

Process evaluation of HAT TRICK: Feasibility, acceptability, and opportunities for program refinement

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ABSTRACT

Preventive lifestyle interventions are needed to address challenges in engaging men in conventional health programs. This process evaluation examined the feasibility and acceptability of HAT TRICK, a gender-sensitized program targeting physical activity, healthy eating and social connectedness. A mixed-methods approach was utilised to examine the effectiveness of recruitment and selection processes, facilitators' experiences and challenges, and participant experiences with the program. Evaluation measures included participant flow data and baseline assessments, facilitator debriefs, a post-intervention process evaluation questionnaire, and telephone interviews with a subsample of participants. Participants (N=62) were overweight (BMI >25kg/m²) and inactive (<150 minutes of MVPA per week) men with a mean age 51±10.1 years. Participants reported high levels of satisfaction, acceptability, and engagement with the intervention program, content, and resources. Facilitators noted the importance of creating a friendly, non-judgemental environment and observed that intervention content was best received when delivered in an interactive and engaging manner. Future program refinements should consider strategies for strengthening social support, as well as opportunities for leveraging participants' interest in other health-related issues (e.g., mental health). Findings yield valuable information about the implementation of gender-sensitized interventions for men and demonstrate the importance of male-specific engagement strategies for reaching and engaging overweight, in-active men.

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INTRODUCTION

To address rising prevalence rates of overweight and obesity among men [1] and challenges in engaging men in conventional healthy lifestyle and weight management programs [2-5], there has been increasing interest in the development of novel community-based lifestyle interventions specifically tailored for men. One promising approach has been to offer programs in settings that are familiar, comfortable, and appealing to men. For example, the success of lifestyle interventions offered in collaboration with professional sports clubs/teams to engage men in lifestyle changes have been linked to the masculine values and virtues entrenched in the physical and sociocultural environments that surround popular male sports [6-8]. There is also a growing body of evidence that tailoring of the content and delivery of lifestyle interventions to reflect men's preferences and needs also increases the engagement with and effectiveness of programs offered to men [9]. Although these are promising developments in this nascent field, further development and evaluation of these approaches to men's lifestyle interventions are needed to ensure their fit for implementation in new contexts and with diverse groups of men. In addition, because of the complexities of these gender-sensitized programs and the need to consider the influence of shifting masculinities, along with changes in other social determinants of health, we need to know more about how programs work and what aspects of interventions are critical for successful implementation in particular contexts.

Drawing on the success of lifestyle interventions that appeal to men's interests in sports [10, 11], the gender-sensitized HAT TRICK program was designed to engage overweight and obese Canadian men in physical activity, healthy eating and building social connectedness by embedding the program within ice hockey, one of Canada's most well-known national sports. To evaluate this approach, we collaborated with a major junior ice hockey team within the Canadian

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Hockey League [12]. HAT TRICK was based on evidence that the social and cultural connections that men often cultivate with particular sports teams can be a ‘lynchpin’ to engaging men in healthful behaviours, as well as lessons drawn from experiential and empirical insights from developments in community-based men’s lifestyle interventions [13]. We conducted a pragmatic feasibility trial to estimate the effectiveness of HAT TRICK in terms of physical activity, dietary behaviors, and psychological well-being. We also included a process evaluation to assess the feasibility and acceptability of the program. Process evaluations are recommended to explore implementation experiences and the setting of complex interventions to identify contextual factors that may be associated with variations in outcomes and to identify opportunities for future refinements [14]. This article reports on the process evaluation, specifically exploring: (a) the effectiveness of the recruitment and selection processes; (b) facilitators’ experiences and challenges; and (c) participant experiences with the program.

METHODS

A protocol for the study has been reported elsewhere, including details of the rationale, quasi-experimental design, intervention, measures, and procedures [15]. A recruitment target of 60 participants (20 participants × three consecutive intervention deliveries) was chosen. The target population was overweight (BMI >25kg/m², pant size >38”) and inactive (accumulate <150 minutes of MVPA per week) men age 35+ years. Recruitment methods consisted of two media releases (i.e., newsprint and radio), a project-specific website, social media (e.g., Facebook posts shared on local pages, community event forums), advertising during ice hockey games and, following the initial delivery, word of mouth. Recruitment materials were designed to highlight the connection with the ice hockey team and included images of a program

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participant posing with the team's mascot around the ice rink [16]. Recruitment materials also framed the program as being straightforward and practical, for men-only, and not requiring any prior athletic abilities. Interested individuals were encouraged to contact a member of the research team by email or telephone to confirm eligibility and enrol. Eligible participants completed a Physical Activity Readiness Questionnaire (PAR-Q+) [17], a medical screening tool recommended for use in exercise-related interventions[18]. All participants provided written informed consent.

