

Does training content matter? Differences between soft- and hard-skill trainings in transfer motivation

Nienke A. Boere

*Vocational Education, Faculty of Learning and Innovation,
HU University of Applied Sciences, Utrecht, The Netherlands, and*

Bastian de Jong, Joost Jansen in de Wal and Frank Cornelissen
*Child Development and Education, Faculty of Social and Behavioural Sciences,
University of Amsterdam, Amsterdam, The Netherlands*

Abstract

Purpose – Transfer motivation has been identified as a pivotal factor influencing transfer of training. However, the role of training content has often been overlooked as explanatory variable for the rate of transfer motivation. This study aims to examine to what extent experiences in transfer motivation and its personal and contextual antecedents depend on whether the training content is soft or hard skill. To this end, this study used the perspective of the unified model of task-specific motivation.

Design/methodology/approach – A total of 1,122 trainees (462 soft skill and 660 hard skill) filled out a questionnaire representing the components of transfer motivation and its personal- and contextual antecedents. Data were analyzed by means of multi group structural equation modeling.

Findings – The results showed mean differences between soft- and hard-skill trainings in personal- and contextual antecedents of transfer motivation and for different types of transfer motivation. However, no differences in transfer intention were found.

Practical implications – The outcomes provide insight as to what practitioners and trainers could do in training design and work environments to raise personal and contextual antecedents and to what extent a differentiation should be made between soft- and hard-skill trainings. This can eventually help them in raising transfer motivation among trainees.

Originality/value – To the best of the authors' knowledge, this study is the first that examines whether experiences in personal and contextual antecedents of transfer motivation, transfer motivation and transfer intention differ for trainings consisting of different characteristics.

Keywords Professional development, Transfer of training, Transfer motivation, Hard-skill training, Soft-skill training

Paper type Research paper

Introduction

To keep up with changes occurring in society, companies invest heavily in employee training (Grossman and Salas, 2011). However, the transfer of knowledge and skills to work practice (i.e.

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transfer of training) is often low (Grossman and Salas, 2011). Transfer motivation (i.e. the desire to apply the knowledge and skills acquired during the training in the workplace; Noe and Schmitt, 1986) has been found to be one of the most important factors that can raise transfer of training (Gegenfurtner *et al.*, 2009b; Grossman and Salas, 2011). Personal (e.g. feelings of self-efficacy and autonomy) and contextual antecedents (e.g. supervisory support and organizational norms) have consistently been identified as pivotal factors for predicting transfer motivation (Gegenfurtner *et al.*, 2009b; Gemmano *et al.*, 2022; Massenber *et al.*, 2017; Weisweiler *et al.*, 2013).

However, in transfer of training literature, the content of trainings is often unaddressed as a factor that can explain why trainees are more or less motivated to transfer (Blume *et al.*, 2010; Laker and Powell, 2011). One influential factor related to transfer motivation can be whether training content comprises soft- or hard-skills (Laker and Powell, 2011). Hard-skills are related to specific technical knowledge and skills such as typing speed, machine operation and computer programming. Soft-skills are related to inter- and intrapersonal knowledge and skills such as communication, time management and teamwork (Laker and Powell, 2011).

Soft- and hard-skill trainings may differ in personal and contextual antecedents of transfer motivation. First, trainees might perceive these antecedents differently depending on whether the training content concerns soft- or hard-skills. For example, supervisory support might be perceived as higher among hard-skill trainees than soft-skill trainees, as it is more complex to identify the needs that are required to adequately support soft-skill trainees (Richter and Kauffeld, 2020; Wisshak and Hochholdingner, 2020). On the other hand, soft-skill trainees might experience more autonomy as there is often not one right way to perform a soft-skill (Blume *et al.*, 2010; Laker and Powell, 2011).

Thus far, no study has empirically examined differences between soft- and hard-skill trainees in personal and contextual antecedents of transfer motivation and transfer intention. More research into this is vital, because soft-skill trainings are considered increasingly important for employee success (Ibrahim and Boerhannoeddin, 2017; Kelly *et al.*, 2016), but harder to apply in practice than hard-skill trainings (Merriam and Leahy, 2005). More insight in potential differences between soft- and hard-skill trainings can aid understanding of what policymakers, HR-professionals and trainers should do for specific types of trainings to increase transfer motivation and, subsequently, transfer of training (Laker and Powell, 2011). This study examines differences between hard- and soft-skill trainees in the antecedents of transfer motivation, transfer motivation and transfer intention, leading to the following research questions:

- RQ1. To what extent do soft- and hard-skill trainees differ in perceived personal and contextual antecedents of transfer motivation?
- RQ2. To what extent do soft- and hard-skill trainees differ in transfer motivation and transfer intention?

To answer these research questions, this study uses the unified model of task-specific motivation (UMTM) as a theoretical lens.

Unified model of task-specific motivation

The UMTM integrates six different motivational theories. These include self-determination theory (Deci and Ryan, 2000), flow theory (Csikszentmihalyi, 1990), expectancy-value theory (Wigfield and Eccles, 2000), self-efficacy theory (Bandura, 1977), the theory of planned behavior (Ajzen and Fishbein, 2008) and the person-object theory of interest (Krapp, 2002). Through this integration, the UMTM aims to overcome the challenge of navigating through multiple theories that each pose a different focus on motivation (De Brabander and Martens, 2014 for an in-depth discussion of the UMTM).

