A PRELIMINARY ANALYSIS OF MOTIVATION AND GOAL ORIENTATION IN ROCK CLIMBERS

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Motivation in Sport and Exercise

• Motivation and goal orientation related to long-term commitment and interest and positive outcomes

• Motivation studied in variety of sports and exercise and populations

• “Motivation is the inclination to pursue and persist in activities related to one’s sport”
Self-Determination Theory

Basic psychological needs:
- Need for autonomy
- Need for competence
- Need for relatedness

Type of motivation:
- Intrinsic motivation
- Extrinsic motivation
- Amotivation

Perceived locus of causality scale:
- Intrinsic motivation
- Integrated regulation
- Identified regulation
- Introjected regulation
- External regulation
- Amotivation

Defining features and reward contingencies:
- For enjoyment, pleasure, and fun; no discernible reinforcement or reward
- Behaviors that are fully incorporated into the repertoire of behaviors that satisfy psychological needs
- For personally held values such as learning new skills; internally referenced contingency
- For avoiding external sources of disapproval, or gaining externally referenced approval
- For external reinforcement such as gaining rewards or avoiding punishment
- Lack of intentionality and personal causation

Position on relative autonomy continuum:
- Autonomous motives (high autonomy)
- Controlling motives (low autonomy)

Degree of internalization:
- Integrated
- High internalization
- Low internalization
<table>
<thead>
<tr>
<th>Amotivation</th>
<th>lack of intent to act, non-regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>External</td>
<td>externally controlled reward or punishments</td>
</tr>
<tr>
<td>Introjected</td>
<td>actions driven by attempt to feel worthy or guilt/shame avoidance, ego involvement</td>
</tr>
<tr>
<td>Identified</td>
<td>behavior is personally important and worthwhile</td>
</tr>
<tr>
<td>Integrated</td>
<td>behavior is valued/congruent with life goals, fully integrated activity</td>
</tr>
<tr>
<td>Intrinsic</td>
<td>motivations are from the behavior itself</td>
</tr>
</tbody>
</table>

More autonomous forms associated with persistence, frequency and commitment
Goal Theory

- **Ego orientation (performance):** Competence defined by external standards or norm based/social comparisons
  - Negative behavior when low perceived sport ability

- **Task orientation (mastery):** self-reference, comparison with self and past achievements.
  - Associated with persistence in sport.

Motivational climate affects goal orientation
Goals and Hypotheses

• Descriptive analysis of M and GO in a diverse subsection of the climbing community

• More experienced climbers and skilled would have higher scores on intrinsic motivation

• Differences in task and ego related to gender and skill level
METHODS
Methods

• Convenience sample; two gyms and forum

• 18 and over, self-identified as climbers (Sport, Trad, Bouldering)

• 2 validated questionnaires, demographics and climber specific items
Sport Motivation Scale (SMS) II 2012

- Validated 6 factor structure
- 18 item Likert scale
- 3 items per factor
Task and Ego Orientation in Sport Questionnaire TEOSQ (Duda, 1989)

• 13 item Likert scale

• Task and ego orientation

• Scores averaged on 5 point scale
Demographics

- Age
- Years climbing
- Self-reported skill level, highest
  - Redpoint ascent or
  - Toprope (no falls)
  - V-grade bouldered
- Type of climbing in past year
  - Sport, trad, bouldering
  - Indoor, outdoor
- Participation climbing in past 3 months (days, hours)
Descriptive Analysis

- 92 participants
  - 43 F, 49 M

- Age M= 31.7 (sd=9.6) range 18-61

- Yrs climbing M=6.5
  - Range: 1 mo to 42 yrs

<table>
<thead>
<tr>
<th>Yrs climb</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;1 yr</td>
<td>16</td>
</tr>
<tr>
<td>1-&lt;5 yrs</td>
<td>35</td>
</tr>
<tr>
<td>5+ yrs</td>
<td>41</td>
</tr>
</tbody>
</table>

- Participation in last 3 months
  - Ave 2.6 days per week
<table>
<thead>
<tr>
<th>Self-Reported Skill Level YDS</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level 1 Lower grade</strong></td>
<td>21</td>
</tr>
<tr>
<td>Males and Females ≤ 5.9</td>
<td></td>
</tr>
<tr>
<td><strong>Level 2 Intermediate</strong></td>
<td>30</td>
</tr>
<tr>
<td>Males 10a-11d</td>
<td></td>
</tr>
<tr>
<td>Females 10a-11a</td>
<td></td>
</tr>
<tr>
<td><strong>Level 3 Advanced</strong></td>
<td>28</td>
</tr>
<tr>
<td>Males 12a-13b</td>
<td></td>
</tr>
<tr>
<td>Females 11b-12d</td>
<td></td>
</tr>
<tr>
<td><strong>Level 4 Elite</strong></td>
<td>8</td>
</tr>
<tr>
<td>Males 13c-14c</td>
<td></td>
</tr>
<tr>
<td>Females 13a-14a</td>
<td></td>
</tr>
</tbody>
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Yosemite Decimal System
Grades analyzed in Watts
Draper et al 2011
Overall Motivation Mean Scores

Non-regulation: 4.04
External: 5.7
Introjected: 9.97
Identified: 15.77
Integrated: 12.85
Intrinsic: 16.34

SMSII 7 point scale/ 3 items per subscale
Differences with respect to demographics

Introjected regulation and years climbing
• feel bad about self if do not climb, not worthwhile

Identified regulation and age
• climbing as development of other parts of self

<table>
<thead>
<tr>
<th></th>
<th>&lt;1 year</th>
<th>1-&lt;5 years</th>
<th>5+ years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introjected Regulation</td>
<td>9.75</td>
<td>11.37*</td>
<td>8.87*</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>18-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identified</td>
<td>17.14*</td>
<td>16.96*</td>
<td>14.94</td>
<td>11.88*</td>
</tr>
</tbody>
</table>
Task and Ego Goal Orientation

No significant differences in task and ego goal orientation for any demographic variables

<table>
<thead>
<tr>
<th>Overall</th>
<th>Task Orientation</th>
<th>Ego Orientation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>4.08</td>
<td>2.15</td>
</tr>
<tr>
<td>SD</td>
<td>.80</td>
<td>.88</td>
</tr>
</tbody>
</table>

![Graph showing task and ego goal orientation by level and gender](chart.png)
Motivation and Goal Orientation

• Ego significantly correlated with
  • External regulation ** .294
  • Non regulation ** .273

• Task significantly correlated with
  • Intrinsic regulation ** .557
  • Integrated regulation ** .294
  • Identified regulation ** .492
  • Introjected regulation ** .353
Major Conclusions

• Climbers were overall highest in intrinsic and more autonomous forms of motivation as well as task orientation.

• No differences in any demographic variables with respect to task and ego orientation.

• Differences were seen in age (older had lower identified) and years climbing (less experience had lower introjected).
  • Could be a function of the motivational climate in each of these categories/groups.
THANK YOU

QUESTIONS?