



# Daily Dyadic Dynamics of Social Support at Work

Marijn Eveline Lidewij Zeijen



# **Daily Dyadic Dynamics of Social Support at Work**

**Marijn Eveline Lidewij Zeijen**



## **Daily Dyadic Dynamics of Social Support at Work**

Marijn Eveline Lidewij Zeijen

ISBN: 978-94-6419-775-4

Printing: Gildeprint Enschede, [gildeprint.nl](http://gildeprint.nl)

Layout and (cover) design: Harma Makken, [persoonlijkproefschrift.nl](http://persoonlijkproefschrift.nl)

Copyright 2023 © Marijn Eveline Lidewij Zeijen

The Netherlands. All rights reserved. No parts of this thesis may be reproduced, stored in a retrieval system or transmitted in any form or by any means without permission of the author.



# **Daily Dyadic Dynamics of Social Support at Work**

Dagelijkse dyadische dynamiek van  
sociale steun op het werk

## **Proefschrift**

ter verkrijging van de graad van doctor aan de  
Erasmus Universiteit Rotterdam  
op gezag van de  
rector magnificus

**Prof. dr. A.L. Bredenoord**

en volgens besluit van het College voor Promoties.  
De openbare verdediging zal plaatsvinden op

donderdag 1 juni 2023  
om 15.30 uur

door

**Marijn Eveline Lidewij Zeijen**  
geboren te Geleen



## **Promotiecommissie**

Promotor: Prof. dr. A.B. Bakker

Overige leden: Prof. dr. D. van der Linden  
Prof. dr. M. Ph. Born  
Prof. dr. M.C.W Peeters

Copromotor: dr. P. Petrou



Voor  
Hera en Sabe



## Contents

Chapter 1	General Introduction	9
Chapter 2	The Daily Exchange of Social Support Between Co-Workers: Implications for Momentary Work engagement	19
Chapter 3	Dyadic Support Exchange and Work Engagement: An Episodic Test and Expansion of Self-determination Theory	41
Chapter 4	Giving and Taking Social Support at Work: An Experience Sampling Study Among Dyads	69
Chapter 5	Providing social support at work matters and spills over to home: A multi-source diary study	95
Chapter 6	General Discussion	121
Appendices	References	134
	Dutch Summary	148
	Curriculum Vitae	155
	Publications	156
	Dankwoord	158







# 2

## The Daily Exchange of Social Support Between Co-Workers: Implications for Momentary Work engagement

This chapter has been published as:

Zeijen, M. E. L., Petrou, P., & Bakker, A. B. (2020). The daily exchange of social support between coworkers: Implications for momentary work engagement. *Journal of Occupational Health Psychology*, 25(6), 439–449. <https://doi.org/10.1037/ocp0000262>

This chapter has been rewarded with the Best Paper Award at the 2017 conference of the Dutch Association of Work & Organizational Psychology (WAOP), 24 November 2017 Radboud University Nijmegen





## **Abstract**

We develop a dyadic model of social exchange at work and shed light on how employees exchange support on a daily basis. In addition, we investigate when providing support relates to the work engagement of the provider. We hypothesized that the provider repeats his or her supportive action within a day when the receiver also provides support or when the receiver is engaged. We also predicted that supporting a coworker relates positively with the provider's engagement and that this relationship is strengthened when the support is given to an engaged receiver. To test our hypotheses, we used experience sampling and we investigated support provision and work engagement in dyads of coworkers during the morning and afternoon of 4 working days. Multilevel analyses based on 123 dyads ( $N = 418\text{--}692$  data points) revealed that supporting a coworker relates positively to the supporter's engagement and that this relationship is stronger when the support is given to an engaged receiver. Furthermore, results showed that the provider is more likely to repeat his or her supportive action if the receiver also provides support. We did not find a moderation effect of the receiver's engagement on the link between support provision during the morning and support provision during the afternoon. Altogether, our study provides insight on what motivates employees to support their coworkers and when providing support is most engaging. Furthermore, we show that the behavioral assumption of social exchange theory (i.e., reinvesting support in a receiver who reciprocates) exists within a daily work context.

From Aristotle to Buddha, history has shown that helping others does not only contribute to the well-being of the receiver, but also to the well-being of the provider (Ryan & Martela, 2016). Indeed, a growing body of research on prosocial behavior shows that the act of providing contributes to the well-being of the provider (e.g., Aknin et al., 2013a, 2013b; Alden & Trew, 2013; Martela & Ryan, 2016; Weinstein & Ryan, 2010). The act of providing, however, never stands alone. The positive effects of providing experienced by the provider often depend on the behavior of the receiver. For instance, the support provider's sense of social worth (e.g., a sense of being valued by others) or self-worth, as well as the given amount of social support both increase when the receiver expresses gratitude (e.g., Grant & Gino, 2010; Monin et al., 2017; Ryan & Deci, 2000). This implies that the act of providing support as well as the benefits of providing support should not be examined in a vacuum as the supportive act and its benefits are not independent from the support provider's need to see the reactions of their actions.

Social support is considered to be an essential resource for employees' well-being and job performance (e.g., Kossek et al., 2011), and recent studies have shown that supportive behaviors do not necessarily remain stable over different working days (Lanaj et al., 2016; Uy et al., 2017). As such, we argue that it is important to gain knowledge not simply on the daily factors that predict support provision, but, most importantly, on the daily factors that make it more likely for a provider to *re-invest* support within days. Our daily approach goes beyond previous research (e.g., Knoll et al., 2006; Yang et al., 2018) addressing supportive exchanges on a weekly, monthly, or yearly basis. This seems important as different levels of analysis may refer to different processes (George & Jones, 2000). Whereas daily or episodic supportive exchanges are likely to be recalled as concrete actions (Gleason et al., 2003), reporting supportive exchanges over the last month or year refers to more crystallized perceptions of what generally happens in one's job. Hence, in order to zoom in on the conditions that contribute to the sustainment of support provision within working days, we presently aim at capturing the daily factors that relate to the "reinvestment" of social support.

Based on social exchange theory and the work engagement literature (e.g., Cropanzano et al., 2017; Emerson, 1976; Gouldner, 1960; Schaufeli et al., 2006), our first and main aim is to explore the conditions under which the provider of support is most likely to repeat their supportive action within a working day and we identify two such conditions. We expect that this is more likely to happen when (1) the receiver has previously also provided support (thus, making it more likely that the provider will reciprocate), and (2) the receiver is work engaged (i.e., which makes him/her a more positive and a more approachable receiver). Secondarily to our main research question,

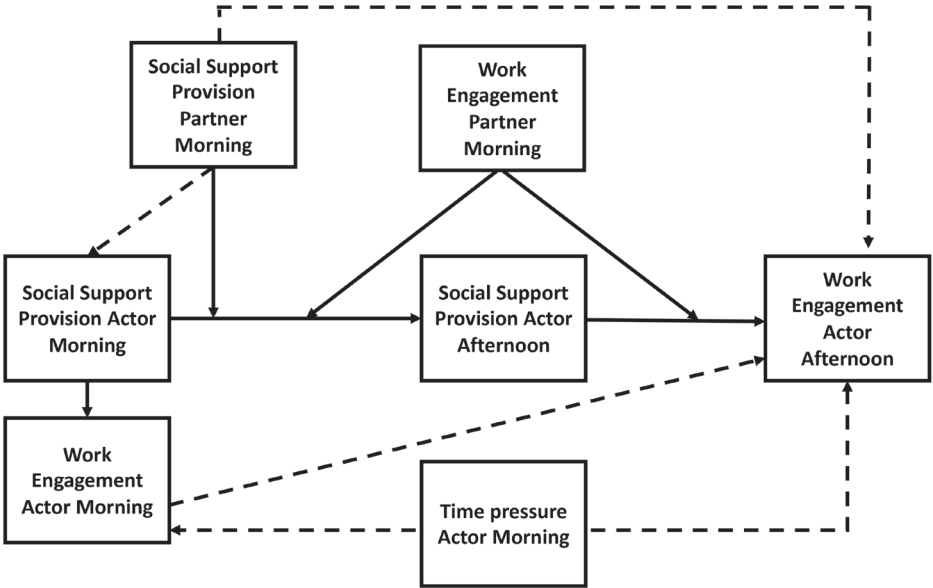


we examine when support provision is (most) beneficial for the support provider's work engagement. Previous literature has often examined when support provision is exhausting or depleting the provider (Choi et al., 2017; Gabriel et al., 2018). More similar to our scope, researchers have addressed whether the beneficial effects of the support provision for the support provider depend on the organizational context (Choi et al., 2017; Yang, et al., 2018), the provider's perceived positive impact (Aknin, et al., 2013b), the provider's motivation (Weinstein & Ryan, 2010), and the provider's traits (Koopman et al., 2016). What we contribute to this line of research is that the beneficial effects for the provider may also depend on the state (i.e., engagement) of the support receiver (rather than the provider).

In its totality, our model does not only address when reinvestment of support most likely occurs but also whether the support investment is beneficial for the support provider. In doing so, we aim to uncover common predictors (i.e., the amount of supportive investment of both parties involved) that may influence different processes (i.e., the benefits of providing support and whether someone is likely to re-invest support).

To achieve our aims, we develop a dyadic model of daily supportive exchange between dyads of co-workers (see Figure 1), in which we examine provided and received social support simultaneously. In doing so, we contribute to the literature in three notable ways. First, we recognize the temporal dynamics of social exchange theory (Cropanzano et al., 2017; Cropanzano & Mitchell, 2005; Emerson, 1976) as we investigate the re-investment of social support within days. Second, our study contributes to the social exchange literature by uncovering the factors that influence the sustainability of support provision between co-workers. As such, we go one step further than previous studies examining the influence of reciprocity behavior on outcomes, such as mood (Gleason, et al., 2003) or psychological distress (Liang, et al., 2001). Namely, we gain insight in whether the reciprocation of support provision by a co-worker makes it more likely that a support provider re-invests social support later that day. Third and finally, by investigating social support provision as an interaction process using two sources, we contribute to the social exchange literature by including both the provider and the receiver of support in our model (as recommended by Gabriel et al., 2018).

**Figure 1**  
*Theoretical model of social support exchange*



*Note.* The dotted lines represent the relationships that we control for.

## Theoretical Background

Many studies on the exchange of social resources make use of social exchange theory (SET) – a broad conceptual paradigm that can be understood as a family of theoretical models (Cropanzano et al., 2017; Cropanzano & Mitchell, 2005). Accordingly, the social exchange process starts when a co-worker (i.e., or a supervisor) treats a target individual in a positive or negative way (Eisenberger et al., 2004). These positive (or negative) treatments are called initiating actions and influence the behavior and feelings of the target person, who is likely to reciprocate with similar positive or negative reactions (Cropanzano et al., 2017). According to SET, the reactions of both parties within exchange relationships follow certain rules and norms (Cropanzano & Mitchell, 2005). An important rule that lies at the core of SET is Gouldner’s (1960) reciprocity norm, which entails that people are inclined to repay the good deeds of others. In turn, Emerson stated in 1976, that “a resource will continue to flow only if there is a valued return contingent upon it.” (p.359). This may mean that, only when a coworker who received the initial support reciprocates the received support by also

providing support, the initial support generates a valued return and as such, keeps flowing. Translated to the present daily support context, the initially provided support needs to generate a valued return in order for employees to re-invest support. Following SET and the reciprocity norm, employees who experience that their supportive actions have been reciprocated by a co-worker in the morning will be more likely to react positively by re-investing support during the afternoon (as compared to employees who did not receive support from their co-worker in the morning). This reasoning is also in line with Axelrod's (1981) tit-for-tat strategy, suggesting that people are inclined to invest in their partner particularly when the partner shows cooperative behavior first. People are, thus, more likely to mirror generous behavior, rather than to be unconditionally generous. Hence, taking all the aforementioned together, we predict:

**Hypothesis 1:** The relationship between providing social support within the morning and providing social support within the afternoon is positive when the receiver has provided higher (rather than lower) social support within the morning.

Furthermore, we argue that the repetition of a supportive act is more likely when the receiver expresses positivity and is easy to interact with. Specifically, when a co-worker is vigorous and enthusiastic, he/she will be easier to help again as compared to co-workers who make a tired or cynical impression. A construct that reflects such a positive, fulfilling, and work-related state of mind, characterized by vigor, dedication, and absorption is work engagement (Schaufeli et al., 2002). Employees who score higher on work engagement are characterized by a secure attachment (i.e., which reflects the lack of anxiety to get attached to another person) and tend to have good social relationships (Van Beek et al., 2014; Schaufeli et al., 2008). This suggests that it is easy to interact with engaged employees and that others are easily attracted to them.

Engaged employees have a tendency to experience and express positive emotions (Van Wijhe et al., 2011). According to previous research, the positive input from the receiver (i.e., gratitude) motivates the provider to increase the amount of provided support (Grant & Gino, 2010). Specifically, the results from Grant and Gino show that participants who receive a thank-you note from a recipient are more likely to offer additional help to this recipient and to others. In the present study, we argue that work engaged employees, who are known to experience and express more positive emotions (Van Wijhe et al., 2011) are also more likely to signal agreeableness, acceptance and appreciation when receiving support from a co-worker. This reasoning is in line with previous research showing that positive emotions facilitate the use of cooperative interpersonal tactics and reduce workplace conflicts (Barsade et al., 2000). Moreover, engaged employees are likely to be more approachable because positive people attract

others (i.e., as compared to more negative or neutral co-workers; Miles, 2009). Hence, based on the aforementioned evidence, we expect that re-investing support in a colleague is more likely when that co-worker was highly engaged during the morning in which support was invested.

**Hypothesis 2:** The relationship between providing social support within the morning and providing social support within the afternoon is stronger when the receiver's work engagement within the morning is higher (rather than lower).

### Can providing support be engaging?

According to the ancient perspective of Aristotle (Ryan & Martela, 2016), it is the highest purpose of human beings to actualize their inner goodness and virtues, such as friendliness and doing well for others. Through actualizing their inner goodness, individuals have a higher likelihood of experiencing a happy and satisfied life. Why helping others is beneficial can be explained from an evolutionary perspective. According to the indirect reciprocity reasoning (Alexander, 1987), our ancestors increased their chances of survival by helping others, as this would make the receivers more willing to return the favor later on. Indeed, social exchange studies show that people with a history of helping others are more likely to receive help from others (Antonucci et al., 1990). In addition, people's inherent helping tendency is not only motivated by self-serving motivation but exists because people have a genuine concern for the welfare of others. Hepach et al. (2012) tested this proposition by examining participants' physical reactions when the participants themselves performed the helping behavior versus when the participants saw that a third party did the helping. Their findings showed that participants reacted psychically under both conditions. Based on this, the authors concluded that people have a genuine concern for the well-being of others, as the results could not be explained by a self-serving motive.

Although the majority of studies in the organizational domain have investigated the effects of receiving social support (Viswesvaran et al., 1999), an increasing number of studies suggests that *providing* support can also be beneficial for the provider's well-being within an organizational context (e.g., Uy et al., 2017). According to Kahn's (1990) framework of employee engagement, supporting one's co-workers is a form of investing energy into the job, through which people create personal meaningfulness and engage themselves to their work (Kahn, 1990; May et al., 2004).

Presently, we are interested in the immediate consequences of the provided support on the provider's momentary work engagement. According to previous theoretical reasoning and empirical evidence (Martela & Ryan, 2016), providing support and



helping others produces an immediate sense of beneficence. As such, the engaging effects of providing support to a co-worker appears to be a “here-and-now” process in which the engaging effects of providing support are more strongly and clearly experienced right after the act itself. In addition, because individuals are likely to work on other tasks during following work periods, the subsequent tasks may be more or less satisfying than those in the previous period (Bakker & Oerlemans, 2016) – and therefore may mask the effects of support provision. Taken together, we expect that the engaging effects of providing support to a co-worker take place on the present moment, thus, occurring within the morning and also within the afternoon. As such, we hypothesize the following:

**Hypothesis 3:** Social support provision relates positively to work engagement of the support provider within the morning and within the afternoon.

Furthermore, we argue that supporting a co-worker is more engaging when the support is given to an engaged co-worker. We expect the level of daily work engagement of the support receiver to be relevant for the support provider because previous findings have shown that work engagement tends to crossover from one co-worker to another, particularly on days when colleagues frequently interact and talk through e-mail, by telephone, or face to face (Bakker & Xanthopoulou, 2009). According to Westman (2001), a crossover is a dyadic, inter-individual transmission of well-being between closely related individuals. We reason that the engagement of the partner during the morning strengthens the engaging potential of the support provision later on the day (rather than in the morning) for two main reasons. First, it may take some time for the energy and positivity of a co-worker to be transferred to another co-worker (cf. Bakker & Xanthopoulou, 2009). As such, the partner’s work engagement during the morning has more time to be noticed by the provider and more strongly influences the provider as compared to the afternoon engagement. Second, according to the primacy effect, the first piece of information that someone perceives, generates an increase in attention to that stimulus (Anderson, 1965). Following this primacy principle, the partner’s work engagement during the morning which indicates the level of engagement at the start of the day is most likely a stronger signal to the provider because it is something that the provider notices right in the beginning of their day. Later on, when he/she is perhaps more absorbed in subsequent work tasks, the partner’s engagement may have less impact.

Additionally, we argue that if the support is given to an enthusiastic and energized receiver, the support provider has more opportunities to feel appreciated and assume that the support is well invested. Feeling appreciated and socially valued is triggered

when the provider receives positive feedback (Grant & Gino, 2010). Since engaged employees tend to express positivity and give positive feedback (Bakker et al., 2014), an engaged receiver is likely to be a pleasant person to deal with. We suggest that helping someone who has been positive and perceived as appreciative during the morning makes the supportive act during the afternoon easier and more pleasant, thereby strengthening its engaging effect for the support provider. Therefore, our fourth hypothesis reads:

**Hypothesis 4:** The relationship between providing social support within the afternoon and work engagement of the provider within the afternoon is stronger when the receiver's work engagement within the morning is higher (rather than lower).

## Method

### Procedure and Sample

First, participants filled in one general survey that we sent them via e-mail. Next, to capture social support as part of real-life and momentary work experiences, we used a fixed interval experience-sampling methodology (ESM; Ohly et al., 2010). These samplings were spread over four working days, each day comprising one measurement in the morning (between 11 and 12.30 am) and one measurement in the afternoon (between 4 and 7 pm). Participants were invited to download an application on their smartphone on which they would receive the experience sampling-surveys. Six participants who were unable to install the application made use of a computer, tablet or paper and pencil version.

In line with other dyadic-data studies (e.g., Bakker et al., 2012; Bakker & Xanthopoulou, 2009), we advertised the study towards participants working in a wide range of different sectors and organizations using social media, such as LinkedIn and Facebook in the Netherlands. All participants signed up voluntarily (i.e., there was no external incentive) and we sampled the dyads that had the most contact every day. Specifically, we asked every participant (i.e., the "primary participant") who signed up, if he/she had contact with other co-workers at least three times per day. Next, we asked the primary participant to identify the co-worker with whom he or she had most regular contact with. If the primary participant indicated more than one co-worker, we chose the co-worker who was most relevant to our study. In doing so, we followed two principles: (1) which co-worker is available for the study during the next days (i.e., is not ill, on holiday, or has meetings outside the organization), and (2) which co-worker is willing to take part in the study? We thus selected the dyads that were in

contact with each other the most, and not co-workers who liked each other the most. We tested explicitly whether employees considered each other to be friends with a single item (i.e., “This colleague could be a friend of mine” from the likeability scale of Wayne & Ferris, 1990). Preliminary descriptive statistics for this item reveal that not all co-workers want to be friends, and the present sample covers large variation in terms of likeability ( $M = 3.71$ ,  $SD = .98$ , on a scale from 1-5; with 33.2% of the sample being neutral to the possibility of being friends and even 9.1% of the sample excluding the possibility of friendship).