The UMTM also answers to the call of examining transfer motivation multidimensionally. Previous research often conceptualized transfer motivation one-dimensional (Gegenfurtner, 2013; Gegenfurtner *et al.*, 2009a). However, contemporary motivational theories (e.g. self-determination theory, expectancy value theory) argue that motivation is multidimensional (Deci and Ryan, 2000; Wigfield and Eccles, 2000). Transfer motivation also seems to be multidimensional as research shows that multiple components of transfer motivation exist that differ in their relationship with transfer intention and/or transfer of training (Gegenfurtner, 2013; Gegenfurtner and Quesada-Pallarès, 2022). As such, transfer motivation should also be approached multidimensionally. The UMTM does so by including both affective and cognitive types of motivation that predict task-specific behavior. Moreover, the model includes personal and contextual factors that are expected to influence these types of motivation. These components also have been found relevant for transfer motivation in previous studies (Gegenfurtner *et al.*, 2009b; Massenbergh *et al.*, 2017; Weisweiler *et al.*, 2013). Figure 1 provides an overview of the UMTM.

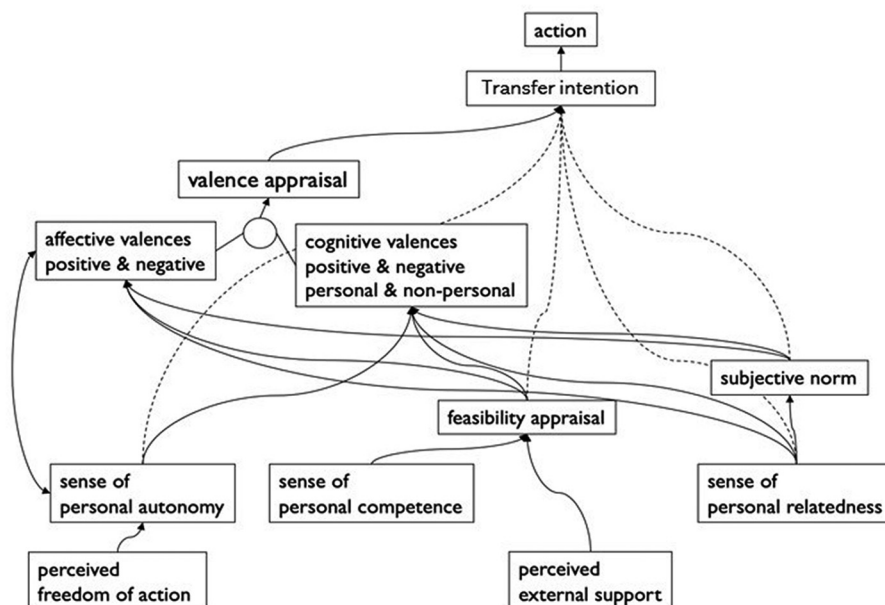
According to the UMTM, motivation (e.g. transfer motivation) originates from affective and cognitive valences (De Brabander and Martens, 2014). Affective valence refers to feelings individuals expect to experience when they consider performing an activity (e.g. feeling excited to apply training content in practice). Cognitive valence concerns the value individuals attribute to the expected outcomes of executing the activity. Application of the task-specific behavior can have consequences for oneself and others (i.e. peers, supervisors) that yield a specific desirability (e.g. a higher productivity as a result of applying training content). As such, cognitive valence can be personal and nonpersonal (De Brabander and Martens, 2014). Both affective and cognitive valences can be positive or negative and determine whether individuals expect positive or negative feelings and consequences when completing a task.

The valences are expected to predict *readiness for action* (i.e. willingness to apply task-specific behavior), of which transfer intention is an example. Readiness for action, in turn, predicts *action* (i.e. the execution of task-specific behavior) of which transfer of training is an example (De Brabander and Martens, 2014).

Task-specific antecedents

Affective and cognitive valences are predicted by personal and contextual factors revolving around *autonomy*, *feasibility appraisal* and *social factors*. The first category of antecedents is autonomy, for which a distinction is made between a personal and contextual component (De Brabander and Martens, 2014). The contextual component is *perceived freedom of action*, which refers to the extent to which autonomy is provided within the context in which individuals execute the task (De Brabander and Martens, 2014). Perceived freedom of action is expected to positively predict the personal factor *sense of personal autonomy*. This component refers to the extent to which individuals experience themselves as the origin of their behavior. In line with the self-determination theory (Deci and Ryan, 2000), sense of personal autonomy is expected to predict positive cognitive valence positively and negative cognitive valence negatively (De Brabander and Martens, 2014). Moreover, a positive association is expected with positive affective valence and a negative association with negative affective valence. Direct effects on readiness for action are also expected based on previous research (De Brabander and Glastra, 2018, 2021; De Brabander and Martens, 2018).

