Motivating Others: Research and Interventions on Motivation and Well-Being Using Self-determination Theory

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SDT Basic Research Areas

Intrinsic Motivation
Extrinsic Motivation and Internalization
Individual Differences in Motivation
Well Being and Basic Psychological Needs
Culture and Gender: Universal versus Culturally Specific Needs
Energy and Vitality
Mindfulness: Impact on Motivation and Wellness
Close Relationships: Quality and Satisfaction
Aspirations and Life Goals: Eudaimonic Living
The Impact of Natural Environments on Wellness
Evolution of Prosocial Behavior
Neuropsychology of Autonomous Self-regulation
SDT Applied Research

Psychotherapy

Educational Practice and School Reform

Organizational Behavior and Management

Health Care: Motivation and Adherence

Exercise and Physical Activity Motivation

Sport Motivation and Performance

Religious Internalization and Motivation

Environmental Sustainability and Consumer Behaviors

Virtual Environments and Video Games

Violence and Bullying: Causes and Prevention

Benevolence and Prosocial Behavior
MOTIVATION

To be moved to action
The Classical Model
People Have Choices
The study of motivation today is no longer about how to control people from the outside. It is about why people choose what they do, and what facilitates their volitional engagement.
Intrinsic motivation (interest)

Internalized motivation (value)

Multiple ways to support (and to undermine) both interest and value

What do people need to be motivated and vital?
Basic psychological need satisfactions leading to higher quality motivation and wellness

- Autonomy
- Competence
- Relatedness

- Volitional Engagement
- Value
- Higher Quality Performance
- Vitality/Wellness
**Need:**
Something essential to a living entity’s growth, integrity and well being
- when deprived, evidence of degradation or harm; when satisfied, evidence of thriving

**Basic Psychological Needs:**
Satisfaction is essential for psychological growth, integrity and well being
- natural rather than acquired
- universal rather than culturally specific
- not necessarily consciously valued
SDT’s Three Basic Psychological Needs

**Autonomy**
- Behavior is in accord with abiding values and interests; actions are self-endorsed; congruence between implicit and explicit motives

**Competence**
- Sense of effectance & competence in one’s context

**Relatedness**
- Feeling cared for, connected to, sense of belonging with Others; able to contribute
What autonomy is not

• It is not independence

• It is not about individualism versus collectivism

• It does not require an absence of external inputs or demands, (but rather an endorsement of them or their legitimacy)
What is intrinsic motivation?

• IM is doing something because of the inherent satisfactions the activity yields
• Children’s play is a prototype of IM
• Most learning is by nature intrinsically motivated;
• IM continues across the lifespan as an important impetus to learning and revitalization
Factors Associated with the Facilitation of Intrinsic Motivation

- **Autonomy** (supports for volition)
- **Competence** (structure; positive feedback)
- **Relatedness** (inclusion, empathy, care)

Intrinsic Motivation
<table>
<thead>
<tr>
<th>Conditions that <strong>Facilitate</strong> Intrinsic Motivation</th>
<th>Conditions that <strong>Undermine</strong> Intrinsic Motivation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Autonomy-Relevant</strong></td>
<td><strong>Autonomy-Relevant</strong></td>
</tr>
<tr>
<td>• Absence of Pressure</td>
<td>• Pressure toward Outcomes</td>
</tr>
<tr>
<td>• Goal Choice</td>
<td>• Punishment contingencies</td>
</tr>
<tr>
<td>• Strategy Choice</td>
<td>• Goal or Strategy Imposition</td>
</tr>
<tr>
<td>• Task Involvement</td>
<td>• Deadlines</td>
</tr>
<tr>
<td>• Acknowledge person’s perspective</td>
<td>• Controlling rewards</td>
</tr>
<tr>
<td>• Allow inputs</td>
<td>• Ego-involvement</td>
</tr>
<tr>
<td><strong>Competence-Relevant</strong></td>
<td><strong>Competence-Relevant</strong></td>
</tr>
<tr>
<td>• Optimal Challenge</td>
<td>• Non-Optimal Challenges</td>
</tr>
<tr>
<td>• Positive Feedback</td>
<td>• Negative Feedback</td>
</tr>
<tr>
<td>• Informational Rewards</td>
<td>• No Feedback</td>
</tr>
<tr>
<td><strong>Relatedness-Relevant</strong></td>
<td><strong>Relatedness-Relevant</strong></td>
</tr>
<tr>
<td>• Encouragement</td>
<td>• “Cold” Interactions</td>
</tr>
<tr>
<td>• Warmth</td>
<td>• Lack of Positive Involvement</td>
</tr>
</tbody>
</table>
Effects of Choice on Vegetable Children’s Intake