HAT TRICK intervention

HAT TRICK is a 12-week, face-to-face intervention focused on physical activity, healthy eating, and social connectedness. It is theory-guided, drawing on relevant constructs from the Self-Determination Theory [19] and on health models and theories of socially constructed masculinities [20, 21]. The program was delivered in collaboration with a major junior ice hockey team in the Canadian Hockey League (CHL) and offered within an ice hockey arena where the partner team trained and played home games. The program was not offered on the ice surface of the arena, but took advantage of other spaces within and around the building (e.g., the walkways, stairs in the bleachers, training facilities, and adjacent parking area and nearby sports/community facilities (e.g., to introduce other types of physical activity such as circuit training or martial arts). Weekly 90-minute sessions were facilitated by two male members of the research team with degrees in sport and exercise science and a certified group fitness trainer. A gender-sensitized approach was reflected in the design, setting, content, and delivery of the program [22], following the success and demonstrated cost-effectiveness of other healthy lifestyle interventions delivered for men in professional sport settings [7]. For example, the content was delivered using frank and realistic strength-based messages and incorporated

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hockey-related themes and references to frame health-related topics while emphasising strategies that appeal to masculinities (e.g., independence, self-reliance, and mastery). As a pragmatic trial, delivery of the program varied slightly between groups (e.g., physical activity tailored to participants' interest, equipment availability); however, facilitators were provided with an outline and key points that accompanied each session. Details of HAT TRICK have been described elsewhere [15] and are summarised in Table I.

Component	Description
Weekly 90-minute session	<ul style="list-style-type: none"> Targeted health education regarding physical activity (e.g., ways for incorporating physical activity in daily living), healthy eating (e.g., simple way for understanding macronutrients), and behaviour change techniques (i.e., goal setting, self-monitoring). Progressive physical activity (i.e., increasing in duration and intensity on a weekly basis) inclusive of a variety of 'men-friendly' activities (e.g., walking, resistance training, circuit training). Guest presenters (e.g., athletic therapist, local nutritionist, past participants) at selected sessions.
Weekly Challenges	<ul style="list-style-type: none"> Physical activity challenges (e.g., increase weekly steps by 500/day). Healthy eating challenges (e.g., have a meat free day, include an extra serving of vegetables).
HAT TRICK Playbook	<ul style="list-style-type: none"> A print-based informational resource booklet with tailored messaging concerning physical activity, healthy eating and behaviour change. Weekly physical activity and dietary tracking logs.
Wearable Device	<ul style="list-style-type: none"> FitBit Charge HR™ to self-monitor physical activity throughout the day. This was used to track daily steps, heart rate, and minutes of moderate-to-vigorous physical activity

Table I. Summary and description of the components included within HAT TRICK.

Process Evaluation

A process evaluation plan was determined *a priori* and detailed within the study protocol [15]. To evaluate the recruitment and selection process, data were collected regarding

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recruitment strategies that were most widely seen/heard, time taken to achieve the recruitment target, and characteristics of men enrolled at baseline. Quantitative data regarding recruitment and selection processes were collected from participant flow data and baseline assessments (i.e., questionnaire and anthropometric measures).

Throughout the initial delivery of the intervention, facilitators conducted short debriefing discussions at the conclusion of each weekly session. Facilitator debriefs lasted 5-15 minutes and centred on their experiences with the delivery of program content as well as observations made throughout the session. Debrief were also used as a measure to ensure intervention fidelity between deliveries. Discussions were audio recorded (SonyTM ICD-PX333) and transcribed verbatim.

A process evaluation questionnaire was administered to participants (n=58) immediately post-intervention to gain information about their experience, adherence and satisfaction with the program. The questionnaire included 4-point Likert scales, with 4 indicating the most positive rating on each item, and open-ended response questions regarding what participants enjoyed most and what might improve HAT TRICK. Adherence to the intervention was also evaluated using attendance logs to the weekly sessions. Participants who missed two or more consecutive sessions were contacted by facilitators and reasons for absences were recorded.

Telephone interviews were undertaken with a subsample of participants (n=32) to gain further insight concerning participant experiences of HAT TRICK. A semi-structured interview guide was developed based on feasibility parameters such as motivation for participating, attendance, adherence, and acceptability of the program and content. Participants were purposefully selected (approx. 10 participants per group) to include men that completed post-intervention measures, attended at least 50% of the sessions (i.e., 6 of 12 weekly sessions), and

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reported a range of feasibility and program outcomes (i.e., participants that had varying experiences with the program). Interviews lasted approximately 60 minutes, were audio recorded using a digital recorder (SonyTM ICD-PX333), and transcribed verbatim. All identifiable information was removed to ensure anonymity and confidentiality following transcription.

