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Trainee Motivation and Transfer

The interplay between the level of voluntary participation and supervisor support on

trainee motivation and transfer

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Abstract

There have been conflicting findings about whether mandatory versus voluntary training leads to more positive training outcomes. We propose moving away from a dichotomous distinction to a more dynamic participation approach to better elucidate theoretical differences relating to self-determination theory. A sample of 311 trainees from eight companies participated in a variety of open skill (e.g., leadership) training programs. Results indicated that higher levels of voluntary participation were positively related to trainees' transfer motivation and training transfer. We also found that the level of voluntary participation moderates the relationship between supervisor support and both motivation to transfer and training transfer. Supervisor support facilitates trainee motivation and transfer to a larger extent when participation is less voluntary. Future training should be framed and promoted to increase employee motivation to voluntarily participate, especially for employees with less supervisor support.

Keywords: training transfer, motivation to transfer, level of voluntary participation, supervisor support, self-determination theory

Introduction

Applying the training material on the job — i.e. training transfer — is a key metric of training effectiveness. There have been a number of models outlining factors proposed to influence training motivation and transfer (e.g., Alvarez, Salas, & Garofano, 2004; Blume, Ford, Surface, & Olenick, 2019; Burke & Hutchins, 2007; Cheng & Hampson, 2008; Gegenfurtner, Veermans, Festner, & Gruber, 2009). Most models indicate that both personal and contextual variables should be considered, as well as their interactions (Blume et al. 2019). Among these factors, contextual variables might be the easiest to change, hence the most important to uncover. To support this endeavor, Baldwin, Ford, and Blume (2017) call for richer information related to the organizational context, asking for more systematic reporting in these areas.

Although contextual variables are important as they are linked to decisions organizations make regarding how they offer training, there is only limited information available about their potential influence on trainees' motivation to transfer and their transfer of training. A frequently reported contextual variable is the degree of choice in training participation. An important decision for organizations is whether to mandate that training be taken or allow employees to choose to voluntarily participate in the training (Gegenfurtner, Könings, Kosmajac, & Gebhardt, 2016; Hicks & Klimoski, 1987). While research on the mandatory versus voluntary nature of training has rightfully been framed around notions of trainee choice and motivation, this issue can also be considered in light of contextual aspects of training. As noted by Baldwin and Magjuka (1991) and Tai (2006), how companies and managers frame training opportunities influence employee perceptions and how they approach the training.

Historically, this issue has typically been thought of as being either mandatory (i.e., required by the organization) or voluntary (i.e., trainee decides whether to attend; Baldwin &

Magjuka, 1991; Gegenfurtner et al., 2016; Mathieu, Tannenbaum, & Salas, 1992). This reflects

the decisions that organizations wrestle with regarding whether to mandate training or give

employees choices regarding which training to attend (e.g., Paluck, 2006). Mandating training

may lead some participants to resent the training (e.g., diversity or sexual harassment training

which they might identify as "politically correct propaganda"; Bezrukova, Spell, Perry, & Jehn,

2016), while leaving training as voluntary may lead to another conundrum where those who need

the training most are the least likely to attend. While a dichotomous distinction certainly has

merit, examining interim levels between mandatory and voluntary participation may improve our

understanding of how trainees approach and experience training, as well as what boosts their

subsequent application.

We can consider this dimension on a continuum, consistent with how Hicks and Klimoski

(1987) considered the degree of choice or freedom to enter training. For example, if an

organization provides a training, some employees may begrudgingly attend or even resent the

training (i.e., low on voluntary continuum), some employees might be happy to attend the

otherwise mandatory training (i.e., moderate on voluntary continuum), while other employees

may be eager to attend even a non-mandatory training (i.e., highest on voluntary continuum).

Training that is not mandatory may be more straight-forward in that trainees determine whether

to willingly attend the training, although these trainees are also likely to have differing levels of

voluntary attendance (e.g., attendance can be driven by internal curiosity and interest or can be

encouraged externally through recommendation, persuasion or expectation from their manager or

work environment).

The level of voluntary participation in training for both mandatory or non-mandatory

training may also differ depending on personal preferences as well as the norms, culture, and

supervisory influences that exist within an organization. Although the positive impact of

organizational and supervisor support on training outcomes is widely supported (Burke &

Hutchins, 2007; Hughes, Zajac, Woods, & Salas, 2020), trainees who differ in how willingly or

voluntarily they participate in training may require different levels of support to lead to positive

training outcomes. For example, someone who more voluntarily participates in training may

need less support than someone who views the training as mandatory. In the majority of prior

research, contextual variables are kept constant since studies are typically conducted within one

organization. This study involved multiple organizations, which makes it possible to examine

and control for some of these contextual differences across open skill training programs (e.g.,

leadership development, stress management, assertive communication, etc.). Open skill programs

were targeted because as compared to closed skills, they generally require trainees to learn

principles rather than a set of rules, and the trainee typically has more choice regarding whether,

how, and when to transfer the training (Baldwin, Ford, & Blume, 2009; Blume, Ford, Baldwin,

& Huang, 2010; Yelon & Ford, 1999).

Level of Voluntary Participation

Prior research has discussed how the level of choice to participate in training influences

trainee motivation to transfer and transfer (Gegenfurtner et al., 2016; Hicks & Klimoski, 1987;

Ryman & Biersner, 1975). Gegenfurtner et al. (2016) highlight prior studies that have shown

beneficial effects of both mandatory and voluntary training participation on training outcomes.

Only a handful of studies have shown that mandatory participation in training resulted in higher

levels of training motivation, which could be because a mandatory training signals to trainees

that it is important to the organization (e.g., Baldwin & Magjuka, 1991; Machin & Treloar, 2004;

Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012; Tsai & Tai, 2003). However, Baldwin and

Magjuka (1991) mention that they conducted their study in a company where participants reported a generally positive attitude toward training participation. They noted that in another organizational environment where training participation is less favorable, mandatory training may have a more negative impact than their results would suggest. On the other hand, numerous studies have found that voluntary participation results in increased training motivation and outcomes (e.g., Baldwin, Magjuka, & Loher, 1991; Blume et al., 2010; Curado, Henriques, & Ribeiro, 2015; Lacerenza, Reyes, Marlow, Joseph, & Salas, 2017; Mathieu et al., 1992). The positive effects of voluntary participation can be explained by different theoretical lenses (Gegenfurtner et al., 2016), including participatory design research (e.g. Könings, Seidel, & van Merrienboer, 2014) and self-determination theory (Deci & Ryan, 2012; Rosen, Ferris, Brown, Chen, & Yan, 2014). The focus of participatory design is on cooperation in the design process and decision making to tailor a program to the needs of participants and other stakeholders.

As a macro theory of human motivation, self-determination theory (SDT) reflects on the motivational nature of an activity (Deci & Ryan, 2000; Ryan & Deci, 2000, 2017). The theory originated from research on extrinsic and intrinsic motivation. This theory makes a distinction between amotivation (lack of intention to act), controlled motivation (including external regulation and introjected regulation), and autonomous motivation (including more internalized external regulations like identified regulation and integrated regulation, as well as intrinsic motivation). Autonomously motivated activities can be described as activities in which people are fully engaged in the activity and are aware of their choice and have a sense of internal volition and willingness of doing the activity. In contrast, controlled motivation describes those activities which are conducted because of "a sense of pressure, a sense of having to engage in the actions" (Gagné & Deci, 2005, p. 334). Numerous organizational studies provide evidence that,

when compared to controlled motivation, autonomous motivation leads to better organizational performance and well-being of employees (Deci, Olafson, & Ryan, 2017; Gagné & Deci, 2005).

