Components Environmental Components	Theory
	2	Worksite In person Mail Exercise physiologist	1 all-day seminar Monthly newsletter for 3 months 1 physical exam Treadmill test More extensive interpretation of tests than for control group 3 months supervised exercise	Individualized exercise prescription Diet	Exercise facility Not specified Three times per week Aerobic	Education on why one should exercise Written feedback or verbal encouragement Provision of equipment Education on normal response to exercise Skill building Education on how to exercise Accessibility	None
Sherman et al., 1989 <sup>163</sup>	1	Worksite Not specified Not specified	30 days	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	None	None
Perklo-Makela, 1999 <sup>72</sup>	1	Public health agency In person Physiotherapist Occupational health nurse Occupational physician Psychologist Agricultural advisor	10-20 contacts over 2.5 months	None None	Municipal health center Not specified 1-2 days/week duration not reported Aerobic and non-aerobic activity	None Accessibility (class provided)	None

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Linenger et al., 1991 <sup>71</sup>	1	Government agency Local environmental changes Not specified	Environmental changes made early in the year between baseline and followup measures. Changes maintained to end of evaluation and beyond. Length of intervention unknown.	None Diet Smoking cessation	Exercise facility/Naval Air Base Not specified Not specified Aerobic activity	Social support Benefits and barriers Stressed the expectancy of improved performance and improved appearance for future transfer and promotion Incentives and contracts Written feedback/verbal encouragement Accessibility Distance (new facilities built, activity groups formed, hours of facilities extended, point of decision prompts)	None
Edye et al., 1989 <sup>147</sup>	Control	Worksite Not specified Not specified	2-4 medical screening visits (depending on risk level) over 3 years Physician advice to be physically active at each visit	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	None None	None
	1	Worksite In person Physician Nurse	2-4 medical screening visits (depending on risk level) over 3 years Physician advice to be physically active at each visit 3 counseling visits with a nurse over 3 month period	None Diet Smoking cessation	Not specified Not specified Not specified Not specified	Verbal encouragement Education on why one should exercise None	None

If no details are listed for the control intervention, that study had no physical activity intervention for the control group