



## 1JV10 summary

Arbeids- en Organisatiepsychologie: gevorderd (Technische Universiteit Eindhoven)



Scan to open on Studeersnel

# 1JV10 - Introduction to Organisational Behaviour for Industrial Engineering

## Introduction

### W&O psychology:

- the specialisation of psychology that applies psychological theories and principles to organisations
- Focuses on increasing workplace productivity and well-being to employees
- W&O psychologists perform tasks, like studying worker attitudes and behaviour, evaluating companies, and conducting leadership training
- Overall goal of this field is to study and understand human behaviour in the workplace

## Topic 1: Introduction and Job Analysis - Agile work from a job design perspective

### Introduction

#### 3 perspectives

##### Organisational psychology

- Is focused on understanding how organisations affect individual behaviour
- Organisational structures, technology, social norms, management styles and role expectations are all factors that can influence how people behave within an organisation

##### Personnel psychology

- Looks at how to best match individuals to specific job roles. People who work in this area assess employee characteristics and then match these individuals to jobs in which they are likely to perform well
- Topics that they focus on include selecting and placing employees, training employees, developing job performance standards and measuring job performance

##### Work psychology

- Concerns people's work activities, i.e. the way people handle their tasks
- The main topics are work environment, working time arrangements, errors, efforts, workload, fatigue, task design, tool design etc.

## History of W&O psychology

1700-1900	Historical precursors/Roos
1910-1920	Taylorism
1930-1950	Human Relations
1960-	Human Factors/Ergonomics

### Historical precursors/Taylorism (1911)

- Traditional occupational medicine working conditions in mining, hygiene and disease prevention, performance and fatigue
- Applied occupational psychology 'psychotechnic'-psychological and motor parameter of human behaviour, conditions of human performance

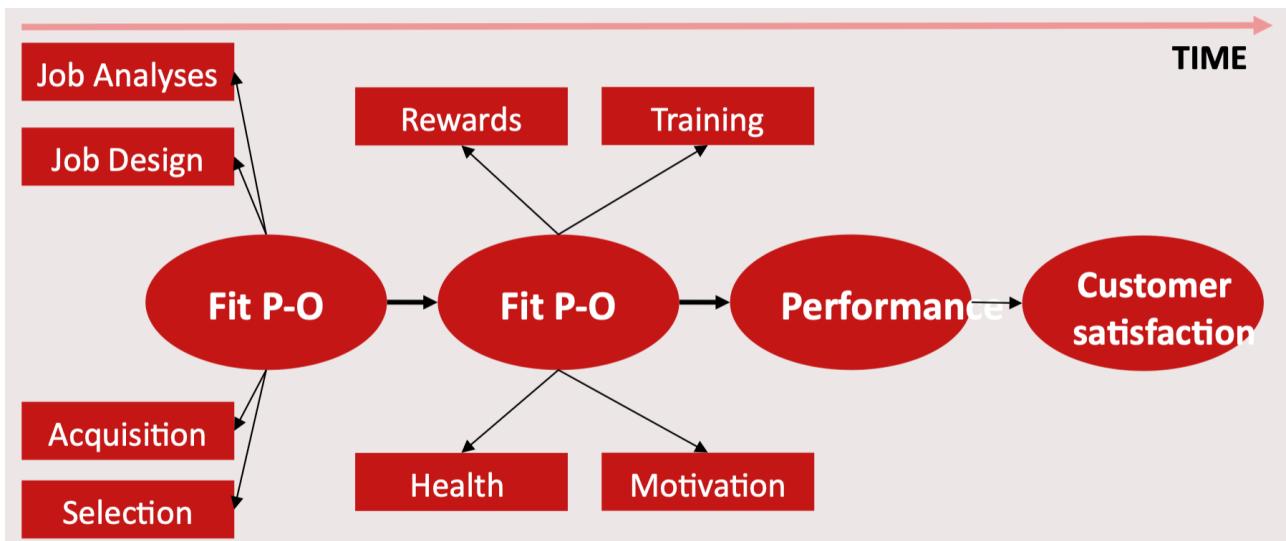
### Human relations

- Mayo Hawthorne experiments (irrespectively of the intervention in the working conditions, the work performance was improved -> importance of social aspects)
- Maslow motivation theory - needs hierarchy
- Herzberg 2-factor theory