In order to guarantee confidentiality, responses of the dyad members were linked through an anonymous code provided by the researchers. In total, 254 participants signed up, of which eight participants did not form a dyad. After excluding participants who did not form a dyad, 246 participants remained, resulting in 123 dyads ( $N = 418 - 692$  data points). Compared to other APIM studies, this appears to be a relatively large sample (i.e., Bakker & Xanthopoulou, 2009; Peeters et al., 2016). We used all the data points from all 246 participants, also the moments in which only one of the participants from a dyad filled in the questionnaire. Participants included 174 women (71%) and 70 men (29%), with a mean age of 36.12 years ( $SD = 12.02$ ). On average, co-workers worked 7.53 years together ( $SD = 8.03$ ) and worked 34.90 hours per week ( $SD = 8.16$ ). Of all participants<sup>1</sup>, 73% finished higher education (47% university and 26% applied sciences), 16% completed a vocational training, and the other 11% finished high school. Finally, 34% of the sample was employed in the health care sector, 31% in the research and educational sector, 7% in the cultural sector, 3% worked for governmental agencies, and the remaining 25% was employed in various other sectors.

## Measures

**Work engagement.** When conducting ESM studies, Ohly and colleagues (2010) recommend using short scales or even single-item measures. We therefore selected one item from each dimension of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006) following previous work of Reina-Tamayo et al. (2017). All items were already available in Dutch (i.e., the language of the study; Reina-Tamayo et al., 2017) and validated by Schaufeli and colleagues (2017). Prior to all items we instructed the participants with the following text “As you are filling in the questionnaire right now, we ask you to answer these questions with regards to your last work moment, just before starting this questionnaire”. The items were: “Right now, I feel full of energy” (vigor), “Right now, I feel enthusiastic about my job” (dedication) and “Right now, I am immersed in my work” (absorption; scale ranging from 1 = not at all to 7 = to a very

large extent). Cronbach's alpha ranged from  $\alpha = .81$  to  $\alpha = .91$  on the eight measurement moments. In addition, we calculated the within-person reliability, defined as the internal consistency of a set of responses collected in each measurement occasion by Nezlek (2017). Within-person Cronbach's alpha ranged from  $\alpha = .73$  during the mornings to  $\alpha = .75$  during the afternoons. Following the classification Nezlek (2017) refers to, these reliabilities are substantial (Shrout, 1998).

**Social Support.** was assessed using the scale developed and validated by Peeters and colleagues (1995; based on House, 1981) in Dutch, from which we selected the three main types – instrumental, informative, and emotional support (House & Kahn, 1985). We adapted all items to match the time and person perspective. This means that we formulated three items measuring the amount of support that was given during the morning and during the afternoon. Cronbach's alpha ranged from .70 to .82 on the eight measurement points. The within-person reliability ranged from  $\alpha = .49$  during the mornings to  $\alpha = .54$  during the afternoons. Following the classification of Nezlek (2017), these estimates represent fair reliability (Shrout, 1998). An example item is “This afternoon, I gave my coworker advice about how to approach an issue” (scale ranging from 1 = “Not at all”, 2 = “yes, to a small extent”, 3 = “yes, to some extent”, 4 = “yes, to a large extent” to 5 = “yes, to a very large extent”).

**Control variables.** Since work engagement of employees is known to be positively influenced by job resources and negatively by job stressors (Demerouti et al., 2001), we decided to control for the received amount of social support (measured as provided support reported by the co-worker) and employees' time pressure in the analyses. Numerous studies show that received support associates positively with the support receiver's work engagement (for instance, see a review on daily associations between support and work engagement by Bakker, 2014), while time pressure impairs employees' work engagement (De Spiegelaere et al., 2015). As such, we test the effects of support provision on the provider's work engagement over and above the effect of common and widely supported predictors of work engagement. We measured received support with the aforementioned social support scale, using the provided support as rated by the partner. Time pressure was assessed with the item ‘I have to work under time pressure’ (see also de Spiegelaere et al., 2015).

### Statistical analyses

In the present study, we examine dyads of co-workers, since the data of the two co-workers are not independent from each other. This is because both co-workers work together in the same work environment. In order to study non-independent data,



we analyze our data by means of the Actor–Partner Interdependence Model (APIM; Cook & Kenny, 2005). For details on how data sets are structured in APIM, we refer the reader to Cook and Kenny (2005). APIM allows for a simultaneous examination of the direct effect of an actor’s predictor on the outcome of the actor (i.e. actor effect) as well as an examination of the actor’s predictor on their partner’s outcome (i.e. partner effect). With this method, it does not matter which direction (partner to actor or actor to partner) is reported; the results are the same because all employees in the sample are both actors and partners. Furthermore, we tested whether the results differed for heterogeneous (i.e., male and female co-workers) or homogeneous (i.e., two male or two female co-workers) dyads and found no differences.

To test our hypotheses, we built a Structural Equation Model using Mplus version 7 (Muthén & Muthén, 2012) and we follow the multilevel modeling framework of Zhang and colleagues (2009) to avoid biased estimations (Preacher et al., 2010). We also follow previous studies that focused on the within day effects of support provision (Uy et al., 2017) or employed a similar design (Huang et al., 2015). Moreover, when models include interaction terms, such as the present model (see Figure 1), it seems best to not interpret the main effects within the models containing the interactions (Aiken et al., 1991). Therefore, we first estimate a model including the intercepts (i.e., social support afternoon, work engagement morning and afternoon), the predictors and control variables (i.e., actor’s support provision during the morning and afternoon, partner’s support provision during the morning and actor’s and partner’s work engagement during the morning and actor’s time pressure) to test the main effects hypothesis in Model 1. Next, to test the interaction hypotheses, we include the interaction terms in Model 2 (i.e., interaction term between actor’s and partner’s support provision during the morning, between actor’s support provision and partner’s work engagement during the morning and between actor’s support provision during the afternoon and partner’s work engagement during the morning). All momentary-level (level 1) variables were group mean-centered (i.e. centering each individual score on a variable relative to the individual’s mean on that variable score). To avoid multicollinearity between the predictors and interaction terms, we first centered the predictor variables and then multiplied them to form the interaction terms (Cohen, Cohen, West, & Aiken, 2003). We used the -2log-likelihood difference test to analyze the differences in fit between the models. We plotted the interactions using Preacher and colleagues’ (2006) online tool for plotting 2-way interaction effects in hierarchical linear modelling.

## Results

The means, standard deviations and correlations of all study variables are reported in Table 1. We examined the intra-class correlation coefficients (ICC) for all study variables and report them in Table 1. An ICC represents to what extent the differences between the samplings can be explained by individual differences. Hence, we conclude that a substantial part of the variance is situated on the lower level, and a multi-level analysis is justified.

### Model Fit

Because the models in this paper are not nested, we use the Akaike information criterion to examine the model fit (AIC). Overall, a lower AIC value represents a better fitting model (Burnham & Anderson, 2004). As can be seen in Table 2, the AIC value for the interaction model (Model 2) represents a better fit to the data as compared to the direct relationships only model (Model 1;  $\Delta AIC = 402.654$ ; see Table 2 for all model comparisons).

### Hypothesis testing

First, we examined the results for our first hypothesis, which stated that the relationship between actor's support provision (i.e., morning) and subsequent support provision (i.e., afternoon) would be positive when the partner provided higher (vs. lower) social support (i.e., morning). Consistent with this prediction, results show that the interaction term is a significant predictor of actor's support provision (i.e., afternoon;  $\beta = .14$ , S.E. = .06,  $t = 2.276$ ,  $p = .023$ ; Table 2, Model 3). Next, we conducted a simple slope analysis based on Preacher, Curran and Bauer (2006), and estimated values at 1SD above and below the mean of the partner's support provision during the morning. We assessed the slopes between actor's support provision during the morning and actor's support provision during the afternoon when the partner provided higher support (+1SD), and when the partner provided lower support (-1SD). Figure 2 shows that when the partner provided higher support (+1SD), the slope was positive and significant (estimate = .22, S.E. = .11,  $z = 2.05$ ,  $p = .040$ ). In contrast, when the partner provided lower support (-1SD), the slope between actor's support provision in the morning and actor's support provision in the afternoon was not significant (estimate = -.12, S.E. = .11,  $z = -1.11$ ,  $p = .266$ ). Thus, particularly when the partner provided support during the morning, the actor provides social support during the afternoon again. The results support Hypothesis 1.

**Table 1**  
Means, standard deviations and pearson correlations between the study variables

Study Variables	M	SD	1	2	3	4	5	6	7	8	9
1. Actor Providing Social Support Morning	2.32	.95	<b>.32</b>	.42**	.50**	.29**	.01	.21**	.12*	.11*	.10
2. Partner Providing Social Support Morning	2.38	.96	.59**	<b>.32</b>	.17**	.67**	.06	.26**	.09	.14*	-.14*
3. Actor Providing Social Support Afternoon	2.43	.95	.04	-.06	<b>.36</b>	.46**	.09	.26	.34**	.30**	.00
4. Partner Providing Social Support Afternoon	2.29	.97	.40**	.52**	-.01	<b>.37</b>	.07	.47**	.22**	.35**	-.13*
5. Actor Work Engagement Morning	4.89	1.21	-.01	.01	-.08	.02	<b>.44</b>	.14**	.65**	.19**	.18**
6. Partner Work Engagement Morning	4.79	1.23	.27**	.64**	.03	.39**	.04	<b>.46</b>	.25**	.75**	-.04
7. Actor Work Engagement Afternoon	4.86	1.16	.08	.10	.11	.03	.32**	.05	<b>.42</b>	.22**	.04
8. Partner Work Engagement Afternoon	4.76	1.29	.24**	.42**	.04	.68**	.04	.64**	.07	<b>.44</b>	-.00
9. Actor Time Pressure Morning	3.27	1.34	-.02	.01	-.01	.03	.02	.03	-.10	.01	<b>.57</b>

Note: \*  $p < .05$ ; \*\*  $p < .01$  (2-tailed). Correlations above the diagonal are within-person correlations. Correlations below the diagonal are person-level correlations aggregated over the four study days. Means and standard deviations are person-level means. Between the within and person-level correlations the ICC's are presented in bold numbers.

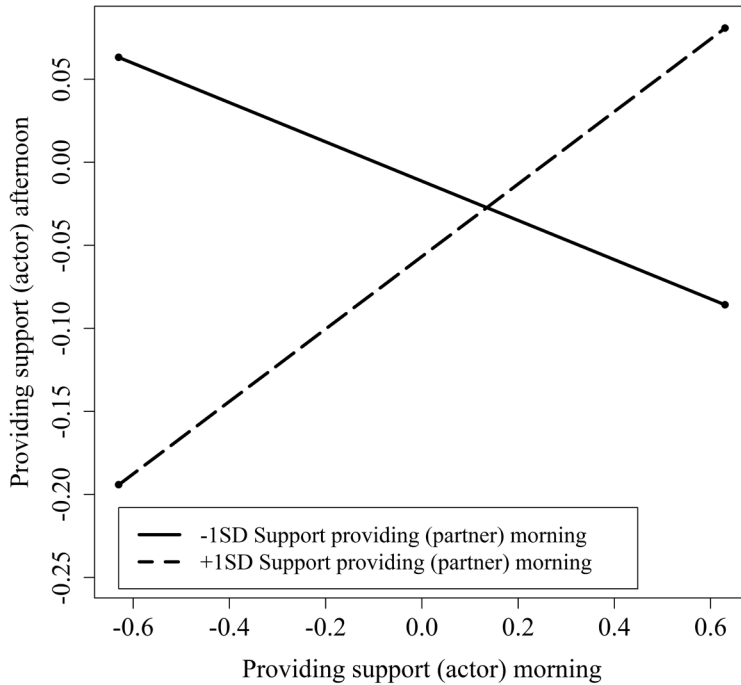
**Table 2**  
*Standardized regression coefficients for the Model predicting actor's work engagement during the morning, actor's support provision and work engagement during the afternoon*

Level and Variable	Direct Relationships Model Model 1			Interaction Model Model 2		
	Support Provision Afternoon $\beta$ (SE)	Work Engagement Morning $\beta$ (SE)	Work Engagement Afternoon $\beta$ (SE)	Support Provision Afternoon $\beta$ (SE)	Work Engagement Morning $\beta$ (SE)	Work Engagement Afternoon $\beta$ (SE)
<b>Mornings (level 1)</b>						
Support Provision Actor	.04 (.07)	.17** (.06)		.05 (.07)	.14* (.07)	
Support Provision Partner	-.04 (.07)	-.07 (.06)	.07 (.05)	-.03 (.07)	-.06 (.07)	-.07 (.06)
Work Engagement Actor	.06 (.06)		.26*** (.05)	.03 (.06)		.18** (.06)
Work Engagement Partner	.02 (.06)		.02 (.05)	.01 (.06)		-.05 (.06)
Time Pressure		-.02 (.05)	-.12 (.05)		-.10 (.06)	-.10 (.06)
<b>Afternoons (level 1)</b>						
Support Provision Actor			.14* (.06)			.14* (.06)
<b>Interactions (level 1)</b>						
Providing Support Actor Morning x Providing Support Partner Morning				.14* (.06)		
Providing Support Actor Morning x Work Engagement Partner Morning				.01 (.06)		
Providing Support Actor Afternoon x Work Engagement Partner Morning						.14* (.06)
<b>Residual Variance</b>	.99*** (.01)	.98*** (.02)	.89*** (.03)	.98*** (.02)	.97*** (.025)	.91*** (.03)
<b>Additional information</b>						
BIC		1690.393			1690.393	
AIC		2018.517			1615.863	
$\Delta$ AIC					402.654	

*Note.* AIC = Akaike information criterion; BIC = Bayesian information criterion. Standardized coefficients ( $\beta$ ) are reported.  
\*  $p \leq .05$ ; \*\*  $p \leq .01$ ; \*\*\*  $p \leq .001$ .

**Figure 2**

Interaction effect of social support provision of the actor and partner in the morning on social support provision of the actor in the afternoon

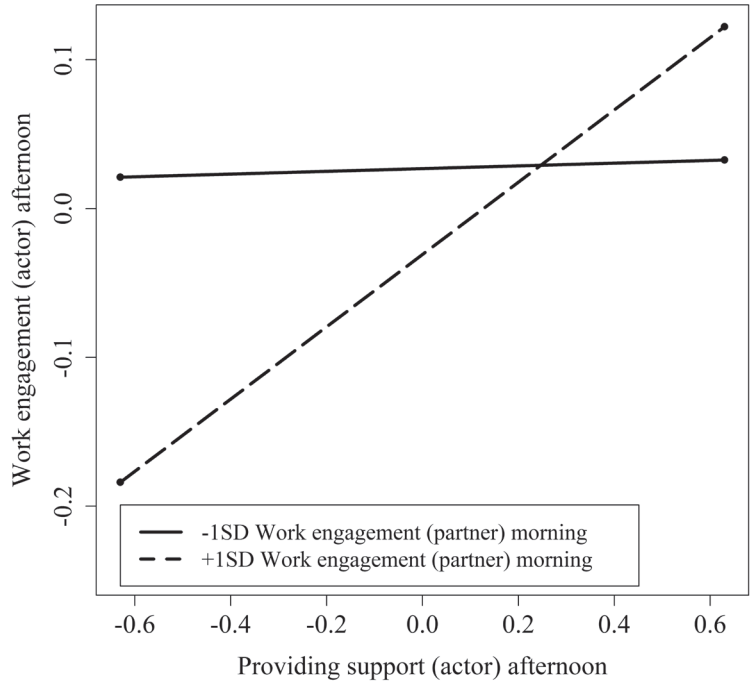


Furthermore, we tested whether the relationship between actor's support provision during the morning and afternoon depends on the level of the partner's work engagement during the morning (i.e., Hypothesis 2). In Table 2, Model 3 it can be seen that the interaction term between actor's support provision (i.e., morning) and the partner's work engagement (i.e., morning) is not a significant predictor of the actor's support provision during the afternoon ( $\beta = .01$ , S.E. = .06,  $t = .144$ ,  $p = .885$ ). This means that the relationship between actor's support provision during the morning and the support provision during the afternoon is not moderated by the partner's work engagement, and Hypothesis 2 is rejected.

The results regarding Hypothesis 3 (Table 2, Model 2) show that above and beyond the effect of the control variables on actor's work engagement during the morning and afternoon (i.e., partner's support provision during the morning and actor's experienced time pressure), there is a significant relationship between actor's support provision and work engagement during the morning ( $\beta = .17$ , S.E. = .06,  $t = 2.92$ ;  $p = .003$ ) and between actor's support provision and work engagement during the afternoon ( $\beta = .14$ , S.E. = .06,  $t = 2.35$ ;  $p = .019$ ). The data lend support to Hypothesis 3.

Finally, we tested Hypothesis 4, stating that the relationship between actor’s support provision (i.e., afternoon) and actor’s work engagement (i.e., afternoon) will be stronger when the partner was highly work engaged during the morning (rather than low work engaged). Results in Table 2 reveal that the interaction term of actor’s support provision with partner’s work engagement during the morning is a significant predictor of actor’s work engagement during the afternoon ( $\beta = .14$  S.E. = .06,  $t = 2.30$ ,  $p = .022$ ). This means that the positive relationship between social support provision and work engagement is moderated by the partner’s level of work engagement during the morning. Simple slope analyses (Figure 3) reveals that when the partner reported low (-1SD) work engagement, the slope between actor’s support provision and work engagement was not significant (Estimate = .02, S.E. = .09,  $z = .25$ ,  $p = .799$ ), whereas when the partner is highly engaged (+1SD), the slope between actor’s support provision and actor’s engagement was positive and significant (Estimate = .30 S.E. = .09,  $z = 3.28$ ,  $p = .001$ ). In other words, when the social support is given to a partner who was engaged during the morning, there is a positive relationship between the actor’s support provision and work engagement during the afternoon over and above the effects of the provider’s job resources and job demands, which supports Hypothesis 4.

**Figure 3**  
Interaction effect of social support provision of the actor in the afternoon and work engagement of the partner in the morning on work engagement of the actor in the afternoon.



## Discussion

With the present study, we recognize the temporal dynamics of social exchange and address it as a behavioral process that fluctuates within and between days. As such, we show that employees who receive support are more likely to re-invest social support within the same day. This means that support provision during the morning and the reciprocation of the support during that same morning stimulates the re-investment of support during the afternoon. Furthermore, we address the social support provision as an interaction process that is influenced by at least two parties. In doing so, we respond to calls from previous researchers to include assessments from others at work such as other ratings from co-workers (e.g., Gabriel et al., 2018). In what follows, we discuss the theoretical contributions made by this study.

### Re-investment of support

In line with the premises of SET (Gouldner, 1960; Emerson, 1976), our findings suggest that people indeed follow the norm of reciprocity in supportive exchanges with their co-workers. Specifically, we found that when a co-worker provided support during the morning, an employee is motivated to support the co-worker again during the afternoon. The finding that reciprocation by the receiver leads the provider to provide support again, confirms a basic tenet of social exchange theory (Gouldner, 1960; Emerson, 1976) from a novel perspective. Namely, by capturing the behavioral actions and reactions of both actor and partner, the current findings support the reciprocity norm (Gouldner, 1960) with repeated-measurement data. As such, it becomes clear that reciprocity is not simply an important requirement for people to be motivated to invest resources in a relationship, but also to *re-invest* into a relationship or, in other words, to *sustain* a certain social exchange.

The findings of the present study suggest, however, that the motivation to re-invest support into the relationship with a co-worker is not influenced by the partner's level of work engagement. We expected this because highly engaged employees are known to be enthusiastic and positive employees who are easy to interact with, which would make it more likely that a support provider would provide support again. Next to the motivation to help "easy" targets, employees may also be motivated to support co-workers with low work engagement because they are in need of support. According to the empathy-altruism hypothesis, employees are willing to help their co-workers because they empathize with them (Batson, 1998). Based on research showing that prosocial and pro-self-motivation can coexist within a single individual (Krueger, Hicks, & McGue,



2001), it seems plausible that people can be motivated to do good for others, while, at the same time being motivated to do good for themselves. Employees may thus be motivated to invest support in highly engaged co-workers because it is enjoyable to do so, while simultaneously they could be motivated to support low engaged co-workers, because they feel empathy towards them. This may explain why we did not find an interaction effect of the partner's work engagement between the subsequent support investments.

