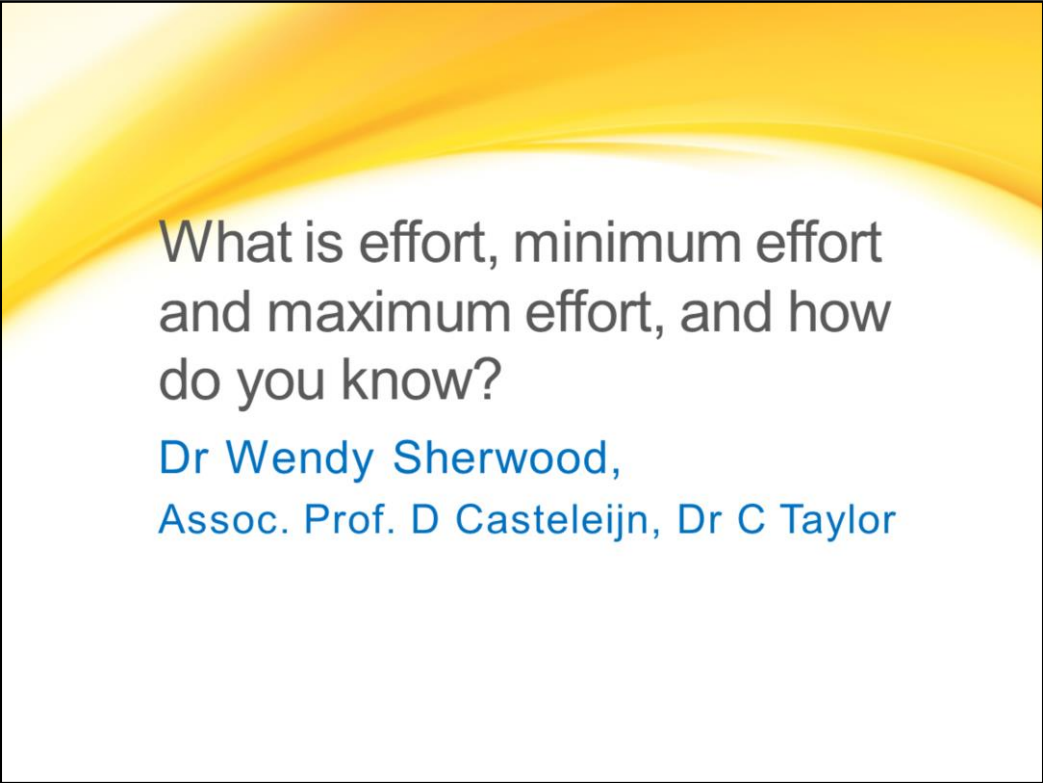




What is effort, minimum effort
and maximum effort, and how
do you know?

Dr Wendy Sherwood,
Assoc. Prof. D Casteleijn, Dr C Taylor

The question posed for this presentation has resulted from a PhD study on effort, supervised by Assoc Prof. Daleen Casteleijn at the University of the Witwatersrand, South Africa, and Dr Clare Taylor at the University of Bournemouth.

How do you know there's effort during activity participation?

- Background to the study
- Methodology and methods
- Findings - What is effort?
- The conditions for effort
- [Process leading to effort]
- Signs of effort
- Implications of the study – why it is important
- Recommendations

In this presentation, I'm going to explain the....

The process leading to effort is an important finding, but is a presentation all of its own and I can't include it today but will write up for publication



If x, then y is likely to happen

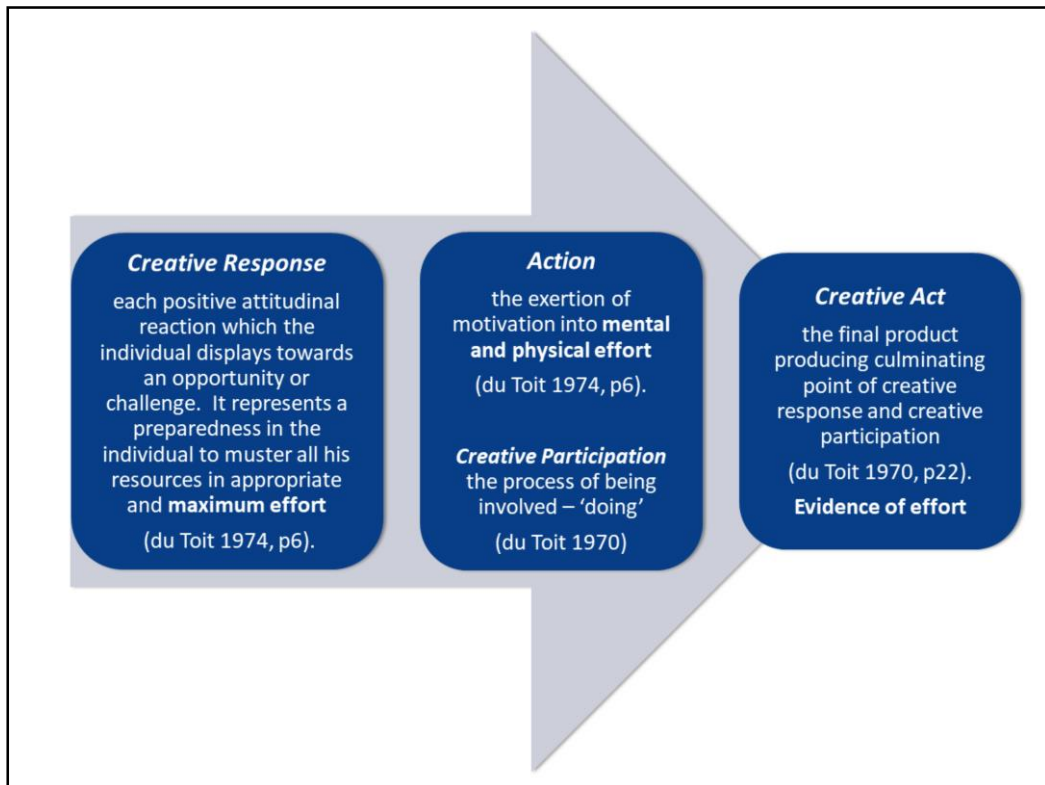
Practice/dynamic theory provides theoretical information on **how change will occur** and **specifies the technical details required** for therapists **to act on the problem to promote change** (Walker & Avant 2005; Hinojosa et al., 2010).