SDT research findings also show that more autonomous motivation predicts more positive learning outcomes (e.g. Reeve, 2002). Although these findings suggest that autonomous motivation is preferable, the theory and the evidence do not necessarily indicate that extrinsic motivation should be eliminated. Instead, based on the extent of regulation, extrinsically motivated activities can range from least-autonomous (external regulation) to the most autonomous behavioral regulations (integrated regulation). In the case of external regulation, the behavior is directly controlled by others (e.g., through rewards like promising and providing bonuses and threats like obstruction of promotion), which often leads to short term motivated behavior with long-term side-effects (e.g., decreased engagement and performance). On the other end of the continuum (i.e., integrated regulation), individuals perceive that these volitional externally motivated activities are in harmony with their internal values, and they fully engage in them. The sense of autonomy can be increased by supporting employees to understand the purpose and value of the activity, encouraging a sense of ownership and autonomy in the accomplishment, and receiving necessary support and clear feedback (Deci, Olafson, & Ryan, 2017).

From the training participants' perspective, this well-established motivational theory indicates that there is a difference within the externally motivated (e.g., mandatory) training programs regarding their sense of autonomy. It is likely that those participants who perceive a mandatory training as not just an external requirement, but also have a personal interest in participation, will experience higher motivation to transfer and training transfer. Furthermore, based on the findings of the SDT research and meta-analytic findings (Gegenfurtner et al., 2016;

Lacerenza et al., 2017), voluntary participation in training should lead to the most beneficial results regarding transfer motivation and training transfer. Based on the findings of previous studies and the related theoretical background of SDT, we propose the following hypothesis:

> *Hypothesis 1: The level of voluntary participation in the training program will be positively related to a.) motivation to transfer and b.) perceived transfer.*

Supervisor Support

Social support and its effect on different work-related factors have been investigated by researchers of health psychology, social psychology, and organizational behavior for decades. One of the most widely used differentiation of social support types is introduced by House (1981), who specified the following four supportive functions: instrumental support, informational support, emotional support, and appraisal support. Similarly, several previous works in transfer literature approached supervisor support as a multiplex or multidimensional construct (e.g., Baldwin & Ford, 1988; Lancaster & Di Milia 2015; Lancaster, Di Milia, & Cameron, 2013; Nijman & Gelissen, 2011). Furthermore, Govaerts and Dochy (2014) categorized 24 different supervisor support behaviors in their systematic literature review and in their qualitative study investigating these dimensions they identified 83 specific supportive actions, strategies, approaches, and attitudes (Govaerts, Kyndt, Vreye, & Dochy, 2017). Based on these findings, supervisor support was defined in the current study with a widely used general definition, which describes it as the extent to which supervisors reinforce and support trainees' use of learned skills on the job (Holton, Bates, Seyler, & Carvalho, 1997).

In the HRD literature, supervisor support has consistently been shown to be an important predictor of motivation to transfer and transfer of training (Blume et al., 2010; Burke & Hutchins, 2007; Huang, Blume, Ford, & Baldwin, 2015; Hughes et al., 2020). Blume et al.

(2010) found that support (peer and supervisor) had a positive correlation (r = .21) with training transfer. Subsequent analysis indicated that supervisor support may have a somewhat stronger relationship (r = .31) with transfer than does peer support (r = .14), although all of these relationships were based on small sample sizes (Blume et al., 2010). In their meta-analysis, Hughes et al. (2020) found that motivation to transfer was an important mediator, explaining the ability of work environment support variables (i.e., organizational, supervisory, and peer support) to predict training transfer.

SDT literature also highlights the importance of supervisor support. In a general work setting, employees are more likely to have high-quality performance and wellness when supervisors acknowledge employees' perspectives, encourage self-initiation, offer choices, provide meaningful feedback, and give rationales when making requests (Deci et al., 2017). It is likely that these supportive behaviors from supervisors result in positive outcomes within the training transfer context.

Hypothesis 2: Supervisor support will be positively related to a.) motivation to transfer and b.) perceived transfer.

Interaction between Level of Voluntary Participation and Supervisor Support

Curado, Henriques, and Ribeiro (2015) found that employees who voluntarily participated in training had higher autonomous motivation to transfer their training. The higher autonomous motivation to transfer indicates that these participants will also be more engaged in the activity and will show higher transfer of training. Although supervisor support (e.g., encouragement or clear feedback) could further increase their motivation level, their already recognized self-interest and sense of ownership would likely make supervisor support less crucial.

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On the other hand, with training that is less voluntary, supervisor support would be expected to be more critical to motivating and encouraging training transfer. The common argument in favor of mandatory training is that it makes clear for the participants (which is assumed to motivate them) that the targeted knowledge, skills, or attitudes are highly valued by the organization (e.g., Ellis & Sonnenfeld, 1994; Paluck, 2006; Salas et al., 2012). However, it is likely that some mandatory training could evoke negative reactions, especially when there is not enough supervisor support. This could occur if organizations do not provide rationale to employees about the importance of the program, or participants do not recognize their personal interest in the topic and after the program, they do not receive further encouragement to apply their training. In these cases when participants perceive more controlled (or less autonomous) motivation, supervisor support would be especially important for trainees to be motivated to apply the training, to feel accountable, and to gain a sense of ownership in their development and transfer of training.

In cases where participants are well-prepared for or want to participate in mandatory programs (e.g., the program is relevant and useful for the participants and they recognize their self-interest in the program), we would expect participants to regulate their extrinsic motivation and perceive their participation in the training as less controlled and more autonomous. In these cases where there are elements of both mandatory and voluntary participation (e.g., a moderate or mixed level of voluntary participation), participants are likely to require less support from their supervisors than in a completely mandatory program. In addition, based on the external, controlled origin of participation, it is likely that these participants need more support from their supervisors in comparison to those who participate in an entirely volitional way.

Based on the above arguments related to the voluntary nature of the training, support, and SDT, we propose that the level of voluntary participation in training will moderate the relationship between supervisor support and transfer. We expect that a higher level of voluntary participation will lead to higher autonomous motivation, which would be less sensitive to (or dependent on) supervisor support. Stated differently, we expect that supervisor support will generally have stronger effects on training outcomes when there is a lower level of voluntary participation. Given this reasoning, we expect:

Hypothesis 3: The level of voluntary participation in the training program will moderate the relationship between supervisor support and (a) motivation to transfer and (b) perceived transfer; such that the effect of supervisor support on motivation to transfer and perceived training transfer will be stronger at lower levels of voluntary participation.

Method

Sample and Procedures

The study was conducted in accordance with the Declaration of Helsinki, approved by the Institutional Review Board of the XXXX University (blinded for review), and is in line with the EU General Data Protection Regulation (2016). An invitation to participate in the study was sent to employees of eight mid- to large-size Hungarian companies who had attended a training program in the prior six months. Participation in an online survey was encouraged by a lottery drawing that awarded a total of 50 small prizes worth about $15. At the beginning of the survey, respondents explicitly gave their informed consent to participate.

There were several steps conducted to maximize the respondent's ability and motivation to respond accurately. These steps are in line with suggestions of procedural remedies that can decrease some aspects of the problem of common method variance (e.g., Podsakoff, MacKenzie, & Podsakoff, 2012; Reio, 2010). The survey was pretested with three participants of different training programs to ensure all instructions and items used concise and clear language and were easily understandable. Accurate responses were encouraged in the recruitment email and the survey's instructions by emphasizing the importance of participants' opinions, thoughts, and experiences. Respondents were informed that there are no right or wrong answers, and it was important to accurately indicate their honest opinion and experience. Anonymity was also ensured, and in line with the EU General Data Protection Regulation (2016), a detailed data management document informed participants about all relevant aspects. Respondents were told that company-specific reports (containing company-specific, but summarized data to make identification of respondents impossible) would be provided to their employers to support them in improving the usefulness and application of future training programs.