### **When is providing support engaging?**

The findings of the present study largely support the claim that helping others can be good for the supporter's well-being (Ryan & Martela, 2016). We expand this claim and apply it to an organizational context. Although no studies have linked the act of daily support provision to the specific concept of work engagement directly yet, previous studies did show a positive relationship with closely related concepts (e.g., happiness; Aknin et al., 2013a; positive affect, Alden & Trew, 2013; social worth, Grant & Gino, 2010 and; subjective well-being, Weinstein & Ryan, 2010). The present findings suggest that, in addition to helping others, the providers of support optimize their own work experience. Moreover, engagement theory and empirical evidence also suggests that highly engaged employees are likely to invest effort in their work and show organizational citizenship behaviors (Babcock-Roberson & Strickland, 2010; Bakker et al., 2012). Hence, combining the present finding with previous findings and engagement theory, it can be argued that engaged employees may, in fact, experience gain cycles whereby their helping strategies enhance their engagement even further. Future research could investigate possible reciprocal links between providing support and work engagement.

In addition, the results show that when the support is given to a co-worker who was engaged that morning, the provider's own engagement increases. This finding is in line with our reasoning that the vigor and positivity of the co-worker ensure that the subsequent act of supporting a co-worker is even more engaging for the support provider (Grant & Gino, 2010). Theoretically, the finding that it matters to whom the support is given for the support provider's engagement advances existing literature. Several studies have highlighted different parts of the relationship between support provision and its benefits. Previous research has shown that the beneficial effects of supporting others depend on the general organizational context (Choi, et al., 2017; Yang, et al., 2018). Other studies show that the benefits of helping depend on the provider's perceived positive impact (Aknin et al., 2013b), the provider's motivation (Weinstein & Ryan, 2010), and the provider's traits (Koopman et al., 2016). What the present study

contributes to this line of research is that the beneficial effects of providing support for the provider additionally depend on the behavior (i.e., engagement) of the support receiver.

In sum, the present research results suggest that for re-investment of resources to occur, reciprocation is needed, as people want to sustain an equal exchange relationship with their co-workers. In addition, by providing support to a co-worker, the support provider may optimize their own work experience. This happens particularly when the support is given to a receiver who has signaled that he or she is highly engaged in work on that day. These findings imply that while re-investing resources could be strategic and conditional (“I give again because you also gave”), the engaging potential of support provision is not (“When I give, I feel engaged, especially when you were engaged”).

### **Limitations**

A possible limitation of this study is that the present study focused on the immediate (i.e., quick) effects of support provision on the support provider’s work engagement. Future studies may want to investigate possible slow effects of support provision on the support provider’s work engagement within days or across days. Specifically, we expect that in order to capture possible slow effects of support provision on the support provider’s work engagement at a later point in time, research may benefit from a more cognitive approach, adopting psychological moderators such as capitalizing (i.e., turning to others to share positive experiences; Gable & Reis, 2010). Moreover, it is likely that in addition to one’s main co-worker, social exchange processes may take place between multiple coworkers. As such, it may be interesting for future research to consider the factors that influence the exchange of social support within work groups, for example, via network analysis. Furthermore, we controlled for the received amount of support in the relationship between support provision and the provider’s work engagement using a measure of provided support as reported by the co-worker. Alternatively, future studies may want to control for self-perceived support. Since other-ratings and self-ratings of social support may differ, future studies may want to investigate what the impact is of self-perceived social support. It is conceivable that the *perception* of received support is even more important than the actual support, since it is through cognition that individuals make assessments (Lakey & Cassady, 1990). Another limitation of this study concerns the relatively low within-person reliability of the support measure, which ranged from  $\alpha = .49$  to  $.54$ . This low reliability may be due to the fact that the support that is provided may fluctuate considerably between days and within days (from work episode to work episode). Although the estimates indicate

a fair reliability and can be seen as acceptable given the design of the study (cf. Nezlek, 2017; Shrout, 1998), preferably the internal consistencies would have been higher. Finally, although the results reveal that support provision predicts the provider's work engagement over and above the effect of job demands, job resources and previous levels of work engagement, we cannot conclude causality. Hence, it may be interesting to conduct an intervention study in which the amount of provided support is manipulated (e.g., by training participants to support their coworkers) to further investigate whether support provision, in fact, is able to enhance employee's engagement.

### **Practical implications and Conclusion**

With this study, we show that supportive exchanges are more likely to be successful when both parties in a dyad contribute to the exchange. In addition, we show that supporting co-workers can be seen as a behavioral strategy that providers can use in order to stay engaged at their work. Hence, supervisors may want to empower, encourage or provide opportunities to employees to help and support one another. This could be done, for instance, by shaping a culture where offering and receiving help is accepted and valued or via more proactive methods (e.g., assigning a "buddy" to newcomers or to employees who may need this). Most importantly, we note that creating a workforce where most employees (and, thus, also the receivers) are engaged will maximize the potential of supportive behaviors. Helping engaged employees makes the act of providing easier, more pleasant, and more worthwhile.

### **Notes**

<sup>1</sup> From the total sample of 246 participants, the information of 40 participants was missing on the question in what sector participants were working.







# 3

## Dyadic Support Exchange and Work Engagement: An Episodic Test and Expansion of Self-determination Theory

This chapter has been published as:

Zeijen, M. E., Petrou, P., Bakker, A. B., & Van Gelderen, B. R. (2020). Dyadic support exchange and work engagement: An episodic test and expansion of self-determination theory. *Journal of Occupational and Organizational Psychology*, 93(3), 687-711.  
<https://doi.org/10.1111/joop.12311>

This chapter has been rewarded with the Best Paper Award at the 2018 conference of the Dutch Association of Work & Organizational Psychology (WAOP), 21 November 2018 University Leuven, Belgium Radboud





## Abstract

According to the self-determination theory (SDT), individuals flourish when they satisfy their psychological needs. We expand this proposition by testing whether employees satisfy their own needs and improve their own work engagement by providing support to their co-workers. Moreover, we argue that it matters when and to whom the support is provided. We contend that the indirect effect of autonomously motivated support provision on the provider's work engagement through the provider's need satisfaction is stronger (1) during episodes that the receiver's emotional demands are high (vs. low), (2) when the receiver's learning goal orientation is high (vs. low), or (3) when the receiver's prove performance goal orientation is low (vs. high). We collected data among 97 dyads of police officers ( $N = 194$  participants) during two time blocks on one working day ( $N = 227$ -491 episodes). Multilevel analyses confirmed that support provision related positively to the provider's episodic work engagement through episodic need satisfaction. As hypothesized, this indirect relationship was stronger during emotionally demanding episodes, or when the receiver was characterized by a low prove performance goal orientation. Learning goal orientation did not moderate the support provision–work engagement relationship. These findings expand SDT by indicating that individuals satisfy their own daily needs by providing support, and by showing that it matters when and to whom support is provided.

Within the social support literature, the majority of studies focuses on the usefulness of receiving support (Lakey & Cohen, 2000). Few scholars have theorized and tested the consequences of support provision at work for the provider rather than the receiver (for a notable exception, see Uy, Lin & Ilies, 2017). However, by definition, social support involves two parties that influence each other simultaneously (Shumaker & Brownell, 1984). To gain a better understanding of work-related supportive exchange as a dyadic phenomenon, it is important to acknowledge and investigate the two-sidedness of support. How does support provision affect the support provider? What is the role of the receiver in the process of give and take?

In addition to the classic support literature, recent studies suggest that the mere act of support provision can also benefit the support provider (Martela & Ryan, 2016). Going one step further, Weinstein and Ryan (2010) used self-determination theory (SDT; Ryan & Deci, 2000) to address the effects of support for the provider. Specifically, by using experimental methodology and student samples, their findings show that providing support with an autonomous motivation enhances the subjective well-being of the provider by satisfying the psychological basic needs. However, it remains unknown whether their conclusions can be generalized to the workplace. Laboratory research and student samples may limit the ecological validity of research findings and are not always appropriate to inform organizational practice.

The present study addresses the link between support provision and the provider's need satisfaction and work engagement among employees. Work engagement is an important indicator of employee well-being (Bakker & Oerlemans, 2011). Research reveals that employee work engagement is valuable as it is predictive of several facets of job performance and fluctuates throughout a day, influencing momentary job performance (Bakker, 2014). In order to investigate whether the beneficial effects of autonomously motivated support apply to employee's daily need satisfaction and work engagement, we examine the supportive exchanges between police officers as this is an occupation where working in dyads and supporting each other is an essential part of the job (Charman, 2013).

Most importantly, Deci and Ryan (2008) theorized that the extent to which needs are satisfied, in fact, depends on contextual factors. In line with this reasoning, studies show that contact with the recipient and the behaviour of the recipient influence whether the benefits of support for the provider are enhanced or diminished. For instance, research shows that people who try to help someone and see that their help has a positive impact tend to experience more benefits from the helping act than helpers who see no positive impact (Aknin, Dunn, Whillans, Grant & Norton, 2013). According

to the authors, this is because helping someone who visibly benefits from the support fulfils the provider's need to feel competent.

In order to detect boundary conditions within the recipient's context that influence the support provider, we complement the SDT (Ryan & Deci, 2000; a macro theory which we use as overall theoretical framework) with additional theoretical frameworks. To address our first boundary condition, we draw from the job demands-resources (JD-R) model (Bakker & Demerouti, 2017) that helps us to address when support is most needed by employees. To address our second boundary condition, we use the goal orientation theory (VandeWalle, 1997) which highlights how employees try to achieve goals and, thus, tend to perceive support from others.

Our first boundary condition is particularly relevant for police work. Specifically, police officers have to deal with fluctuating and, at times, high emotional demands during their daily work life because their primary task is to deal with demanding civilians and traumatic situations. These emotionally demanding situations are interchanged with less demanding situations, such as breaks, quiet moments, and dealing with minor incidents (Van Gelderen, Heuven, Van Veldhoven, Zeelenberg & Croon, 2007). The emotional demands experienced during interpersonal contacts and conflicts are likely to create strain, not only for police officers (Kop & Euwema, 2001) but in many service oriented jobs (Totterdell & Holman, 2003). Based on the JD-R theory, previous studies have shown that when confronted with emotionally demanding situations, employees particularly benefit from receiving support from their co-workers (i.e., as compared to support from supervisors or family; Peeters & Le Blanc, 2001). This finding is in line with the match hypothesis (Cohen & Wills, 1985) which states that receiving support is most effective for the receiver when the support matches the coping requirements. Applied to this study, receiving support from co-workers is likely to be most effective during emotionally demanding situations when there are many social stressors (e.g., with civilians and offenders). Combining the knowledge derived from the JD-R literature with the SDT, we expect it to be most satisfying and engaging to support another police officer during emotionally demanding situations.

Regarding our second boundary condition, we argue that employees' goal orientation styles (i.e., their attitudes towards learning and feedback) unavoidably influence the ways in which they react to the received support (Anderman & Maehr, 1994; VandeWalle, 1997). Whereas learning-goal oriented employees cope effectively with both negative and positive feedback, and use the received information in order to achieve their goals (Hirst, Van Knippenberg & Zhou, 2009), prove performance goal oriented employees tend to focus on proving their abilities to others (Button, Mathieu & Zajac, 1996). Prove

performance orientation is defined as the focus on gaining favorable judgments of one's own competencies from others (Dweck & Leggett, 1988). Presently, we expect that providing support will be more satisfying and engaging for the provider when the receiver is characterized by high learning or a low prove performance goal orientation.

Taken together, with the present study we contribute to the literature in three notable ways. First, we refine previous work by showing that autonomously motivated support provision enhances the provider's need satisfaction and work-related well-being. Specifically, as work engagement reflects the extent to which employees are immersed in their work and have high levels of energy while working, engaged employees have been found to flourish and excel at work (Schaufeli, Taris, & Bakker, 2006; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Hence, by focusing on whether the provision of autonomous support engages employees, we include a broader interpretation of SDT (Ryan & Deci, 2000) and address support provision as a self-determination strategy (Bakker & Van Woerkom, 2017) with the potential to benefit the support provider's work engagement. Second, we contribute to the existing literature by testing two boundary conditions within the context of the support receiver of the benefits that support provision may have for the provider's needs and engagement. Third, we contribute to uncovering the dynamics of support provision by addressing how relatively stable factors (i.e., goal orientation of the receiver) interact with fluctuating states in predicting episodic outcomes (i.e., fluctuating need satisfaction and work engagement of the provider).

### **What drives the support provider?**

In order to investigate the effects of support on the provider's needs and work engagement in more detail we use SDT (Ryan & Deci, 2000). SDT postulates that behaviors vary with respect to how self-motivated they are. Generally, two broad forms of motivation exist which can be seen as reflecting two ends on a continuum of self and external motivation (Ryan & Deci, 2000). On the one end lies intrinsic motivation, which refers to performing an activity for its own sake. On the other end lies extrinsic motivation, which refers to performing an activity for instrumental reasons. In addition, one may distinguish between avoiding feelings of guilt (introjection), striving for a valued goal (identification), or expressing the sense of self (integration). Together with intrinsic motivation, identification and integration entail high levels of autonomy and are considered forms of autonomous regulation. Moreover, SDT distinguishes between basic psychological needs, namely the need for autonomy (i.e., experiencing a sense of volition), the need for competence (i.e., feeling effective), and the need for

relatedness (i.e., feeling closeness and friendship with others; Ryan & Deci, 2000). These three needs are universal and need to be fulfilled in order for employees to flourish and experience work engagement (Vansteenkiste et al., 2007). Since we are interested in predicting the provider's daily need satisfaction and well-being, we aim at unraveling the working mechanisms of the autonomous motivation to support. Evidence shows that the autonomous motivation enhances the provider's need satisfaction and well-being (Weinstein & Ryan, 2010), whereas the controlled motivation to support effects the provider's needs and well-being rather negatively. Furthermore, findings reveal that the controlled motivation to support relates even more negatively to the support provider's need satisfaction and well-being as compared to providing no support at all (Weinstein & Ryan, 2010). Hence, we consider it important to gain insight in the underlying mechanisms of when and how the autonomous motivation to support relates to the need satisfaction and engagement of the provider, and thereby consider the controlled motivation to support as a control variable.

Building on previous evidence (Gagné, 2003; Weinstein & Ryan, 2010), we argue that supportive behavior based on an autonomous motivation has the capacity to satisfy each basic need. When employees report that the provided support is given out of enjoyment, interest and true concern for the other, the support is an autonomous choice and endorsed by the provider him/herself (Weinstein & Ryan, 2010). Naturally, providing support based on an autonomous motivation makes the provider feel in charge and able to act out of personal choice, which likely satisfies the need for autonomy (Ryan & Deci, 2000). Also, by providing autonomous support, a connection between the provider and the receiver may arise because the provider offers authentic attention and help. The act of providing autonomously motivated support allows for the provider to feel part of a team and express their work-related and personal troubles, and, as such, fulfill the need for relatedness (Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008). Finally, providing autonomously motivated support should play a clear role for the provider's need for competence. By providing support, the provider experiences interpersonal skills (e.g., he/she is socially capable) as well as job-relevant skills (e.g., he/she can help others with a task). A study among volunteers supports this reasoning by demonstrating that helping elderly elicits feelings of competence and usefulness (Caprara & Steca, 2005). Hence, our first hypothesis reads:

**Hypothesis 1:** Autonomously motivated support provision (i.e., episodic level) relates positively to the satisfaction of the support provider's episodic basic psychological needs.

In addition, we suggest that need satisfaction is not simply important in its own right, but further enhances one's work engagement. According to Kahn (1990), investing



energy in supporting co-workers has the potential to create personal meaningfulness through which employees engage themselves in work (May, Gilson & Harter, 2004). Previous studies have provided some evidence for Kahn's reasoning by showing that employees whose needs have been satisfied are more likely to experience vigor and absorption (Deci et al., 2001; Van den Broeck et al., 2008; Vansteenkiste et al., 2007). In the present study, we follow a within-person approach and investigate the link between need satisfaction and work engagement at the episodic level.

**Hypothesis 2:** Autonomously motivated support provision (i.e., episodic level) is indirectly and positively related to the support provider's episodic work engagement through the satisfaction of episodic basic psychological needs.

### Does it matter when support is given?

According to the job demands-resources (JD-R) model (Bakker & Demerouti, 2017), each work environment consists of its own constellation of job demands – such as emotionally demanding interactions with others (i.e., the aspects of the job that require sustained cognitive or emotional effort) – and job resources, such as performance feedback and support (i.e., the aspects of the job that are functional in achieving goals). Although job demands in general cost energy and require resource investment, several studies have shown that when enough received support is available, employees in demanding situations stay engaged and motivated (Bakker et al., 2007). This suggests that support benefits the receiver most during episodes the receiver experiences high demands.

According to Batson (1998) the act of support has beneficial effects for the provider because the act of support is appreciated and valued by the receiver. In line with this, we argue that the act of support will be particularly appreciated when the support is provided during emotionally demanding episodes as particularly then the support is needed. This reasoning is in line with the match hypothesis of Cohen and Wills (1985), which posits that support is most effective when the support matches the coping requirements. As such, receiving social support must be most effective during emotionally demanding situations when there are many social stressors.

Specifically, we argue that the provider is likely to feel more effective about the support given to a co-worker during an emotionally demanding situation because the act of support emphasizes the capability of the provider to offer support during such situations. This reasoning is in line with previous findings from a study in which patients with multiple sclerosis, who actively support other patients by talking about their struggles, reported greater self-efficacy over the course of two years (Schwartz & Sendor, 1999). Furthermore, the support an employee provides during demanding

situations is also more likely to be appreciated by the receiver, which makes the provider feel connected and related to the receiver. This expectation is reflected by a study that showed that people who volunteer to help others in need (Piliavin & Siegl, 2007) feel that they matter to others. Finally, when a provider offers support during emotionally demanding situations from which the receiver visibly benefits, the supportive act emphasizes that the moment to support was well chosen. As such, the appropriateness of the choice may boost the autonomy feelings.

**Hypothesis 3:** The link between autonomously motivated support and the provider's need satisfaction (i.e., episodic level) is stronger during episodes that the receiver is exposed to high (vs. low) emotional job demands.

### **Does it matter to whom the support is given?**

Next to the fluctuating demands as experienced by the support receiver, we also expect that it matters to whom the support is given. Specifically, we expect that it matters for the provider's need satisfaction whether the receiver is ready to recognize learning opportunities in the environment. A construct that captures the extent to which employees are motivated to learn is goal orientation. Goal orientation is originally defined as orientation for action on how to achieve a task (Ames, 1992). Rather than focusing on the content of what people are attempting to achieve (i.e., objectives, specific standards), goal orientation defines why and how people are trying to achieve various objectives (Anderman & Maehr, 1994). Goal orientation is seen as "a relatively stable dispositional variable that assumes (1) a learning orientation in which increasing competence by developing new skills is the focus and (2) a performance orientation in which demonstrating competence by meeting normative-based standards is deemed critical" (Colquitt & Simmering, 1998; p. 656).