Maximum effort can result in change : the causal mechanism for change.

Master challenges at the boundary of one's abilities (i.e., requiring maximum effort).

The VdTMoCA is based on the theory of creative ability, which is ...

In the VdTMoCA, maximum effort is identified as the causal mechanism of change.



Effort is a core concept to the entire theory.

theory = a set of interrelated concepts, definitions and relational statements that present a systematic view of phenomena

Concepts – what they are (their meaning) must be clearly communicated by precise definitions

Cannot be shared agreement about what it is, but ambiguity.

If we don't know what it is, we can't look for it in clients (assess); can't facilitate it.

Can't measure it
- theory isn't testable.

Initial, quick look at the literature – no obvious explanations of effort there either.

No definition of effort

Maximum effort –
"to inspan all his resources – to try his hardest" (du Toit 1974, p. 48).

But, we have a problem in relation to the concept of effort in the theory of creative ability. Let's first look at what theory is.

theory is a set of interrelated
Concepts, definitions and relational statements
that present a systematic view of phenomena.

Concepts – what they are (their meaning) must be clearly communicated by precise definitions

**But – in the theory and model of creative ability there is
No definition of effort**

Maximum effort – "to inspan all his resources – to try his hardest" (du Toit 1974, p. 48).

Max effort - This is a brief definition that lacks detail and specificity.

Without definitions, there cannot be shared agreement about what it is. If we don't know what it is, we can't look for it in clients (assess it as an item of creative ability on the assessment form), or facilitate it. If we don't know what it is, we also can't measure it, and the theory is not testable.

Without a definition of effort, the theory of creative ability doesn't meet the criteria for theory.

Initial. quick look at the literature – no obvious explanations of effort there either –effort does appear in some OT assessments - AMPS, the assessment for Von'a model and its outcome measure, but without a definition of effort, this could make their measurement of effort operationally inadequate.

So, finding out what effort is would benefit the OT profession in relation to working out the Just right challenge (challenges require effort) and also address the need for definition of effort in Vona's theory and elsewhere

AN INVESTIGATION INTO THE THEORETICAL CONSTRUCTS OF EFFORT AND MAXIMUM EFFORT

Grounded Theory Methodology: the study of the actions and processes of human conduct [activity participation].

Aims: to explain what effort and maximum effort are during activity/doing; under what conditions they occur, why, and with what consequences.

*Not testing theory, not proving something, but **discovering for theory generation.***

Classic Grounded Theory (Glaser & Strauss 1967)

Grounded Theory: the study of the actions and processes of human conduct [activity participation] – in order to arrive at a theory about phenomena.

So this fitted well with what I wanted to achieve, which was to be able to explain what effort and maximum effort are during activity/doing; under what conditions they occur, why, and with what consequences.

*In GT research, you are not testing theory, not proving something, but **discovering for theory generation.***

there are 3 main approaches to doing GT research – I chose the classic approach by Glaser & Strauss.

SAMPLE AND METHODS

- OTs providing activity-based therapy to patients in mental health and physical settings in South Africa (observation of, followed by interviews with OTs and patients).
- Interviews with OTs in the UK.
- Observation and/or interviews with members of the public in the UK e.g. swimmers, runners, road workers, reverends, retired older people, personal trainers.

Total sample 71

- All is data – general conversations, literature on emerging concepts, Olympic Games.
- Focus group
- Literature

Gt research is undertaken in the field.

I observed OTs providing activity-based therapy to patients in mental health and physical settings in South Africa (observation of, followed by interviews with OTs and patients).

The therapy context is where there is a concentration on activity participation, providing the opportunity to explore effort and maximum effort from the perspectives of a broad range of people as performers of activity participation and also observers of activity participation. This is important because concepts can be thought of differently depending on whether one is performing them such as a patient within therapy or observing them as in the case of a therapist

Interviews with OTs in the UK.