The transitions

Until around 1930 priority was on

- Fitting the worker to the job (specialisation)
  - Complex production processes
  - Complicated products more varied work
- Fitting the job to the worker
  - Work smarter, not harder (Mogenson, 1928)



Future:

- Change in the type of employees
  - Fewer young people, more women, more minorities, more temporary employees
- Change in the type of organisations
  - Mergers & downsizing (more work through less people), smaller organisations, more focus on teamwork (flatter hierarchies)
- Growing importance of technology
  - Technology-mediated communication
- Human-technology interaction
- Redefinition of 'work'
  - Fewer fixed tasks, emphasis on constantly changing tasks, constant learning, less 9 to 5
- Individual employment conditions
  - Rewards, working hours, job responsibilities etc. depending on KSAO's, job crafting

Job analysis

Process of studying a job to determine which activities and responsibilities it includes, its relative importance to other jobs, the qualifications necessary for performance of the job and the conditions under which the work is performed

Goals of job analysis

- Training design and evaluation
- Performance assessment and development of criteria (which employees must meet)
- Job design
- Personnel selection
- Legal matters (dangerous work?)
- Career development and planning

## What is measured in job analysis

- Concrete behaviour
  - Descriptions of typical, specific actions
- Behaviour requirements
  - Ideal task performance
- Job Requirements
  - KSAO's: Knowledge, Skills, Abilities, Other characteristics (personality, traits)
- Job Characteristics
  - Job as a collection of external stimuli

## Methods of information collection

- Job analyst does the work himself
- Observation of activities in function
- Interviews with employees, managers or groups
- Employee self-reporting
- Diary, kept by employee
- Organisation files and statistics
- Psychophysiological measurements (EEG, EMG, cortisol)
- Information from customers
- Critical Incidents Technique

## Critical incidents technique

Incidents during the execution of the work, which are an example of exceptionally good or very bad performance

### Critical incident:

- Is specific
- Focuses on observable behaviours in the position
- Describes the context in which the behaviour is shown
- Describes the consequences (outcomes/products) of the behaviour

## Self reports

### Pros

- Cheap
- Differences between individual employees
- Easy to quantify and statistically analyse

### Cons

- Effect of selective memory
- Fatigue effects
- Halo-effect and other biases
- Sociale desirable answers (positive impression)

## Ways to overcome problems with self-reports

- State items carefully and in understandable terms
- Do not refer to the person too much/avoid subjectivity
- Answer scales: preference for frequency instead of intensity
- Study several people per position

## Observation pros & cons

### Pros

- Objective information over job
- Insight in the context of the job

### Cons

- Time consuming
- Not appropriate for complex mental tasks
- Situation that occur seldom difficult to observe
- More appropriate for structural instead of dynamic aspects
- Halo-effect and other biases

### Ways to overcome problems of observations

- Observation of entire 'working shift'
- Training of observers
- Careful construction of observation instrument
- Observation of different employees
- Observation of 'ideally typical' employee

### Selection criteria for job analysis instrument

- Suitable for the purpose for which the analysis is being done
- Relevance of specific job characteristics for position
- Based on a theoretical model
- Standardised instrument
- Ability to make quantitative judgements (minimum ordinal level)

### Reliability & validity of job analysis instruments

#### Reliability

- How good does the instrument measure what it aims to measure?

#### Validity

- Does the instrument measure what it should measure?