Data Analysis

Quantitative data analysis (i.e., baseline anthropometrics, questionnaire data) was performed using IBM SPSS version 25. Sensitivity analyses were conducted to ensure no significant differences between groups on any descriptive or process variables. Data are reported as counts, and/or percentages where appropriate. Qualitative data (i.e., semi-structured interviews, facilitator debriefs) were transcribed verbatim and managed using Nvivo 12. For the purposes of this process evaluation, transcribed data were content analyzed by one of the researchers (PS) and a trained research assistant. A coding framework was developed inductively using low inference codes to enable a descriptive summary of the data [23]. Regular checks on consistency of coding were conducted. Codes were reviewed for similarities and grouped into the following categories: facilitator experiences and challenges, program satisfaction and acceptability, perceptions of gender-sensitized elements, and future recommendations and refinements. Process evaluation findings highlighting men's perceptions of specific gender-sensitized elements within HAT TRICK were analyzed separately and have been published elsewhere [22]. Narrative data in categories related to structural aspects of the program implementation and delivery as well as opportunities for program refinement and future development were analyzed separately. NVivo was used to facilitate retrieval and review of data in these categories. Descriptive summaries of the narrative data, along with representative quotes, were prepared for each category. Finally, the

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results of the quantitative analysis were integrated with the qualitative findings to provide a fulsome report of the process evaluation.

RESULTS

Results are presented under 5 topics: a) recruitment and participants; b) facilitator experiences and challenges; c) engagement with intervention and resources; d) program satisfaction and acceptability; and e) future recommendations and refinement.

Recruitment and participants

Recruitment occurred in three phases (approx. 1 month per phase), corresponding with intervention delivery (i.e., Dec 2016, Feb 2017, Aug 2017). The most effective recruitment strategy was word of mouth (44%) followed by radio interviews (24%), social media (16%), print articles (11%), and the HAT TRICK webpage (5%). Webpage analytics indicated over 1,000 unique site visits during the recruitment period; however, these data are de-identified and it is unclear how many represent potential intervention participants. Following an overwhelming response after the initial media release, the recruitment period was shortened and additional participants were placed on a waitlist for subsequent deliveries of the program. Figure 2 depicts participant flow through the program.

At baseline, men enrolled in the program ($n=62$) were on average (mean \pm SD) 51 ± 10.1 years (range 35-77 years) with a BMI of 36 ± 6.0 Kg/m² (range 28-56 Kg/m²), waist circumference of 124 ± 13.1 cm (range 105-165 cm), and who self-reported accumulating 128 ± 178.3 minutes of MVPA per week (range 0-900 minutes). The majority of participants were

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white (90%), married or living with a partner (87%), working full time (81%), and had a college, technical diploma, or university degree (78%).

Facilitator experiences and observations

Facilitator debrief conversations following each session highlighted the importance of three factors that contributed to effective program delivery: the environment, key messages, and physical activity. Throughout the delivery of the program, facilitators noted the importance of creating a friendly, non-judgemental environment and observed that intervention content was best received when it was delivered in an interactive and engaging manner. This ethos began to form during the first week when participants received a tour of the Rockets locker room and training facilities led by the hockey team's athletic therapist. On week 3, facilitators noted that one participant who had arrived early to the session began walking laps around the arena concourse before the program started. In the following weeks, other men joined in and facilitators observed small groups of men walking and talking together at the beginning of several sessions. Notably, facilitators began to observe a decline (approx. 24%) in attendance rates following the mid-way point in the 12-week intervention and suggested that efforts could be made to retain participation through greater accountability or personalised feedback.

Facilitators perceived that participants responded well to the gain-framed messages, practical examples, and experiences that facilitators and participants shared during the sessions. Throughout the delivery of HAT TRICK, facilitators followed the program materials and session plans. However, in field notes facilitators noted that they often felt rushed to deliver the required content and resorted to allocating less time for discussions and interactions among participants. In addition, they began focusing on and reinforcing key messages in each session, that were

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often best communicated using visuals and interactive activities. For example, facilitators described the enthusiastic reactions of participants when they were shown how many teaspoons of sugar (represented by sugar cubes) were in various sugary drink options.