The reason for having a sample from South Africa and the UK is that concepts are socially constructed and their meanings vary across cultures, contexts and time. South Africa is the country of the theory's origin and therefore it is from the South African context that the concept of effort is identified as a significant concept. However, many therapists have adopted the theory in the UK which is a culturally different and diverse country in which 'effort' may hold different meanings. Such differences should add to the conceptualisation of effort

Observation and/or interviews with members of the public in the UK e.g. swimmers, runners, road workers, reverends, retired older people, personal trainers.

Total sample of 71.

Once a theory of effort had emerged, I did a focus group to find out whether the theory of effort was recognizable, plausible and relevant to people of conenr i.e. therapists and the general public. I then refined the theory before doing a full literature review. This happens last so that the researcher is not unduly influenced at the outset by what others say about the phenomena under study.

I won't be going into the lit review, but the existing occupational therapy literature highlighted that whilst OTs understand that it is important for activity participation to be motivating and at the 'just right challenge', there is little understanding of the important role that effort plays in this. There was nothing on effort in the literature at all.

WHAT IS EFFORT?

A relational construct

Effort has to be in relation to something – activity participation



The findings.



ACTIVITY PARTICIPATION

Putting-in yourself (energy, mental and physical function – knowledge, abilities, skills, motivation)

- meeting the activity with the self
- giving yourself
- connecting with, and to the activity

No effort – more detached e.g., “just doing”

Effort only occurred in relation to AP - Effort is a relational construct. Effort has to be in relation to something, and its unsurprisingly, AP.

Effort was frequently described as Putting into doing. Putting in yourself as a resource for activity participation, included one's energy, mental and physical function, knowledge, abilities, skills.

Putting *in* was the action of meeting the activity *with* the self i.e., they put *themselves into* the activity, giving something of themselves to AP. In so doing, through effort participants connected with, and to the activity. In contrast, activity participation that did not require effort was spoken of in a way that suggested more detachment.



Inter-related with motivation

Trying

- communicated active engagement in activity, in the pursuit of a goal i.e. **motivated action**

Aiming to be able to do something other or more than can already do - a stretch, strain, or pushing the self.

Exertion of self - actively resources.

If x, then y is likely to happen

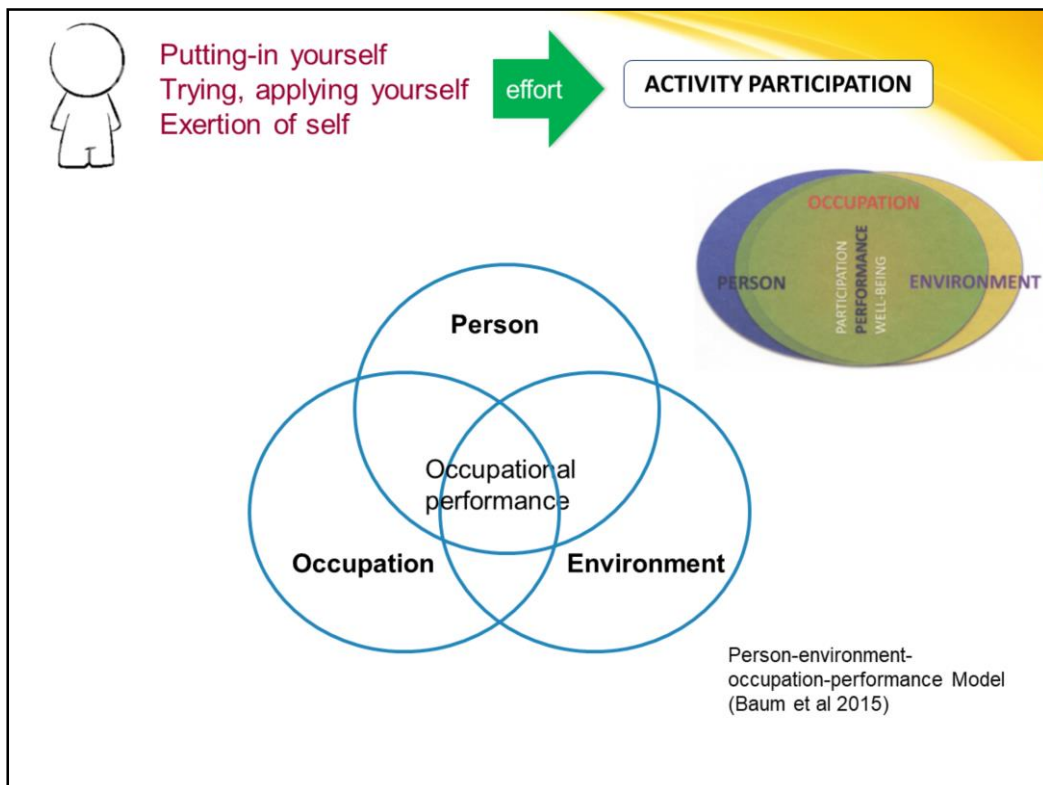
The more you put in, the more you get out / the bigger the outcome, change.

Effort emerged to be inter-related with motivation, in many ways. For example, explaining effort as trying.

Trying communicated **active engagement** in activity, in the **pursuit of a goal**. Therefore, 'trying' associated effort with motivation.