#### Utility

- Time and costs in relation to profit

### Job design

All activities that plan, design and influence the interaction between people and the work system

Involves the design of:

- Work tasks, products, objects, tools, work space, workplace, work environment, organisation and social conditions
- Everything in the workplace, except the employees themselves

### Goals of job design

- Optimal fulfilment of a position
- Effectiveness and reliability (the system does what it is expected to do, always)
- Efficiency (with favourable expenses)
- Safety, no negative consequences for the performer
- Maximising positive outcomes for people, both employee and employer

### Assessment criteria of job design

Good position:

1. Feasible according to anthropometric standards
2. Free from personal damage
3. Free from negative outcomes
4. Promoting the 'personality'

Good job function

- Sequential aspect: completeness of action
- Hierarchical aspect: hierarchically complete
- Job is OK when it
  - Follows this sequence
  - Includes routine & non-routine tasks

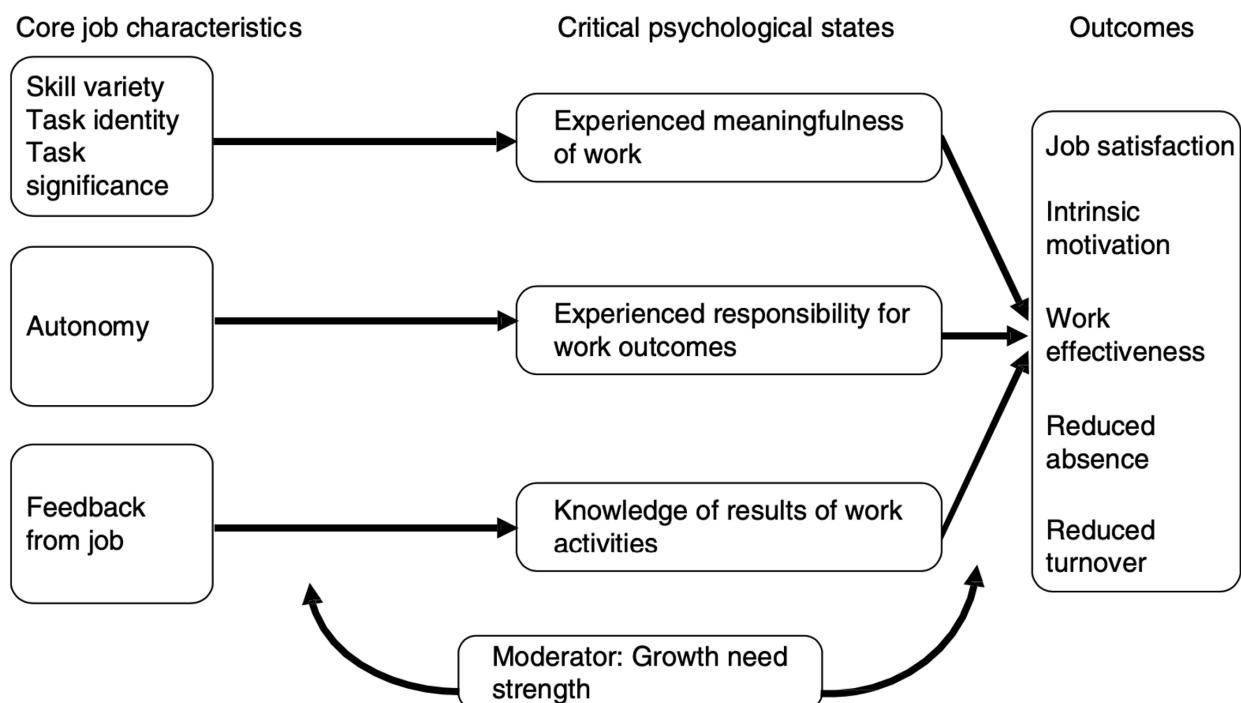
## Perspectives in job design

- Technological developments mean that functions constantly need to be renewed
- What is the best thing to leave to people? What about machines?
- Job design is always a process: first analyse existing job/tasks, then redesign, test, adjust if necessary