The group physical activity portion of each session was also observed to be a highlight for many participants and adjustments were made throughout to manage an appropriate training load and adapt to the various fitness levels of participants. In many instances, participants initially attempted activities with too much intensity and facilitators found that they needed to encourage them to progress more slowly to prevent excessive muscle soreness or injury.

Engagement with intervention and resources

Attendance records kept by facilitators showed that 77% of men attended at least 6 of the 12 sessions; 46% of men attended 10 or more sessions; and 18% attended all 12 sessions. Recorded absences for participants who missed two or more consecutive sessions were a result of unrelated health concerns/injuries (n=5), changes in work or living situation (n=3), family emergencies (n=2), or disliking the program (n=1). One program-related injury occurred during a celebratory ball hockey game, otherwise, no other adverse events were reported as a result of the program. Based on data collected in the process evaluation questionnaire, participants' reports of engagement with the intervention resources varied, but were considered relatively high (Table II). Participants reported tracking physical activity with the Fitbit App (63%), a combination of the Fitbit App and the Playbook (6%), the Playbook logs (5%), or a combination of the Fitbit and another App (3%; i.e., Lose it, Map my Fitness). They also reported tracking their eating behaviour using the Playbook logs (39%), Fitbit App (10%), a food diary (8%), or another App (3%; i.e., Lose it, My Fitness Pal). Some participants reported not using anything to track their physical activity (21%) or eating behaviour (40%).

	Regularly	Most of the time	Sometimes	Rarely/ never
Weekly Challenges*	26%	38%	24%	12%
HAT TRICK Playbook**	12%	24%	59%	5%
FitBit**	78%	17%	5%	0%
Physical activity and diet tracking**	37%	29%	27%	0%

Table II. Participants' self-reported engagement with the intervention components

*regularly = 10-12 weekly challenges; Most of the time = 7-9 weekly challenges; Sometimes = 1-3 weekly challenges; rarely = 3 or less weekly challenges

**regularly = 6-7 days/week; most of the time = 4-5 days/week; Sometimes = 1-3 days/week; Never = 0 times/week

Program satisfaction and acceptability

Men's perspectives of the HAT TRICK program, content, and resources were largely positive as per the process evaluation questionnaire (Table III) and this was supported by interview data. Overall, men reported that they were highly satisfied with HAT TRICK (100% agree/strongly agree) and that the program was appropriate for men like them (100% agree/strongly agree). While the majority of men thought that the hockey arena was an appropriate location to hold the program (97% agree/strongly agree), they also reported that it would not have affected their decision to participate if the program were held elsewhere. One interview participant explained:

"I think it definitely helps at the beginning, there is a little bit of excitement, it's at their [Team's] facility, at their building. As the program went on, I don't think it mattered as much but I think the initial appeal was there. [Age 35]

This is further supported by participant ratings that indicated they all enjoyed visiting other locations in the community (100% agree/strongly agree). One interview participant's comments highlight the benefits of being introduced to new physical activities within the program:

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The badminton, floor hockey, Jiu Jitsu, you are seeing other physical activities and you might think “Hey, I’ve never done this before and I really liked it!” All kinds of different things that you maybe have never even thought about trying but you get to try it in a safer environment and you are not embarrassed by some guy who put his ankle behind his head or see other girls and thinking, “I can’t even touch me toes.” [Age 54]

The importance of camaraderie and teamwork was a frequent topic in the interviews. There was general agreement that these were important aspects of the program that provided men with social support and motivation during the sessions. One participant’s comments reflect the value of this social environment:

I had no expectations of coming away with new close friends who would all work out together, but I did like the group environment because I learned from other people, other people’s experiences, listening to them talk. Actually watching some of the guys really get into it and go at it was also very motivating. [Age 66]