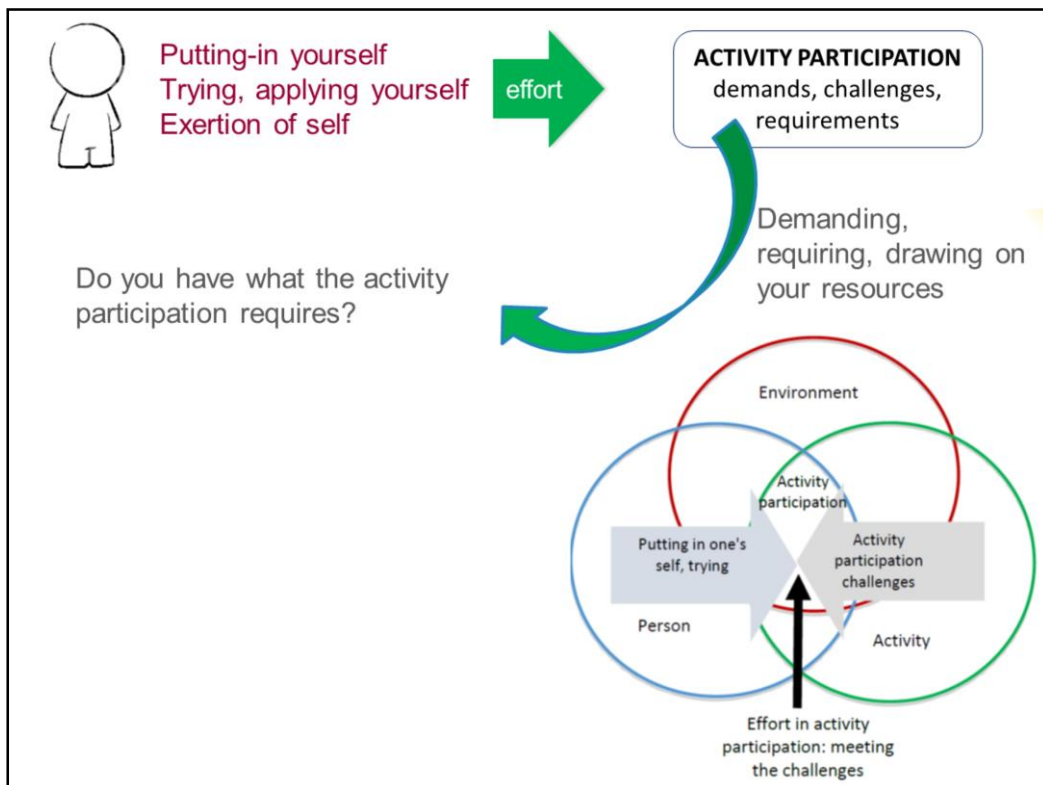
In trying, participants were attempting to do something other or more than what they could already do, subjectively experienced as a stretch, strain, or pushing the self in order to achieve something:

Stretch, strain, pushing express force and exertion. In putting one's self into activity participation and trying, there was exertion of one's self; actively applying one's resources in active engagement with activity. Many participants described effort as pushing, straining or stretching themselves when they were aiming to bring about change in themselves – that literally through effort in AP, they can experience, produce, or bring about change in themselves, be it knowledge, skills, abilities, mental and/or physical state, and other outcome. There was the notion that the more effort you put in, the more you get out – the more you try, or the greater the effort, the bigger or greater the outcome. – This sounds like effort as the causal mechanism of change.