The second category of antecedents concerns feasibility appraisal, which refers to whether individuals expect they can complete activities successfully (De Brabander and Martens, 2014). Feasibility appraisal contains a personal and contextual component (De Brabander and Martens, 2014). The personal component is *sense of personal competence* which is defined as



Notes: This model was developed by De Brabander and Martens (2014) and adapted by De Brabander and Glastra (2018, 2021)

Source: Adapted by De Brabander and Martens (2014)

Figure 1.
Unified model of task-specific motivation

the extent to which individuals estimate that they themselves can successfully complete a task. The situational factor *perceived external support*, refers to expectations of whether the circumstances support or hinder performing the task-specific behavior (e.g. lack of time and expertise among colleagues; De Brabander and Martens, 2014; Grossman and Salas, 2011). In line with the self-determination theory (Deci and Ryan, 2000), feasibility appraisal is expected to positively predict positive valences and negatively negative valences. Based on the theory of planned behavior (Ajzen and Fishbein, 2008) and the expectancy-value theory (Wigfield and Eccles, 2000), potential direct effects of feasibility on action are also expected.

The third category of antecedents contains social factors, among which sense of personal relatedness and subjective norm are distinguished. *Sense of personal relatedness* refers to feelings of connectedness individuals have to others within the context of the activity. *Subjective norm* concerns the tendency of individuals to abide with the (dis)approval of significant others to perform a task-specific behavior (De Brabander and Martens, 2014). Sense of personal relatedness predicts subjective norm as more connectedness with colleagues could imply that individuals care more about the (dis)approval of colleagues when task-specific behavior is performed. Sense of personal relatedness and subjective norm are expected to positively predict positive valences and negatively predict negative valences (De Brabander and Martens, 2014). Based on the theory of planned behavior and previous research, subjective norm is also hypothesized to have a possible direct positive effect on readiness for action (De Brabander and Glastra, 2018; De Brabander and Martens, 2014, 2018). Direct positive effects of relatedness are also possible in theory (De Brabander and Glastra, 2021).

Soft- versus hard-skill and their possible influence on the UMTM-components

Six studies examined empirical merits of the UMTM. These studies showed that task-specific antecedents predict valences in accordance with the model. Moreover, the valences were predictors of readiness for action (De Brabander and Glastra, 2018, 2021; De Brabander and Martens, 2018; De Jong *et al.*, 2020, 2023; Jansen in De Wal *et al.*, 2023) and predicted transfer of training (De Jong *et al.*, 2020, 2023; Jansen in De Wal *et al.*, 2023). However, previous research did not examine whether experiences of UMTM components differed between trainings containing different content types. Based on previous research, we expect differences between soft- and hard-skill trainings for multiple UMTM components.

Expected differences in perception of the UMTM antecedents. We expect differences for autonomy related components and feasibility appraisal. Regarding autonomy, it can be expected that perceived freedom of action is higher among soft-skill trainees than hard-skill trainees, as there is often much variability in how and when soft-skills can be performed (Blume *et al.*, 2010). As perceived freedom of action positively predicts sense of personal autonomy in the UMTM (De Brabander and Martens, 2014) we also expect that sense of personal autonomy is higher among soft-skill trainees than hard-skill trainees.

For feasibility appraisal, a distinction was made between sense of personal competence and perceived external support. It is expected that perceived external support is higher among hard-skill trainees than soft-skill trainees, as soft skills are more difficult to observe and measure (Botke *et al.*, 2018; Yen *et al.*, 2001). This can make it more difficult for others to identify the needs of a soft skill trainees and offer adequate support (Laker and Powell, 2011; Richter and Kauffeld, 2020). Regarding sense of personal competence, it is expected that this component is higher among hard-skill than soft-skill trainees. Trainees often have experienced more success in applying training content of hard-skill trainings in comparison to applying soft-skills, for which transfer success often is perceived as lower (Laker and Powell, 2011). Past successful experiences with similar types of tasks can have positive effects for feelings of self-efficacy (e.g. sense of personal competence, Blume *et al.*, 2019; Elias and Macdonald, 2007). Taken together, we expect that feasibility appraisal is higher among hard-skill than soft-skill trainees.

Finally, we expect no differences between soft- and hard-skill trainees in the social components of the UMTM (i.e. sense of personal relatedness and subjective norm). Since sense of personal relatedness is less task-specific than the other UMTM components, it is not expected to vary between the application of hard- or soft-skill trainings. For subjective norm, more variation in approval (i.e. positive or negative) of soft-skills are expected in comparison to hard-skill trainings (Laker and Powell, 2011). However, this does not imply that applying soft-skills will be judged more negatively than hard-skills.

Expected differences in presence of transfer motivation and transfer intention. We also expect differences between soft- and hard-skill trainees for types of transfer motivation. For affective valences, we expect that hard-skill trainees experience more positive affective valence and less negative affective valence. As soft-skill trainees often already possess some strategies to apply the skills covered in a soft-skill training, applying content of soft-skills trainings requires more adaptation of existing attitudes and behaviors, which can lead to feelings of resistance and uncertainty to apply the training content in practice (Ibrahim and Boerhannoeddin, 2017; Kelly *et al.*, 2016; Laker and Powell, 2011). On the other hand, mastering hard-skills, which less often requires unlearning or behavioral change, can take away anxiety and insecurity of enacting the new skill within the work context (Ibrahim and Boerhannoeddin, 2017; Laker and Powell, 2011). This might instill more confidence and belief among individuals that they are able to display the behavior in practice (Laker and Powell, 2011). Therefore, it is

expected that hard-skill trainees will experience more positive and less negative affective valences than soft-skill trainees.