From a total of 380 survey respondents, the final sample included those who participated in a company-organized, open/soft-skill development training program (e.g., leadership development, assertive communication, sales, stress management, time management) with at least one classroom session and who responded to the survey between 13-120 days after training. The timeframe was chosen to ensure that participants had at least two weeks following their training session to transfer the training to their job, as well as to stay within 4 months post-training to ensure the training was recent enough to accurately recall actions taken based on the training. In the online survey, respondents were instructed to consider the last training program in which they participated.

The final sample consisted of 311 working adults (48% female) who were between 22 and 64 years old ($M = 39.2$, $SD = 9.28$). Participants worked in different organizational levels (54% non-managers; 46% managers) of these eight companies (workforce ranged between 500-15,000 employees), which operate in the following sectors: accounting, automotive, chemical, energy, financial, insurance, pharmaceutical, and retail. Detailed company characteristics are shown in Table 1.

<< INSERT TABLE 1 ABOUT HERE >>

Measures

Data collection was conducted in Hungarian. To support the potential application of the shared materials in future research, the original materials were translated into English, following a standardized translation-back translation protocol proposed by Beaton, Bombardier, Guillemin and Ferraz (2000). The full questionnaire and related materials are available on the project's OSF page: https://osf.io/a3jpq/?view_only=de11ad27328d483bbfd93eba9ec75637 (anonymous – blinded for review)

Outcome Variables

Motivation to Transfer. Based on the work of Noe and Schmitt (1986), Warr, Allan, and Birdi (1999), and Nijman and Gelissen (2011), a three-item scale was developed to measure training participants' posttraining transfer motivation. The items of the scale included "After completing the training, I was excited to use the techniques I learned there."; "By the end of the training, I felt that I would love to use what I learned immediately in my job.", "By the end of the training, I was determined to use the new techniques I learned at the training.". Responses were provided on a seven-point Likert-scale ranging from 1 (Not true at all) to 7 (Completely true). This scale indicated good internal consistency ($\alpha = .91$).

Perceived Training Transfer. A four-item scale based on the work of Tesluk, Farr,

Mathieu, and Vance (1995) was used to assess the perceived application of learned techniques on

the job. Items were modified to reflect a general, topic-independent behavior applied on the job

(e.g., "In my workplace, I used what I learned during the training."; "I tried the techniques at

work I had learned at the training."; "At my workplace, I applied the methods acquired during

training."; "In my day-to-day work, I implement the knowledge that I had acquired at the

training."; α = .95.). Each item was scored on a seven-point Likert-scale ranging from 1 (Not true

at all) to 7 (Completely true).

Predictor Variables

Supervisor Support. Considering the wide range of possible behaviors that the supervisor

support could include (Govaerts & Dochy, 2014), the three items for this scale were phrased

using general terms (e.g., "My manager actively supported me to use what I had learned during

training."; "I regularly talked with my manager about how I could use the new knowledge in my

work."; "My manager did a lot for me to be able to apply the acquired methods in my work.").

Respondents indicated their level of agreement using a seven-point Likert-scale ranging from 1

(Not true at all) to 7 (Completely true). The scale showed good internal consistency (α = .87).

Level of Voluntary Participation. Respondents indicated the extent of their voluntary

participation on a three-level scale: "My manager instructed me to do so (i.e., it was mandatory)"

was classified as low level, "My manager instructed me to do so but I also wanted to participate"

was classified as moderate or mixed, while "I wanted to participate (i.e., out of my own interest)"

was classified as a high level of voluntary participation. Rather than follow the classic dichotomy

of mandatory versus voluntary participation, we added the moderate/mixed level. The additional

level originated in a pilot interview study which was conducted with 5 managers of a financial

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company. It was obvious from the interviews that the classic differentiation between mandatory

and voluntary programs would be unrealistic and artificial in several cases. In one example, the

program was either strongly suggested or selected by the supervisor, then it was discussed with

the employees, and they were also involved in the final decision making. In another case, the

manager shared the following approach: "I ascertain my team members' needs and interests at a

team meeting, but I never share any specific information with them. Unfortunately, my personal

experience is that if I would show them the full list of the programs and discuss their interest

based on that list, they would be disappointed if the management would decline our request. So, I

rather assess their needs less directly, and I send a list of nominations that I created myself. I do

not promise them anything. I just tell them that I can provide the exact information after

receiving feedback. My nominations list is usually cut down or transformed, and I communicate

only the final one to my team." Once this measure was developed, it was discussed with subject-

matter experts (L&D professionals and consultants) and pilot tested with three randomly selected

training participants in different companies. They all agreed that the three-level measure was

more realistic than the dichotomous approach.

Control Variables

   Training program length. In their interdisciplinary review, De Rijdt, Stes, van der

Vleuten and Dochy (2013) identified training program length among those variables that were

not included in transfer models in management, HRD, and organizational psychology research;

while educational reviews that focused on the impact of staff development mentioned it as a

potentially influencing variable (De Rijdt et al., 2013). While we know that training programs

vary in length, it is less clear how the length of the training might influence motivation to

transfer and transfer. A four-level scale was used to measure the training program length. Levels

of the scale included: (1) less than half day, (2) approximately one day, (3) more than one day, but maximum of two days, (4) more than two days.

Materials Before/After Classroom Training Session. For some in-person training sessions, materials are distributed before and/or after the actual training session (e.g., via email or an online learning system). Baldwin and Magjuka (1991) found that if trainees received information from the training department or instructor prior to the training session, they reported greater intentions to transfer the training. Regarding distributing materials after training, the purpose could be to remind trainees about the training and encourage use on the job. Respondents indicated whether or not they received any additional materials before the classroom training session, as well as whether they received any additional materials after the classroom training session.

Time lag. It could be that longer time lags since the end of training would cause trainees to report being less motivated to transfer. After more time passes, as Taylor, Russ-Eft and Taylor (2009) suggest, there could be learning decay and trainees may also be less focused on the training goals or applying the training to their job. We controlled for time lag by measuring the number of days between the end of the last training session and the response date on the survey.

Manager. Chen, Holton, and Bates (2006) proposed that the job type or position could influence perceptions of transfer system characteristics such as motivation to transfer and supervisor support. Respondents indicated their positions in the survey. We classified these as either manager-level (including both lower and upper-level managers) or non-manager (including both blue- and white-collar workers). The vast majority of respondents were either lower-level managers or white-collar workers.

Company. Companies were also included in the statistical models as control variables since different company cultures and procedures may influence other measured variables or relationships (Garavan et al., 2020). All companies were from different sectors.

Data processing and analysis

Statistical analyses were performed with R 4.0.2 (R Core Team, 2020), using *tidyverse* 1.3.0. (Wickham et al., 2019) for data transformation, and *estimatr* 0.22.0. (Blair, Cooper, Coppock, Humphreys, & Sonnet, 2020) for calculating heteroscedasticity-consistent standard errors. The data and analysis code can be found on the project's OSF page: https://osf.io/a3jpq/?view_only=de11ad27328d483bbfd93eba9ec75637 (anonymous – blinded for review)

Scales were calculated by taking the mean of the items. As a preparation for the linear regression analyses, ordinal and continuous independent variables were standardized to eliminate potential multicollinearity problems. Using these variables in the models, variance inflation factor (VIF) values (ranging between 1.07 and 3.55) indicated no problem with multicollinearity as they were below the stricter threshold of 5 (Hair, Black, Babin, & Anderson, 2018). The normal distribution of the residuals was verified by skewness and kurtosis indices. The Breusch-Pagan test (Breusch, & Pagan, 1980) and the Non-constant Variance Score Test (Fox, & Weisberg, 2011) showed that the assumption of homoscedasticity was violated in the case of some models, thus following the recommendation of Long and Ervin (2000), parameter estimates were calculated using heteroscedasticity-consistent standard errors (HC3). Model fits were compared by the adjusted R^2, Akaike Information Criterion (AIC), and the Bayesian Information Criterion (BIC).