Fig. 1. Means and standard error means of total vegetable consumption, including one or two vegetables, depending on the condition ($p<0.05$).
The Effects of Rewards on Free-Choice Behavior: Controlling Rewards Undermine; Informational Do Not

The Undermining Effect: Deactivation of Bilateral Striatum as a Function of Prior Rewards

Munayama et al.
Right LPFC Changes During Reward and Post-Reward Sessions

Fig. 4. Right LPFC activation (peak at 39, 41, 40) detected in the session-by-group interaction during the task cue period ($P < 0.05$, small-volume-corrected; image is shown at $P < 0.001$, uncorrected for display). Neural responses are displayed in transaxial and coronal formats. The bar plot represents mean contrast values and S.E.M. for each session/group. During the first session, the LPFC in the reward group showed significantly larger activation than that in the control group (two-sample $t_{24} = 2.62$, $P < 0.05$). However, the activation became significantly smaller in the reward group than in the control group during the second session (two-sample $t_{24} = 2.27$, $P < 0.05$).
Negative Impact of Extrinsic Reward Focus on Sustained Weight Change

Figure 1: Financial motivation predicting weight change (% of original body weight). high: top quartile; low: bottom quartile.

Relations of Teachers’ Orientations (autonomy-supportive vs. controlling) to Students’ Intrinsic Motivation and Perceived Competence

Teachers’
Autonomy Support

Intrinsic Motivation
Preference for Challenge .41***
Curiosity .56***
Mastery attempts .37***

Perceived Competence
Cognitive competence .29***
Global competence (self-worth) .36***

Teacher Autonomy Support and Control in a South Korean High School Sample

Jang, Reeve, Ryan, & Kim, 2009, *Journal of Educational Psychology*
SEM Relating Autonomy Support/Control to Satisfaction versus Thwarting and Outcomes in Young Athletes

Figure 2. Latent variable modeling predicting positive affect, negative affect, and burnout symptoms (Study 2). Jotted lines represent nonsignificant parameters. Item indicators are not presented for presentation simplicity purposes. Correlations between disturbance terms were need satisfaction-need thwarting = -.20, positive affect-burnout = -.30, negative affect-burnout = .46.
Figure 3. Latent variable modeling predicting levels of S-IgA (Study 2)
Dotted lines represent nonsignificant parameters. Secretory immunoglobulin A (S-IgA) was an observed variable. Item indicators for the two need factors are not presented for presentation simplicity purposes.
Two Categories of Motivation…..

Intrinsic Motivation:
Done or the inherent satisfactions in acting

Extrinsic Motivation:
Done to attain consequences separable from behavior
Intrinsic & Extrinsic Motivation

**Amotivation**
- Perceived non-contingency
- Low perceived competence
- Non-relevance
- Non-intentionality

**External regulation**
- Salience of extrinsic rewards or punishments
- Compliance/Reactance

**Extrinsic motivation**
- Ego Involvement
- Focus on approval from self and others
- Conscious valuing of activity
- Self-endorsement of goals
- Hierarchical synthesis of goals
- Congruence

**Introjection**

**Identification**

**Integration**

**Intrinsic motivation**
- Interest & Enjoyment
- Inherent satisfaction

**Perceived Locus of Causality:**
- External
- Somewhat External
- Somewhat Internal
- Internal

**Associated Processes:**
- Impersonal
- External
- Somewhat External
- Somewhat Internal
- Internal

**Regulatory Styles:**
- From: Ryan & Deci (2000)
Correlations between Self-Regulation Styles and Academic Goals, Values, & Learning Strategies