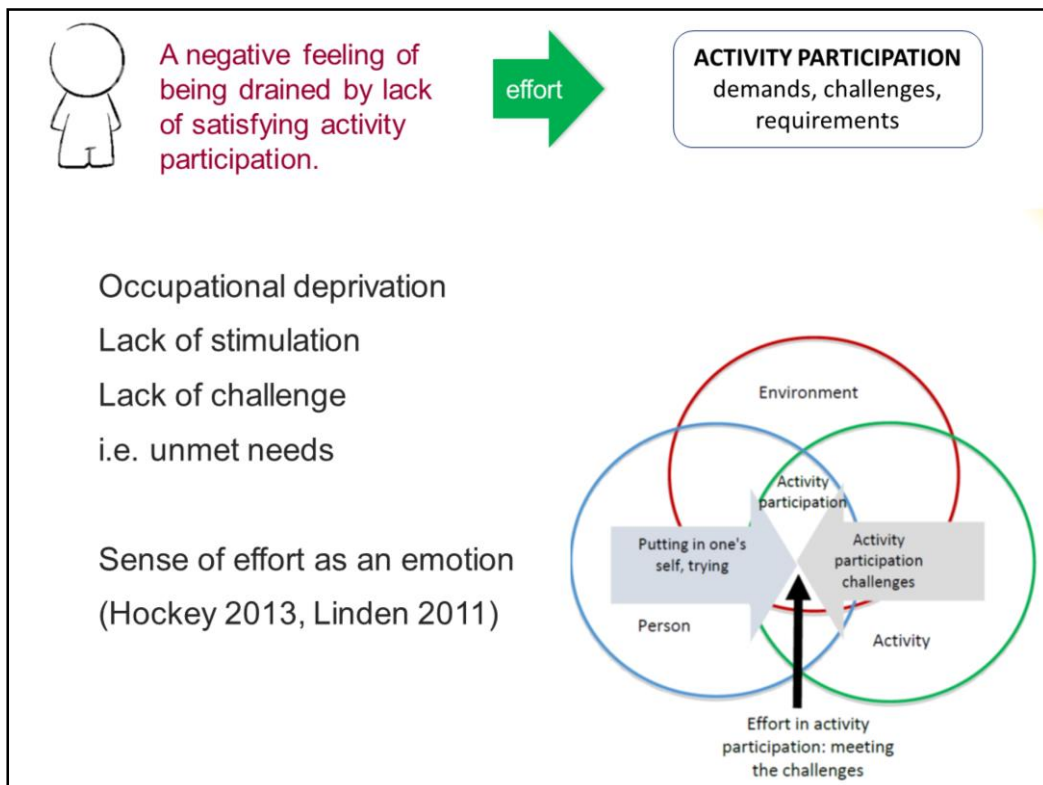


Although effort was always in relation to AP, it was not in relation to all AP. We are all familiar with the person-activity-environment dynamic presented as 3 overlapping circles by Baum et al 2015. where they overlap is occupational performance, or I am referring to it as activity participation.

This model is indicating where activity participation occurs, but not all AP is effortful.



Rather, effort occurs in the doing of activity that is demanding or challenging, in this adapted figure. What made activity participation demanding was when it required abilities that participants did not yet have, or were not readily available - but had to be exerted to meet the challenge i.e., effort bridges the gap between one's readily available abilities and those needed to do the activity with mastery or competence.



An unexpected finding was that effort was not solely a sense of exertion, but also as a negative feeling of being drained by lack of satisfying, or participants were deprived of activity, and therefore the need for activity participation was not met. Participants talked about there being effort in not being able to do activity when they really wanted to do something, and also in doing activity that was tedious, frustrating, lacking challenge, lacking in personal value, or boring. The sense of effort in these situations was not the same as exertion or putting one's self into activity participation, but more closely associated with a negative feeling of being drained psychologically, and was not pleasantly experienced. In this context, demands were made on the individual psychologically in managing the dissatisfying or frustrating experience.

Some literature suggests that the sense of effort is an emotion due it being related to elements of anxiety, discomfort and boredom, although no research evidence is evident to substantiate this idea.

So now we have a feeling dimension to effort.

FUNCTION OF EFFORT

To satisfy wants, goals and needs (expression of motivation).

Succeeding or achieving a goal; bringing about change in, or furthering one's self, learning, growing or developing abilities; being connected socially; gaining satisfaction and enjoyment; gaining financial rewards; upholding personal standards; gaining approval; regaining roles, relationships and identity; **experience something of one's self - to know and experience one's self; show 'who I am' 'that I am', and that 'I can' do things through activity participation.**

Relating to one's self and to the external world; a fundamental aspect of living.

Existentialist philosopher Maine de Biran (1805)

- effort and will are inter-related within one's consciousness, and the feeling of effort is the fundamental criterion of the self.

In contrast to perspective that the function of effort is to mobilise resources or energy –

effort is the expression of motivation

These functions of effort, together with it being subjectively experienced resonates with the ideas of the existentialist philosopher, Maine de Biran (1805), who proposed that effort and will are inter-related within one's consciousness, and that the feeling of effort is the fundamental criterion of the self

Essential conditions for effort:

Demands and challenges

Awareness (Kahneman 1973; Hockey 1986, 1997; Shiffrin & Schneider 1977; Martinsen et al. 2007).

Attention (Kahneman 1973)

A decision to put in effort (motivation)

New,
unfamiliar

In addition to demanding and challenging activity participation, there were other Conditions for effort. These were:

awareness and attention, and a decision to put in effort.

1st, awareness of one's self and the world. For there to be effort, there needs to be awareness of what can be acted upon and related to (Kahneman 1973; Hockey 1986, 1997; Shiffrin & Schneider 1977; Martinsen et al. 2007).

There is also a need for attention (Kahneman 1973). Effort can be exerted in relation to something for as long as there is attention to it. Therefore, a person with a long span of attention has the potential to sustain effort for a greater length of time than someone with a short span of attention.

Of course a decision to put in effort (motivation) is needed.

All participants agreed that new or unfamiliar activity requires effort, and this was supported in the literature. This gives support to the need to use unfamiliar activity in the creative ability assessment process.

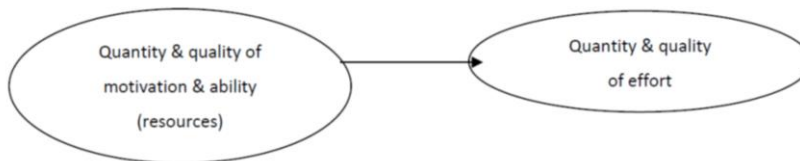
If you think about motivation, it can vary – weak, poorly motivated to strongly motivated. Therefore, if effort is the expression of motivation, effort can also have variability. This emerged as effort having Quantity and quality dimensions.