	1	2	3	4
Overall perceptions*				
Overall, I was satisfied with HAT TRICK	0 (0)	0 (0)	21 (36)	37 (64)
I enjoyed being part of HAT TRICK	0 (0)	1 (2)	13 (22)	44 (76)
I will recommend HAT TRICK to other men	0 (0)	0 (0)	12 (21)	46 (79)
HAT TRICK was appropriate for men like me	0 (0)	0 (0)	13 (22)	45 (78)
I learnt useful things about physical activity through HAT TRICK	0 (0)	1 (2)	23 (40)	34 (59)
I learnt useful things about healthy eating through HAT TRICK	1 (2)	2 (3)	27 (47)	28 (48)
HAT TRICK content and resources*				
The HAT TRICK Playbook was useful	0 (0)	2 (3)	28 (48)	28 (48)
The HAT TRICK Playbook provided me with useful information about physical activity	0 (0)	4 (7)	32 (55)	22 (38)
The HAT TRICK Playbook provided me with useful information about healthy eating	0 (0)	1 (2)	32 (55)	25 (43)
The design of the HAT TRICK Playbook was appealing to me	0 (0)	6 (10)	21 (36)	31 (53)
The FitBit was a valuable tool for tracking my physical activity	0 (0)	1 (2)	9 (16)	48 (83)
The FitBit motivated me to be more active	0 (0)	3 (5)	12 (21)	43 (74)
I enjoyed the weekly challenges	1 (2)	3 (5)	31 (53)	23 (40)
HAT TRICK setting and delivery*				
The facilitators were knowledgeable about healthy eating and active living	0 (0)	1 (2)	13 (22)	44 (76)
Content was delivered in a way that was useful	0 (0)	1 (2)	18 (31)	39 (67)
I enjoyed the guest presentations (e.g., nutritionist, athletic therapist)	0 (0)	1 (2)	17 (29)	40 (69)
The guest presentations contributed to my knowledge regarding physical activity and healthy eating	0 (0)	3 (5)	23 (40)	32 (55)
The ice hockey arena was an appropriate location to hold the program	0 (0)	2 (3)	33 (57)	23 (40)
I enjoyed visiting different locations (e.g., community partners) throughout the program	0 (0)	0 (0)	20 (34)	38 (66)
Having email communication kept me informed about the program	0 (0)	1 (2)	33 (57)	24 (41)
I felt socially connected to the men in my group	1 (2)	11 (19)	31 (53)	15 (26)
Experience as a participant in HAT TRICK**				
Participating in HAT TRICK helped me to be more aware of my physical activity	1 (2)	1 (2)	19 (33)	37 (64)
Participating in HAT TRICK helped me to be more physically active	0 (0)	9 (16)	30 (52)	19 (33)
Participating in HAT TRICK helped me to be more aware of my eating habits	0 (0)	1 (2)	25 (43)	32 (55)
Participating in HAT TRICK helped me to engage in more healthy eating habits	2 (3)	6 (10)	31 (53)	19 (33)

Table III. Men's perceptions of HAT TRICK

Note. Data are reported as number (%) of participant responses (N = 58) to the above statements

*1 = strongly disagree; 2 = disagree; 3 = agree; 4 = strongly agree

**1 = not at all; 2 = not a lot; 3 = quite a lot; 4 = a great deal

Future recommendations and refinement

In the interviews, participants offered recommendations for improvements and future refinements that they thought might add to the program, as detailed below. Responses from the open-ended process evaluation questionnaire regarding what participants enjoyed most and what might improve HAT TRICK are summarised in Table IV. The most frequently reported enjoyable components of the program were the physical activity, the information provided, and the facilitators. Although men also valued and enjoyed the camaraderie and teamwork in the program, it was also identified as a component that could be strengthened. While interest in adding more sessions or having longer sessions might provide opportunities to strengthen social connections, others had specific suggestions that could be included within the program. For example, one participant suggested allowing more unstructured time for participants to interact would help to foster these connections by pointing to accepted norms within team sports.

A lot of good things happen in a team's locker room regardless of the sport and if there's a time for you to sit and have a beer with someone or an orange juice or something, and say "Hey my name is [participant], I'm 47, I love my job and I love my wife but these are the things that stress me out and I got a real appetite for hamburgers and beer and that's just me. But I'm certainly going to work on it [healthy eating], maybe more turkey burgers!" [Age 46]

Other suggestions for building social connections and support with the group included incorporating more small-group activities, a buddy system, peer coaching, or friendly competition. Examples of ways to accomplish this within HAT TRICK drew on men's familiarity, experience and comfort with sports.

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Participants also recognised the importance of spousal support and the influence that their partners had on their success in maintaining a healthy lifestyle, and the potential benefits to including strategies to garner family support in HAT TRICK.

One of the things that worked for me was that my wife bought into it as well. She bought into making the changes at home with the different eating habits and stuff like that and also with exercise. So it was much easier for me to have somebody else who was close to try and do the same sort of thing. If I didn't want to go for a walk, she would be the one to say, "Come on get off you ass and let's go for 30 minutes." [Age 42]

The importance of this was emphasized by participants who reported coming home "fueled up with information and excitement" about changing their diet to find that their partners had not made "smart decisions" on their grocery purchases. Providing take-home information for spouses or including one or two sessions that partners were invited to attend were suggested.

Some participants also expressed a desire to have more information and discussion regarding mental health and well-being, recognizing the influence of mental health and emotions on their eating behaviors, alcohol consumption and physical activity, and the challenges they face in dealing with stress whether at work or in their personal lives.