Differences for cognitive valences are also expected. For hard-skill trainees, reasons to attend a training are often more clear-cut than for soft-skill trainees (Kelly *et al.*, 2016; Laker and Powell, 2011; Sahoo and Mishra, 2019). Applying them also more often have direct and noticeable consequences (Kelly *et al.*, 2016). Moreover, colleagues and supervisors of trainees are more often dependent on the application of hard-skills. For soft-skills, however, the application is more often tacit, and has less clear consequences for oneself and colleagues and supervisors (Botke *et al.*, 2018; Kelly *et al.*, 2016; Laker and Powell, 2011). As a result, we expect that it is also easier to identify possible positive, but also negative consequences for oneself and significant others when one applies a hard-skill as opposed to applying a soft-skill.

To sum up, based on the literature described above we hypothesize that experiences in many UMTM components (i.e. feasibility appraisal and positive valences) will be perceived as higher for hard-skill trainees than for soft-skill trainees. We reckon that this may explain why it is more difficult for trainees to apply soft-skills in comparison to hard-skills. Hence, we also expect that hard-skill trainees will have a higher transfer intention than soft-skill trainees.

Method

Context description

Data was collected within the context of the Dutch police academy and the Dutch school for the judiciary, which provide trainings to employees working for the Dutch police force and within the judiciary. Including these two contexts allowed us to collect data on a wide range of soft- and hard-skill trainings. Hard-skill trainings ranged between how to drive a police car to how to write a more concise verdict. Moreover, soft-skill trainings ranged between learning how to increase focus on work to become more skilled in enabling organizational change. As such, it enabled us to include both more cognitive and more practical types of soft- and hard-skill trainings. Moreover, it also enabled us to include both online and in-person trainings and trainings with a low and high number of training days. Together, this increased the generalizability of this research toward other contexts in which soft- and/or hard-skill trainings are provided. Table 1 provides an overview of the training characteristics per organization.

Sample and procedure

Trainings were included if they focused on learning one specific task and if training content was potentially applicable in the work context within six weeks after completion. Since most trainings are not completely soft skill or hard skill (Wang *et al.*, 2022), two researchers independently coded all trainings as hard or soft skill. As Cohen's kappa is the most commonly used statistic to assess nominal agreement (Warrens, 2015), we used this measure to examine interrater reliability. This measure indicated a substantial agreement ($\kappa = 0.71$; Warrens, 2015). For those trainings that were initially not agreed upon, the researchers came to a consensus through discussion.

All included trainings involved a mix of lectures provided by trainers and exercises. Lectures were focused on explaining specific content or to elaborate on how a specific skill should be performed, whereas the exercises were used to let trainees practice with the content of the training. The exercises were a mix of group and individual exercises and were often based on situations that could occur within the work context. In online trainings, the content was provided synchronously via platforms like Zoom, Skype or Teams. In the last session of each training, participants were informed about the study and asked to fill out a questionnaire on paper or online. Participation was voluntary and without incentives.

Table 1.
Characteristics of the
included trainings.

Training characteristics	Judiciary	Police	Total
Number of trainings	128	124	252
Number of soft-skill trainings	61	26	87
Number of hard-skill trainings	67	98	165
Number of soft-skill trainings provided online	61	5	66
Number of soft-skill trainings provided in-person	0	21	21
Number of hard-skill trainings provided online	58	9	67
Number of hard-skill trainings provided in-person	9	89	98
Range in soft-skill training days	0.5–5 days	0.5–12 days	n/a
Range in hard-skill training days	0.5–4 days	0.5–12 days	n/a

Source: Boere *et al.*

Of a possible 2265 participants, $N = 1,122$ (response rate = 49.53%) participated. The number of participants ranged between 1 and 19 per training. The percentage of women was 57.52%. The mean age of the sample was $M = 39.77$ ($SD = 10.94$). Of all participants, 528 (47.06%) were employed by the Dutch police force and 594 (52.94%) within the Dutch judiciary. Within the Dutch police force subsample, 138 (26.14%) were employed as investigator, 173 (32.77%) as police officer, 50 (9.47%) as apprentice, 59 (11.17%) as manager and 108 (20.46%) fulfilled other positions. Participants employed within the Dutch justice system, 171 (28.79%) worked as an administrative assistant, 251 (42.26%) as legal assistant, 37 (6.22%) as a judge, 31 (5.22%) as an administrative judicial assistant, 28 (4.71%) as an assessor and 76 (12.79%) fulfilled other positions. On average employees had $M = 6.12$ ($SD = 7.29$) years of experience in their current position.

Measures

An adapted version of the questionnaire of De Brabander and Glastra (2018) was used to measure the UMTM components. Items in this questionnaire were rated on a seven-point Likert scale (see Table 2). Nonpersonal positive and negative cognitive valence were measured with multiple items that referred to relevant stakeholders for the police context (i.e. team, sector, police task and civilian) and judiciary context (i.e. team, court, judiciary and litigant). Stakeholders were matched as follows across the samples: team/team sector/court, police task/judiciary and civilian/litigant (see De Brabander and Martens, 2018 for the complete questionnaire).