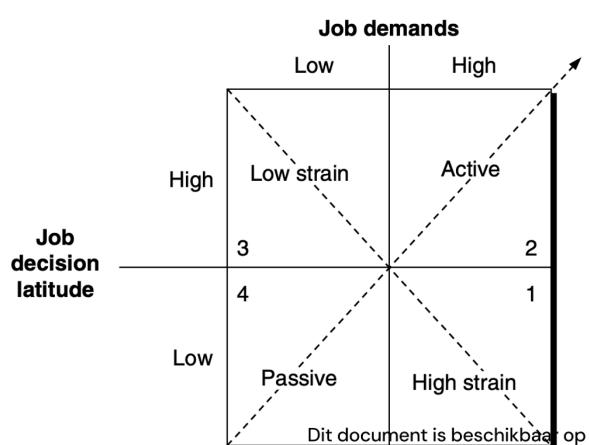
## Perspectives in job design

- Design for efficiency
- Design for motivation
  - Job enlargement - horizontal expansion of a role (adding duties in line with existing ones)
  - Job enrichment - vertical expansion of a role (with responsibilities and autonomy)
  - Teamwork
  - Flexibility
- Design for safety and health (ergonomics)
- Design for mental capacity
  - Filtering information
  - Clear displays and instructions
  - Memory aids

## Job characteristics model:



## Demands-control model:



Vitamine model:  
People peak

Effort-reward imbalance model:  
Effort is balanced by motivation and demand

Sociotechnical systems thinking:  
Focus on technical and social subsystems to motivate personnel

JD-R Model  
Balancing Job demands and Job Resources

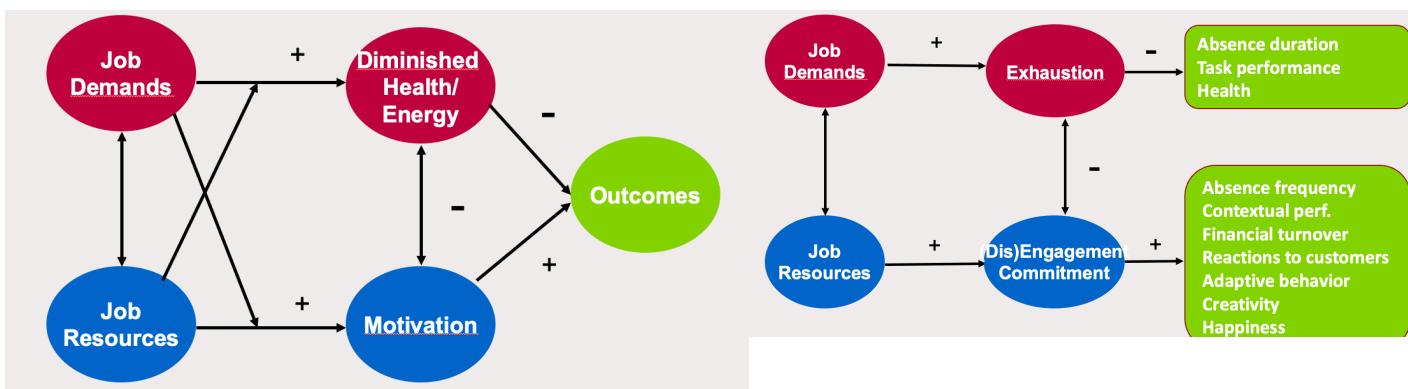
Job demands (health & energy)

- Role conflict
- Work-family
- Working times
- Emotional demands
- Work pressure

Job resources (motivation)

- Skill variety
- Developmental possibilities
- Coaching
- Social support
- Autonomy

Model:



High Job Demands and High Job Resources make optimal, but can't be maintained constantly

Job crafting from JD-R Model:

Adjustments of job characteristics to increase person-job fit and make work motivating

Three types:

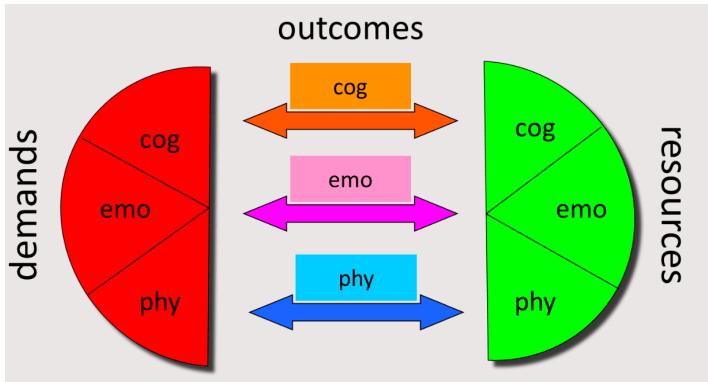
- Seeking resources
- Seeking demands/challenges
- Reducing demands
- Optimising demands

