Key Factors Motivating Continued Participation in High-Intensity Exercise at K-State CrossFit

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Kansans’ Physical Activity

• 2013 BRFSS data
• % of adults not participating in any physical activity = 42%
  – Females = 43.6%
  – Males = 40.3%
• % of adults not meeting guidelines
  – 82.1%
  – Females = 83.4%
  – Males = 30.7%
Most common exercise barrier

High-Intensity Training (HIT, HIE, HIIT)

• “Short-to-long bouts of rather high-intensity exercise interspersed with recovery periods.” (p. 314)
• Often running or cycling intervals
• Less time = higher response
• Post-exercise fat metabolism
• Athletes → cardiac rehab

(Buchheit & Laursen, 2013)
What if you could...

• Make exercise time efficient by
  – Increasing intensity
  – Combining aerobic and muscle-strengthening exercises
  – Having infinite variety
  – Getting support from a group and a leader

High-Intensity Functional Training

(Haddock, Poston, Heinrich, Jahnke, & Jitnarin, under review)
Growth of CrossFit

• 2005 – 13 affiliates
  – 1 in Prairie Village, CrossFit Kansas City
• 2015 – over 12,000 affiliates worldwide
  – 55 in Kansas

• More on their business model here:
Internet Searches

What is CrossFit?

- Fitness Community
- 60 minute classes
- CV FM HI
- Focus on teaching proper movement
• Established in 2010
• Department of Kinesiology
• Open to students, staff, and the public
• [www.k-state.edu/crossfit](http://www.k-state.edu/crossfit)
Previous CrossFit Research

• Fitness and body composition improvements
  – CrossFit-based training improves aerobic fitness and body composition (Smith et al., 2013), functional movement and body composition (Heinrich et al., 2015)

• Exercise enjoyment and intentions
  – CrossFit participants exercised less per week yet maintained exercise enjoyment and intentions (Heinrich et al., 2014)
Previous CrossFit Research

• Exercise adherence (Nielsen et al., 2014)
  – Group sport activities that were intrinsically motivating to older men facilitated positive social interaction and play, versus activities that were extrinsically motivating.
  – Stronger effects were found for football (soccer) than CrossFit

• GAP → No previous research has examined key motivational factors for 12-month adherers to CrossFit
Purpose

• This study investigated factors influencing CrossFit adherence.
Methods

• Design
  – Program Evaluation with assessments at baseline, 2 months, 6 months, 12 months
    • (Feb. 2013-Feb. 2014)
  – 57 enrolled at baseline
    • 14 changed to another CrossFit gym during the study
    • 3 were lost to follow-up
    • 12 stopped doing CrossFit, but most maintained other activities
    • 6 did not complete the 12-month assessment
Participants

- n = 22
- Ages 18-66
- 50% female
- 91% white
- 23% Hispanic or Latino
- 100% some college or more
- CrossFit experience 11.4±7.9 months (range 0-25 months)
- Attended 4±1 days per week of CrossFit classes
Measures

• Questionnaires
  – Baseline and 12-months
    • On a scale from 1 (not at all confident) to 10 (extremely confident), what is your confidence level in your ability to continue exercising with CrossFit? _____
  – 12-months
    • What are the top three things that motivate you today to do CrossFit?
    • PARTICIPATION – Please indicate the degree to which any of the following factors influenced your continued participation at K-State CrossFit over the past year.
      – Scored from -3 (Negative Influence) to 0 (No influence) to 3 (Positive Influence)
Analysis

• Data were analyzed with SPSS 20
• Current motivational factors were designated as follows:
  – Intrinsic (influential)
  – Extrinsic (limited influence)
• Descriptive statistics were computed for each of the surveyed influential factors
RESULTS
Confidence to Continue CrossFit

• High and increased over time, although not significantly (t = 1.45, p = .162)
  – Baseline = 8.9±0.8, range = 7-10
  – 12 months = 9.2±1.0, range = 7-10
Top 3 things that motivate CrossFit participation today

**Intrinsic (n = 65)**
- Fitness (strength, endurance, staying fit)
- Skills (do pull-ups)
- Health (physical and mental)
- Improvements (PR after PR)
- Community (I like the people)
- Feeling better (makes me feel good)
- Challenge and variety