The other components were measured with one item. When one item per construct is used, investigating reliability of item responses requires an alternative examination. In that case, one can investigate reliability with SEM model-fit coefficients. These indices were originally introduced as coefficients based on which the reliability of latent structural equated scores were evaluated (Tucker and Lewis, 1973). In addition, they were used “to avoid models with superfluous parameters that assume meaningless values” (Browne and Cudeck, 1993, p. 136). Since unreliable item response patterns are unable to predict or correlate with item responses on other items, the unreliability in item responses can be examined with model-fit coefficients. In a previous study into the UMTM, we made a path model that related the UMTM components to each other in line with the dynamics of the UMTM. Moreover, we constrained the relationships between the components in the direction as originally presumed by De Brabander and Martens (2014). This study indicated a good fit for this model. This provides evidence for the reliability of the questionnaire representing the components of the UMTM (De Jong *et al.*, 2023; Jansen in De Wal *et al.*, 2023).

Component	Item
1. Perceived freedom of action	When putting the things that were offered in this training into practice, I will have [. . .] opportunities for free choice
2. Sense of personal autonomy	When applying this training content in my job, I would feel I did so [. . .]
3. Perceived external support	I find the facilities and conditions to successfully apply what I have learned in my work practice [. . .]
4. Sense of personal competence	I personally feel [. . .] to successfully apply the knowledge, skills and insights that I acquired in this training
5. Sense of personal relatedness	With colleagues involved in applying the training content, I feel [. . .]
6. Subjective norm	I think that colleagues who are important to me would assess me applying what I have learned during the training as
7. Positive affective valence	When applying the knowledge, skills and insights that I acquired in this training, I would [. . .] have a positive feeling
8. Negative affective valence	When applying the knowledge, skills and insights that I acquired in this training, I would [. . .] have a negative feeling
9. Positive cognitive valence personal	Considering the positive consequences, applying the training content in my job would be [. . .]
10. Positive cognitive valence nonpersonal*	Considering the positive consequences, applying the training content in my job would be [. . .] for my team
11. Negative cognitive valence personal	The costs and unwanted consequences of applying the training content in my job would be [. . .]
12. Negative cognitive valence nonpersonal*	The costs and unwanted consequences of applying the training content in my job would be [. . .] for my team
13. Transfer intention	I am going to apply the things that I have learned during the training in my job

Notes: Items 1, 2, 3, 6, 7, 11 and 12 were recoded. Therefore, a high value would indicate much of the measured construct; *Items 10 and 12 were also asked for sector/court, police task/judiciary and civilian/litigants

Source: Boere *et al.*

Table 2.
Items measuring
UMTM-components

Analysis

Before we analyzed the data, mean scores were computed of the items that measured feasibility appraisal (Items 3 and 4), and positive and negative nonpersonal cognitive valence, respectively. Moreover, the assumption of normal distribution (Rasch *et al.*, 2011), univariate and multivariate outliers, linearity, homoscedasticity (Kline, 2011) and independence of residuals were checked (Barker and Shaw, 2015). Three outliers were excluded from the data, all other assumptions were met.

To analyze the data and to compare soft- and hard-skill trainees, multigroup structural equation modeling (SEM) was used, which is considered a powerful method to examine differences and similarities between groups (Vandenberg and Lance, 2000). All analyses were conducted in R using the Lavaan package (R core team, 2020). For factors in this model with more than one indicator (i.e. feasibility appraisal and positive and negative nonpersonal cognitive valence), partial scalar measurement invariance between group held. This assumption needs to be met before mean score comparisons can be made between groups (Van de Schoot *et al.*, 2012). To evaluate model-fit, RMSEA and its 90% confidence interval, CFI and SRMR were used (Bentler, 1995). RMSEA and SRMR values smaller than 0.08 and CFI larger than 0.90 were considered to indicate sufficient fit (Hu and Bentler, 1998).

It is also important that structural relations between the UMTM components are equal before means (i.e. intercepts) can be compared between soft- and hard-skill trainees (Vandenberg and Lance, 2000). As such, we evaluated model-fit of a structural model in

which all relationships proposed by the UMTM were freely estimated across soft- and hard-skills trainees. Correlation residuals higher than 0.10 and modification indices guided a model modification process. Modifications were made theory-driven. To compare models, the chi-squared difference test and the BIC were used (Raftery, 1986). In this study, the BIC value was leading as it adjusts for model complexity. After reaching sufficient model-fit of a model that included freely estimated structural relations across soft- and hard-skill trainees, this model was compared to a model in which structural relations were constrained to be equal across groups. Based on the final model, we explored the value of the UMTM components in predicting transfer intention.

To evaluate whether hard-skill and soft-skill trainees differed in mean levels of the UMTM components and transfer intention, the final model was evaluated and means of factor scores were compared across soft- and hard-skill trainees. To evaluate whether mean differences were statistically significant, we fixed the factor means of the hard-skill trainees to zero. As such, they were the reference category, and the estimation of the factor means for soft-skill trainees became the difference in z -score between the original factor means of hard- and soft-skill trainees.