Based on this distinction, we expect learning-oriented behaviors from someone who displays a strong learning orientation. Individuals with a learning orientation are inclined to seek feedback on past performances in order to evaluate current performances and focus on improving skills and knowledge. Learning oriented employees are also less concerned with making mistakes (VandeWalle, 1997), and cope effectively with negative and positive feedback (Hirst, et al., 2009). Because feedback is comparable to forms of support, such as advisory and informational support (House 1981), we expect learning oriented employees to be more open to receiving structural support. In addition, we expect that employees who are strongly learning oriented are also more open to emotional support based on studies showing that learning oriented employees in general are more open to experience (Klein & Lee, 2006), and in turn more

responsive towards emotional support (Knoll, Burkert & Schwarzer, 2006). Therefore, we expect learning oriented employees also to be open and responsive towards the emotional related forms of support. Taken together, for the support provider we expect that providing support to a co-worker who displays a high learning orientation is satisfying the provider's need for competence because the provided support is likely to be more appreciated and valued by a receiver who is eager to learn. In addition, it is also more likely that the provider will feel more related to a receiver who takes the support into consideration because this enhances the feeling of being recognized and relied upon by others (Piliavin & Siegl, 2007).

**Hypothesis 4:** The link between autonomously motivated support and the provider's need satisfaction (i.e., episodic level) is stronger when the support is given to a co-worker who has a high (vs. low) learning goal orientation (trait-level).

Unlike a strong learning goal orientation, a performance goal orientation has been negatively related to the motivation to learn (Colquitt & Simmering, 1998). For instance, research has shown that individuals who focus strongly on their performance lose their motivation when difficulty in learning the content is expected (Colquitt & Simmering, 1998). The more performance oriented employees are, the more they believe that ability is fixed and the more they want to show or prove that their ability to perform is high (Button, et al., 1996). When things get difficult and help is needed, performance-oriented employees are unlikely to accept and welcome help as they are not convinced that receiving support may actually help them (Button et al., 1996). By receiving support, their inadequacy of completing the task on their own is emphasized. In contrast, when the desire of the receiver to prove their capacities is low, the provided support is welcomed and accepted. Such an experience is likely to satisfy the support provider's need for competence and make the provider feel seen and part of a team because the receiver is actually able to recognize the support, as well as the support provider (Piliavin & Siegl, 2007).

**Hypothesis 5:** The link between autonomously motivated support and the provider's need satisfaction (i.e., episodic level) is stronger when the support is given to a co-worker who has a low (vs. high) performance prove goal orientation (trait-level).

Taking Hypotheses 1-5 together, we propose that episodic support provision is indirectly related to episodic work engagement via episodic need satisfaction when the receiver (1) experiences an emotionally demanding situation, or is characterized by (2) a high learning goal orientation, or (3) a low prove performance goal orientation. In other words, we expect that the interaction between support provision and the receiver's situation and characteristics (i.e., emotional demands/learning-/prove performance

goal orientation) indirectly relates to the provider's work engagement by satisfying the provider's needs.

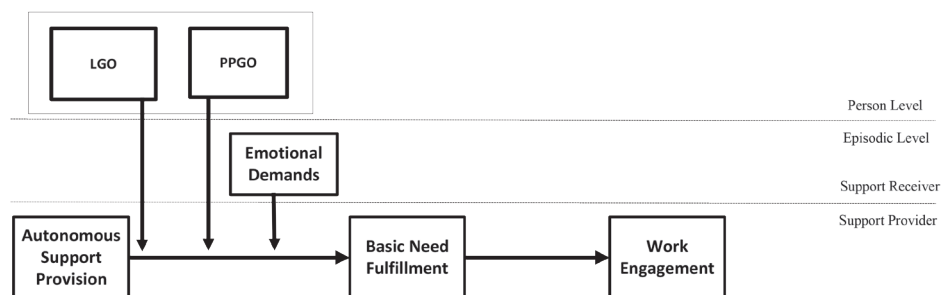
**Hypothesis 6:** The receiver's episodic emotional demands moderate the mediating effect of the autonomously motivated support (i.e., episodic level) on the provider's episodic work engagement, such that the effect is stronger when the receiver's emotional demands are high (vs. low).

**Hypothesis 7:** The receiver's learning orientation (i.e., trait level) moderates the mediating effect of the autonomously motivated support (i.e., episodic level) on the provider's episodic work engagement, such that the effect is stronger when the receiver's learning orientation is high (vs low).

**Hypothesis 8:** The receiver's prove performance goal orientation (i.e., trait level) moderates the mediating effect of the autonomously motivated support on the provider's episodic work engagement, such that the effect is stronger when the receiver's prove performance goal orientation is low (vs. high).

**Figure 1**

*Theoretical research model*



*Note.* LGO = Learning Goal Orientation, PPGO = Prove Performance Goal Orientation.

## Method

### Procedure and Sample

In order to capture episodes of support as part of real-life and work experiences, we used experience-sampling methodology (ESM; Ohly et al., 2010). We sampled two daily experiences among 194 police officers during one working day. Each day comprised one measurement halfway the working shift and one measurement before the end of the working shift. All data were collected within the Dutch police force at several

police stations. We randomly selected the days on which we went to the police stations (i.e., 17 days spread out over 2017-2018). Because participants were already matched to a co-worker within a shift, we asked matched dyads to participate. If one of the two co-workers within a dyad did not want to participate, we excluded the whole dyad from the study. Participants were invited to download an application on their smartphone to fill in the ESM-surveys. In order to guarantee confidentiality, responses of the dyad members were linked through an anonymous code provided by the researchers, which they had to fill in at the beginning of each questionnaire. Because the first two letters of each participant code within the same dyad had the same letter combination, we were able to link the dyads' members. Next, we sent an e-mail to all participants with a generic questionnaire, to measure the trait variables and demographics.

We used all the data points, also when only one of the participants from a dyad filled in the ESM survey. In total, 194 participants signed up, resulting in 97 dyads and  $N = 227\text{--}491$  data points (i.e., response rate 84.4%). We collected data from both police officers who worked on the street (74%), and police officers answering calls from civilians (26%). Of the 194 participants who formed the final dataset, 111 participants filled in the general survey. This means that 83 participants of our sample (43%) did not fill in the general survey and, thus, reported no demographic variables. From the 111 participants of our sample who filled in their demographics (57% of our sample), 73 participants were male (66%) and 38 female (34%). The dyads are mixed with regards to the gender compositions, meaning that dyads consisted both of heterogeneous (i.e., men and women) and homogeneous couples (i.e., two men or two women). The mean age was 40.40 years ( $SD = 11.55$ ). On average, the police officers worked 5.82 years within their current position ( $SD = 6.10$ ) and worked 35.79 hours per week ( $SD = 4.19$ ). Of all participants, 21.6% finished higher education (university or applied sciences), 50.5% completed a vocational training, and the other 27.9% finished high school.

### Daily Measures

When conducting ESM studies, Ohly and colleagues (2010) and Reis and Gable (2000) recommend using short scales or even single-item measures. Because ESM requires participants to fill in the same questionnaire a couple of times during the same day, the assessment should be kept as short as possible. We selected items from the scales based on factor loadings and adapted the formulation to an episodic experience.

**Work engagement.** We used one item from each dimension of the Utrecht Work Engagement Scale (Schaufeli, Bakker & Salanova, 2006) in line with work of Reina-Tamayo, Bakker and Derks (2017). We measured episodic work engagement using the



following items: “Right now, I feel full of energy” (vigor), “Right now, I feel enthusiastic about my job” (dedication) and “the moment before filling in this questionnaire, I was immersed in my work” (absorption; scale ranging from 1 = not at all, 7 = very much). The average internal consistency across episodes was  $\alpha = .82$ .

**Social support.** In order to assess the provided support based on an autonomous motivation, we first had to assess to what extent employees provided support to their co-workers. We used the scale developed by Peeters, Buunk and Schaufeli (1995; based on House, 1981), from which we selected the three main types of support: instrumental, informative, and emotional support (House & Kahn, 1985). To capture instrumental support we used the following item “I helped my coworker with a certain task”, to capture informational support we used the item “I gave my coworker advice about how to approach an issue” and to measure emotional support we used the item “I paid attention to the feelings and problems of my coworker” (1 = “not at all”, 2 = “yes, to a small extent”, 3 = “yes, to some extent”, 4 = “yes, to a large extent” to 5 = “yes, to a very large extent”; mean  $\alpha = .76$ ).

**Autonomously motivated support.** In the case that the participants did not fill in “1 = not at all” to the support provision items, participants were asked to indicate their motivational regulation for the support. We used Weinstein and Ryan’s (2010) motivation to help scale and selected three items. An example is “During the first half of my shift, I provided emotional or informational support to my colleague, because I thought it was important.” All items were rated on a scale ranging from 1 = not at all true, to 7 = very true (mean  $\alpha = .75$ ).

**Psychological need fulfillment.** We used three items from Work-related Basic Need Satisfaction scale (W-BNS; Van den Broeck, Vansteenkiste, De Witte, Soenens & Lens, 2010) to measure fulfillment of each of the three basic needs – autonomy, relatedness, and competence. An example item is, “Right now, I feel connected with other people at my job” (1 = not at all true, 7 = very true; mean  $\alpha = .78$ ). We summed the three items to create an overall index of need satisfaction (cf. Deci et al., 2001; Vansteenkiste et al., 2007).

**Emotional demands.** We selected five items from Van Gelderen et al.’s (2007) emotional demands scale, which was developed for use among police officers. An example item is, “During the first half of the shift, I came in contact with verbally intimidating suspects/civilians” (1 = no that is not correct, 5 = yes that is correct; mean  $\alpha = .77$ ). The emotional job demands scale was based on prominent categories of civilians and suspects with whom the police officers have to deal with during their duties on the street. Because police officers answering incoming phone calls (26% of our sample) were not able to answer these items which were specifically designed to measure emotional

demands during interactions with civilians and suspects, we excluded this sub-sample (26%) from analyses concerning emotional demands.

**Control variables.** We controlled for the controlled motivation to provide support (Weinstein & Ryan, 2010; three items, mean  $\alpha = .82$ ). An example item is “During the first half of my shift I provided emotional or informational support to my colleague, because I felt I should.” (1 = not at all true, 7 = very true). We also controlled for the amount of support that was provided (Peeters et al., 1995).

### General Measures

**General learning and prove performance goal orientation.** Learning goal orientation and prove performance goal orientation were assessed using six items from the learning goal scale ( $\alpha = .86$ ) and the five items of the prove performance scale ( $\alpha = .83$ ) of Vandewalle (1997). An example item for learning goal orientation is, “I enjoy challenging and difficult tasks at work where I’ll learn new skills.” An example item for prove performance goal orientation is, “I’m concerned with showing that I can perform better than my coworkers” (1 = strongly disagree, 5 = strongly agree).

### Statistical analyses

In order to study non-independent data, we analyze the data by means of the Actor-Partner Interdependence Model (APIM; Cook & Kenny, 2005) using Mplus 7 (Muthén & Muthén, 2012). Because 83 participants did not fill in the general questionnaire, we have to deal with missing values for the learning and prove performance goal orientation. In order to deal with the missing values Mplus uses the full information maximum likelihood (FIML) method (Muthén & Muthén, 2012). FIML is a method in which all available information is used to estimate the model parameters. Specifically, FIML estimates all the equations and all the unknown parameters jointly. The FIML method is recommended in social and behavioral research (Raykov, 2005). Within the APIM, distinctive levels of measurement are recognized. That is, the dyads represent the highest level (level 3, between-dyad,  $N = 97$ ), the individuals nested within the dyads represent the second level (level 2, between-person,  $N = 194$ ), and the episodic experiences nested within each individual represent the lowest level (level 1, within-person,  $N = 227-491$ ). Importantly, with the APIM method of analysis it does not matter which direction (receiver to actor or actor to receiver) is reported; the results are the same as all employees in the sample are both actors and partners.

Since we measured the specific emotional demands with whom police officers have to deal with during their duties on the street, we exclude the police officers

answering incoming phone calls from the analyses regarding the emotional demands (i.e., Hypotheses 1, 2, 3 and 6). To this purpose, we conduct two sets of multilevel analyses. The first analysis was built on the basis of three nested models comprising successively (1) the intercept (Model 1a), (2) the predictor and control variables (Model 1b) and (3) the interaction effect between autonomous support and the receiver's emotional demands (Model 1c). Similarly, to test the Hypotheses regarding the cross-level interactions (i.e., Hypotheses 4, 5, 7 and 8), we built on the basis of four nested models comprising successively (1) the intercept (Model 2a), (2) the fixed intercepts and slopes model (Model 2b), (3) the random intercepts and slopes model (Model 2c), and (3) the cross-level interactions (Model 2d). We used the -2log-likelihood difference test to test the differences in fit between the models. We plotted the interactions using the Preacher, Curran, and Bauer's (2006) online tool for plotting 2-way interaction effects in hierarchical linear modelling.

## Results

### Descriptive statistics

The means, standard deviations and correlations of all study variables are reported in Table 1. Next, we examined the intra-class correlation coefficients (ICC) for the provider's need satisfaction ( $\rho = .38$ ) and the provider's work engagement ( $\rho = .55$ ). We conclude that a substantial part of the variance is situated on the lower level, and a multi-level analysis is justified. We measured no variables on the dyad level. Preliminary analysis showed that the dyad level (level 3) was neither significant for episodic need satisfaction  $\Delta\chi^2 (1 \text{ df}) = .00, ns$ , nor for episodic work engagement  $\Delta\chi^2 (1 \text{ df}) = .14, ns$ . Since we cannot explain variance on level 3, we only make use of level 1 and 2 in the analyses following previous practices (Peeters, Arts & Demerouti, 2016).

### Measurement model

Multilevel confirmatory factor analysis was conducted using Mplus 7 (Muthén & Muthén, 2012) to examine the construct validity of all variables. The proposed model included six within-person variables (i.e., autonomous- and controlled support, the amount of support, the emotional demands, need satisfaction, work engagement) and two between-person variables (i.e., learning- and prove performance goal orientation). Results showed a better fit to the data for a model comprising the eight distinct factors,  $\chi^2 (514) = 700.61$ , CFI = .92, TLI = .91, RMSEA = .025, as compared to all possible seven-factor models or models with even fewer factors,  $\Delta\chi^2 (533) \geq 961.171, p < .001$ .

**Table 1**  
*Means, standard deviations and pearson correlations between the study variables*

Variables	N	M	SD	1	2	3	4	5	6	7	8	N
<b>General Questionnaire</b>												
1. Receiver General Learning Goal Orientation	89	4.67	.77	-								
2. Receiver General Performance Goal Orientation	89	3.10	1.04	.13	-							
<b>Daily Experience Samplings</b>												
3. Social Support Provision	122	3.26	.93	-.02	.13	-	.27**	.21**	.14*	.08	.06	228
4. Actor Autonomous motivated Social Support	121	5.29	1.35	.10	.02	.27**	-	.29**	.33**	.19**	-.01	227
5. Actor Controlled motivated Social Support	121	3.42	1.71	-.07	-.12	.19*	.31**	-	.01	.02	.15*	227
6. Actor Daily Need Satisfaction	149	6.05	.93	-.13	-.04	.17*	.34**	-.01	-	.59**	-.03	281
7. Actor Daily Work Engagement	161	5.41	1.24	-.01	.07	.10	.21*	.07	.60**	-	-.02	491
8 Receiver Daily Emotional Demands	141	2.28	1.27	-.07	.23*	.05	-.03	.12	.03	.03	-	291

*Note:* \*  $p < .05$ ; \*\*  $p < .01$  (2-tailed). Correlations above the diagonal are within-person correlation (i.e., episodes;  $N = 227-491$ ). Correlations below the diagonal are respondent-level correlations aggregated over the study day ( $N = 89-161$ ). Means and standard deviations are person-level means.

### Hypothesis testing

According to hypothesis 1, there is a positive relationship between the autonomous motivation to support and the satisfaction of the provider's basic needs. As can be seen in Table 2, Model 1c, results show that the autonomous support and satisfaction of the provider's needs are positively related ( $\beta = .12$ , S.E. = .05,  $t = 2.20$ ,  $p = .028$ ), also after controlling for frequency of support provision ( $\beta = .04$ , S.E. = .08,  $t = .58$ ,  $p = .564$ ). This means that when employees support a co-worker based on autonomous motivation during a work episode, they satisfy their basic needs. Hypothesis 1 is accepted.

Hypothesis 2 predicted an indirect relationship between the autonomous motivation to support and the provider's work engagement through the satisfaction of basic psychological needs. From Table 2, Model 1c, it can be seen that this indirect relationship is significant ( $b = .22$ , S.E. = .11,  $t = 1.99$ ,  $p = .047$ ), and the data thus supports Hypothesis 2. During episodes in which employees provide support to a colleague, they feel more competent, related, and autonomous, and also more engaged in their work.

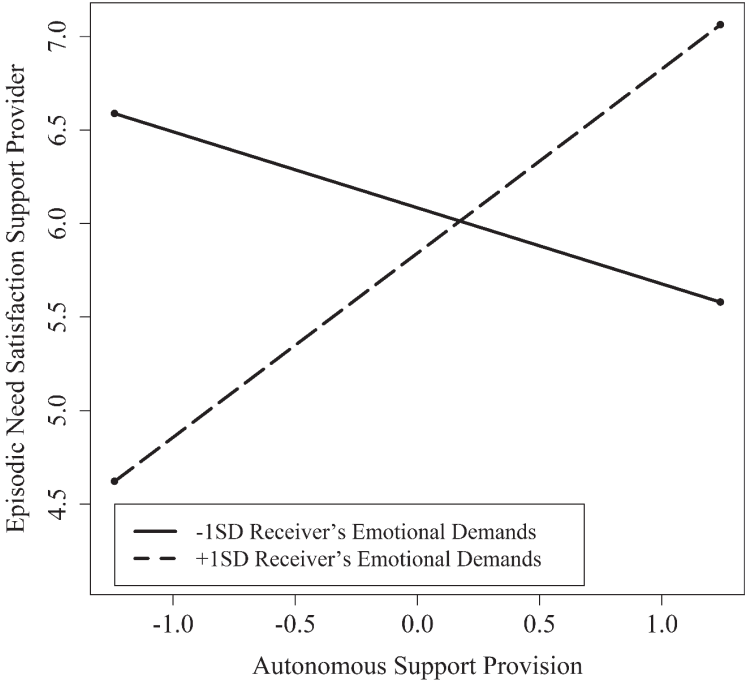
For hypothesis 3, which posits that the relationship between the autonomous motivation to support and the satisfaction of the support provider's needs is stronger when the support is provided during episodes that the support receiver experiences high (vs. low) emotional demands, we look again at Table 2, Model 1c. It can be seen that the interaction term of the provider's autonomous motivation to support and the receiver's episodic emotional demands is a significant predictor of the provider's episodic need satisfaction ( $\beta = .24$ , S.E. = .07,  $t = 3.21$ ,  $p = .001$ ). In order to determine the pattern of this interaction effect, we conducted simple slope analyses following Preacher et al., (2006). The results (plotted in Figure 2) show that during the episodes that the receiver experiences high emotional demands (+1SD), the slope relating autonomous motivation to support and the provider's need satisfaction is significant and positive (estimate = .98, S.E. = .20,  $z = 4.83$ ,  $p < .001$ ). However, during the episodes the receiver is confronted with low emotional demands (-1SD), the slope relating autonomous motivation to support and the provider's need satisfaction is significant but negative (estimate = -.40, S.E. = .20,  $z = -1.99$ ,  $p = .046$ ). These results indicate that the support provider's basic needs are more satisfied when the support is provided to a co-worker who experiences high emotional demands. Therefore, Hypothesis 3 is supported.