Quantity

– the amount of resources exerted in relation to the amount available to use

Quality

– how well or intensely an individual applies himself, in relation to what one is capable of doing



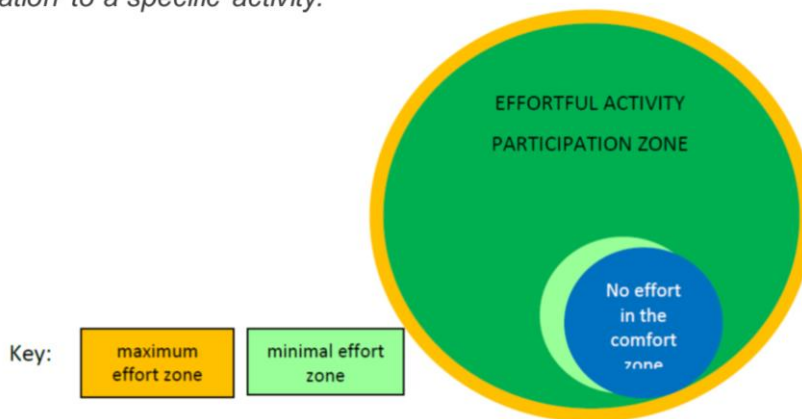
Quantity of effort is *the amount of resources exerted in relation to the amount available to use*; the *quality of effort* is *how well or intensely an individual applies himself, in relation to what he is capable of doing*. Hence, the quantity and quality of effort expresses the amount and intensity of motivation that a person has, and also reflects the amount and quality of other resources i.e., function, abilities, knowledge and skills.

But Specifically, it is the degree of motivation rather than ability that probably has the most influence over $q + q$ of effort. Can overcome physical and menal functioning impairments and other barriers, and achieve gret things if you are motivated enough.

Active engagement requires actively thinking about what one is doing, effort for which is observable as doing activity with due care, attention, or diligence.

Maximum effort: *motivated exertion of one's mental and/or physical functions, abilities and/or skills to the fullest that one is capable of, in the doing of a specific activity.*

Minimum effort: *the consciously decided upon, minimal use of one's mental and/or physical functions, abilities and/or skills, compared to that which could be used; consciously doing less than one is capable of in relation to a specific activity.*



The quantity and quality of effort can be categorised into four zones: no effort in the comfort zone, minimal effort, effortful activity participation, and maximum effort. In the figure, the large dark green circle represents the area of activity participation currently do-able for a person, with a feeling of effort that is between minimal and maximum in quantity and quality. At the outer border of the effortful activity participation zone, is the zone of maximum effort where challenges are at their greatest and effort is at the maximum. the function of maximum effort was to do one's best towards achieving or attaining something substantial e.g., mastering a big challenge, or gaining something one really wants - strongly motivated for. In this study max effort was found to be the *motivated exertion of one's mental and/or physical functions, abilities and/or skills to the fullest that one is capable of, in the doing of a specific activity.*

Due to doing activity at the boundary of one's abilities, there is a strong feeling of being stretched, strained, or of pushing one's self. Maximum effort was described as intense engagement that could only be sustained for a relatively short amount of time, due to putting in all that I have, my whole self, and its subsequent fatiguing effects. But as a result, Potentially, maximum effort can result in extending one's abilities.

In contrast to effortful activity participation and maximum effort, activity participation that is effortless is situated in the comfort zone. This is activity participation that is familiar, mastered, and is done comfortably without anxiety; done easily, habitually, automatically, and without much thought. Between the comfort zone and effortful activity participation, is the zone of minimal effort, which reflected low or poor motivation *the consciously decided upon, minimal use of one's mental and/or physical functions, abilities and/or skills, compared to that which could be used; consciously doing less than one is capable of in relation to a specific activity.*

All zones border with each other, indicating that a person can transition from one zone into any of the other quantity and qualities of effort. The off-setting of comfort zone and minimal effort, indicates that transitions can happen at varying rates. For example, a person could suddenly and directly transition from no effort in the comfort zone to maximum effort, suggested by these zones bordering each other. Equally, one might transition from the comfort zone, to doing activity with minimal effort, and then do effortful activity for a long period of time before it feels like maximum effort i.e., transverse the large expanse of the zone of effortful activity participation towards maximum effort.

EFFORT DEFINITION

A subjective feeling of exertion of one's self in activity participation,

or a negative feeling of being drained by lack of satisfying activity participation.

A multi-dimensional construct influenced by a complex interplay of actors within and external to an individual.

Effort is situated within, or arises from the self, and is in the relation between the self and the world.

Has quantity and quality dimensions expressing quantity and quality of motivation and ability in action.

So, bringing it altogether.

In contrast to the common perspective that effort is the uptake of energy. Effort is -

Activity – any activity, including thinking.

or a negative feeling of being drained by lack of satisfying activity participation.