All of our family stuff was always around food and if you want to feel better, eat something, usually eat something bad. So "Okay, I'm feeling stressed, depressed, I feel horrible", ... my dad was like "Oh let's have Crown Royal." So suddenly I'm not only eating bad but also drinking, not heavily, but maybe using alcohol when I'm feeling down or depressed As a stress reliever. I realise that is kind of a mental health issue, you've been conditioned to rely on bad habits to get you through tough times and all that does is make it harder on your body and [you] gain weight you can't take off. [Age 46]

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Participants who recognised the role of mental health in relation to “feeling good” and “thinking positively” to establish healthy lifestyles recommended that this information be given a more prominent place in the program with some suggesting it could be incorporated as an additional HAT TRICK goal alongside physical activity and healthy eating.

Enjoyed most (N = 57)	Count*	Suggested improvements (N = 38)	Count*
Group workouts/physical activity	16	Longer sessions/more sessions per week	8
Education/information/activities	14	More camaraderie/group work/increase social connection/peer coaching	8
Facilitators	13	More physical activity (e.g., hockey/skating/outdoor activities)	6
Camaraderie/teamwork/sharing knowledge and challenges	12	Quieter venue	3
Simple/clear/realistic/common sense approach	9	Online component/resources (i.e., fillable PDF for tracking)	3
Guest presenters	7	Chef/cooking/nutrition lessons	3
Fitbits	6	Weekly email communication	3
Visiting different locations	5	Individualised feedback/counselling regarding nutrition/physical activity	3
HAT TRICK Playbook	4	Slower progression/Longer warm-up/stretching before physical activity	3
Weekly challenges	4	More accountability	3
Kept me motivated	4	More strength training/education on what to do in gym	3
Timing/duration of program	4	Presenters/information on mental health/stress	2
Thursday night sessions/weekly sessions	3	Tailor physical activities appropriate for target population (e.g., low impact)	2
Friendly non-judgemental environment	2	Testimonials from past participants	2
Accountability to group	2		
Credibility of university	1		

Table IV. Participant’s open-ended responses regarding what they enjoyed most and what would improve the program.

*Note: Multiple responses accepted.

DISCUSSION

These findings yield valuable information about the implementation of a gender-sensitized lifestyle intervention for men. Furthermore, the findings demonstrate that using male-specific engagement strategies (e.g., men-only, leveraging connections to a sports team, gain-

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framed messaging) can be effective in reaching and engaging overweight, in-active men in lifestyle programs.

Aligning HAT TRICK with a popular hockey team and hosting group sessions in the hockey arena was a crucial element to initially attracting men and engaging them in the program, as found in other countries in relation to other sports [10, 24]. It is also interesting to note that visiting other locations to introduce men to alternative forms of physical activity during HAT TRICK was a highlight for many participants. This suggests once men are engaged in peer group lifestyle programs there may be opportunities to introduce new locations for education and physical activity sessions, which might not have been sufficiently appealing to attract men in the first instance. It may be that as men's understanding of and engagement in health-related behaviour change develops and with the support of a peer group, they are increasingly willing to try out new forms of physical activity that they would not have previously considered. Introducing men to alternative forms of physical activity in their communities may enhance long-term health behaviour change. Our findings also suggest that men's lifestyle programs may be acceptable when delivered in other man-friendly environments.

Although the tailored program design and implementation strategies were well received by men, it did appear that strategies used to accommodate all of the curricular content and activities in each session resulted in less time and focus on building social connections within the group. Yet feedback from participants reflected the value that men attributed to allocating time for interaction and group activities. This suggests that lifestyle programs for men need to be structured to accomplish this, and that providing time for building connections needs to be balanced with or integrated within educational components.

Further, participants also highlighted the importance of other forms of social support beyond the social connections within the group. They alluded to the supportive role that spouses and other family members play in influencing their own behaviour changes, as has been noted in similar interventions [25]. Research continues to demonstrate that involving spouses in lifestyle behaviour change interventions, such as physical activity and healthy eating, can be particularly effective for fostering short and long-term behaviour change [26, 27]. Physical activity interventions that support opportunities for couples to engage in activities together has the potential to harness social support in a way that may enhance intrapersonal mechanisms (e.g., self-efficacy), which are essential for increasing and maintaining physical activity [26, 28]. Moreover, these positive outcomes may extend beyond the spousal relationship and impact the health and well-being of other family members, particularly children and youth [29]. Thus, finding ways to involve men's partners and other family members may be beneficial, although careful consideration must be taken not de-value the 'male-friendly' environment, a program feature that has been highlighted as essential by participants. For instance, providing men with information resources they can share and discuss with their partners, and including suggestions for activities couples (e.g., interval walking, preparing a healthy meal) and families can do together (e.g., hiking) may be impactful, without 'invading' the 'masculine' tone of the program model.