To test hypotheses 4 – 8, we examine the results in Table 3 Model 2d, in which the multi-level estimates and the cross-level interactions are reported. Hypothesis 4 and 5 proposed that receiver's learning goal orientation positively moderates, and receiver's prove performance orientation negatively moderates the relationship between the provider's autonomous motivation to support and the provider's basic



need satisfaction. As shown in Table 3 Model 2d, the interaction between autonomous motivation to support and the receiver’s learning goal orientation is not significant ( $b = .05$ ,  $S.E. = .31$ ,  $t = .15$ ,  $p = .884$ ). We thus reject Hypothesis 4. However, as can be seen in Table 3 Model 2d, the interaction between autonomous motivation to support and the receiver’s prove performance goal orientation is significant ( $b = -.63$ ,  $S.E. = .26$ ,  $t = -2.42$ ,  $p = .016$ ). The simple slope tests (plotted in Figure 3) shows that when the receiver reports a low (-1SD) prove performance goal orientation, the slope between the autonomous motivation to support and the provider’s need satisfaction is positive and significant (estimate = 1.38,  $S.E. = .51$ ,  $z = 2.75$ ,  $p = .006$ ). In contrast, when the receiver reports a high (+1SD) prove performance goal orientation, the slope between the support provider’s autonomous motivation to support and the provider’s need satisfaction is not significant (estimate = .42,  $S.E. = .51$ ,  $z = .83$ ,  $p = .404$ ). These results show that when providers support colleagues who are less concerned with proving themselves, providers feel more competent, related, and autonomous during their work. We thus accept Hypothesis 5.

**Figure 2**  
*Interaction effect of autonomous support provision with receiver’s emotional demands on the provider’s daily need satisfaction*



**Table 2**  
*Multilevel estimates for the moderated mediation model with the episodic interaction estimating episodic work engagement as the dependent variable (using the subsample consisting of police officers on the street)*

Level and Variable	Null model / Intercept-only (Model 1a)		Episodic predictors (Model 1b)			Episodic interaction (Model 1c)		
	Episodic Need Satisfaction	Episodic Work Engagement	Episodic Need Satisfaction	Episodic Work Engagement	Episodic Work Satisfaction	Episodic Need Satisfaction	Episodic Work Engagement	Episodic Work Satisfaction
	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
<b>Level 1</b>								
Autonomous support			.12* (.05)			.12* (.05)		
Controlled support			.01 (.04)			.01 (.04)		
Amount of provided support			.04 (.08)			.04 (.08)		
Receiver's episodic emotional demands			-.08 (.07)			-.08 (.07)		
Episodic need satisfaction				.63*** (.06)			.72*** (.06)	
<b>Episodic interaction</b>								
Receivers episodic emotional demands x Autonomous support						.24** (.07)		
Amount of provided support x Autonomous support						-.07 (.09)		
<b>Indirect Effect</b>								
Autonomous support → Episodic need satisfaction → Episodic engagement							.22* (.11)	
<b>Mediated Moderation</b>								
-1SD Receiver's episodic demands						-.06 (.20)		
+1SD Receiver's episodic demands						.50** (.18)		

Table 2 (continued)

Level and Variable	Null model / Intercept-only (Model 1a)		Episodic predictors (Model 1b)		Episodic interaction (Model 1c)	
	Episodic Need Satisfaction	Episodic Work Engagement	Episodic Need Satisfaction	Episodic Work Engagement	Episodic Need Satisfaction	Episodic Work Engagement
	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
Residual Variance Components						
Within-person variance ( $\sigma^2$ )						
Additional information						
-2 log likelihood						
Scaling correction factor for MLR						
$\Delta$ -2 log likelihood						
Degrees of freedom						

Note. \* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ .  $N = 111$ . Standardized coefficients ( $\beta$ ) are reported, except for the moderated mediation and indirect effect the unstandardized coefficients are reported.

**Table 3**  
Multilevel estimates for the moderated mediation models with the cross-level interactions estimating episodic work engagement as the dependent variable (using the full sample consisting of police officers on the street, as well as police officers on phone call duty)

Level and Variable	Null model / Intercept-only (Model 2a)			Fixed Intercept and slope Model (Model 2b)			Random Intercept and random slope (Model 2c)			Cross-level interaction (Model 2d)		
	Episodic Need Satisfaction	Episodic Work Engagement	b (SE)	Episodic Need Satisfaction	Episodic Work Engagement	b (SE)	Episodic Need Satisfaction	Episodic Work Engagement	b (SE)	Episodic Need Satisfaction	Episodic Work Engagement	b (SE)
	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)	b (SE)
<b>Level 1</b>												
Autonomous support			.26* (.13)			.55* (.20)			.54* (.21)			
Controlled support			.02 (.09)			.03 (.05)			.02 (.06)			
Amount of provided support			-.12*** (.11)			-.10* (.05)			-.11* (.05)			
Episodic need satisfaction					.74*** (.09)			.50*** (.13)				.51*** (.13)
<b>Level 2</b>												
Autonomous support			.24*** (.06)			.24*** (.06)			.24*** (.06)			
Basic need satisfaction					.66*** (.09)			.66*** (.09)				.66*** (.09)
Receiver LGO			-.19 (.13)			-.18 (.13)			-.19 (.13)			
Receiver PPGO			-.04 (.08)			-.06 (.08)			-.03 (.08)			
<b>Cross-level interaction</b>												
Receiver LGO x Autonomous support									.05 (.31)			
Receiver PPGO x Autonomous support									-.63* (.26)			
<b>Mediated Moderation</b>												
-1SD Receiver's LGO									.26 (.18)			
+1SD Receiver's LGO									.29 (.17)			

Table 3 (continued)

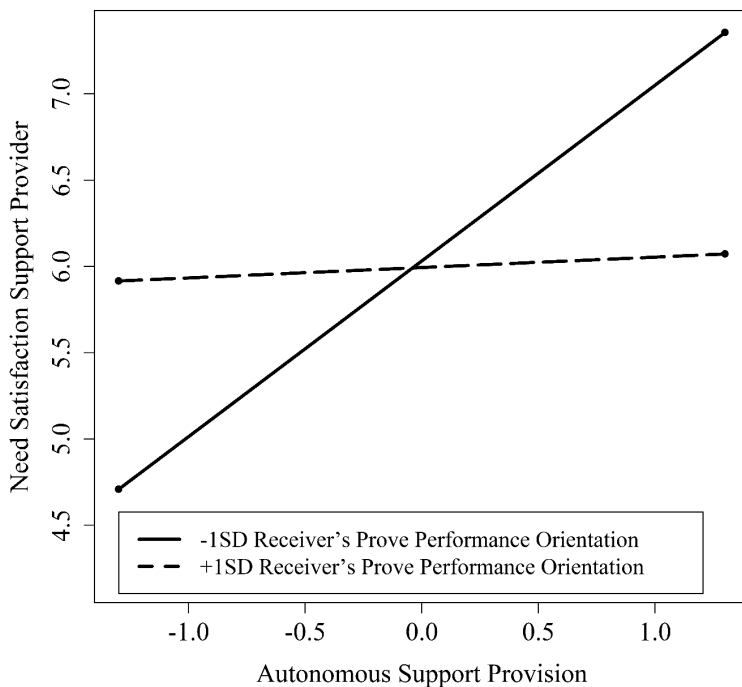
Level and Variable	Null model / Intercept-only (Model 2a)			Fixed Intercept and slope Model (Model 2b)			Random Intercept and random slope (Model 2c)			Cross-level interaction (Model 2d)		
	Episodic Need	Episodic Work Engagement	b (SE)	Episodic Need	Episodic Work Engagement	b (SE)	Episodic Need	Episodic Work Engagement	b (SE)	Episodic Need	Episodic Work Engagement	b (SE)
	Satisfaction			Satisfaction			Satisfaction			Satisfaction		
<b>Residual Variance Components</b>												
-1SD Receiver's PPGO												.60** (.19)
+1SD Receiver's PPGO												-.06 (.19)
<b>Additional information</b>												
Within-person variance ( $\sigma^2$ )				.80** (.09)	1.11*** (.14)		.08* (.03)	.52*** (.13)		.07* (.03)	.51*** (.13)	
Intercept variance ( $\tau_{00}$ )				.60*** (.06)	.72*** (.09)		.60*** (.07)	.72*** (.09)		.60*** (.07)	.72*** (.09)	
Slope variance ( $\tau_{11}$ )												.90 (.46)
<b>Additional information</b>												
-2 log likelihood	-1677.731			-1146.911			-1127.580			-1125.624		
Scaling correction factor for MLR	1.32			1.04			1.15			1.11		
$\Delta$ -2 log likelihood				530.820***			19.331***			1.956***		
Degrees of freedom	8			21			25			28		

Note. \*p ≤ .05; \*\*p ≤ .01; \*\*\*p ≤ .001. Model 2d N = 227. Only unstandardized coefficients (b) are reported because Mplus does not provide standardized coefficients for models with random slopes. The coefficient in Model 2c and 2d representing the relationship between autonomous support and need satisfaction is the randomized slope.



**Figure 3**

Interaction effect of autonomous support provision with receiver's prove performance goal orientation on the provider's episodic need satisfaction.



Hypothesis 6, 7, and 8 proposed that the indirect relationship of autonomously provided support to provider's engagement through the provider's basic need satisfaction is moderated in the first stage by the receiver's emotional demands (Hypothesis 6), the receiver's learning goal orientation (Hypothesis 7), and the receiver's prove performance orientation (Hypothesis 8). Because the interaction effect of support provision and the support receiver's learning goal orientation on the provider's need satisfaction is not significant, we reject Hypothesis 7. The results in Table 2, Model 1c show that the indirect effect is positive and significant when the support is provided to a police officer who faces high emotional demands (estimate = .50, S.E. = .18,  $t = 2.82$ ,  $p = .005$ ). In contrast, the indirect path is not significant when the support is provided to a receiver who faces low emotional demands (estimate = -.06, S.E. = .20,  $t = -.33$ ,  $p = .744$ ). Thus, providing support only satisfies basic needs and fosters work engagement when the support is given during an episode that the receiver experiences high emotional demands. These results support Hypothesis 6.

Finally, as shown in Table 3, Model 2d, the indirect path from autonomous support, to the provider's work engagement via the provider's need satisfaction is also positive and significant when the support is provided to a receiver who holds a low prove performance orientation (estimate = .60, S.E. = .19,  $z = 3.11$ ,  $p = .002$ ). The mediation path is negative and non-significant when the receiver displays a high prove performance orientation (estimate = -.06 S.E. = .19,  $z = -.301$ ,  $p = .764$ ). Providing support to a co-worker is particularly satisfying and engaging when the co-worker reports a low prove performance goal orientation. This means that Hypothesis 8 is accepted as well.

In order to see whether each of the relationships between the autonomous support and the three separate needs (need for autonomy, relatedness and competence) are also moderated by the receiver's emotional demands and the receiver's prove performance orientation, we conducted two additional and exploratory sets of analyses. The findings from the first analysis including the receiver's emotional demands as moderator reveal the same picture for each separate need satisfaction as the results on the composite score of the need satisfaction. However, the results from the second analysis with the receiver's prove performance goal orientation as moderator reveal that the receiver's prove performance does not moderate any of the relationships between the autonomous support and the three separate needs. The results from these additional analyses can be requested upon from the first author.

## Discussion

In line with our theorizing, the results show that providing support based on an autonomous motivation relates positively with the provider's work engagement through satisfying the provider's needs. In addition, the results show that it matters for the support provider's need satisfaction and work engagement whether the support is given to a co-worker who experiences high (vs. low) emotional demands and whether the receiver is concerned with proving him or herself to others. In contrast to our theorizing, the results do not support our prediction that the learning goal orientation of the support receiver influences the provider's need satisfaction or work engagement.

### Theoretical Contributions

*Providing support based on an autonomous motivation satisfies and energizes*

First of all, the result that providing support relates positively to the provider's engagement by satisfying the provider's needs is in line with our predictions based on SDT (Ryan & Deci, 2000) and Bakker and Van Woerkom's (2017) model of self-

determination strategies. This finding namely reveals that providing support to one's colleagues can be a self-determination strategy that employees undertake in order to proactively satisfy their own needs and enhance their work engagement. The strategy of supporting one's co-workers can therefore be considered as a valuable addition to the repertoire of self-determination activities proposed by Bakker and Van Woerkom (2017), which are: self-leadership, job crafting, designing work to be playful, and strengths use.

Moreover, whereas other theories posit that self-regulation (i.e., ego-depletion theory; Baumeister, 2002) and support provision (i.e., equity theory; Adams, 1965) are likely to drain the provider's energy, self-determination theory (Ryan & Deci, 2008) posits that as long as (support) behaviors come from an autonomous motivation, support provision is not depleting but can instead be vitalizing. The present findings are in accordance with this proposition and show that supportive actions, based on an autonomous motivation, indeed enhance the experienced energy available by satisfying the daily needs of the support provider. Even more importantly, our results reveal that the autonomous motivation to support specifically enhances employees' engagement within an actual organizational setting of police officers and, as such, add ecological validity to self-determination theory (Deci & Ryan, 2001) and previous findings (Weinstein & Ryan, 2010). As such, we demonstrate that the satisfaction of episodic needs is a relevant explanatory mechanism through which the provision of autonomous support relates to employee's daily engagement.

### **The provider's need satisfaction depends on the receiver**

Furthermore, we contribute to the literature by testing two boundary conditions of the benefits that providing can have on the support provider's need satisfaction and work engagement. The first boundary condition that we examined concerned the emotional demands as experienced by the support receiver. Specifically, we predicted and found that the provider reaps more benefits from helping others when the support receiver faces high emotional demands. The more emotional demands a co-worker experiences, the more satisfied and engaged the support provider is. This findings is in line with our hypothesis based on the JD-R (Bakker & Demerouti, 2014; 2017) and esteem enhancement theory (Batson, 1998). The findings that the benefits of providing for the support provider depend on the amount of emotional demands as experienced by the receiver offers a new perspective on the benefits of receiving support during emotional demanding work episodes. Namely, next to the obvious benefits of receiving support during emotional demanding work situations for the support receiver (e.g., De Jonge et al., 2008), it is now also known that the act of support provision during

emotional demanding episodes for the support receiver simultaneously benefits the support provider's needs and engagement.

However, while investigating the receiver's emotional demands as a boundary condition for the benefits of support provision, results unexpectedly revealed that supporting a co-worker during an episode in which that co-worker is experiencing low demands impairs the provider's need satisfaction. This finding is in line with previous experimental research showing that when support is not needed, receivers of support reacted more negatively to the received support (Deelstra, et al., 2003). Specifically, Deelstra et al., (2003) found that the receivers of support within a condition in which no obstacles were present reacted with more negative affect, lower self-esteem and a higher heart rate as compared to participants in a condition in which actual obstacles were present. The negative reactions in the no obstacle condition were explained with the threat-to-self-esteem model, which states that employees who feel that their self-esteem is threatened by the receipt of support will react negative (Fisher, Nadler & Whitcher-Alagna, 1982). According to Deelstra and colleagues (2003), the negative reaction is particularly present when there is no need for help because the employees will not feel any urge to overcome the threat to their self-esteem. This theorizing fits with the unexpected negative finding of providing support to a co-worker who does not experience a demanding situation. However, because the results show no relationship between support provision and the provider's episodic work engagement during episodes that the support receiver is experiencing low demands, we conclude that supporting colleagues during low demanding episodes impedes the provider's need satisfaction but it does not affect the provider's episodic work engagement. In other words, helping someone who perhaps does not need it impedes the support provider's need fulfillment but is not as harmful as to also damage the provider's work engagement.

Finally, we have contributed to the existing literature by testing a second boundary condition of the support receiver for the benefits of providing support for the provider's episodic needs and engagement. Consistent with our predictions, results showed that it is indeed more satisfying to support a co-worker with a low prove performance orientation than a co-worker with a strong prove performance orientation. That it is more satisfying to support a co-worker who displays a low desire to prove him or herself adds to the goal orientation literature that being less concerned with proving one's performance can affect surrounding others within the organization in a positive way (Vandewalle, 1997; Payne, Youngcourt & Beaubien, 2007).

However, in contrast to our theorizing based on the goal orientation theory (Vandewalle, 1997) results did not confirm our hypothesis that it is more satisfying



to support a co-worker with a strong learning goal orientation. This means that the receiver's desire to improve and learn from others does not make it more satisfying for a support provider to lend support. A possible explanation for this may be that employees with a high learning goal orientation also tend to be more proactive (Tolentino, et al., 2014). Hence, providing support to employees with a high learning orientation may not be more satisfying because the support receiver signals that he or she is also able to take action him or herself by seeking other resources for support. In other words, the provider's needs may not be enhanced because the receiver signals that he or she could easily have found the support somewhere or from someone else. In sum, the results from the goal orientation interaction analyses suggest that the receiver's goal orientation moderates the relationship between support provision and the provider's need satisfaction only in the case of the receiver's prove performance goal orientation. Specifically, if the receiver refrains from a prove performance (and perhaps non-constructive) attitude, the support provision has more potential to fulfil the provider's needs.

With the present study, we contribute to the social support literature (Shumaker & Brownell, 1984). We do so, by pinpointing two relevant boundary conditions within the receiver's context that determine when it is more satisfying (i.e., high emotional demanding situation of the receiver) or when it is less satisfying (i.e., high prove performance-oriented receiver) to support a co-worker. Furthermore, the present study adds to SDT (Ryan & Deci, 2000, 2008) that for support provision to be fulfilling, it is not enough to consider the underlying motivations of the person who provides the support. Rather, it is just as important to consider when (i.e., Is the receiver in need of support?) and to whom (i.e., Is the receiver welcoming the support?) the social support is provided.

### **Practical Implications**

The findings of this study have implications for organizations in which employees work with each other and need to support each other. This study shows that by supporting one's co-workers, employees are able to fulfil their own daily needs and boost their own work engagement. With regards to this, it is important to keep in mind that these benefits only exist when the support is enacted out of joy and true concern for the other's well-being. In addition, the present study reveals that in highly emotional demanding work situations, the provider's basic needs are satisfied more. An implication is therefore that in work settings in which highly emotional demanding situations are to be expected on a daily basis, such as with police officers, it can be helpful to be aware

that help also benefits the helper. Obstacles that hinder employees to offer support during emotional demanding situations, such as organizational rules, or demanding work settings in which people are alone, may be altered or removed. Working in couples may be encouraged when new or difficult tasks are expected, especially emotionally demanding tasks, or “buddies” can be assigned to employees who may need this (e.g., newcomers). It is important to offer the insight that providing autonomously motivated support may enhance their well-being and that it is important to reserve the support for circumstances when receivers experience high emotional demands. Helping others and oneself in the right way and/or on the right moment may lead to a healthier police force.

### **Limitations**

A number of limitations of this study should be mentioned. First of all, as we specifically examined whether providing support to a co-worker who experiences high emotional demands is more satisfying, we cannot generalize the findings to other types of demands, such as cognitive or physical demands. Future research is needed to test whether other types of demands also influence the relationship between the provided support and need satisfaction. Another limitation is that because we used a specific measurement to assess the emotional demands of the police officers during their duties on the street, we were unable to measure the emotional demands using the same specific scale within the subsample of police officers performing phone call duties. Hence, our model could be tested in either type of police officers. A further limitation is that because we tested our model using a specific sample of police officers, we cannot generalize our conclusions with certainty to other populations. Hence, it would be an interesting direction for future studies to replicate the current model in different working occupations.

### **Conclusion**

Taken together, providing support based on an autonomous motivation can be a self-determination strategy that employees undertake in order to proactively satisfy their own needs and enhance their work engagement. With regards to the provider's episodic need satisfaction and work engagement, the results from the present study show that providing autonomous support to co-workers fulfills the support provider when the support is given on moments that the co-worker experiences high emotional demands. Furthermore, support provision is most fulfilling for the support provider when the receiver refrains from a prove performance (and perhaps non-constructive) attitude.







# 5

## Providing social support at work matters and spills over to home: A multi-source diary study

This chapter has been published as:

Zeijen, M. E., Bakker, A. B., & Petrou, P. (2022). Providing social support at work matters and spills over to home: a multi-source diary study. *Current Psychology*, 1-15.