## The DISC Model

### Demand-Induced Strain Compensation Model

Multidimensional

- Cognitive components (head)
- Emotional components (heart)
- Physical components (hand)



DISC-R model -> R is for Recovery

Topic 2: Conflict and opportunity in hybrid work

Working times -> Large diversity

- 24-hour economy
- Separation of opening times and working time
- Individualisation of society
- Better coordination of work and private life

How working time patterns are burdensome depends on working time pattern

- Regularity
- Shift workload (effort to make)
- Long-term stress
- Possibility for
  - Night rest
  - Care duties
  - Evening & weekend recreation
- Predictability of working hours & free time

Forms of shiftplans

- Permanent shiftplans
  - Permanent shifts
  - Permanent broken shifts
- Rotating shiftplans
  - Systems without night shifts
    - Without weekend work (discontinuous)
    - With weekend work (continuous)
  - Systems with night shifts
    - Without weekend work (discontinuous)
    - With weekend work (continuous)

Rotation:

- Forward: Morning -> Afternoon -> Night Shift
- Backward: Morning -> Night -> Afternoon shift
- Short rotation: few identical shifts in a row
- Long rotation: many equal shifts in a row

What is Shiftwork:

1. Employees transfer work to other employees (team)
2. This shift rotation takes place according to a certain pattern
3. Employees work at different times

Disadvantages of Shiftwork and night work

- More often bad working conditions than in day shifts
- Unhealthy lifestyle (smoking, eating)
- Disruption of circadian rhythms
  - Body works according to circadian rhythms
  - Biological processes function spontaneously in rhythms of 'approximately' a day
  - Endogenous spontaneous period of  $T = 25,3$  Hours

Disruption of circadian rhythms

- Daytime work: Sleep/wake pattern is consistent with circadian rhythms
- Shiftwork (night work)
  - When people work, the body is 'at rest'
  - When people are resting, body is 'active'

Adverse effects of disturbed circadian rhythms

- Sleep problems, fatigue
- Health complaints
  - Gastrointestinal problems
  - Cardiovascular diseases
  - Lower fertility in women
- Lower safety and performance
- Disruption of social life

Recommendations for the optimisation of shift rosters

1. Few consecutive night shifts
2. Predictable regular schedule
3. Adequate rest
  1. Don't start morning shift too early
  2. Minimal 1 evening per week off
  3. Nap before and during the night shift
4. Shift length dependent on the workload
5. Fast forward rotation
6. Flexible system (individual control)

Work Hours Act -> Rules regarding work & rest times to protect worker

Recovery from work

Recovery

- A process whereby psycho-physiological systems that were activated during stress exposure return to and stabilise at baseline level after the stressful situation has ended
- States versus experiences
- Dynamic
- Internal versus external
- Active versus passive mechanisms

Recovery theories:

- Effort-Recovery Model (Meijman & Mulder)
- Allostatic load theory (McEwen)
- DISC-R Model (de Jonge, 2012)

Work time control can facilitate internal and external recovery

1. Viewing recovery as a process
2. Accumulation of stress can be detrimental
3. Cover matters for health, well-being and performance
4. Demands, resources and recovery are intertwined
5. Interventions are available

### New Ways of Working

Work design in which employees can control the timing and place of their work, while being supported by electronic communication (flexitime, telecommuting)

#### Positives about NWW

- Increased productivity
- High availability of real time information
- More flexibility in how and where you do your job

#### Negatives about NWW

- People work longer hours, in part because work is more portable
- Information overload
- Dependent on the technology

#### Implications on individual behaviour

- Motivation: Cyberloafing, using the organisation's internet access for personal and nonjob-related surfing
- Ethics: the dilemma of electronic surveillance of employees and employee privacy rights is exacerbated by the increasingly blurring line between work and nonwork time for employees