Hierarchical linear regression analyses were conducted to investigate the association of the independent variables with motivation to transfer and perceived training transfer as dependent variables. For both dependent variables, the basic model (Model 1) contains the companies, where the company with the highest number of respondents was defined as the reference. The second model (Model 2) adds in the training- related control variables, whereas the third model (Model 3) adds the level of voluntary participation, supervisor support, and the interaction of these two variables.

Results

Descriptive statistics and Spearman bivariate correlations are presented in Table 2.

<< INSERT TABLE 2 ABOUT HERE >>

<< INSERT TABLES 3 & 4 ABOUT HERE >>

Motivation to Transfer

Table 3 shows the hierarchical regression model for Motivation to Transfer. For Motivation to Transfer, Model 1 was not significant ($F(8, 303) = 1.406$, $p = .202$, adj.$R^2 = .012$). Model 2 ($F(13, 298) = 2.987$, $p = .001$, adj.$R^2 = .067$) and Model 3 ($F(16, 295) = 13.366$, $p < .001$, adj.R2 = .356) were significant, and the comparison of their fit indices (Δadj.R2 = +.289, ΔAIC = -112.64, ΔBIC = -101.42) indicated the superiority of Model 3. In Model 3, the time lag between training and the outcome measure ($\beta = -.20$, $p < .001$) showed a significant negative effect on motivation to transfer, while none of the other control variables showed significant associations with motivation to transfer: managerial level ($\beta = .14$, $p = .155$), training program length ($\beta = .09$, $p = .166$), and receiving materials before classroom training ($\beta = .09$, $p = .481$)

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and after classroom training (β = .07, p = .529). As expected, motivation to transfer was significantly predicted by the (H1a) level of voluntary participation (β = .35, p < .001), and (H2a) supervisor support (β = .44, p < .001). Results also supported (H3a) the interaction between supervisor support and the level of voluntary participation (β = -.11, p = .043). The interaction effect of these variables can be seen in Figure 1.

<< INSERT FIGURE 1 ABOUT HERE >>

Perceived Training Transfer

As shown in Table 4, with perceived training transfer as the outcome variable, neither Model 1 ($F_{(8, 303)}$ = 0.540, p = .804, adj.R2 = -.01), nor Model 2 ($F_{(13, 298)}$ = 1.729, p = .060, adj.R^2 = .032) were significant. Model 3 was significant ($F_{(16, 295)}$ = 8.360, p < .001, adj.R^2 = .284). The results showed no significant effect of the time lag between training and the outcome measure (β = -.12, p = .063) on perceived transfer, and similarly, training program length (β = .01, p = .897), receiving materials before classroom training (β = .24, p = .097), and after classroom training (β = -.01, p = .968) did not show a significant association with perceived transfer. Nevertheless, managerial level positively predicted perceived transfer (β = .32, p = .003). In line with our hypotheses, (H1b) the level of voluntary participation (β = .24, p < .001), and the (H2b) supervisor support (β = .47, p < .001) showed significant effects on perceived transfer. H3b was also supported, as the interaction between supervisor support and the level of voluntary participation (β = -.11, p = .040) was significant. The interaction effect can be seen in Figure 2.

<< INSERT FIGURE 2 ABOUT HERE >>

Discussion

What stands out most in our findings is that the level of voluntary participation interacts with supervisor support to influence participants' motivation to transfer and perceived transfer. While supervisor support was generally an important predictor of trainees' motivation to transfer and transfer of training, Figures 1 and 2 demonstrate that it was even more important to facilitate these training outcomes when training programs were less autonomous (i.e. mandatory). Since mandatory training is likely to cause lower internal motivation via less trainee autonomous choice and self-determination (Curado et al., 2015; Gegenfurtner et al., 2016), supervisor support seems to be especially important to encourage trainees' motivation to transfer and training transfer in these programs. Without further supervisor support, these participants experience less motivation regarding the training program and its transfer, but if they receive further supervisor support, transfer motivation, and perceived training transfer can be significantly increased. This is likely caused by the sustained controlled motivation as supervisors follow up with trainees, increase accountability, and support their transfer. Furthermore, the reason behind this boost in motivation and perceived transfer could also be that supervisors apply autonomy-supportive techniques leading participants to value transferrable skills.

The explained variance in this study was 38.7% for motivation to transfer and 31.8% regarding perceived training transfer. The combination of the level of voluntary participation and supervisor support contributed to the majority of this explained variance (about 28% and 25%, respectively) beyond the control variables. While these are significant levels of variance explained, there remains unexplained variance that is likely due to unmeasured variables. The classic equation stating that performance = ability x motivation x opportunity (Appelbaum, Bailey, Berg & Kalleberg, 2000; Blumberg & Pringle, 1982; Vroom, 1964) can capture the

essence of training transfer performance. In our study, we measured one aspect of motivation (level of voluntary participation) and one aspect related to the opportunity (i.e., social support as a form of social opportunity). While these measures are important for understanding the transfer process, additional measures of these constructs and a measure of trainee ability could also improve our understanding of training transfer.

Theoretical implications

The presence or lack of an autonomy-supportive environment can provide an explanation for previous mixed findings regarding the superiority of mandatory participation in some studies (e.g., Baldwin & Magjuka, 1991; Tsai & Tai, 2003) and the superiority of voluntary training participation in others (e.g., Baldwin et al., 1991; Mathieu et al., 1992). Considering the moderate level of voluntary participation, which includes a combination of external expectation and an internal volition to participate (i.e., a more autonomous extrinsic motivation to use SDT terminology), the findings highlight the importance of interest, workplace climate, and an autonomy-supportive environment in motivation. These findings are consistent with the results of Baldwin and Magjuka (1991), who reported high transfer motivation of mandatory training programs in an organization where there was a generally positive attitude toward training participation.

Our findings are in line with other aspects of SDT as well. SDT suggests the more autonomous motivation (higher level of voluntary participation in our case) leads to higher motivation to act (motivation to transfer) and perform (transfer) in comparison with the effect of a more controlled motivation (lower level of voluntary participation; e.g., Gagné & Deci, 2005). Furthermore, in those circumstances when there is an extrinsically motivated activity (i.e., external expectation of participation), a more autonomous motivation through internalization and

integration can be facilitated by autonomy support (Deci et al., 2017). Our findings suggest that although the impact of social support is stronger in more extrinsically regulated situations, its effect should also not be neglected in a more autonomously motivated situation.

In addition, we found that the level of voluntary participation meaningfully differed across three levels rather than the typical two dimensions (i.e., mandatory vs. voluntary) assessed in prior research. The findings are consistent with Curado, Henriques and Ribeiro (2015) in that voluntary participation was associated with more positive training outcomes. The findings also support those arguments that mandatory training programs can result in good outcomes (e.g., Ellis & Sonnenfeld, 1994; Paluck, 2006; Salas et al., 2012) if the organization/managers convey the message successfully so participants become more interested in participating and internalize its value. This suggests that trainees have varying levels of desire to participate in training, regardless of whether the external expectation is stronger, weaker, or does not exist, and that future research should consider this continuum when examining the influence of self-determination in attendance. Although Hicks and Klimoski (1987) operationalized the variables in their study along only two levels (i.e., low or high degree of choice), this is consistent with how they discussed the degree of choice or freedom to enter training. These findings suggest that SDT provides a better, well-established theoretical framework for understanding the dynamism of training participation, and we can learn more by moving away from the dichotomous approach to a more continuous one.

Practical implications

The current study enables us to build on previous evidence-based suggestions for HRD practitioners, training providers, and managers. Jacot, Reamdonck, and Frenay (2015, p. 214) rightfully stated that while "it is not always possible to grant maximum autonomy to every

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learner", decision-makers in organizations and especially direct supervisors should create

conditions of the highest level of autonomy that can be achieved. Autonomy support that

increases transfer motivation and transfer can be executed by different kinds of managerial

activities. For example, managers can support their colleagues by providing the resources they

need, eliminating obstacles, ensuring participants have relevant opportunities to transfer, and

giving feedback and encouragement (e.g., Broad, 1997; Broad, 2003; Ford, 2020; Yelon,

Sheppard, Sleight, & Ford, 2004).