In addition to social connection and support, participants' interest in mental health and well-being runs counter to what others have found regarding men's reluctance to discuss vulnerabilities associated with mental illness [30, 31]. By way of explanation, a number of possibilities arise. First, the focus on mental health as distinct from illness can afford men legitimate interest and the expenditure of energy to learn and integrate strategies to promote

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clear, rational, and decisive thought. In the context of HAT TRICK – the idea of being ‘game ready’ demands mental and physical preparation. Second, the de-stigmatising testimonials about mental health challenges and the work of wellness made available through elite male athletes might have generated the interest in mental health issues that we observed among HAT TRICK participants. That these candid accounts are strength-based along with links to effective self-management norm the interests and actions of other men, especially those who identify with sporting and physical prowess as an idealised masculinity. It may also be that these data show that, when men come together in a male-friendly context with a willingness to make changes to their health and health behaviours, that a level of trust develops which allow more sensitive or potentially taboos topics to be discussed. Given this, there may be opportunities to integrate stress management and strategies to boost mood into men’s programs focused around physical activity. Programs like HAT TRICK could be used as a gateway to approach mental health and well-being from a health promotion perspective directly as a program component (e.g., mindfulness, psychoeducation) and/or indirectly through program processes and normative cultures (e.g., teamwork, camaraderie, loyalty).

In summary, the findings demonstrate that HAT TRICK is highly acceptable among participants and sufficiently feasible to warrant further investigation through a full scale RCT. The intervention itself show great potential for engaging and retaining men in healthy lifestyle changes, and points to structural program aspects that promote male engagement in healthy behaviour change. Further, the study design and methods appear to be viable and appropriate for this population and provide a foundation for future research. Notably, we acknowledge that (1) there may be a potential bias in responses as a result of purposive sampling, (2) this approach may not engage all men, and (3) there is a need to better understand how gender-sensitized

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interventions can be tailored to engage different sub-groups of men, representing diverse sociocultural backgrounds. Finally, the findings provide important directions for refinements to HAT TRICK. Opportunities to enable greater social connection and support among program participants as well as support from family members are needed. Additionally, opportunities to address men's interest in topics related to mental health and well-being to enhance mental health literacy as part of a holistic approach to lifestyle modification and health promotion should be considered. Together these findings provide important considerations for men's health promotion programs.

REFERENCES

- 1 Bélanger-Ducharme F, Tremblay A. Prevalence of obesity in Canada *Obesity Reviews* 2005;**6**:183-186.
- 2 Sinclair A, Alexander H. Using outreach to involve the hard-to-reach in a health check: what difference does it make? *Public Health* 2012;**126**:87-95.
- 3 Baker P. Current issues in men's health *Trends in Urology & Men's Health* 2012;**3**:19-21.
- 4 Young M, Morgan P, Plotnikoff R *et al.* Effectiveness of male-only weight loss and weight loss maintenance interventions: a systematic review with meta-analysis *Obesity Reviews* 2012;**13**:393-408.
- 5 Pagoto SL, Schneider KL, Oleski JL *et al.* Male inclusion in randomized controlled trials of lifestyle weight loss interventions *Obesity* 2012;**20**:1234-1239.
- 6 Brady AJ, Perry C, Murdoch DL *et al.* Sustained benefits of a health project for middle-aged football supporters, at Glasgow Celtic and Glasgow Rangers Football Clubs *European Heart Journal* 2010;**31**:2696-2698. First published on 2010/12/31.
- 7 Hunt K, Wyke S, Gray CM *et al.* A gender-sensitised weight loss and healthy living programme for overweight and obese men delivered by Scottish Premier League football clubs (FFIT): a pragmatic randomised controlled trial *Lancet* 2014;**383**:1211-1221.
- 8 Bunn C, Wyke S, Gray CM *et al.* 'Coz football is what we all have': masculinities, practice, performance and effervescence in a gender-sensitised weight-loss and healthy living programme for men *Sociology of health & illness* 2016;**38**:812-828.
- 9 Sharp P, Spence JC, Botorff JL *et al.* One small step for man, one giant leap for men's health: a meta-analysis of behaviour change interventions to increase men's physical activity *British Journal of Sports Medicine* 2020.
- 10 Gray CM, Hunt K, Mutrie N *et al.* Weight management for overweight and obese men delivered through professional football clubs: a pilot randomized trial *International Journal of Behavioral Nutrition & Physical Activity* 2013;**10**:121.
- 11 Wyke S, Bunn C, Andersen E *et al.* The effect of a programme to improve men's sedentary time and physical activity: The European Fans in Training (EuroFIT) randomised controlled trial *PLoS medicine* 2019;**16**:e1002736.
<http://dx.doi.org/10.1371/journal.pmed.1002736>.
- 12 Canadian Hockey League. Canadian Hockey League. Scarborough, ON, 2017.
- 13 Olliffe JL, Rossnagel E, Botorff JL *et al.* Community-based men's health promotion programs: eight lessons learnt and their caveats *Health promotion international* 2019.