<table>
<thead>
<tr>
<th>Subscales</th>
<th>External</th>
<th>Introjected</th>
<th>Identified</th>
<th>Intrinsic</th>
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<td><strong>Goal Orientation</strong></td>
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<tr>
<td>Learning Orientation</td>
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<td>.37***</td>
<td>.58***</td>
<td>.62***</td>
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<td>Performance Orientation</td>
<td>.28***</td>
<td>.50***</td>
<td>.33***</td>
<td>.16**</td>
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<td>Work-Avoidance Orientation</td>
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<td>-.02</td>
<td>-.37***</td>
<td>-.42***</td>
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<td><strong>Value of learning and school</strong></td>
<td>-.02</td>
<td>.24***</td>
<td>.49***</td>
<td>.58***</td>
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<tr>
<td><strong>Learning Strategies</strong></td>
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<td>Deep Process</td>
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<td>.27***</td>
<td>.54***</td>
<td>.56***</td>
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<td>Surface Process</td>
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<td>.40***</td>
<td>.16**</td>
<td>.13*</td>
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</table>

*Note. *p < .05, **p < .01, ***p < .001; Yamauchi & Tanaka (1998)*
<table>
<thead>
<tr>
<th>Motivational Constructs</th>
<th>Correlation</th>
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<tr>
<td>External Regulation</td>
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<td>Introjected Regulation</td>
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<td>Controlled Motivation</td>
<td>.05</td>
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<tr>
<td>Autonomous Motivation</td>
<td>.42**</td>
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</tbody>
</table>

Correlations of motivational constructs and Total Moderate-Intensity Exercise per ACSM/AHA guidelines.
Figure 1. Structural equation model of psychological needs satisfaction and autonomous motivation predicting practice. N = 392. Unstandardized coefficients are in parentheses. All factor loadings and paths are significant at p < .001. RAI = Relative Autonomy Index.

From Evans and Bonneville-Roussy (2015)
Greater Relative Autonomy Enhances Value, Motivation and Wellness Outcomes

Autonomous Motivation

- Sustained Engagement
- Deeper Learning
- Vitality/Energy
- Implicit/Explicit Congruence
- Better Well-being

These functional effects are apparent:
- Across the Life Span
- Across SES
- Across Cultures
Intrinsic Motivation

- Inherent Satisfaction
- Autotelic

Extrinsic Motivation

- Control with rewards & punishments
- Compliance
- Guilt/Shame
- Self-pressure
- Ego-involvement
- Self truly endorses & values goal
- Goals are integrated

INTERNALIZATION

External
Introjected
Identified
Integrated
Factors Facilitating Greater Relative Autonomy of Behavioral Regulations and Values

Autonomy Support
- Minimal External Pressure
- Provision of Maximal Choice
- Internal Frame Reference Shared

Competence Support
- Optimal Challenge
- Dev. Appropriate Demands
- Relevant Feedback

Relatedness Supports
- Warmth, Involvement
- Conveyance of Belongingness

Internalization & Integration
## Correlations Between Parent and Teacher Autonomy Support and Academic Self-Regulation in U. S. and Russian Schools

<table>
<thead>
<tr>
<th></th>
<th>U.S.</th>
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<th>Russian</th>
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<tbody>
<tr>
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<td>Parent A-S</td>
<td>Teacher A-S</td>
<td>Parent A-S</td>
<td>Teacher A-S</td>
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<td><strong>External Regulation</strong></td>
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<td>-.25*</td>
<td>-.26*</td>
<td>-.28*</td>
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<td><strong>Introjected Regulation</strong></td>
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<td>.08</td>
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<td>.14</td>
<td>.60**</td>
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<td>.48**</td>
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</table>