While there are certain training programs that companies may require, in these cases

companies would be advised to encourage and build supervisor support for these programs.

Gegenfurtner et al. (2016, p. 297) suggest that in those situations when mandating enrollment is

inevitable, "offering options or choices for trainees to decide which program to attend, or when

to attend it, can still help in supporting the trainee need of feeling autonomous and self-

determined." In addition, if supervisors buy into and support organizationally-mandated training

programs, in this condition we would expect higher trainee motivation and transfer. Otherwise,

our study indicates that mandatory, open skill programs with low supervisor support would likely

lead to lower motivation to transfer and training transfer. Gegenfurtner et al. (2009) also

highlight the importance of training framing in their integrative literature review about

motivation to transfer training. They summarize that learner readiness impacts higher transfer

motivation, which can be supported by training framing; including providing realistic

information about the program and about the company's expectations, and enabling participants

to provide their insights. Similarly, Machin and Treloar (2004) advised that pre-training

interventions should target both individual and organizational readiness, and enhance

participants' perceived value of the training by explaining the benefits the participants will gain by participating and transferring training.

We argue that these suggestions could provide the best outcomes in combination with the findings of SDT research, especially those focused on autonomy-supportive techniques. These techniques can direct learning motivation from controlled to more volitional behavior. Vansteenkiste, Aelterman, De Muynck, Haerens, Patall, and Reeve (2018) summarized previous research findings on the techniques that can foster internalization. Based on the evidence highlighted by Vansteenkiste et al. (2018), one of the most important techniques is providing rationales about the importance of the learning content, which should be relevant to the learner itself, and resonate with their personal values, interests, and goals. These "rationales are especially likely to lead students to internalize the value of a task when it is concrete and specific, intrinsic-goal oriented, and delivered within a broadly autonomy-supportive environment that is free from pressure or coercion" (Vansteenkiste et al., 2018; p. 45). These findings and suggestions are in line with those mentioned in the HRD literature (cf., Ford, 2020; Kraiger and Ford, 2020).

Among the autonomy-supportive strategies that can foster autonomy when the volition of learning is very low, Vansteenkiste et al. (2018) mentioned the use of inviting language (Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004) and accepting rather than suppressing the resistance and negative affect towards the particular task (Deci, Eghrari, Patrick, & Leone, 1994). According to Deci et al. (1994) the acknowledgment of the interpersonal conflict between the required activity (participation in training) and the personal unwillingness to participate can convey respect towards the individual's willingness and right to choose. It can help mitigate the internal tension and makes it possible to understand that the personal goals can be harmonious

with the requested behavior. An example of an acknowledgment might be "I realize that it seems like a waste of time to you to attend this training." It can be continued with the rationale regarding the (e.g., assertive communication) training program: "However, this program aims to improve your communication skills so that you can represent our departments' interests more effectively, influence others, and improve outcomes. It can result both in your professional development and future career advancement."

Future Research

An important direction for future research relates to how we think about the continuum of mandatory and non-mandatory training. Focusing on two dimensions might be particularly useful when exploring this issue further (i.e., including both a contextual and trainee/person-related dimension). For example, an expanded scale that integrates these dimensions could include the following items: "The training was mandatory and I didn't want to attend (would skip if I could)", "The training was mandatory but I also wanted to attend (or would have attended even if it wasn't mandatory)", "The training was voluntary and I wanted to attend", and "The training was voluntary and I was very excited to attend". Although this four-level scale should improve our knowledge in this area, the development of a more sophisticated measurement scale that follows the SDT even more closely could potentially be developed.

In this case, the person-related dimension could directly incorporate SDT by considering the degree of self-determination, while the contextual dimension could focus on the degree of external expectations (i.e., ranging from extreme or required to none or entirely voluntary). If we map these two dimensions onto each other, their interaction illustrated in Figure 3 shows how these two dimensions lead to differing levels of voluntary participation. Considering the intersection of the extreme external expectations (required program) and lack of motivation

(amotivation), the level of voluntary participation would be extremely low (i.e., participation is purely forced). It is likely that if employees are not motivated to participate, and the degree of external expectation is lower (i.e., not forced, just suggested by supervisors, or mentioned by others) they would prefer to skip the training. When moving from the controlled motivations to the more autonomous motivations, the level of voluntary participation also increases. In the middle of the scale, there are potentially multiple combinations of external expectations and motivations which results in a similarly moderate level of voluntary participation. For example, the level of voluntary participation may be similarly moderate at low external expectation and external regulation, at moderate external expectation and introjected regulation, and high external expectation and identified regulation. At the higher end of the level of voluntary participation, participants experience the least external expectation and a well-internalized extrinsic motivation (i.e., identified or integrated regulation) or intrinsic motivation.

<< INSERT FIGURE 3 ABOUT HERE >>

Overall, SDT provides a good theoretical framework to understand the potential mechanisms behind our findings, and it would be useful to directly measure autonomous and controlled motivation in future research (both before and after participation). For testing a more sophisticated scale that measures the degree of self-determination in participation, revising the Multidimensional Work Motivation Scale (Gagné et al., 2015) to the transfer context could potentially be worthwhile. Although an SDT-based measure is likely to best-capture the motivational continuum, other motivation-related measures could also be considered (e.g., trainees' pre-training motivation to learn (Blume et al., 2010; Gegenfurtner et al., 2009), the motivation to attend the training, or interest in training content (Gegenfurtner, Knogler, &

Schwab, 2020)). These dimensions should be considered together to get a better understanding of how trainees' perceptions will influence their reactions and behaviors following training. In addition, based on the findings in our study, this SDT-based measure may also be beneficial when considering the level of supervisor support required to lead to optimal training outcomes.

It may also be beneficial to further explore trainee perceptions of how mandatory training programs that are prescribed at a higher organizational level (e.g., by the Human Resources Department) versus those required or strongly recommended by the trainees' direct supervisor. It can be assumed that internalization and autonomy-supportive environment could play an important role in both situations, while their motivational dynamics for participating in the training could be different. It would also be important to consider the influence of supervisors in their attitudes toward and support of organizationally mandated training (e.g., safety or sexual-harassment training). Based on our findings, it is likely that supervisor attitudes and their support (or lack of support) for organizationally mandated training directives will influence trainee motivation and outcomes. The success of the specific supervisor support types may vary whether these programs are required by the higher organizational level or by the direct manager. It would be also useful to more explicitly consider the multidimensional nature of support (e.g., in intensity and form; Govaerts & Dochy, 2014; Nijman & Gelissen, 2011) to identify the most effective supervisor support behaviors for increasing motivation to participate, motivation to transfer, and training transfer.

In addition, managers reported higher perceived training transfer than non-managers in our study. This could be because managers may see more of a need for open or soft-skills in their work and believe implementing their training on the job is important for their job performance and advancing in their careers. They may also have more opportunities to transfer these skills or

have a greater appreciation for the valuable time they have invested in the training. While future research will be necessary to better understand why managers may report more transfer, if managers see a greater need and opportunity for transferring skills, this may be an occasion for organizations to better communicate to non-managers the value of the trained skills for job performance and potential career advancement. For example, Renaud, Lakhdari and Morin (2004) showed that those higher in the hierarchy were more likely to participate in non-mandatory training, which could be because the corporate training strategy primarily targets managers or because managers apply for more training programs if they are more conscious of their development needs. It may be that helping non-managers understand what managers have learned by experience could increase learner readiness and foster autonomous motivation (e.g., having managers speak to a group of non-managers before the training session to explain the importance of gaining skills from a leadership training session).