Results

Differences in regression coefficients

Table 3 presents the latent correlations of all components of the UMTM for soft- and hard-skill trainees. Table 4 represents the fit indices of the hypothesized causal structure on the multigroup model based on the UMTM (Path Model 1). As the fit of Path Model 1 turned out to be unsatisfactory the model was modified.

We found a sufficient model-fit after adding a correlation between both positive and negative personal and nonpersonal negative cognitive valence (i.e. Path Model 2) and a correlation between sense of personal autonomy, feasibility appraisal and subjective norm. All modifications made sense from a theoretical perspective (i.e. Path Model 3). This model was compared with a model including equality constraints between groups on the regression coefficients (i.e. Path Restricted Model). The chi-square difference test, $\Delta\chi^2(34) = 36.12$, $p = 0.370$, and the BIC showed that the Path Restricted Model did not fit significantly worse than Path Model 3. Thus, no significant differences in regression coefficients between groups were detected. This implies that the underlying factors have the same effect on the dependent variables in both groups and that we could examine mean differences between the soft- and hard-skill trainees. As the Path Restricted Model is more parsimonious, this model was considered the Final model. As depicted in Figure 2, the antecedents predict the valences and the positive valences positively predict transfer intention, whereas the negative valences do not predict transfer intention. Taken together, the dynamics of the different components are mostly in line with the proposed relationships of the UMTM.

Mean differences

For soft-skill trainees the estimated mean of personal negative cognitive valences was significantly lower than for hard-skill trainees, $z = -6.42$, $p < 0.001$, 95% CI $[-0.83; -0.44]$, $d = -0.46$ (moderate effect size). Moreover, the factor mean of negative nonpersonal cognitive valences was also significantly lower for soft-skill trainees compared to hard-skill trainees, $z = -5.13$, $p < 0.001$, 95% CI $[-0.43; -0.19]$, $d = -0.36$ (moderate effect size). However, soft-skill trainees also experienced less positive nonpersonal cognitive valences, $z = -2.01$, $p = 0.045$, 95% CI $[-0.29; -0.00]$, $d = -0.13$ (small effect size). These findings suggest that soft-skill trainees expect both less positive and negative outcomes for others and less negative outcomes for themselves when putting the learned content into practice in comparison to hard-skill trainees.

Variable	1	2	3	4	5	6	7	8	9	10	11	12
1. Feasibility appraisal		0.49***	0.28***	0.37***	0.31***	0.45***	-0.30***	0.45***	-0.20**	0.46***	-0.25***	0.37***
2. Subjective norm	0.40***		0.26***	0.36***	0.26***	0.46***	-0.21***	0.38***	-0.18**	0.32***	-0.16**	0.32***
3. Sense of personal relatedness	0.32***	0.25***		0.12*	0.09	0.27***	-0.10*	0.22***	-0.03	0.33***	-0.02	0.15**
4. Sense of personal autonomy	0.29***	0.27***	0.23***		0.42***	0.40***	-0.21***	0.32***	-0.18***	0.16**	-0.19***	0.18***
5. Perceived freedom of action	0.31***	0.21***	0.23***	0.29***		0.35***	-0.24***	0.28***	-0.17**	0.12*	-0.18**	0.10*
6. Positive affective valence	0.36***	0.35***	0.30***	0.38***	0.31***		-0.37***	0.54***	-0.16**	0.47***	-0.17**	0.36***
7. Negative affective valence	-0.31***	-0.18***	-0.17***	-0.29***	-0.22***	-0.33***		-0.16**	0.23***	-0.24***	0.22***	-0.16**
8. P. positive cognitive valence	0.34***	0.32***	0.16***	0.21***	0.11**	0.39***	-0.23***		-0.20***	0.67***	-0.22***	0.41***
9. P. negative cognitive valence	-0.19***	-0.14**	-0.02	-0.18***	-0.16**	-0.14**	0.20***	-0.03		-0.12*	0.85***	-0.13*
10. NP. positive cognitive valence	0.35***	0.33***	0.26***	0.13**	0.12**	0.38***	-0.19***	0.73***	-0.03		-0.15**	0.38***
11. NP. negative cognitive valence	-0.14**	-0.19**	-0.05	-0.17***	-0.15**	-0.014**	0.21***	-0.01	0.87***	-0.01		-0.11*
12. Transfer intention	0.31***	0.27***	0.15**	0.13***	0.12**	0.27***	-0.19***	0.31***	-0.05	0.31***	-0.07	

Notes: Correlations of hard-skill trainees can be found below the diagonal. Correlations of hard-skill trainees can be found above the diagonal; P. = personal, NP = nonpersonal. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Source: Boere *et al.*

Table 3.
Correlation matrix
hard-skill trainees
and soft-skill trainees

Regarding the contextual antecedents, outcomes showed that the factor mean of perceived freedom action, $z = 7.95, p < 0.001, 95\% \text{ CI } [0.42; 0.44], d = 0.52$ (large effect size), and sense of personal autonomy, $z = 4.11, p < 0.001, 95\% \text{ CI } [0.16; 0.69], d = 0.26$ (moderate effect size), were significantly higher for soft-skill trainees than for hard-skill trainees. This implies that soft-skill trainees experience more autonomy regarding the execution of the learned skill than hard-skill trainees. No other differences were found.