(Chirkov & Ryan, 2001)
<table>
<thead>
<tr>
<th></th>
<th>U.S.</th>
<th>Russian</th>
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<tr>
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<td>Parent A-S</td>
<td>Teacher A-S</td>
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<tr>
<td>Self-Actualization</td>
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<td>.33**</td>
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<td>Self-Esteem</td>
<td>.40**</td>
<td>.18</td>
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<tr>
<td>Depressive Symptoms</td>
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<td>-.14</td>
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<tr>
<td>Life-Satisfaction</td>
<td>.49**</td>
<td>.34**</td>
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</tbody>
</table>
Teacher Autonomy Support: Enhancing Basic Need Satisfaction, Engagement and Wellness in Chinese 7-8th grades

TAS = Teacher Autonomy Support; BPNS = Basic Psychological Need satisfaction

From: Yu, Li, Wang & Zhang, 2016, J. of Adolescence
Inspiring Teachers: The Same Everywhere

Students wrote narratives about their **most recent, most motivating**, and **most de-motivating** teachers.

In **EVERY** sample, **autonomy-support** and **relatedness** emerged as the most frequent and salient characteristics, along with enthusiasm and energy.

In **NO** sample did rewards, grade focus, rigor or control emerge as positive factors.

Niemiec, et al., 2013
Teachers need support too!

Engkey, a white, egg-shaped robot developed by the Korea Institute of Science and Technology (KIST),
Autonomy Support and the Mediating Role of Work Motivation for Well-Being in a Chinese Teachers

From Nie, Chua, Yeung & Ryan (2015)
Basic Need-Satisfaction and Work Performance and Adjustment of Wall Street Bankers

Manager’s Autonomy Supportiveness

Autonomy Orientation (Individual Differences)

Work-Related Need Satisfaction

Work Performance Evaluation

Well-Being and Mental Health

# Motivation for Medication Adherence

<table>
<thead>
<tr>
<th></th>
<th>2 Day Pill Count</th>
<th>14 Day Count</th>
<th>Self-Rpt.</th>
<th>Composite Adherence</th>
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<tbody>
<tr>
<td><strong>Autonomy Support</strong></td>
<td>.24***</td>
<td>.17*</td>
<td>.03</td>
<td>.18*</td>
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<tr>
<td>(HCCQ)</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td><strong>Autonomous Regulation</strong></td>
<td>.41***</td>
<td>.52***</td>
<td>.57***</td>
<td>.59***</td>
</tr>
</tbody>
</table>

+ $p < .10$,  * $p < .05$,  *** $p < .001$
Autonomy and Medication Adherence

From Williams, Rodin, Ryan, Grolnick, and Deci, Health Psychology, 1998
### Meta-analyzed Relations Between Practitioner Autonomy-Support and Control and Patient’s Regulatory Styles In Available Health Behavior Studies

<table>
<thead>
<tr>
<th></th>
<th>Autonomy Support</th>
<th>Control</th>
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<tbody>
<tr>
<td>Intrinsic Motivation</td>
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<td>-.11</td>
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<tr>
<td>Identified Motivation</td>
<td>.36</td>
<td>.16</td>
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<tr>
<td>Introjection</td>
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<td>.29</td>
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<tr>
<td>External Regulation</td>
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<td>.31</td>
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<tr>
<td>Amotivation</td>
<td>-.27</td>
<td>.27</td>
</tr>
<tr>
<td>Autonomous Motivation Sum</td>
<td>.39</td>
<td>.03</td>
</tr>
<tr>
<td>Controlled Motivation Sum</td>
<td>.04</td>
<td>.34</td>
</tr>
</tbody>
</table>

(k=67)

Ng, Ntoumanis, Thøgersen-Ntoumani, Deci, Ryan, Duda, & Williams. Self-determination theory applied to health contexts: A meta-analysis. Perspectives on Psychological Science. 2012
Self-Determination Model for Health Interventions

Autonomy
Supportive vs. Controlling
Health Care Climate

Autonomy
Competition
Relatedness

Mental Health
Depression
Somatization
Anxiety
Quality of life

Physical Health
*Not Smoking
*Physical Activity
*Weight Loss
*Diabetes
*Med. Adherence
*Healthy Diet
*Dental Health
Autonomy Support Represents a Significant Treatment Factor Across Psychotherapy Methods, Including IPT, CBT and Pharmacological Management

• More autonomous motivation was significantly associated with improvement in depressive symptoms

• Across modalities the odds ratio associated with therapist autonomy support was 1.95. (Those 1 SD above mean for A-S show 2x the benefit; 4x those 1 SD below mean)

• Autonomy support was more predictive of positive outcomes than therapeutic alliance

Relations of autonomy-support to therapeutic alliance and treatment motivation in patients being treated for depression

Autonomy support is more than merely connecting and cooperating.