<https://doi.org/10.1007/s12144-022-04108-5>





## **Abstract**

Social support is in its essence a dyadic exchange process – it has important benefits for those who receive and those who provide support. In the present paper, we develop a model integrating insights from mattering and social exchange theories. We propose that self-determined support behaviors satisfy the provider's feelings of mattering, which have a spillover effect on positive emotions at home. In addition, we hypothesize that positive emotions of the support receiver (co-worker) strengthen this indirect relationship. Hypotheses were tested in a sample of 67 dyads of co-workers (N = 280-305 data points). Results show that autonomous support behaviors positively relate to the provider's positive emotions during the evening via mattering. Furthermore, employees felt that they mattered more and experienced more positive emotions when they supported co-workers with high (vs. low) positive emotions. These findings advance social support, mattering and spillover literatures by showing that brief episodes of helping behavior can satisfy mattering needs at work and help employees experience more positive emotions at home.



According to a growing body of empirical research, social support can benefit the recipient of support as well as the provider of support (Aknin et al., 2013a, 2013b; Martela & Ryan, 2016). Individuals who provide support, experience more self-esteem, higher levels of energy and are more engaged in their work (Uy et al., 2017; Weinstein & Ryan, 2010). By supporting others, employees can proactively satisfy their own basic needs at work and stimulate their level of energy and enthusiasm (Zeijen et al., 2020a, 2020b). However, whereas the beneficial effects of support provision within the workplace have long been established (Uy et al., 2017), it is far less clear whether the support provided at work also positively influences the providers once they are back home from work.

Uncovering the positive spillover process from work to home is relevant as it emphasizes the important role of support provision at work. Since modern working arrangements have provided many employees with increasing possibilities for hybrid working, work and home life seem more intertwined than ever before (Rodríguez-Modroño et al., 2021). Employees' positive emotions that originate from work events may also cross over to their partners, once they return home (Bakker et al., 2009; Rodríguez-Muñoz et al., 2014). This underscores the relevance of possible spillover effects of support provision. In the present study, we investigate to what extent the supportive behaviors displayed at work have beneficial effects after work, and if so, through what mechanism the effects may be explained. To recognize the inherent dyadic nature of social support, we also examine the role of the support receiver.

In order to be able to fully capture the temporal character of this process (see Figure 1 for a visual overview of our research model), we do not only rely on one-time questionnaires but capture the daily impact of support provision during the day on emotions experienced at home in the evening. Such short-term spillover processes from behaviours at work to emotion after work still needs further investigation (Zhang et al., 2020), especially since behavioral support (i.e., the extent to which support is offered) received far less research attention in comparison to the so called 'perceived support' (i.e., support that is available when needed; Jolly et al., 2020). In order to provide more clarity on the different perspectives of social support at work we included an overview of different existing perspectives on social support at work in Table 1.

**Table 1***Overview of perspectives on social support at work.*

<b>Perspective</b>	<b>Explanation</b>	<b>Authors</b>
Matching Hypothesis	Posits that the kind of social support has to match the kind of stressor or demand to be most effective.	Viswesvaran et al., 1999
Buffering Hypothesis	Social support attenuates the negative effects of job demands.	Bakker & Demerouti, 2017 (The JD-R model); Karasek, 1979 (demand-control-support model)
Social Exchange Theory	Social exchange perceives social support as a positive treatment that increases the motivation to return the gesture. An important concept in this theory is the reciprocity norm that states that persons who receive something from another party feel obligated to return the favor.	Cropanzano et al., 2005; 2017; Blau, 1964, Gouldner, 1960 (Norm of Reciprocity)
Conservation of Resources	Social support is seen as a resource that helps to expand and improve existing resource capacity, it reduces stress and burnout	Hobfoll, 1989, 2018
Basic Needs Theory (self-determination)	Investigates how social support can fulfill employees basic needs (autonomy, competence & relatedness). Within this perspective the role of support provision received some initial attention	Ryan & Deci, 2000; Van den Broeck et al., 2016; Weinstein & Ryan, 2010.

*Note.* This overview is partly based on the integrative review of Jolly et al. (2020) and is not all-encompassing.

Taken together, the current study contributes to the literature in four ways. First, we contribute to the spillover and support-happiness literatures (Martela & Ryan, 2016; Uy et al., 2017) by examining whether next to their immediate effects, brief episodes of helping behavior at work make the support provider feel better in the evening after work. Second, we contribute to social support and basic needs theories (Deci & Ryan, 2000; Weinstein & Ryan, 2010) by investigating whether the universal need to matter represents an important mechanism that explains potential well-being effects of support provision. Whereas previous studies already uncovered that autonomously motivated support provision instigates well-being via the providers' basic needs fulfilment (i.e., autonomy, competence and relatedness, Martela & Ryan, 2016; Weinstein & Ryan, 2010), the present study offers additional insights in whether feelings of mattering also explain the provider's well-being. Third, mattering is a concept that refers not only to the identity of oneself, but also to the attitudes and behaviors of others (Elliot et al., 2004; Rosenberg & McCullough, 1981). We contribute to the mattering theory by examining whether next to factors of the 'self' (i.e., autonomous support provision), contextual factors from important 'others' (i.e., receiver's positive emotions at the start of the

day) may stimulate the provider's mattering process. Finally, by examining spillover processes on a daily basis and focusing on the motives behind "the degree to which support is offered," we contribute to the literature on social support (Jolly et al., 2020) by providing valuable insights into daily spillover processes from behaviors at work to emotions after work (Zhang et al., 2020).

## Theoretical background

Work and private life are inevitably interconnected (Heller & Watson, 2005). The process through which experiences in one role improve the quality of life in the other role is called an enrichment process (Greenhaus & Powell, 2006). According to the Work-Home Resources (W-HR) model, resources that employees gain at work can accumulate and develop into personal resources, which are taken home and positively influence employees' functioning in their private lives (Ten Brummelhuis & Bakker, 2012). Indeed, previous research has shown that positive experiences at work can benefit employees' feelings, energy and functioning at home (Demerouti et al., 2004; Rodríguez-Muñoz et al., 2014, 2018), which can be explained by an increase in employees' personal resources (Postema et al., 2021).

In addition, we build further on these insights and examine how the benefits of support provision may spillover from work to home. To do so, we embed our research in the mattering theory (Elliot et al., 2004). The psychological need to matter captures a fundamental human need to feel relevant and important to others (Rayle & Meyers, 2004; Elliot et al., 2004; Martela & Ryan, 2016) which leads individuals to become noticed and feel relevant to others, for instance by helping them (Elliot et al., 2004; Piliavin & Siegl, 2007). When individuals feel that they matter, they experience more social meaningfulness (Marshall, 2001), higher levels of self-worth and well-being (Piliavin, 2009). The experience of mattering therefore likely represents an important personal resource through which support providers enrich their lives (Piliavin & Siegl, 2007). In the present study, we argue that already brief acts of daily support may instigate significant feelings of mattering. In particular, for support providers to derive satisfaction and enjoyment out of helping behavior, helping acts should entail high levels of autonomous motivation (Weinstein & Ryan, 2010). This means that providers must either like to help (i.e., intrinsic motivation), value the supportive goal (i.e., identification motivation), or feel that they can express themselves through the helping act (i.e., integration motivation; Ryan & Deci, 2000; Weinstein & Ryan, 2010; Zeijen et al., 2020a, 2020b). When employees provide support in this manner, the act of support

is experienced as fun, valuable, and important. Autonomous helpers feel a greater sense of closeness to their recipients, feel that they have accomplished something valuable and feel assured in their autonomy to freely decide when and how to provide support (Weinstein & Ryan, 2010). In addition to these three basic needs (i.e., the needs for relatedness, competence, and autonomy), we expect that autonomous helpers feel more significant and relevant to recipients because they truly care about the support they provide and therefore experience a higher sense of social meaning (Rosenberg & McCullough, 1981; Froidevaux et al., 2016). Autonomous support providers value the helping act, and therefore likely feel that they made a meaningful contribution and matter more to their co-worker. In addition, autonomously motivated support has been found to be perceived as more meaningful and effective by support receivers because autonomous helpers put more effort into helping, are more enthusiastic in their helping and accomplish more when assisting their recipients (Weinstein & Ryan, 2010). Empirically, some evidence exists that shows that the act of support provision satisfies support providers' need to matter (Piliavin, 2009; Piliavin & Siegl, 2007). This line of research has been conducted in a context of community service (i.e., volunteering work), which is most likely autonomously motivated because it concerns voluntary and self-motivated work by nature. In line with this research and taking into account the theorizing and findings of Weinstein and Ryan (2010), we hypothesize that autonomously motivated support instigates feelings of mattering.

**Hypothesis 1:** Daily autonomously motivated provided support positively relates to the provider's daily feelings of mattering.

### **Mattering and the Experienced Positive Emotions at Home**

Employees who satisfy their need to matter at work may also benefit from this once they return home after work. Feelings of mattering tell something about employees' personal identity and identities have the ability to cross boundaries, such as the boundary from work to home (Ten Brummelhuis & Bakker, 2012). According to previous research there are multiple pathways through which employees take home their personal resources, for instance through mood/affect, cognition and physiology (Repetti et al., 2009). For mattering, this may concern both the affective and the cognitive route which often co-occur (Damasio, 2001). Furthermore, emotions also emerge via different mechanisms (i.e., cognitive, somatic, behavioral) and often unfold in a self-perpetuating manner (Garland et al., 2010). Employees who are more satisfied in their need to matter at work may experience more positive emotions at home because they think more positively about themselves and therefore feel better about their good deeds. For instance, on

days that workers offer their support to colleagues, they may perceive themselves as being more kind, helpful or virtuous (i.e., cognitive route).

This reasoning fits with the theory behind how experienced meaningfulness instigates positive affect. According to Schutte and colleagues (2012) expressive writing interventions (i.e., writing about ideas and emotions related to an aspect in one's life) enhance individuals' positive emotions because it facilitates a cognitive process in which people restructure their thoughts and create personal meaningfulness. Individuals who are more inclined to perceive their environment as understandable and worthwhile perceive a better quality of living and wellbeing (Eriksson and Lindström 2006, 2007). In line with this, we expect that employees who feel that they mattered more at work likely think more positive about themselves and therefore experience more positive emotions at home. This echoes Aristotelian philosophical principles, according to which, helping others feels good because helpers perceive that they live a virtuous, good and fulfilling life (Ryan & Martela, 2016). Based on this, we expect that even small acts of social support can increase employees' positive emotions at home because such acts contribute to individuals' experience of having done good for others that day. We expect that employees who have satisfied their need to matter by actively supporting their co-workers, experience more positive emotions during the evening at home.

**Hypothesis 2:** The provider's feelings of mattering at work positively relate to the provider's positive emotions during the evening (i.e., spillover effect).

**Hypothesis 3:** Autonomously motivated support provision during the workday relates to the provider's positive emotions at home via the provider's feeling of mattering during the afternoon at work.

### **The Role of the Recipient**

Furthermore, to optimally benefit from one's helping acts, it is not only important to consider with what underlying motives the support has been given (Weinstein & Ryan, 2010), but also to whom the support is given (Zeijen et al., 2020a; 2020b). In the case of support provision (helping a colleague on a day-to-day basis), it matters considerably how the interaction partner handles the support – will the support be positively received or not? Is the support receiver going to do something meaningful with it? Is the support receiver going to react positively? In this paper, we argue in line with the core idea of the social exchange theory that positive-minded and responsive individuals are more open to social support and expect that support providers are more likely to feel and behave more positively in reaction to positive others (Cropanzano et al., 2005, 2017).



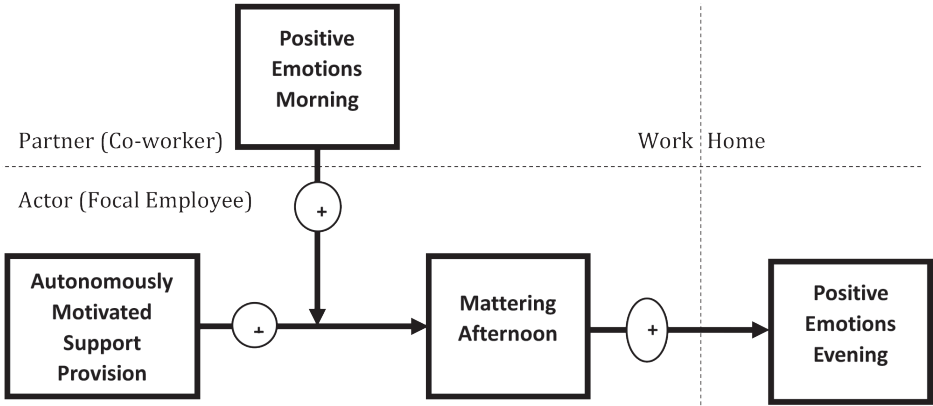
Positive emotions are known to improve interpersonal relationship quality and are affiliative signals that project warmth and willingness to cooperate (Sels et al., 2021). They instigate social connectedness because they make people seem non-threatening and approachable (Sels et al., 2021). A person's positive emotions can be seen as pieces of social information with beneficial functions in interpersonal relationships (Van Kleef, 2009). Hence, since emotions offer information to oneself (Schwarz & Clore, 1983), expressions of emotions also reveal information to observers and impact their attitudes, thoughts and behavior (Keltner & Haidt, 1999). In addition, positive emotions of help receivers reduce the helper's uncertainty about whether the help is going to be appreciated. Whereas individuals withhold help when they are uncertain about whether the receiver will value the help (Baumeister & Leary, 1995; Grant & Gino, 2010), expressions of positive emotions signify that the receiver is likely welcoming of the support rather than rejecting or devaluing it. Therefore, when colleagues express positive emotions early on a workday, they set the stage for a cooperative day in which support providers are more likely to benefit from the given support because they feel appreciated. Hence, we do not only contend that the positive state of the receiving co-worker directly influences the mattering feelings of a support providing employee, but we also predict that positive emotions of support receivers expressed at the start of the day stimulate the support provider to feel extra appreciated and significant about the provided support.

**Hypothesis 4:** The support receiver's positive emotions relate positively to the support provider's feeling of mattering.

**Hypothesis 5:** The support receiver's positive emotions moderate the link between the provider's autonomously motivated support provision and their feelings of mattering, in such a way that this link is stronger for high (rather than low) levels of positive emotions.

**Hypothesis 6:** The receiver's positive emotions during mornings moderate the indirect effect of the autonomously motivated support on the provider's positive emotions during evenings via mattering, such that the effect is stronger when the receiver's positive emotions are high (vs. low).

**Figure 1.**  
*Theoretical Model of Support Provision*



## Method

### Procedure and Sample

For the present study we made use of a fixed interval experience-sampling methodology (ESM; Ohly et al., 2010) to capture the daily support exchange between co-workers in organizations. ESM made it possible to collect multiple moments over the course of multiple work days and use two sources of information (i.e., the support receiver and the support provider). Specifically, we measured the spillover of daily support provision by capturing the amount of provided support, the underlying motivations for the provided support, the feelings of mattering during the afternoon and the positive emotions of the support provider in the evening. The positive emotions of the support receiver were measured at the start of the day because the initial parts of information that individuals identify attract increased attention to that stimulus and can be seen as the most important indication of that stimulus (i.e., primacy effect; Anderson, 1965).

The participants were recruited in the Netherlands, either face-to-face or through social media (e.g., via Facebook and LinkedIn). Participants could volunteer to participate. There was an additional incentive to participate, which was a restaurant gift card for one of the participating co-worker dyads that was allocated through a raffle. In total, 134 co-workers signed up, resulting in 67 dyads. Participants were asked to respond to one or two daily surveys one week that included 5 working days. Each day comprised three measurement moments: one at the start of the working day between 07:00 and 09:00, one at the end of the working day between 16:00 and 18:00 and one

during the evening between 20:00 and 22:00. The focal participant (in this study the support providing employee) received the afternoon and the evening surveys. The co-workers (colleague of the focal participant who is the receiver of the support) received the morning surveys. Altogether, this resulted in  $N = 280$  to  $305$  data points (see Table 2 for the specific datapoints per variable).

Important to mention is that all of the data that we use in this study comes from a sample of employees that participated in a support provision intervention. Because no significant differences between the intervention and control groups on any of the study variables was found and the manipulation appeared unsuccessful, we decided to use the survey data to test our hypotheses and ignore the experimental manipulation. Thirty-three participants originally participated in the control group and 34 participants in the social support group. All participants received instructions every morning on their phones. In the social support group participants received a message that requested them to provide 'extra' support to their co-worker and participants in the control group received a message with the assignment to keep track of how many tasks they performed during that day. Results of ANOVA's revealed that participants in the intervention group neither reported higher levels of provided support;  $F(1, 60) = 0.02$ ,  $p = .888$ , nor did they report different levels of autonomous motivation for the provided support  $F(1, 58) = 0.42$ ,  $p = .518$  as compared to the participants in the control group. Furthermore, participants in the intervention group did not report higher levels of received support  $F(1, 53) = 2.51$ ,  $p = .120$ , feelings of mattering  $F(1, 60) = 3.11$ ,  $p = .083$ , positive emotions during the evening  $F(1, 58) = 3.93$ ,  $p = .052$  or negative emotions during the evening  $F(1, 58) = 0.81$ ,  $p = .371$ , as compared to participants in the control group. Finally, there were no differences in the co-worker's positive emotions  $F(1, 55) = 0.12$ ,  $p = .727$  nor in the co-worker's negative emotions during the morning  $F(1, 55) = 1.47$ ,  $p = .230$ . As such, we conclude that it does not matter for the present study variables whether participants were in the support or control group, and we can merge the groups to create one dataset. Notably, whereas no significant effects of group were found, group membership marginally affected positive emotions during the evening ( $p = .052$ ). Hence, we decided to control for the effects of group on positive emotions in our model.

Next to the ESM surveys, participants received a baseline survey one week before the start of the study with which we measured the demographic variables. From all 134 participants, 14 participants (10%) did not complete the general survey. Therefore, we report the demographics of the 90% of the participants that did fill in the general questionnaire. Dyads consisted of both opposite-sex (woman and men 22.3%) and same-sex couples of co-workers (i.e., two women 30%, two men 28.4%). Participants

were 62 women (51.7%) and 58 men (43.3%). The mean age of the sample was 35.42 years ( $SD = 12.00$ ). On average, participants worked 5.77 years within their current job ( $SD = 6.73$ ) and 35.33 hours per week ( $SD = 17.02$ ). In total, 6.7% completed high school, 26.7% finished a vocational training, and the remaining 66.7% finished higher education (university or applied sciences). Finally, 19.2% lived with a spouse, 43.3% lived with a spouse and children, 3.3% lived without a spouse and with children, 20.8% lived alone and 13.3% lived with their parents.

### Daily Measures

Ohly et al. (2010) advice to use abbreviated scales or single-item measurements when multiple measures per day are required from participants. Since this was the case in our study, we kept the assessments as brief as possible. Items were selected based on factor loadings, and were slightly adapted in formulation to a daily setting when necessary. Finally, to be able to detect more closely what participants were experiencing during the day (Ohnhaus & Adler, 1975) as well as be able to capture small changes (e.g., responsiveness; Du Toit, et al., 2002), we used a Visual Analogue Scales (VAS; i.e., consisting of 100 points) to measure the study variables motivation to support, mattering and experienced emotions. A Visual Analogue Scale is a measurement instrument that captures concepts ranging across a continuum of values, such as the amount of pain, energy and emotions that people experience. We follow the widely cited recommendations of Onhaus and Adler (1975) and use VAS scales to assess more closely what participants experienced. To investigate the reliability and validity of our constructs we calculated and report the Average Variance Extracted (AVE) and the Composite Reliability (CR) for each construct at the within level. Values of the CR are considered acceptable between 0.6 to 0.7, with values  $> 0.7$  better (Shrestha et al., 2021). Values for AVE have to be  $\geq 0.5$  to confirm convergent validity. Finally, researchers found that the convergent validity can still be considered as sufficient when  $AVE < 0.5$ , when the CR is  $> 0.6$ , (Fornell & Larcker, 1981).

**Provided Support.** Before being able to capture the autonomously motivated support, we first had to assess how much support employees provided to their colleagues. To do so, we used Peeters et al. support measure (1995; embedded on House, 1981), from which we selected the three main types of support: instrumental (e.g., “Today, I helped my coworker with a certain task”), informative (e.g., “Today, I gave my coworker advice about how to approach an issue”), and emotional support (e.g., “Today, I paid attention to the feelings and problems of my coworker”, House & Kahn, 1985).