Limitations

In interpreting these findings, five limitations should be considered. First, this study was cross-sectional with self-report measures, limiting causal interpretation of the relationships between the level of voluntary participation, supervisory support, and the dependent variables. However, the implemented procedural remedies of common method variance (e.g., Podsakoff et al., 2012; Reio, 2010) incorporated into our study could alleviate the concerns of these problems. The issue of common method variance is probably the most relevant in connection with the second hypothesis, which relationship was supported in several previous studies (e.g., Blume et al., 2010; Chiaburu, Van Dam, & Hutchins, 2010; Colquitt, LePine, & Noe, 2000; Ford, Baldwin, & Prasad, 2018). Regarding the other hypotheses, since the level of voluntary participation (e.g., whether the training was purely required, both required and desired, or solely

voluntary) was more objective in nature, that could help mitigate this concern. Furthermore, the third hypothesis tested an interaction effect, and research suggests that although interaction effects can be deflated by method bias, they are unlikely to be artifacts of it (Podsakoff et al., 2012; Siemsen, Roth, & Oliveira, 2010). Nevertheless, replication of the study in conditions where other-reports of transfer are analyzed and a time lag between surveys is applied would provide further evidence regarding these results.

Second, related to the study using self-reports, the outcome variable of perceived training transfer reflects primarily on the respondents' perceptions about their transfer. Per Blume et al.'s (2010) finding that self-reported transfer measures had moderate correlations with transfer reported by the trainees' supervisors and peers (i.e., $\rho = .26$ and $.28$, respectively), this measure is likely to be correlated with trainee's actual transfer. However, future research with more objective assessment or ratings from others (e.g., from supervisors or peers) would be needed to confirm this. Third, the measurement of the level of voluntary participation was an important step towards a deeper understanding of the complex motivational nature of initial training participation, but further exploration with a more sophisticated measure would be useful.

Fourth, this study focuses on open skill training so caution should be exercised in generalizing the findings to closed-skill programs. For example, previous research by Laker and Powell (2011) and Massenberg, Schulte, and Kauffeld (2017) has suggested differences in several aspects (e.g., motivational dynamics and managerial support) between closed/hard-skill and open/soft-skill training programs. Furthermore, as stated in the SDT literature, autonomous motivation has more impact on performance in relation to complex tasks, while there is no difference between autonomous and controlled motivation on mundane tasks (Gagné & Deci,

2005). Therefore, closed or hard-skill programs (e.g., mechanic maintenance training) would require additional research before generalizations could be made from our study's findings.

Fifth, while our sample may be more generalizable across company cultures and fields since we were able to obtain responses from multiple companies, care should be taken when generalizing across countries. Yang, Wang and Drewry (2009) argue that national culture could have an important effect on learning and transfer because its social nature is dependent on the cultural context (values, beliefs, and social norms). However, the limited amount of available published studies that investigated cross-cultural comparisons in important predictors of training transfer have yet to identify significant differences between national cultures (e.g., Richter & Kauffeld, 2020; Yaghi & Bates, 2020). Although these studies do not support the general assumption that national culture has a significant impact on training transfer, underlying mechanisms related to transfer may differ between national cultures (Yaghi & Bates, 2020).

Conclusion

This study is one of the first to consider the level of voluntary participation as a multidimensional construct and investigate its effect on motivation to transfer and perceived training transfer across multiple companies. It adds a piece toward solving the puzzle of prior conflicting findings regarding whether mandatory or voluntary participation leads to better training transfer. Our results demonstrate the importance of considering how voluntarily trainees participate in training, and how supervisor support is especially important for training programs that are required by the organization/manager. These findings are instructive for organizations considering how to offer and frame training programs, and how to provide managerial support for these employees. Although the findings of the present study demonstrate the benefits of

moving away from a dichotomous participation approach towards a more nuanced continuum of voluntary participation, further exploration of this continuum is needed in future research.

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Table 1. Descriptive statistics by participating companies

Variables / Company Codes	1	2	3	4	5	6	7	8	Total
N	81	34	41	10	21	34	54	36	311
Gender (Female)	26%	50%	56%	60%	67%	32%	57%	72%	48%
Mean Age (SD)	36 (8)	40 (9)	41 (9)	40 (5)	32 (7)	41 (9)	40 (10)	43 (11)	39 (9)
Organizational level (Manager)	47%	44%	39%	80%	48%	71%	37%	36%	46%
Mean Time lag (SD)	66 (30)	56 (25)	42 (25)	61 (26)	50 (18)	31 (15)	32 (21)	35 (15)	47 (27)
Training Program Length									
Half day	4%	0%	12%	20%	14%	0%	22%	0%	8%
One day	10%	12%	12%	40%	29%	53%	78%	19%	30%
Two days	79%	65%	61%	30%	57%	35%	0%	81%	54%
More than two days	7%	24%	15%	10%	0%	12%	0%	0%	8%
Materials Before Classroom	12%	29%	54%	60%	10%	26%	0%	3%	19%
Materials After Classroom	41%	56%	71%	60%	62%	74%	72%	81%	62%
Level of Voluntary Participation									
Mandatory	21%	6%	17%	0%	29%	26%	4%	6%	14%
Mixed	36%	65%	34%	20%	38%	35%	22%	22%	34%
Voluntary	43%	29%	49%	80%	33%	38%	74%	72%	51%
Mean Supervisor Support (SD)	3.9 (1.5)	3.4 (1.3)	4.9 (1.8)	4.6 (1.6)	3.8 (1.3)	3.4 (1.8)	3.3 (1.4)	3.5 (1.3)	3.8 (1.6)
Mean Motivation to Transfer (SD)	5.0 (1.4)	5.0 (1.3)	5.5 (1.7)	5.6 (1.1)	4.8 (1.4)	4.7 (1.3)	5.1 (1.1)	5.3 (1.3)	5.1 (1.4)
Mean Perceived Training Transfer (SD)	4.8 (1.4)	4.8 (1.5)	5.2 (1.6)	4.6 (1.6)	5.1 (0.9)	4.8 (1.5)	5.1 (1.1)	5.0 (0.9)	5.0 (1.3)

Note. The table shows the descriptive statistics (means and standard deviations of continuous variables, and frequencies of categorical variables) by companies. Time Lag: Time Lag Between Training & Outcome Measure; Materials Before Classroom: received Materials Before Classroom Training Session; Materials After Classroom: received Materials After Classroom Training Session.

Table 2. Descriptive statistics and Spearman bivariate correlations between variables

	1	2	3	4	5	6	7	8	9
1. Time Lag	–								
2. Manager	.04	–							
3. Training Program Length	.16**	.02	–						
4. Materials Before Classroom Session	.08	–.01	.23***	–					
5. Materials After Classroom Session	–.14*	–.07	.01	.05	–				
6. Level of Voluntary Participation	–.04	–.18**	–.01	.03	.24***	–			
7. Supervisor Support	.19***	.01	.14*	.24***	.10	.07	–		
8. Motivation to Transfer	–.06	–.01	.13*	.16**	.18**	.37***	.43***	–	
9. Perceived Training Transfer	.03	.12*	.06	.15**	.10	.23***	.42***	.69***	–
Mean	47.25	.46	2.62	.19	.62	1.37	3.78	5.09	4.95
SD	27.24	.50	.75	.40	.49	.72	1.58	1.35	1.34

Note. N=311, Time Lag: Time Lag Between Training & Outcome Measure; Manager (0 = Non-managers, 1 = Managers); Training Program Length (1 = less than half day, 2 = approximately one day, 3 = more than one day, but maximum of two days, 4 = more than two days); Materials Before Classroom Session (0 = No, 1 = Yes); Materials After Classroom Session (0 = No, 1 = Yes); Level of Voluntary Participation (0 = Low [Mandatory], 1 = Moderate [Mixed], 2 = High [Voluntary]).