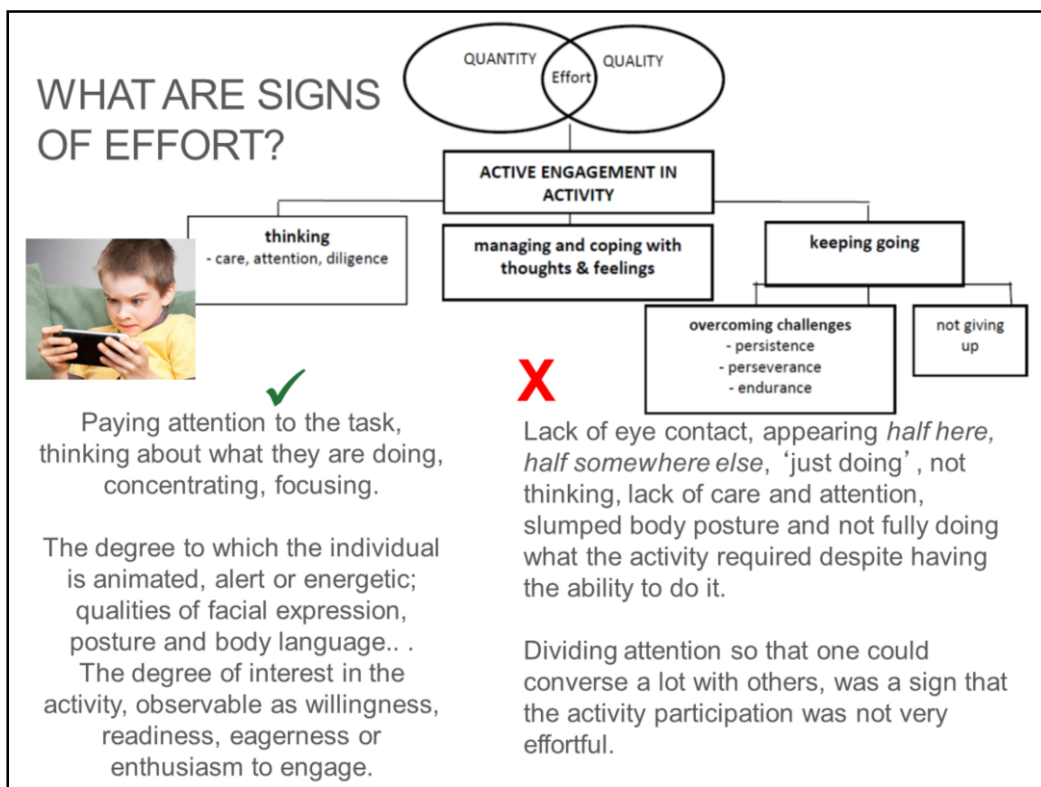
But focus on the former - **A multi-dimensional construct influenced by a complex interplay of actors within and external to an individual.**

Effort is situated within, or arises from the self, and is in the relation between the self and the world.

Has quantity and quality dimensions expressing quantity and quality of motivation and ability in action.

A decorative graphic consisting of several overlapping, curved bands of yellow and orange, resembling a stylized sun or a wave, positioned at the top of the slide.

HOW DO WE KNOW
THERE IS EFFORT?



In terms of verbal expressions or signs of effort, effort was sometimes suggested in statements about the activity being hard, frustrating, required effort or trying hard; sighing was also sometimes a sign of effort – an outward exertion of effort.

But effort was mostly communicated non-verbally.

Signs of Active engagement. Active engagement was the main overall indicator that there was effort.

Active engagement – non-verbal signs of whether they were or were not thinking about what they were doing. Difficult to get a picture to represent it – but we can see whether someone is actively engaged - Paying attention to the task, thinking about what they are doing, thinking, going with care, attention, diligence. Not necessarily well – but with concern, care and attention..... this is linked to how the person is performing cognitively – if you are putting in effort you are..... paying attention to the task, thinking about what you are doing, concentrating, focusing.

Effort could be seen in the degree to which a person is animated, alert or energetic; qualities of facial expression, posture and body language. Facial expression, is known as the face of effort in some literature.

Active engagement was also reflected in the degree of interest in the activity, observable as willingness, readiness, eagerness or enthusiasm to engage.

Conversely, signs of lack of effort included Lack of eye contact, appearing *half here, half somewhere else*, just doing, not thinking, lack of care and attention, slumped body posture and not fully doing what the activity required despite having the ability to do it,

Being able to divide attention so that one could converse a lot with others, was a sign that the activity participation was not very effortful – not taking all of your attention. Therefore, there's scope to increase the challenge

Managing and coping with thoughts & feelings

when doing is difficult, uncomfortable, feeling insecure, threatened by the challenges, hesitant, anxious, stressed, frustrated, confused, distressed - When anxiety or negative feelings were expressed about doing something, but there was a decision to do it anyway, this was also a sign of effort – effort in managing and coping with those feelings, and motivation to do activity anyway.

, excited (more positive feelings)

Keeping going - **overcoming challenges through** persistence, persevering when it's difficult or in the event of failure; endurance, keep doing despite the challenges posed. **Overcoming problems (practical problem-solving)**, using one's initiative, problem-solving, being creative (finding solutions rather than giving up).

As an observer, I found minimal effort was more easily observable than maximum effort.

HOW DOES A PERSON KNOW THERE'S EFFORT?



Fatigue as a result of mental and/or physical effort; a symptom of effort (fatigue as an energetical construct).

Sense of effort; emotional, physical, psychological.

Feeling of strain, stretch, pushing self; exertion of self, giving of self to doing...

Drained, depleted resources, need to recover.

Participants described the feeling of effort being taken from them by AP as

fatigue as a result of effort, fatigue is an energetical construct strongly related to effort, and is widely considered to be a symptom of effort.