Answers could be given on a 5-point scale ranging from 1 = “not at all” to 5 = “yes, to a very large extent”. The mean Cronbach’s  $\alpha = .86$ .

**Autonomous motivation for the provided support.** When participants did not answer the support questions with “1 = not at all”, they were requested to indicate with which motivation they provided support. We used Weinstein and Ryan’s (2010) motivation to help scale and selected three items. An example is “Today, I provided support to my colleague, because I valued doing so”. The mean Cronbach’s  $\alpha = .97$ .

**Mattering.** To measure daily feelings of mattering, we selected two items from the general mattering questionnaire (France & Finney, 2009) and adjusted the items to the day-level. Specifically, we selected two items with the highest factor loading on the ‘reliance’ factor, which captures mattering in relation to seeking support, advice and resources, and fits with the scope of our study. Each item reflects one of the proposed superordinate dimensions by Elliot et al. (2004), which are (1) capturing the belief that others rely on and need you (i.e., Today, my colleague needed me), and (2) capturing the extent to which the other cares for and appreciates you and your actions (i.e., “Today, my colleague appreciated my contribution(s)).

**Positive emotions.** Positive emotions of the co-worker during the morning, as well as from the focal participant during the evening were measured with a shortened version of the PANAS (Watson et al., 1988). Specifically, we selected three of the highest scoring items of the positive factor (i.e., proud, excited, and inspired, mean partner morning; the mean Cronbach’s  $\alpha = .86$ ; mean focal participant evening, the mean Cronbach’s  $\alpha = .83$ ). Participants filled in the extent to which the affective words represented how they felt during the morning or during the evening. The items refer to key elements of emotional encounters (Barrett & Russell, 1998) and similar sets of brief measures have been used before (e.g., Kashdan & Steger, 2006).

**Control variables**<sup>1</sup>. Following previous research, we expect that autonomous motivation to support has the potential to influence mattering. Next to autonomous motivation, which is based on intrinsic valuing supportive acts, controlled motivation is part of the same theoretical framework and capture reasons such as feeling ought to support or feeling external pressure to help (Weinstein & Ryan, 2010). Because the controlled motivation is part of the self-determined support framework that we use, we decided to control for it. The controlled motivation for support was captured with three items, the mean Cronbach’s  $\alpha = .73$ ; 1 = not at all true, 7 = very true) such as “Today, I provided emotional or informational support to my colleague, because I would feel like a bad person if I didn’t”. In addition, we build further on previous studies that revealed that receiving support can also have adverse consequences (Deelstra et al.,



2002) and therefore decided to account for any possible negative influences or effects of support provision and include the negative emotions of the co-worker during the morning (i.e., “upset/scared, nervous and jittery”; the mean Cronbach’s  $\alpha = .76$ ) as well as the negative emotions of the focal employee during the evening (captured with three of the highest scoring items of the negative factor; upset/scared, nervous and jittery; the mean Cronbach’s  $\alpha = .78$ ). Finally, we control for the intervention vs. control group variable in our model, which is a binary variable (i.e., 1 = social support group or 2 = the control group).

### Statistical analyses

We organized the data in line with a non-exchangeable dyadic Actor–Partner Interdependence Model to study the non-independent data (Cook & Kenny, 2005). The data are non-exchangeable because on the one hand, the focal participants were assigned to groups and the co-worker was not, and, on the other hand, because the co-worker received the surveys at different moments as compared to the focal participant. Moreover, three levels are identified in the data: The dyadic level (level 3, between-dyad,  $N = 67$ ), the individual level (level 2, between-person,  $N = 134$ ), and the episodic level (level 1, within-person,  $N = 197\text{--}231$ ). Since we focus on daily and person level variables, we only distinguish between the daily and person levels. We used Mplus 8.7 (Muthén & Muthén, 2012) to analyze the data.

## Results

### Descriptive statistics

Table 2 provides an overview of the means, standard deviations, and intercorrelations between the study variables. As can be seen, all correlations between the study variables are positive, as expected (i.e., autonomously motivated support provision during the afternoon, co-worker’s positive emotions during the morning, mattering during the afternoon and positive emotions during the evening).

### Measurement model

We investigated the validity of our constructs first by conducting a multilevel confirmatory factor analysis. Our hypothesized model consists of seven within-person variables. This encompasses the four hypothesized model variables (i.e., autonomously motivated support provision during the afternoon, co-worker’s positive emotions during the morning, mattering during the afternoon and positive emotions during the evening)

and the three control variables (i.e., co-worker's negative emotions in the morning, controlled motivated support and negative emotions during the evening). Findings revealed that the seven factors model fitted the data better,  $\chi^2(298) = 494.78$ , CFI = .91, TLI = .88, RMSEA = .048, as compared with models that comprised six latent factors or less, such as the model in which the positive and negative emotions of the partner loaded on one factor ( $\Delta\chi^2(12) \geq 30.59$ ,  $p < .001$ ), or in which the positive and negative emotion during the evening loaded on one factor ( $\Delta\chi^2(14) \geq 379.7$ ,  $p < .001$ ) or when the autonomous and controlled motivated support provision loaded on one model ( $\Delta\chi^2(14) \geq 152.943$ ,  $p < .001$ ). Based on this, we can conclude that our theorized research model fits the data well and we continue with testing the structural analyses using all constructs as intended.

### **Construct reliability and validity**

We calculated the Average Variance Extracted (AVE) and the Composite Reliability (CR) for the constructs with three items at the within level. Results revealed an acceptable or good AVE ( $>.06$ ) and CR ( $> 0.5$ ) for the autonomous motivation for the provided support (CR = .96; AVE = .90), the partner's positive emotions during the morning (CR = .81; AVE = .59), and for the positive emotions during the evening (CR = .78; AVE = .55). Based on these results we infer that the convergent validity for all model variables is confirmed. In addition, findings showed that the AVE values were  $< 0.5$ , while the CR values were  $> 0.6$  for the controlled motivated support provision (CR = .73; AVE = .48) and the partners' negative emotions during the morning (CR = .61; AVE = .38). This means that for these control variables the convergent validity is still sufficient (Fornell & Larcker, 1981). However, regarding the negative emotions during the evening (CR = .52; AVE = .29) results revealed an AVE  $< 0.5$ , while the CR was  $< 0.6$ . Therefore the convergent validity for the negative emotions during the evening is not adequate and we will rerun our final analyses without the control variables<sup>II</sup>.

### **Null model**

The null model provides the intraclass correlation coefficient (ICC) for mattering ( $\rho = .37$ ), positive emotions during the evening ( $\rho = .53$ ) and the negative emotions during the evening ( $\rho = .71$ ). The ICC reveals the amount of variance at the between person level. Based on these ICC's we can infer that there is variance situated at the within person level as well as at the between person level and a multilevel analysis seems appropriate.

**Table 1***Means, standard deviations and pearson correlations between the study variables*

Variables	<i>M</i>	<i>SD</i>	<i>N</i>	1	2	3	4	5	6	7
1. Positive Emotions Co-worker Morning	6.79	2.00	210	-	-.35**	-.06	-.07	.09	.04	.01
2. Negative Emotions Co-worker Morning	1.92	1.79	210	-.66**	-	.07	.14	.03	.02	-.04
3. Autonomous Support Afternoon	6.30	3.41	223	.20**	.24**	-	.56**	.43**	.04	-.09
4. Controlled Support Afternoon	2.75	2.32	197	.11	-.16**	.49**	-	.32**	.02	-.05
5. Mattering Afternoon	5.68	2.14	197	.09	-.01	.45**	.32**	-	.03	.02
6. Positive Emotions Evening	6.01	1.76	231	.23**	-.12	.40**	.15*	.37**	-	-.09
7. Negative Emotions Evening	1.23	1.46	231	-.23**	.07	-.07	.31**	.14*	-.18**	-

*Note:* \*  $p < .05$ ; \*\*  $p < .01$  (2-tailed). Correlations above the diagonal are within-person correlation ( $N = 197$ -231). Correlations below the diagonal are respondent-level correlations aggregated over all days and moments ( $N = 280$ -305). Means and standard deviations are unstandardized.

### Hypothesis testing

To test Hypothesis 1, which predicts that during afternoons when support is provided in an autonomously motivated way, employees feel that they matter more to others, we investigate the findings presented in Table 3 (Model 2). According to these results, a positive association exists between the autonomously motivated support and the provider's feelings of mattering ( $\beta = .48$ ,  $SE = .08$ ,  $t = 5.99$ ,  $p < .001$ ). Hypothesis 1 is supported by these results.

Furthermore, we predicted that the provider's feelings of mattering at work would positively relate to the provider's positive emotions during the evening (i.e., spillover effect; Hypothesis 2). Results in Table 3 (Model 2) show a positive relationship between the support receiver's positive emotions during the morning and the support provider's feelings of mattering ( $\beta = .19$ ,  $SE = .09$ ,  $t = 2.09$ ,  $p = .037$ ). Thus, Hypothesis 2 is also accepted.

**Table 2**  
*Standardized multilevel estimates for the moderated mediation models with the partner interactions estimating feelings of mattering during the working day and positive emotions at home*

	Direct Relationship Model			Moderated Mediation Model		
	<b>Model 2</b>			<b>Model 3</b>		
	Mattering Afternoon	Negative Emotions Evening	Positive Emotions Evening	Mattering Afternoon	Negative Emotions Evening	Positive Emotions Evening
Predicting variables	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
<b>Actor: Support Provider</b>						
Autonomous Support Afternoon	.48***(.08)	-.11 (.05)	-.00 (.06)	.47***(.08)	-.11* (.05)	-.00 (.06)
Controlled Support Afternoon	.10 (.13)	.03 (.05)	-.04 (.07)	.10 (.13)	.03 (.05)	-.04 (.07)
Mattering Afternoon	-	.07 (.05)	.13* (.06)	-	.07 (.05)	.13* (.06)
Intervention Vs Control Group	-	-.12 (.13)	.07 (.13)	-	-.12 (.13)	.07 (.12)
<b>Partner: Support Receiver</b>						
Positive Emotions Morning	.19* (.09)	-.03 (.03)	.02 (.05)	.19* (.09)	-.03 (.03)	.02 (.05)
Negative Emotions Morning	.01 (.07)	-.03 (.06)	.02 (.05)	-.00 (.07)	-.03 (.06)	.02 (.05)
<b>Interaction</b>						
Autonomous Support Afternoon Actor x Positive Emotions Morning Partner	-	-	-	.13* (.06)		
<b>Indirect effect</b>						
Autonomous Support → Mattering → Positive Emotions Evening		.06* (.05)			.06* (.05)	
<b>Moderated Mediated</b>						
-1SD Positive Emotions Partner Morning		-			-.47 (.26)	
+1SD Positive Emotions Partner Morning		-			.56* (.26)	
Difference test between -1SD and + 1SD		-			-1.03* (.52)	

Table 2 (continued)

	Direct Relationship Model Model 2			Moderated Mediation Model Model 3		
	Mattering Afternoon	Negative Emotions Evening	Positive Emotions Evening	Mattering Afternoon	Negative Emotions Evening	Positive Emotions Evening
Predicting variables	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)	$\beta$ (SE)
Residual Variance Components						
Within-person variance ( $\sigma^2$ )	.70***(.09)	.98***(.03)	.98***(.02)	.68***(.09)	.98***(.03)	.98***(.02)
Additional information						
-2 log likelihood H0		-720.812			-718.943	
Scaling correction factor for MLR		1.2449			1.2270	
$\Delta$ -2 log likelihood H0						
Degrees of freedom		22			21	
CFI		1.00			.99	
TLI		1.00			.96	
RMSEA	.000				.029	

Note. \* $p \leq .05$ ; \*\* $p \leq .01$ ; \*\*\* $p \leq .001$ . Model 2 is compared to an only intercept Model (Model 1; -2 log likelihood = -1240.008, Scaling Correction Factor = 1.4441, DF = 9).



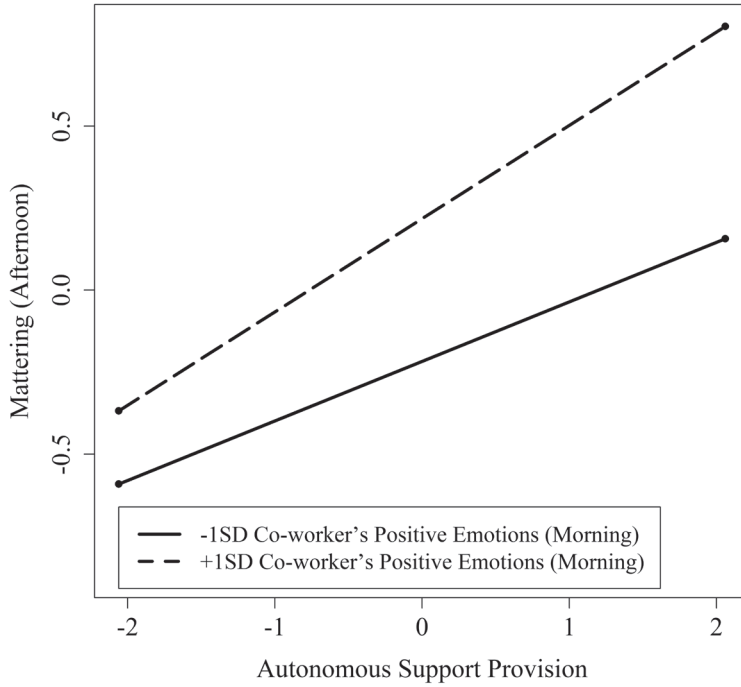
Hypothesis 3 posited that the positive relationship between autonomously motivated support and the provider's feelings of mattering would be stronger when the support is given to a co-worker who experienced positive emotions during the morning. Examining the results in Model 3, we can see that the interaction term between the autonomously motivated support and the co-worker's positive emotions during the morning is a significant predictor of the providers' feelings of mattering ( $\beta = .13$ ,  $SE = .06$ ,  $t = 2.21$ ,  $p = .027$ ). We investigated the pattern of this interaction by computing a simple slope analyses (Preacher et al., 2006). As can be seen in Figure 2, the findings show that when the support is given to a colleague who experienced low positive emotions during the morning ( $-1SD$ ), the slope relating autonomous motivation to support and the provider's feelings of mattering is significant and positive (estimate = .18,  $S.E. = .05$ ,  $z = 3.72$ ,  $p = .002$ ). However, as predicted, when the support is given to a colleague who experienced high positive emotions during the morning ( $+1SD$ ), the positive link between autonomous motivation to support and the provider's feeling of mattering is stronger (estimate = .28,  $S.E. = .05$ ,  $z = 5.83$ ,  $p < .001$ ). According to the test for regions of significance, the link became significant when the positive emotions of the co-worker are higher than  $-2.49$  (i.e., the  $SD$  of positive emotions is 1.17). This implies that the provider's feelings of mattering are higher when the support is provided to a co-worker who experienced high positive emotions during the morning. Findings support Hypothesis 3.

According to Hypothesis 4, feeling that one matters more to others during the afternoon at work relates positively to positive felt and expressed emotions at home, during the evening. Table 3 (Model 2) shows a positive relationship between the support provider's feelings of mattering during the afternoon and their level of self-reported positive emotions during the evening ( $\beta = .13$ ,  $SE = .06$ ,  $t = 2.346$ ,  $p = .019$ ). This means that with increasing feelings of mattering, support providers feel more positive emotions during the evening, which supports Hypothesis 4.

Hypothesis 5 predicted that autonomously motivated support provision in the afternoon relates positively to the provider's positive emotions experienced during the evening, via the experience of mattering in the afternoon. According to the results of Model 2, Table 3, indeed the indirect effect between the autonomously motivated support and the provider's positive emotions during the evening, via the provider's feelings of mattering is positive and significant ( $\beta = .06$ ,  $SE = .03$ ,  $t = 1.965$ ,  $p = .049$ ). When employees provide more autonomously motivated support to their co-workers, support provider's feel that they matter more and experience more positive emotions during the evening. As such, the data support Hypothesis 5.

**Figure 2**

*The relationship between the intrinsic motivation for the provided support during the afternoon and the feelings of mattering, moderated by the positive emotions of the co-worker during the morning*



Our final hypothesis stated that the receiver's positive emotions during the morning moderate the indirect path between the autonomously motivated support and the support provider's positive emotions during the evening via mattering, such that the effect is stronger when the co-worker's positive emotions during the morning are high (vs. low). Table 3 (Model 3) shows that the indirect path is significant and positive when the support is provided to a co-worker who experienced high positive emotions in the morning (estimate = .56, S.E. = .26,  $t = 2.116$ ,  $p = .034$ ). On the other hand, the indirect path is not significant when the support is given to a co-worker who experienced low positive emotions in the morning (estimate = -.47, S.E. = .26,  $t = -1.797$ ,  $p = .072$ ). The results show that provided support only satisfies the feelings of mattering and fosters positive feelings during the evening when the support is given to positive co-workers. Thus, Hypothesis 6 was also supported.

Finally, we re-analyzed the final model without control variables (Model 3; without partner's negative emotions during the morning, negative emotions during the evening and the controlled motivated support provision). Results revealed that all findings remained the same<sup>III</sup>.

## Discussion

The present study investigated whether employees can proactively contribute to their own sense of mattering and stimulate their emotional wellbeing at home by conducting small acts of support at work. We examined this spillover effect within a dyadic context and tested whether support receivers strengthen this process. According to the results, employees indeed feel they matter more at work on days they proactively provide autonomously motivated support to colleagues which positively influences their emotional well-being at home. In addition, findings revealed that both the support provider's satisfaction of the need to matter and positive emotions were higher when the support was given to positive co-workers as compared to when the support was given to less positive co-workers. In what follows, we discuss the most important contributions that we make with these findings.

### Theoretical Contributions

The first contribution that we make with this study is that we reveal an important role for support behaviors during the workday in terms of the work-to-home spillover process (Ten Brummelhuis & Bakker, 2012; Zhang, et al., 2020). According to the current research, autonomously motivated support provision can be seen as a powerful strategy for employees with which they can actively contribute to their feelings of self-worth and relevance, and contribute to the experience of positive emotions at home. These findings complement previous spillover studies that showed that recognition from one's supervisor can trigger work-to-home enrichment through increasing positive mother-child interactions at home (Gassman-Pines, 2011). However, a relevant difference between the current and Gassman-Pines' study is that whereas employees cannot control how much recognition they will receive at work, they are able to influence why and to what extent they provide support at work. Hence, this research contributes to spillover theory (Greenhaus & Powell, 2006) by exemplifying a proactive approach that workers can use to become or keep feeling relevant and with which they can increase their emotional well-being at home. At the same time, these findings complement the proposed self-determination activities of Bakker and Van Woerkom (2017). These activities include self-leadership, job crafting, playful work design, and strengths use, which are proposed to satisfy employees' psychological needs (amongst other outcomes). Current findings add to the categorization of Bakker and Van Woerkom that even small acts of support provision at work may function as a strategy with which employees can proactively influence their need fulfillment, and boost their emotional

well-being at home, after work. Finally, our findings regarding the spillover of support provision to the experience of positive emotions at home are in agreement with another, more recent, study which revealed that also other small proactive behaviors at work (i.e., daily job crafting) enhance positive outcomes in employees' private life via their personal resources (Postema et al., 2021). According to this study, employees felt more engaged at work on days they proactively optimized their job characteristics which positively influenced their running pace during the evening. The current study offers a new perspective to complement this earlier finding by showing that proactive behaviors do not necessarily need to be aimed at one's own needs and wishes in order to create a positive spillover to employees' private life (i.e., which is the case with job crafting behavior). Rather, proactive behaviors may also target the needs and wishes of others and instigate a positive spillover for the employee that provides the support. Hence, by assisting and supporting the needs and wishes of others, employees may also profit from this and gain more personal resources and more positive emotions at home.