* p < .05, ** p < .01, *** p < 0.001

Table 3. Linear regression models of Motivation to Transfer

|	Model 1 [95% CI]	Model 2 [95% CI]	Model 3 [95% CI]
Constant (Company 1)	-0.09 [-0.31, 0.14]	-0.28 [-0.58, 0.02]	-0.05 [-0.29, 0.19]
Company 2	-0.12 [-0.62, 0.39]	-0.13 [-0.60, 0.34]	-0.08 [-0.44, 0.28]
Company 3	-0.19 [-0.59, 0.21]	-0.40 [-0.89, 0.09]	-0.26 [-0.65, 0.14]
Company 4	0.13 [-0.19, 0.45]	0.20 [-0.26, 0.66]	-0.07 [-0.45, 0.31]
Company 5	0.23 [-0.15, 0.62]	0.05 [-0.39, 0.49]	-0.10 [-0.48, 0.28]
Company 6	0.00 [-0.39, 0.39]	-0.18 [-0.58, 0.22]	0.04 [-0.30, 0.37]
Company 7	0.39 [-0.06, 0.84]	0.12 [-0.38, 0.62]	-0.08 [-0.52, 0.35]
Company 8	0.49 [-0.09, 1.08]	0.39 [-0.23, 1.01]	-0.03 [-0.57, 0.50]
Time Lag Btw. Training & Outcome Measure		-0.09 [-0.23, 0.04]	-0.20*** [-0.31, -0.08]
Manager		0.05 [-0.18, 0.28]	0.14 [-0.05, 0.34]
Training Program Length		0.16 [-0.00, 0.33]	0.09 [-0.04, 0.21]
Materials Before Classroom Session		0.30 [-0.02, 0.62]	0.09 [-0.16, 0.35]
Materials After Classroom Session		0.32* [0.07, 0.57]	0.07 [-0.15, 0.29]
Level of Voluntary Participation			0.35*** [0.24, 0.46]
Supervisor Support			0.44*** [0.32, 0.55]
Superv. Sup. * Level of Voluntary Part.			-0.11* [-0.22, -0.00]
Statistics	$F(8, 303) = 1.406$	$F(13, 298) = 2.987$**	$F(16, 295) = 13.366$***
R^2 / Adj. R^2	0.034 / 0.012	0.103 / 0.067	0.387 / 0.356
AIC	888.79	875.89	763.25
BIC	922.45	928.25	826.83

Note. The table shows standardized regression coefficients of the hierarchical models' predictive variables for Motivation to Transfer as dependent variable. N = 311, Standard Error Estimator = HC3, CI = Confidence Interval, AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4. Linear regression models of Perceived Training Transfer

|	Model 1 [95% CI]	Model 2 [95% CI]	Model 3 [95% CI]
Constant (Company 1)	-0.11 [-0.34, 0.12]	-0.39* [-0.69, -0.09]	-0.19 [-0.43, 0.04]
Company 2	0.24 [-0.14, 0.62]	0.25 [-0.15, 0.64]	0.27 [-0.09, 0.64]
Company 3	-0.00 [-0.45, 0.45]	-0.19 [-0.72, 0.35]	-0.04 [-0.48, 0.39]
Company 4	0.19 [-0.13, 0.52]	0.30 [-0.17, 0.76]	0.12 [-0.27, 0.52]
Company 5	0.17 [-0.14, 0.49]	0.15 [-0.24, 0.53]	0.06 [-0.28, 0.40]
Company 6	0.00 [-0.44, 0.45]	-0.13 [-0.58, 0.33]	0.09 [-0.27, 0.46]
Company 7	0.29 [-0.15, 0.73]	0.06 [-0.46, 0.58]	-0.15 [-0.58, 0.27]
Company 8	0.12 [-0.72, 0.95]	-0.16 [-0.99, 0.66]	-0.50 [-1.29, 0.28]
Time Lag Btw. Training & Outcome Measure		-0.02 [-0.16, 0.12]	-0.12 [-0.24, 0.01]
Manager		0.26* [0.02, 0.49]	0.32** [0.11, 0.52]
Training Program Length		0.08 [-0.08, 0.23]	0.01 [-0.12, 0.14]
Materials Before Classroom Session		0.45** [0.11, 0.78]	0.24 [-0.04, 0.53]
Materials After Classroom Session		0.21 [-0.05, 0.47]	-0.00 [-0.23, 0.22]
Level of Voluntary Participation			0.24*** [0.12, 0.35]
Supervisor Support			0.47*** [0.35, 0.58]
Superv. Sup. * Level of Voluntary Part.			-0.11* [-0.22, -0.01]
Statistics	$F(8, 303) = 0.540$	$F(13, 298) = 1.729$	$F(16, 295) = 8.360$***
R^2 / Adj. R^2	0.013 / -0.010	0.069 / 0.032	0.318 / 0.284
AIC	895.50	887.27	796.35
BIC	929.16	939.63	859.93