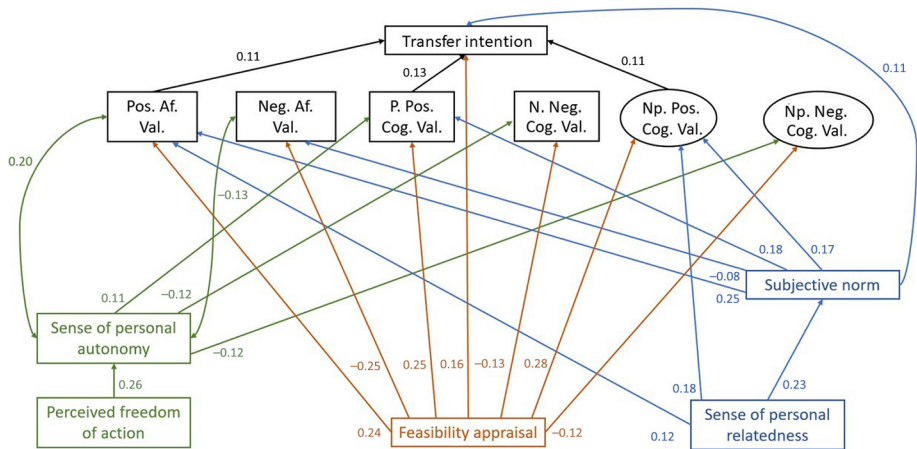
Discussion

As described in the theoretical framework, transfer motivation may depend on whether the skill to be trained is a hard or soft skill (Laker and Powell, 2011). This study examined differences between soft- and hard-skill trainees in (1) personal and contextual antecedents of transfer

Table 4.
Model-fit factor
models

	χ^2	Df	p	CFI	SMR	RMSEA	CI RMSEA	BIC
Path Model 1	1997.34	219	<0.001	0.763	0.16	0.136	[0.130; 0.141]	55,136
Path Model 2	856.374	215	<0.001	0.917	0.09	0.082	[0.076; 0.087]	53,699
Path Model 3	658.618	209	<0.001	0.933	0.07	0.069	[0.063; 0.075]	53,497
Path Restricted Model	702.98	243	<0.001	0.932	0.07	0.065	[0.059; 0.070]	53,298

Source: Boere *et al.* 2023



Notes: This figure shows the standardized relationships of hard-skill trainees between UMTM indicators and transfer intention. For clarity of the figure, nonsignificant relationships, correlations between indicators and error terms were omitted. Moreover, relationships with personal and contextual factors regarding autonomy, feasibility and social aspects were each given their own color. Pos. Af. Val. = positive affective valences; Neg. Af. Val. = negative affective valences; P. Pos. Cog. Val. = personal positive cognitive valences; P. Neg. Cog. Val. = personal negative cognitive valences; Np. Pos. Cog. Val. = nonpersonal positive cognitive valences; Np. Neg. Cog. Val. = nonpersonal negative cognitive valences

Source: This figure is property of the authors

Figure 2.
Relationships
between the UMTM
components

motivation and (2) differences in affective and cognitive types of transfer motivation and transfer intention. Specific differences between soft- and hard-skill trainees are outlined below.

Differences in perceptions of the unified model of task-specific motivation antecedents

We found that soft-skill trainees experience more autonomy to apply training content in practice (i.e. perceived freedom of action, sense of personal autonomy) than hard-skill trainees. This supports previous research suggesting that open skills, commonly associated with soft-skills, offer more flexibility for variation. Whereas closed skills, typically associated with hard-skills, have prescribed steps that limit autonomy (Blume *et al.*, 2010). This can explain the observed differences between soft-skill and hard-skill trainings.

Our results did not indicate differences for feasibility appraisal between soft- and hard-skill trainees. This seems to indicate that trainees of soft-skill trainings did not experience more (un)certainly to apply training content in practice as a result of having less successful past transfer experiences. However, the opposite could also be true. That is, because soft-skills are often not completely new to the trainee, their past successful experiences influences their feasibility appraisal positively (Elias and Macdonald, 2007; Blume *et al.*, 2019). Moreover, it might also be easier for colleagues or supervisors to provide support toward the trainee to apply soft-skill content as they often have a specific amount of expertise about the content discussed in the training themselves, whereas this is less likely for hard-skill trainings (Laker and Powell, 2011). As a result, the effects of perceived external support and personal sense of competence on feasibility appraisal could have averaged each other out, resulting in no group differences in feasibility appraisal.

Differences in presence of transfer motivation and transfer intention

With respect to transfer motivation, we found no differences between hard- and soft-skill trainees for affective valences. We expected that hard-skill trainees would have little prior experience in the application of the content they acquired during the trainings (Kelly *et al.*, 2016; Laker and Powell, 2011), and that acquiring those skills would diminish negative feelings and increase positive feelings. Yet, Laker and Powell (2011) consider hard-skill trainings as relatively “technical trainings” (e.g. learning how to work with a specific tool or software). However, this cannot be assumed for most trainings included in our study, which more often involved learning to write according to a specific methodology or following a specific procedure, as often is the case for employee trainings (Wang *et al.*, 2022). As such, it could have been the case that trainees did not necessarily have less prior knowledge concerning the specific training content than soft-skill trainees as this often does not involve completely new content. In line with the assumption of Laker and Powell (2011) and Ibrahim and Boerhannoeddin (2017) for soft-skills, the knowledge discussed in the training might have conflicted previously held beliefs as to how the specific behavior should be enacted, leading to a loss of confidence and increased anxiety. As a consequence, no differences between soft- and hard-skill trainees were found for affective valences. This seems to underline the role of prior knowledge in the influence in the affective types of transfer motivation. Previous research already provided evidence that prior knowledge matters for transfer motivation (De Jong *et al.*, 2023; Gegenfurtner, 2013). As such, it is important to take prior knowledge into account in future research investigating differences between training types.