- 14 Moore GF, Audrey S, Barker M *et al.* Process evaluation of complex interventions: Medical Research Council guidance 2015;**350**:h1258.
- 15 Caperchione CM, Botorff JL, Oliffe JL *et al.* The HAT TRICK program for improving physical activity, healthy eating and connectedness among overweight, inactive men: study protocol of a pragmatic feasibility trial *BMJ Open* 2017.
- 16 UBC Okanagan News. UBC researchers team up with Kelowna Rockets to support men's health. In: Wellborn P (ed): The University of British Columbia, 2016.
- 17 Canadian Society for Exercise Physiology. Physical Activity and Readiness Questionnaire for everyone: PAR-Q+. Ottawa, ON: Canadian Society for Exercise Physiology: CSEP, 2012.
- 18 Duncan MJ, Rosenkranz RR, Vandelanotte C *et al.* What is the impact of obtaining medical clearance to participate in a randomised controlled trial examining a physical activity intervention on the socio-demographic and risk factor profiles of included participants? *Trials* 2016;**17**:580.
- 19 Teixeira PJ, Carraca EV, Markland D *et al.* Exercise, physical activity, and self-determination theory: a systematic review *Int J Behav Nutr Phys Act* 2012;**9**:78. First published on 2012/06/26, 10.1186/1479-5868-9-78.
- 20 Bruce MA, Griffith DM, Thorpe RJ, Jr. Social Determinants of Men's Health Disparities *Fam Community Health* 2015;**38**:281-283. First published on 2015/08/21, 10.1097/FCH.0000000000000083.
- 21 Creighton G, Oliffe JL. Theorising masculinities and men's health: A brief history with a view to practice *Health Soc Rev* 2010;**19**:409-418.
- 22 Sharp P, Botorff JL, Hunt K *et al.* Men's Perspectives of a Gender-Sensitized Health Promotion Program Targeting Healthy Eating, Active Living, and Social Connectedness *American Journal of Men's Health* 2018;**0**:1557988318799159. 10.1177/1557988318799159.
- 23 Sandelowski M. What's in a name? Qualitative description revisited *Research in nursing & health* 2010;**33**:77-84.
- 24 Hunt K, Gray CM, Maclean A *et al.* Do weight management programmes delivered at professional football clubs attract and engage high risk men? A mixed-methods study *Public Health* 2014;**14**:50. First published on 2014/01/22, 10.1186/1471-2458-14-50.
- 25 MacLean A, Hunt K, Gray C *et al.* How do men's female relatives feature in their accounts of changing eating practices during a weight-management programme delivered through professional football clubs? *International Journal of Men's Health* 2014;**13**:121-138.
- 26 Richards E, Franks M, McDonough M *et al.* 'Let's move:' a systematic review of spouse-involved interventions to promote physical activity *International Journal of Health Promotion Education* 2018;**56**:51-67.

- 27 Cobb LK, Godino JG, Selvin E *et al.* Spousal influence on physical activity in middle-aged and older adults: The ARIC study *American journal of epidemiology* 2015;**183**:444-451.
- 28 Young M, Plotnikoff R, Collins C *et al.* Social cognitive theory and physical activity: a systematic review and meta-analysis *Obesity Reviews* 2014;**15**:983-995.
- 29 Young M, Morgan P. Paternal physical activity: an important target to improve the health of fathers and their children *American journal of lifestyle medicine* 2017;**11**:212-215.
- 30 O'Brien R, Hunt K, Hart G. 'It's caveman stuff, but that is to a certain extent how guys still operate': men's accounts of masculinity and help seeking *Social Science & Medicine* 2005;**61**:503-516.
- 31 Oliffe JL, Phillips MJ. Men, depression and masculinities: A review and recommendations *Journal of Men's Health* 2008;**5**:194-202.