#### Implications on group behaviour

- Decision making: individual decision making models will become increasingly obsolete in team-based organisations
- Group decision making models will have greater relevance in organisations
- Success organisations will replace rational decision making models with action models that utilise trial and error, gather and assimilate data quickly and accept failure and learn from it
- Communication: Traditional hierarchical levels will no longer constrain communication to formal organisation channels
- Virtual meetings will allow widely dispersed employees to communicate more frequently
- Open communications can create information overload

#### NWW on job demands and job resources

- Increased job demands (work overload, informational overload, interruptions, misunderstandings, reduced emotional labour)
- Changes in job resources (increased efficiency of communication, feedback, autonomy career advancement, decreased social support)
- Outcomes (mixed findings about work-home balance, recovery)

#### Flexible working times

- Employee controlled flexibility -> Employees can vary the amount of working time -> Higher task performance and lower work-family conflict and disengagement from work
- Employer controlled flexibility -> Company-oriented adjustment of working times -> Higher exhaustion and work-family conflict

#### NWW Essential elements:

- High quality and sufficient information that help people make sense
- Involvement of individuals and consideration of individual preferences in the design
- Combining flexibility with healthy design of NWW
- NWW have tremendous impact on the work of employees
- Multiple factors influence the acceptance and effectiveness of NWW
- Creating motivating (resourceful) work environments with affordable demands will help acceptance and successful implementation of NWW

## The work-life interface

Work-life experience is a process that:

- Concerns not only work and family but also personal interests
- Has to deal with resources (individual, organisational, home)
- Is regulated by individuals in a proactive way
- Is dynamic and fluctuates daily
- Is influenced by various contingency factors

## Burnout and Engagement

Burnout:

- Psychological syndrome involving emotional exhaustion, depersonalisation and a diminished sense of personal accomplishment
- That occurred among various professionals who work with other people in challenging situations

Maslach Burnout Inventory (MBI)

1. Exhaustion (I feel used up at the end of the day)
2. Cynicism (I doubt the significance of my work)
3. Reduced professional efficacy (I'm good at my work)

Mild burnout

- Process

- Burnout stress syndrome

Clinical burnout (severe burnout)

- State

- Burnout mental disability

Three distinctions of burnout in NL

1. Work related stress
2. Overstrain
3. Clinical burnout

Utrecht Work Engagement Scale (UWES)

1. Vigor (I get energy from work)
2. Dedication (proud of my work)
3. Absorption (I get carried away)

Employee performance, satisfaction & sickness

Job satisfaction

An attitude that represents the extend to which a person like or dislikes his or her job

- Global -> Overall attitude
- Facet -> Attitude towards specific job aspects

Job performance

1. Task performance (inrole)
2. Organisational Citizenship Behaviour (OCB, Exrole)
3. Counterproductive work behaviours
4. Withdrawal behaviours

Costs of sickness

1. For the worker
2. For colleagues
3. For the organisation
4. For society

Absenteeism

Presenteeism

Digital presenteeism

Safety in Organisations

Safety climate and safety culture

Safety climate: Middle and outer layers of safety culture

Enabling capital

1. Human capital: lack of knowledge
2. Organisational: No good training
3. Social: Poor communication supervisors

Safety:

1. Compliance/participation
2. Culture/climate
3. A resource
4. Enabling capabilities

Control dilemma:

Reliability:

- Safe for routine operations
- Top-down control
- Procedures
- Compliance

Disadvantages:

- Reactive
- Large investments
- Limits learning
- Likely to fail under non-routine conditions

Flexibility: Bottom-up control

Autonomy:

- Quick detection
- Learning
- Intrinsic motivation
- Proactivity

Promote or prevent

Promoting gains, preventing losses

Too much prevention: Safe but limit initiative

Too much promotion: More injuries but more proactive safety behaviours

Stability

- Prevention (defend): Near miss
- Promotion (leverage): New training

Flexibility:

- Prevention (adapt): Reactive
- Promotion (energise) input from all

## Digitalisation, use of technologies and the future-of-work

Work in the 21st century -> Transformation by technologization

- All jobs are affected
- Jobs partly/fully replaced or changed by technology
- New jobs and professions
- New products and services
- New business models

Technology positive:

- Replace dull dirty & dangerous work
- Enable better services
- Augment human performance

Technology risks:

- Making human working obsolete
- Low-skilled workers
- High(er) skilled workers

Technology affects job design

- Job autonomy and control
- Skill variety and use
- Job feedback
- Social and relational aspects
- Job demands

Work is affected by technology

- Work became simpler because task variety was reduced making work monotonous and boring
- Work became nicer, because (physical) workload was reduced and complex tasks were added
- Work processes became harder, because of malfunctions and increase demands

Technological functionality determine how work changes

- Easier to let humans adept than robots
- Often only at implementations that mistakes are discovered
- Seldom sufficiently based on work experiences or work design practices

Many poorly designed jobs based on left-over tasks that robot cannot perform

Work simplification seems to be the most used work design principle, even though we know that it does not create motivating jobs

Some employees create work around robots, which are happy accidents rather than a structural, strategic approach

How to make a difference

- Facilitate and stimulate job crafting among employees working with robots
- Because employees look for opportunities to (re)gain autonomy about how they work
- For example, applying own strategies to efficiently feed items to package robot

Individual and team performance

Performance

- Increase productivity
- Prevention of productivity loss
- Influence of workers' characteristics and well-being

Individual work performance

- Task performance
- Contextual performance
- Adaptive performance
- Counterproductive work behaviour

Task performance - executing central job tasks

Contextual performance - Behaviours that go beyond the formally prescribed work goals and that support the organisational, social and psychological environment

Adaptive performance - Extent to which an individual adapts to changes in a work system or work roles

Counterproductive work behaviour - Behaviour harms the well-being of the organisation

Increase individual performance with

- Abilities
  - Training
  - Coaching
- Motivation
  - Compensation & Benefits
  - Career development
  - Job security
- Opportunities
  - Job design
  - Empowerment
  - Feedback
  - Work equipment

Social change theory

- Receiving valuable treatment will trigger the other party to reciprocate equal valuable behaviour

Team performance:

- Goal accomplishment
- Team Commitment
- Team adaptability

Influences on team performance

- Organisational context (type of organisation, organisational policies and practices)
- Team context (Leadership, task interdependence, team lifespan)
- Members (Skills, personality traits, performance levels)

How to measure team performance

1. Aggregates of individual performance
2. Quantity and quality of team outcomes (goal achievement)
3. Quality of teamwork

Increasing team performance

1. Team building
2. Team training
3. Manage team diversity (differences between members)

Inclusion: High feeling of group belongingness and that one's authenticity is valued

## Performance:

- Latent variable
- Comprises actions that are relevant for organisational goals
- Can have different forms
- Can be measured at the individual but also the team level
- Increase individual performance: Employees need to have the ability, motivation and opportunity to execute their work
- Increase team performance: Supporting team processes, diversify team composition, increase inclusion

## Designing Interventions

### Intervention:

Actions that are taken to eliminate, reduce, alter the causes and symptoms of ill-health and ill-performance

Actions that are taken to enhance well-being, health and performance

### Classes of interventions

#### Primary

- Targeted at the entire population to prevent ill-health
- To reduce or eliminate the cause
- Long term approach
- For example, job redesign or assessment

#### Secondary

- Target at (groups of) individuals that experience ill-health to some extent
- To reduce the severity or duration by altering people's cognitions and behaviours
- For example, job crafting training or health promotion activities

#### Tertiary

- Targeted at individuals that experience severe health problems that need professional medical or mental treatments
- To rehabilitate and maximise functioning
- For example, therapies/treatments or vocational rehabilitation programs

### Effectiveness of interventions

- 3 phases: development, implementation and evaluation
- Comprehensive interventions are usually more effective
- User participation enhances effectiveness
- Strong commitment by management