**Extrinsic (n = 3)**
- Friend or family member
- Looking good
- Competition
Ratings for Influential Factors (n = 22)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean (SD)</th>
<th>Range</th>
<th>N rating as 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workout intensity</td>
<td>2.7 (0.5)</td>
<td>2 – 3</td>
<td>16</td>
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<tr>
<td>Atmosphere</td>
<td>2.6 (0.7)</td>
<td>0 – 3</td>
<td>15-16</td>
</tr>
<tr>
<td>Coaches’ personalities</td>
<td>2.6 (0.7)</td>
<td>0 – 3</td>
<td>16</td>
</tr>
<tr>
<td>Coaches’ knowledge</td>
<td>2.6 (0.8)</td>
<td>0 – 3</td>
<td>16</td>
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<tr>
<td>Workout variety</td>
<td>2.6 (1.0)</td>
<td>-1 – 3</td>
<td>17</td>
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<tr>
<td>Learning new skills</td>
<td>2.5 (0.5)</td>
<td>2 – 3</td>
<td>12</td>
</tr>
<tr>
<td>Ability to scale workouts</td>
<td>2.5 (0.7)</td>
<td>0 – 3</td>
<td>13-14</td>
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<tr>
<td>Coaches’ leadership</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Coaches’ support</td>
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<td></td>
<td></td>
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<tr>
<td>Results</td>
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### Ratings for Influential Factors (N = 22)

<table>
<thead>
<tr>
<th>Factor</th>
<th>Mean±SD</th>
<th>Range</th>
<th>N rating as 3</th>
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</thead>
<tbody>
<tr>
<td>Interactions with other members</td>
<td>2.4±0.8</td>
<td>0-3</td>
<td>12</td>
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<tr>
<td>Support received from other members</td>
<td>2.4±1.1</td>
<td>0-3</td>
<td>15</td>
</tr>
<tr>
<td>Campus location</td>
<td>2.4±1.1</td>
<td>0-3</td>
<td>15</td>
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<tr>
<td>Value received for cost of classes</td>
<td>2.3±0.8</td>
<td>0-3</td>
<td>10</td>
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<tr>
<td>Getting to know other members</td>
<td>2.2±0.9</td>
<td>0-3</td>
<td>11</td>
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<tr>
<td>Diversity of members</td>
<td>2.1±1.0</td>
<td>0-3</td>
<td>10</td>
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<td>Personal goals</td>
<td>2.1±1.0</td>
<td>0-3</td>
<td>10</td>
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<td>Gym environment</td>
<td>2.1±1.2</td>
<td>0-3</td>
<td>12</td>
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<tr>
<td>Factor</td>
<td>Mean (SD)</td>
<td>Range</td>
<td>N rating as 3</td>
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<td>Affiliation with K-State</td>
<td>1.9 (1.4)</td>
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<td>13</td>
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<td>Length of workouts</td>
<td>1.6 (1.4)</td>
<td>-1 – 3</td>
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<tr>
<td>Support received outside of CrossFit</td>
<td>1.5 (1.3)</td>
<td>0 – 3</td>
<td>8</td>
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<tr>
<td>Times classes were offered</td>
<td>1.5 (1.5)</td>
<td>-2 – 3</td>
<td>7</td>
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<tr>
<td>Cost of classes</td>
<td>1.4 (1.4)</td>
<td>-1 – 3</td>
<td>6</td>
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<td>Equipment available</td>
<td>1.3 (1.2)</td>
<td>-1 – 3</td>
<td>5</td>
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<td>Flexibility of workout times</td>
<td>1.3 (1.4)</td>
<td>-2 – 3</td>
<td>4-7</td>
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<td>Birthday workouts</td>
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<td></td>
<td></td>
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<tr>
<td>Team workouts</td>
<td>1.2 (1.1)</td>
<td>-1 – 3</td>
<td>3</td>
</tr>
<tr>
<td>Challenges</td>
<td>1.2 (1.2)</td>
<td>-1 – 3</td>
<td>4</td>
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<tr>
<td>Competition during workouts</td>
<td>1.0 (1.1)</td>
<td>-1 – 3</td>
<td>2</td>
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Discussion

• Self-efficacy (high confidence in ability to continue CrossFit from the start)
• Intrinsically motivated
• Key factors:
  – Workout intensity
  – Coaches
  – Atmosphere
  – Variety
  – Learning new skills
  – Ability to scale
  – Results
HIFT Participation Strategies

• Ensure they like high-intensity exercise
  – PRETIE-Q (Ekkekakis, Hall, Petruzzello, 2005)

• Good coaching is key
  – Teaching, Seeing, Correcting, & Demonstrating Movement; Group Management; Presence and Attitude (Anonymous, 2012)

• Change it up and teach!
  – Variety avoids boredom and people like to learn

• Results
  – No gain, no continue
Other Research

ATHIS
Army Training at High-Intensity Study

• Undergraduate Research Studies
  – Identification of intensity levels for long and short duration high-intensity functional training
  – Perception of functional improvement in older adults: a high-intensity functional training intervention
  – Confidence improvement through the use of push-up modifications

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References