On the other hand, this study showed that soft-skill trainees anticipated less personal and nonpersonal negative consequences of applying soft-skill trainings, whereas they also experienced less positive nonpersonal consequences resulting from applying training content. This corroborates the notion that it is easier for hard-skill trainees to identify what consequences application in practice has for oneself and others (Kelly *et al.*, 2016; Laker and

Powell, 2011; Sahoo and Mishra, 2019). On the other hand, we found no differences for personal positive cognitive valence between soft- and hard-skill trainees. This might be explained by the fact that soft-skill trainings often involve personal development which provides clear benefits for individuals themselves. As a result, positive consequences of application were as clear to identify for soft-skill trainees as they were for hard-skill trainees.

Despite these differences in cognitive valences, our outcomes indicated no difference between soft- and hard-skill trainees in their transfer intention. This could provide evidence that the different types of transfer motivation have different effects on transfer intention. De Brabander and Martens (2014) and De Brabander and Glastra (2018) already theorized that the influence of the different types of valences is not a simple addition of different valences but (partly) depends on interactions between them. As such, differences of the cognitive motivational types between soft- and hard-skill trainees impacting transfer intention could have been tempered by the lack of differences for affective valences, resulting in no differences in transfer intention. Future research could investigate the existence of transfer motivation profiles with a person-centered approach (cf. Pastor *et al.*, 2007). This could unveil the interplay between different types of transfer motivation and what effect this has on transfer intention and transfer of training.

Limitations and future research

Some limitations of this study should be addressed to improve future work. First, we used a cross-sectional design, which makes it impossible to make statements regarding the causality of the investigated relationships. Therefore, it would be interesting for future research to use longitudinal data or to execute an experiment in which the antecedents of transfer motivation are promoted to see if this increases transfer motivation.

Second, due to small cluster sizes, we were not able to conduct a multilevel analysis on the data. As such, we were not able to take the interdependency of the data into account by separating the within and between-level variance, increasing the possibility of spurious significant results (Hox *et al.*, 2017). Even though we did not seek to explain variance on the level of trainings (Level 2), we still recommend future studies to ensure a sufficient group size to perform multilevel analysis on the data.

Third, we did not take training and trainer quality into account, whereas previous research showed that training quality is a predictor of transfer motivation (Gegenfurtner *et al.*, 2009b) and that the required instructional knowledge of trainers differs between hard- and soft-skill trainings (Wisshak and Hochholdinger, 2020). As such, we recommend future studies to consider training and trainer quality in investigating the role of transfer motivation.

Implications for practice

Our outcomes underline that there are differences between soft- and hard-skill trainees in how they experience the UMTM components. This implies that practitioners should apply a different focus on the UMTM components for hard-skill trainees in comparison to soft-skill trainees. Soft-skill trainees seem to profit from a stronger focus on the utility of the application of the training content as soft-skill trainees scored lower on nonpersonal positive cognitive valence. This can for example be done by providing a meaningful rationale that stresses the importance for especially others to transfer the training content into practice (Reeve *et al.*, 2003). In addition, supervisors can also play an important role in this, as devoting more time to discuss how and what trainees could apply in the workplace can help trainees applying training content (Lancaster *et al.*, 2013). Hard-skill trainees would profit from a stronger emphasis on raising feelings of autonomy. This can be done by providing more choices and by using noncontrolling language by peers and managers that are

involved when trainees apply training content in practice (Jungert *et al.*, 2020). This eventually could raise their transfer motivation and subsequently transfer intention.

Our outcomes also indicate no differences between soft- and hard-skill trainees on the other UMTM components. We, therefore, recommend practitioners to foster these components similarly between soft- and hard-skill trainees (see De Jong *et al.*, 2020, 2023; Jansen in De Wal *et al.*, 2023) for an in-depth discussion as to how these components can be enhanced).

Conclusion

Taken together, to the best of our knowledge, this study is the first to investigate training content (i.e. soft- or hard-skill) as explanation for differences in transfer intention, transfer motivation and its personal and contextual antecedents. Our results show that trainees participating in soft- or hard-skill trainings require different support to stimulate their transfer motivation and, subsequently, transfer intention. As such, this study underlines that whether trainings discuss hard or soft skill is an influential factor that might explain the extent to which transfer occurs. We, therefore, recommend researchers to take into account whether trainings contain (mostly) soft or hard skills in their research. Moreover, we recommend practitioners to consider whether their trainings are soft or hard skill when they make decisions regarding their training designs. This eventually could ensure that both hard- and soft-skill trainings will have more impact on the working practice.

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Corresponding author

Bastian de Jong can be contacted at: b.dejong@uva.nl