Note. The table shows standardized regression coefficients of the hierarchical models' predictive variables for Perceived Training Transfer as dependent variable. N = 311, Standard Error Estimator = HC3, CI = Confidence Interval, AIC = Akaike Information Criterion, BIC = Bayesian Information Criterion. * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1. Interactive effect of the level of voluntary participation and supervisory support on motivation to transfer
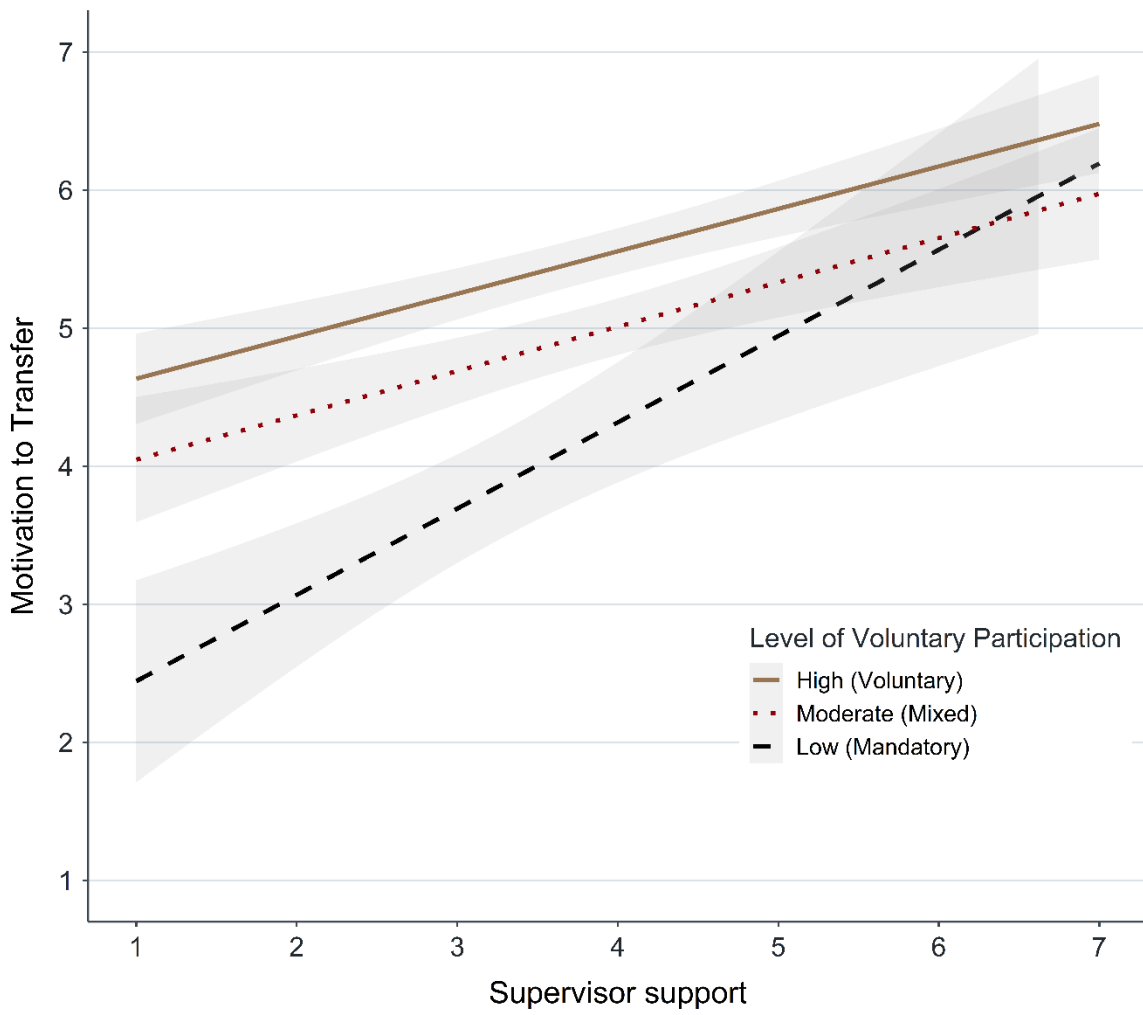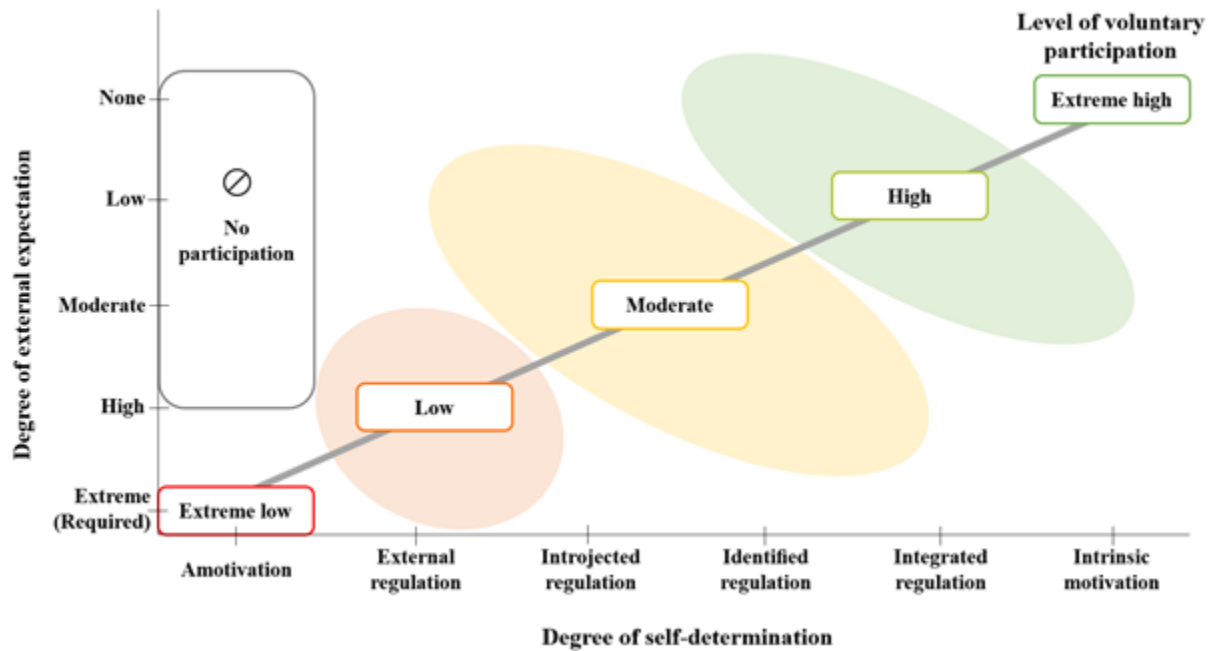
Figure 2. Interactive effect of the level of voluntary participation and supervisory support on perceived training transfer
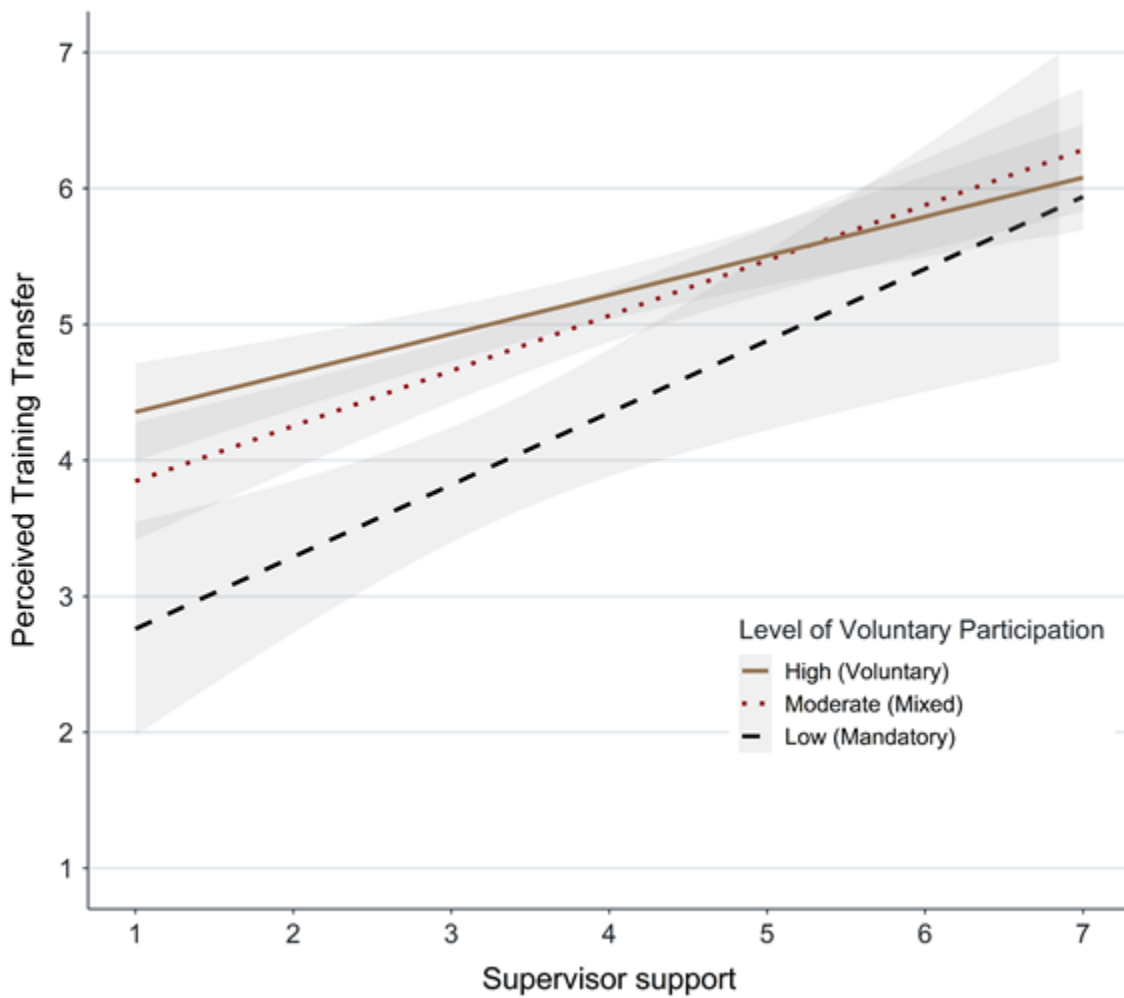
Figure 3. A proposed approach to capture both contextual (degree of external expectation) and personal (degree of self-determination) dimensions to determine the level of voluntary participation

The interplay between the level of voluntary participation and supervisor support on trainee motivation and transfer

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Acknowledgements

Conflict of interest: The authors declare that they have no conflict of interest.

Data Availability Statement: The data that support the findings of this study are openly available in OSF at https://osf.io/a3jpq/?view_only=de11ad27328d483bbfd93eba9ec75637 (anonymous – blinded for review)

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