<table>
<thead>
<tr>
<th>Autonomy Support</th>
<th>Therapeutic Alliance</th>
<th>Perceived Autonomy Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>.44***</td>
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<tr>
<td>Autonomous Motivation for Treatment</td>
<td>.28*</td>
<td>.40***</td>
</tr>
</tbody>
</table>

Basic Psychological Needs Underlying Motivation and Well Being

Integration, Well-Being

- Autonomy
- Competence
- Relatedness
Within-Country Correlations of Basic Need Satisfaction with Subjective Well-being

<table>
<thead>
<tr>
<th>Country (n)</th>
<th>US (n = 195)</th>
<th>Russia (n = 159)</th>
<th>Korea (n = 111)</th>
<th>Turkey (n = 94)</th>
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<tbody>
<tr>
<td>Basic Need Satisfaction</td>
<td>.72**</td>
<td>.60**</td>
<td>.62**</td>
<td>.71**</td>
</tr>
</tbody>
</table>

Within-person Effects: Daily Fluctuations

- Person A
- Sample Mean
- Person B
Positive and Negative Affect on the Days of the Week

Need Satisfaction on Days of the Week

### Predicting Experience Level Well-Being from Experience-Level Need Satisfaction

<table>
<thead>
<tr>
<th>Need Satisfaction</th>
<th>Positive Affect</th>
<th>Negative Affect</th>
<th>Vitality</th>
<th>Phys. Symptoms</th>
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<tr>
<td></td>
<td>B</td>
<td>t</td>
<td>B</td>
<td>t</td>
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<tr>
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<td>.95</td>
<td>22.29**</td>
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<tr>
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<td>11.69**</td>
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<td>Competence</td>
<td>.21</td>
<td>7.65**</td>
<td>-.18</td>
<td>-10.37**</td>
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</tbody>
</table>

*Note. Group-mean centering was used for all predictors. Bs are unstandardized.*

* p < .01. **p < .001.

Satisfaction of Psychological Needs on Weekdays vs. Weekends

<table>
<thead>
<tr>
<th></th>
<th>Autonomy</th>
<th></th>
<th>Relatedness</th>
<th></th>
<th>Competence</th>
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<tr>
<td></td>
<td>B</td>
<td>t</td>
<td>B</td>
<td>t</td>
<td>B</td>
<td>t</td>
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<tr>
<td>Weekend Contrast</td>
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<td>4.86***</td>
<td>.38</td>
<td>7.37***</td>
<td>.02</td>
<td>.33</td>
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</tbody>
</table>

Note. Weekend represents Friday evening through Sunday afternoon. Bs are unstandardized.

* p < .05. ***p < .001.

People have some very basic psychological needs

Supporting their basic psychological needs promotes intrinsic motivation and internalization, which in turn yield more persistence, more effective performance and greater wellness

This afternoon’s workshop: A focus on the techniques of facilitating motivation; on relationships, and on life goals and purposes that satisfy needs
Autonomy-Supportive Interactions

• Understand the other’s perspective (IFOR)
• Encourage self-reflection, or “interest-taking”
• Offer meaningful choices
• Provide a rationale for requested behavior
• Minimize use of controlling language/rewards
Competence-Supportive Environments

• Design activities so that mastery is the dominant experience
• Structure provides a scaffolding for development
• Feedback is “informational” rather than controlling
• Praise focuses on effort and accomplishments; not individual ability or comparisons with others
Relatedness-Supportive Environments

- Convey respect for the individual
- Individual feels valued and significant
- Care and concern when facing challenges
- Warmth and Inclusion
- Opportunities to Contribute/Give
- “My practitioner (teacher, manager) likes me”