Describing a sense of effort – OTs and members of the public shared the same conceptualisation of effort, so you can ask them what was effortful – talking to patients about what is effortful and not effortful in their daily activities enabled me to gain a much better understanding of what they are motivated for, find a challenging and what their abilities are, than I've ever gained asking other questions to do with motivation, such as what did you enjoy?

Listen for mentions of a feeling of strain, stretch, pushing self; exertion of self, giving of self to doing.

When there's been effort, participants talked about feeling Drained, depleted resources – fatigue. need to recover. What has been depleted, is the abilities required by the activity.

How does someone else know there's effort? There are various ways of trying to find out.

HOW DOES AN ONLOOKER KNOW THERE' S EFFORT?

- 1) Knowledge of the individual's capabilities in relation to the requirements of the activity and the environment at the time i.e., whether the activity participation was demanding.
- 2) Verbal and non-verbal expressions or signs of effort.



Whether these were signs of effort was determined in relation to two main information sources: 1) knowledge of the individual's capabilities in relation to the requirements of the activity and the environment at the time i.e., whether the activity participation was demanding this was knowledge that occupational therapists gained in the course of patient assessment and therapy provision, or members of the public developed from close relationships with others. and 2) verbal and non-verbal expressions or signs of effort.

CONTRIBUTION & IMPLICATIONS

Effort as a fundamental criterion of the self, and centrally important to satisfying activity participation for health and well-being.

Inter-relatedness of effort and motivation.

Consideration of the conditions for effort, and the process leading to effort, could help therapists to positively influence patients' ability to make a decision to actively engage in activity, and to put in effort.

Definition and description of comfort zone, minimal and maximum effort, and signs of effortful activity participation could support therapists in making evaluations of effort.

Familiar, mastered or easy activities are not the best ones for assessing effort; relevance of unfamiliar activities for identifying extent of motivation and ability.

The current study has established that people have an inherent need for effort - it is a fundamental criterion of the self, and centrally important to satisfying activity participation. This firmly situates theory of effort within the domain of occupational therapy. For its own knowledge base, the occupational therapy profession needs concepts that explain occupational beings and how occupational therapy works as an applied profession to facilitate the process of change (Reed 2005). This study makes this contribution by defining and explaining effort in its varying quantity and quality in relation to activity participation. Thus, this study makes a significant theoretical contribution to occupational therapy theory in the form of what I've called the theory of Effort for Relating.

it can be argued that the effort construct is as important to occupational performance and personal identity, as motivation. There is a need for occupational therapists to become aware of the central importance of effort to understanding occupational beings, the process of change, and how effort can be elicited and facilitated for therapeutic purposes.

therapists are challenged by poor engagement in therapy. Consideration of the conditions for effort, and the process leading to effort, could help therapists to positively influence patients' ability to make a decision to actively engage in activity, and to put in effort.

This study's definition and description of comfort zone, minimal and maximum effort, and signs of effortful activity participation could support therapists in making evaluations of effort. Although one cannot accurately judge quantity and quality of effort based solely on nonverbal signs of effort, the finding that there are observable referents of effort could help therapists to evaluate effort. Although this study suggests that it may be problematic to differentiate between activity participation that is effortful and that done with maximum effort based on observations alone, minimal effort is more obvious. Therapists need to be alert to signs of minimal effort, as this is likely to indicate that activity participation is not at the just right challenge needed for optimal occupational performance, and therefore, may lack therapeutic benefit.

This study found that accurate judgments of effort rely on the evaluator knowing the person's capabilities in relation to activity participation demands. This requires skills in performance analysis and activity analysis, which are a unique set of core skills of the occupational therapy profession. Therefore, occupational therapists are uniquely positioned to assess effort, and the profession could situate itself as an essential discipline that makes a unique contribution to effort assessment.

RECOMMENDATIONS

The relation between attention, effort and motivation needs to be brought more clearly into the awareness of occupational therapists.

Effort needs to be recognised as a key component of occupational performance.

Research that develops observational measurement tools and measures of effort – preceded by research into the observable referents of effort.

Investigate the proposition that effortful activity participation can bring about change in functional ability, or occupational performance.

Further research into all aspects of effort.

The relation between attention, effort and motivation needs to be brought more clearly into the awareness of occupational therapists. Furthermore, effort needs to be recognised as a key component of occupational performance.

To establish a positive correlation between graded activity participation, effort and positive functional ability, health and well-being outcomes would provide evidence of the value of the occupational therapy profession to health and social care. To achieve this necessitates using valid and reliable measures of effort in activity participation. Research that develops observational measurement tools and measures of the subjective experience of effort, is needed.

The literature indicates that occupational therapists and other disciplines have noted a correlation between certain behaviours, motivation and minimal to maximum effort. However, the nonverbal signs of effort significantly lack research (de Morree & Marcora 2010). Arguably, without further research into the observable referents of effort, it will not be possible to develop effort measures for occupational therapists.

The subjective experience of effort also needs more research, also for development of subjective measures.

Investigate the proposition that effortful activity participation can bring about change in functional ability, or occupational performance.

Finally, I know what maximum effort is....

....it's doing a PhD!