The second contribution of this study is that our findings showed that the universal need to matter (Elliot et al., 2004; Rosenberg & McCullough, 1981) concerns a relevant psychological mechanism explaining the well-being effects of support provision. According to the present study, the need to matter explains the well-being effects of autonomously motivated support but not the effects of controlled motivated support. Current findings therefore underscore the relevance of considering the underlying motives with which support is given when investigating the explanatory mechanisms of well-being effects of support provision. In a similar vein, the findings also expand previous research from Piliavin and Siegl (2007) who theorized and found that feelings of mattering explain well-being effects of community participation (Piliavin & Siegl, 2007). By revealing that helping one's colleagues instigates feelings of mattering within a formal work setting, we validate the message of previous research that as long as the support is given for 'the right' reasons, support providers can reap benefits from actively helping others (Deci & Ryan, 2000; Weinstein & Ryan, 2010). Finally, by showing that the need to matter may be an important psychological mechanism explaining well-being effects of behavior at work, our study also fits with previous research that showed that next to the three basic needs of the self-determination theory (i.e., need to feel related, competent and autonomous, Deci & Ryan, 2000; Zeijen et al., 2020b) there are other relevant human needs that explain why pro-social behaviors enhance well-being (i.e., need for benevolence, Martela & Ryan, 2016; need for meaningfulness, Rahmadani et al., 2019).

A final contribution of this study is that we uncovered the effects of support provision on the provider's sense of mattering and a spillover effect to the provider's positive emotions in light of to whom the support is given. As we investigated the support process within a dyadic setting, we explicitly recognized that both the social support and mattering concepts do not develop within a vacuum but depend on the presence of others (Shumaker & Brownell, 1984; Cropanzano et al., 2005, 2017; Rosenberg & McCullough, 1981). We addressed the positive emotions of the support receiver as important factor that strengthens the resource accumulation and spillover processes of the provider. The positive emotions of support receivers directly increased the extent to which support providers feel seen. This implies that positive emotions indeed have an interpersonal function (Sels et al., 2021) which does not only provide social information to oneself (Schwarz & Clore, 1983), but also to observers whose cognitions, attitudes, and behavior may be influenced (Keltner & Haidt, 1999; Van Kleef, 2009). The present findings thus exemplify the interpersonal function that positive emotions may have for others' feelings of mattering. In addition, current findings reveal that the positive emotions of support receivers strengthen the indirect relationship between the provided support and the experienced positive emotions of the support providers via mattering feelings. This shows that the strength of the positive spillover effect depends on and is strengthened by contextual factors – in this case the emotions of other individuals (W-HR Model; Ten Brummelhuis & Bakker, 2012).

Finally, the findings that the emotional state of co-workers can influence the feelings of mattering of employees also implicates that mattering as a personal resource does not only refer to the identity of oneself, but also depends on the emotional state of others. Although the definition of mattering clearly refers to feeling 'important/needed/significant' to others (Elliot et al., 2004; Rosenberg & McCullough, 1981), no study that we know of investigated the effects of others on the mattering concept. As such, the present study adds to the mattering literature that next to factors of the 'self', contextual factors from important 'others' may be relevant to consider in future studies (Rayle et al., 2004; 2006; 2007; Dixon & Kurpius, 2008).

### **Future Research**

Future research may want to shed light on additional boundary conditions (i.e., moderators) in the link between support provision and mattering. First of all, in addition to the receiver's emotions, other factors from the receiver that are particularly relevant for social exchange could act as a moderating factor for the effects of helping others. For example, the receivers' experienced emotional pressure during support episodes



has been found important for the extent to which support providers fulfilled their basic needs through helping (Zeijen et al., 2020). It is therefore conceivable that the extent to which support receivers are in need of support influences the extent to which support receivers experience that they mattered while helping. Moreover, next to factors of the support receiver, factors of the support provider may be important to investigate. For example, social value orientations highlight whether an individual focuses on enhancing outcomes for the self or whether an individual is focused more on enhancing mutual outcomes. These orientations are known to influence prosocial behavior and mutual support processes (De Cremer & Van Lange, 2001) and are therefore potentially relevant for support provider's mattering processes at work. Finally, while the present research shows that providing social support increases the support providers' levels of positive emotions, previous research has also shown that there may be reciprocal links between support provision and positive emotions. Positive emotions are theorized to instigate social connectedness, improve the relationship quality and seem to predict prosocial behavior (Sels et al., 2021; Snippe et al., 2018). In turn, prosocial behavior appears to determine higher levels of positive emotions (Snippe et al., 2018). Future research could therefore focus on uncovering to what extent reciprocal links exist between support provision and positive emotions.

### **Implications for practice**

Based on the present findings, we can retract a couple of practical implications. First, the act of providing support to others can be considered an important tool to help individuals increase their day-to-day well-being and positive experience after work. In particular, this knowledge may be helpful for employees who struggle with finding meaning in their day-to-day work life such as employees who experience boredom at work (Harju et al, 2016). Supervisors and managers can inform their employees on the benefits of helping colleagues for the providers of help. Moreover, employers can facilitate more opportunities for employees to offer support and thereby fulfill their daily needs at work (see also Zeijen et al., 2020b). For example by stimulating employees to work together rather than to work alone or organize brainstorm meetings in which employees can inform each other where they are struggling with and others can offer help. Another way to stimulate employees to provide more support to each other is by giving the right example. Through often offering and giving help to others, supervisors show that it is okay to provide and receive help and the threshold for others to do so may be lowered. Finally, our research showed that support provision may instigate a positive spillover effect and enrich employees' emotional well-being at home. According

to previous studies, sharing the positive events, such as the moments in which one provided support to one's colleagues can further enhance these beneficial effects of prosocial events at work (i.e., called interpersonal capitalization; Ilies et al., 2017). Sharing about one's prosocial behaviors or events can take place at home and at work to consolidate the well-being effects, but can also be semi-formally facilitated at work. For instance, supervisors may introduce a short round before or after a standard daily or weekly meeting in which employees share their highlights. Supervisors may provide examples of prosocial behaviors themselves in order to prime and inspire their team members. However, we stress that this should be done within a safe environment and should be seen as voluntary, so that it does not lead to feelings of obligation.

### **Limitations**

Several limitations should be discussed. The first limitation is all variables are captured using self-reports. Therefore, the results may be contaminated by common method variance (Podsakoff et al., 2003). However, because we made use of two sources of information (receiver and provider) and temporally separated the assessment of the predictors (i.e., positive emotions of the support receiver measured during the morning), mediator (i.e., mattering measured during the afternoon) and outcome (i.e., positive emotions measured during the evening), it is less likely that the relationships found in the current study were affected by common method bias (i.e., Ohly et al., 2010; Podsakoff et al., 2003). Nevertheless, we recommend that future researchers include other-reports or objective measures to replicate the current findings. For example, lab studies or field-studies could make use of ICT possibilities that record instances of support provision among colleagues and self-reports could then assess the personal experiences and feelings. Another limitation is that because we made use of data retracted from a sample that participated in an unsuccessful intervention (meaning that there were no significant effects of the intervention on any of the study variables), further studies are needed to determine the robustness of our results. Hence, more research is needed to replicate the current findings using a sample that did not undergo an intervention. Furthermore, it could be that the exchange processes between three or more colleagues function substantially different as compared to dyadic exchange processes. Future researchers may want to follow-up on this with research that explores what factors influence the exchange of social support within work groups, for instance, with interview techniques or network analyses.

## Conclusion

In this study, we uncovered that by providing support to colleagues at work employees feel that they matter more at work and experience more positive emotions after work, at home. In addition, findings show that support providers reap even more benefits from helping their colleagues when the support is aimed at positive colleagues. In other words, when employees support colleagues who experience and express more positive emotions at work, support providers feel that they matter more at work and therefore experience more positive emotions after work. In line with the Aristotelian philosophy, the present study thus emphasizes that employees who do good for others also do good for themselves.

## Notes

<sup>i</sup> In the six-factor model in which autonomous and controlled motivated support loaded on one factor, we fixed the variance of one item from the controlled motivation questionnaire to zero and in the six-factor model in which positive and negative emotions during the evening loaded on one factor, we fixed the variance of one positive and one negative item to zero so that the models could terminate normally.

<sup>ii</sup> It could be suggested that the three negative emotions (upset/scared, nervous and jittery) do not correlate sufficient enough to form one factor because the control variable negative emotions during the evening had an AVE less than 0.5, while the composite reliability was not higher than 0.6 (Fornell & Larcker, 1981). Future research may want to combine other negative emotions. For the current model we want to emphasize that this concerns a control variable and our hypothesized model remains the same when omitting the control variables from the model.

<sup>iii</sup> We also examined whether the results remained the same without the control variables in our model. Results showed that both the direction and significance of all relationships remained the same. Hence, we conclude that the control variables did not influence our hypothesized model findings, and the results are above and beyond the control variables.







# Appendices

References

Nederlandse Samenvatting

Curriculum Vitae

Publications

Dankwoord





## References

- AbuAlRub, R. F. (2004). Job stress, job performance, and social support among hospital nurses. *Journal of Nursing Scholarship*, 36(1), 73-78. <https://doi.org/10.1111/j.1547-5069.2004.04016.x>
- Adams, J. S. (1965). Inequity in social exchange. *Advances in Experimental Social Psychology*, 2, 267-299. [https://doi.org/10.1016/S0065-2601\(08\)60108-2](https://doi.org/10.1016/S0065-2601(08)60108-2)
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). Multiple regression: Testing and interpreting interactions. sage.
- Aknin, L. B., Barrington-Leigh, C. P., Dunn, E. W., Helliwell, J. F., Burns, J., Biswas-Diener, R., ... & Norton, M. I. (2013a). Prosocial spending and well-being: Cross-cultural evidence for a psychological universal. *Journal of Personality and Social Psychology*, 104 (4), 635-652.
- Aknin, L. B., Dunn, E. W., Whillans, A. V., Grant, A. M., & Norton, M. I. (2013b). Making a difference matters: Impact unlocks the emotional benefits of prosocial spending. *Journal of Economic Behavior & Organization*, 88, 90-95. <https://doi.org/10.1016/j.jebo.2013.01.008>
- Aknin, L. B., & Whillans, A. V. (2021). Helping and happiness: A review and guide for public policy. *Social Issues and Policy Review*, 15(1), 3-34. <https://doi.org/10.1111/sipr.12069>
- Alden, L. E., & Trew, J. L. (2013). If it makes you happy: Engaging in kind acts increases positive affect in socially anxious individuals. *Emotion*, 13, 64-75. DOI: <http://dx.doi.org/10.1037/a0027761>
- Alessandri, G., De Longis, E., Perinelli, E., Balducci, C., & Borgogni, L. (2020). The costs of working too hard: Relationships between workaholism, job demands, and prosocial organizational citizenship behavior. *Journal of Personnel Psychology*, 19(1), 24-32. <https://doi.org/10.1027/1866-5888/a000240>
- Alexander, R. D. (1987). *The Biology of Moral Systems*. New York: Aldine-de Gruyter.
- Ames, C. (1992). Classrooms: Goals, structures, and student motivation. *Journal of Educational Psychology*, 84, 261-271. <https://doi.org/10.1037/0022-0663.84.3.261>
- Anderman, E. M., & Maehr, M. L. (1994). Motivation and schooling in the middle grades. *Review of Educational Research*, 64, 287-309. <https://doi.org/10.3102/00346543064002287>
- Anderson, N. H. (1965). Primacy effects in personality impression formation using a generalized order effect paradigm. *Journal of Personality and Social Psychology*, 2(1), 1-9. <https://doi.org/10.1037/h0021966>
- Antonucci, T. C., Fuhrer, R., & Jackson, J. S. (1990). Social support and reciprocity: A cross-ethnic and cross-national perspective. *Journal of Social and Personal Relationships*, 7, 519-530. <https://doi.org/10.1177/0265407590074008>
- Axelrod, R. (1981). The emergence of cooperation among egoists. *American Political Science Review*, 75, 306-318. <https://doi.org/10.2307/1961366B>
- Babcock-Roberson, M. E., & Strickland, O. J. (2010). The relationship between charismatic leadership, work engagement, and organizational citizenship behaviors. *The Journal of Psychology*, 144, 313-326. <https://doi.org/10.1080/00223981003648336>
- Bakker, A.B. (2014) Daily fluctuations in work engagement: An overview and current directions. *European Psychologist*, 19, 227-236. <http://dx.doi.org/10.1027/1016-9040/a000160>
- Bakker, A. B., & Demerouti, E. (2017). Job demands-resources theory: Taking stock and looking forward. *Journal of Occupational Health Psychology*, 22(3), 273-285. <https://doi.org/10.1037/ocp0000056>
- Bakker, A.B., Demerouti, E. & Sanz-Vergel, A.I. (2014). Burnout and work engagement: the JD-R approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 1, 389-411. <https://doi.org/10.1146/annurev-orgpsych-031413-091235>
- Bakker, A. B., Demerouti, E., & Sanz-Vergel, A. (2023). Job Demands-Resources theory: Ten years later. *Annual Review of Organizational Psychology and Organizational Behavior*.
- Bakker, A. B., Hakanen, J. J., Demerouti, E., & Xanthopoulou, D. (2007). Job resources boost work engagement, particularly when job demands are high. *Journal of Educational Psychology*, 99, 274-284. <https://doi.org/10.1037/0022-0663.99.2.274>
- Bakker, A. B., & Oerlemans, W. (2011). Subjective well-being in organizations. In K. Cameron & G. Spreitzer (Eds.), *Handbook of positive organizational scholarship* (pp. 178-190). New York, NY: Oxford University Press. <http://dx.doi.org/10.1093/oxfordhb/9780199734610.013.0014>
- Bakker, A.B & Oerlemans, W.G.M. (2016) Momentary Work Happiness as a Function of Enduring Burnout and Work Engagement, *The Journal of Psychology*, 150, 755-778, <https://doi.org/10.1080/00223980.2016.1182888>
- Bakker, A. B., Petrou, P., & Tsaousis, I. (2012). Inequity in work and intimate relationships: A spillover-cross-over model. *Anxiety, Stress & Coping*, 25, 491-506. <https://doi.org/10.1080/10615806.2011.619259>

- Bakker, A. B., & van Woerkom, M. (2017). Flow at work: A self-determination perspective. *Occupational Health Science*, 1(1), 47-65. <https://doi.org/10.1007/s41542-017-0003-3>
- Bakker, A. B., Westman, M., & van Emmerik, I. H. (2009). Advancements in crossover theory. *Journal of Managerial Psychology*, 4(3), 206-219. <https://doi.org/10.1108/02683940910939304>
- Bakker, A. B., & Xanthopoulou, D. (2009). The crossover of daily work engagement: Test of an actor-partner interdependence model. *Journal of Applied Psychology*, 94, 1562-1571. <https://doi.org/10.1037/a0017525>
- Balliet, D., Parks, C., & Joireman, J. (2009). Social value orientation and cooperation in social dilemmas: A meta-analysis. *Group Processes & Intergroup Relations*, 12(4), 533-547. <https://doi.org/10.1177/1368430209105040>
- Barrett, L., & Russell, J. A. (1998). Independence and bipolarity in the structure of current affect. *Journal of Personality and Social Psychology*, 74(4), 967-984. <https://doi.org/10.1037/0022-3514.74.4.967>
- Barsade, S. G., Ward, A. J., Turner, J. D., & Sonnenfeld, J. A. (2000). To your heart's content: A model of affective diversity in top management teams. *Administrative Science Quarterly*, 45, 802-836. <https://doi.org/10.2307/2667020>
- Batson, C. D. (1998). Altruism and prosocial behavior. In T. D. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The handbook of social psychology* (pp. 282-316). New York, NY: McGraw-Hill.
- Baumeister, R. F. (2002). Ego depletion and self-control failure: An energy model of the self's executive function. *Self and Identity*, 1, 129-136. <https://doi.org/10.1080/152988602317319302>
- Baumeister, R. F. (2011). Need-to-belong theory. In P. A. M. Van Lange, A. W. Kruglanski & E. T. Higgins (Eds.), *Handbook of theories of social psychology* (pp. 121-140). London, UK: Sage Publishing.
- Baumeister, R. F., & Leary, M. R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117(3), 497-529. <http://dx.doi.org/10.1037/0033-2909.117.3.497>
- Blau, P. M. (1964). *Exchange and power in social life*. New York: Wiley.
- Beal, D. J., Weiss, H. M., Barros, E., & MacDermid, S. M. (2005). An Episodic Process Model of Affective Influences on Performance. *Journal of Applied Psychology*, 90(6), 1054-1068. <https://doi.org/10.1037/0021-9010.90.6.1054>
- Bogaert, S., Boone, C., & Declerck, C. (2008). Social value orientation and cooperation in social dilemmas: A review and conceptual model. *British Journal of Social Psychology*, 47(3), 453-480. <https://doi.org/10.1348/014466607X244970>
- Bolger, N., Davis, A., & Rafaeli, E. (2003). Diary methods: Capturing life as it is lived. *Annual review of psychology*, 54(1), 579-616. <https://doi.org/10.1146/annurev.psych.54.101601.145030>
- Bolino, M. C., & Turnley, W. H. (1999). Measuring impression management in organizations: A scale development based on the Jones and Pittman taxonomy. *Organizational Research Methods*, 2, 187-206. <https://doi.org/10.1177/109442819922005>
- Bowling, N. A., Beehr, T. A., & Swader, W. M. (2005). Giving and receiving social support at work: The roles of personality and reciprocity. *Journal of Vocational Behavior*, 67(3), 476-489. <https://doi.org/10.1016/j.jvb.2004.08.004>
- Brown, S. L., Nesse, R. M., Vinokur, A. D., & Smith, D. M. (2003). Providing social support may be more beneficial than receiving it: Results from a prospective study of mortality. *Psychological Science*, 14(4), 320-327. <https://doi.org/10.1111/1467-9280.14461>
- Burnham, K. P., & Anderson, D. R. 2004. Multimodel inference understanding AIC and BIC in model selection. *Sociological Methods & Research*, 33, 261-304. <https://doi.org/10.1177/0049124104268644>
- Button, S. B., Mathieu, J. E., & Zajac, D. M. (1996). Goal orientation in organizational research: A conceptual and empirical foundation. *Organizational Behavior and Human Decision Processes*, 67, 26-48. <https://doi.org/10.1006/obhd.1996.0063>
- Buunk, B. P., Doosje, B. J., Jans, L. G. J. M., & Hopstaken, L. E. M. (1993). Perceived reciprocity, social support, and stress at work: The role of exchange and communal orientation. *Journal of Personality and Social Psychology*, 65, 801-811. <https://doi.org/10.1037/0022-3514.65.4.801>
- Buunk, B. P., & Schaufeli, W. B. (1999). Reciprocity in interpersonal relationships: An evolutionary perspective on its importance for health and well-being. *European Review of Social Psychology*, 10, 259-291. <https://doi.org/10.1080/14792779943000080>
- Caprara, G. V., & Steca, P. (2005). Self-efficacy beliefs as determinants of prosocial behavior conducive to life satisfaction across ages. *Journal of Social and Clinical Psychology*, 24, 191-217. <https://doi.org/10.1016/j.paid.2003.07.007>

- Charman, S. (2013). Sharing a laugh: The role of humour in relationships between police officers and ambulance staff. *International Journal of Sociology and Social Policy*, 33, 152-166. <https://doi.org/10.1108/01443331311308212>
- Chernyak-Hai, L., & Rabenu, E. (2018). The new era workplace relationships: Is social exchange theory still relevant?. *Industrial and Organizational Psychology*, 11(3), 456-481. <https://doi.org/10.1017/iop.2018.5>
- Cheung, F., Tang, C. S., Lim, M. S. M., & Koh, J. M. (2018). Workaholism on job burnout: A comparison between American and Chinese employees. *Frontiers in psychology*, (9) 2546, 1–11. <https://doi.org/10.3389/fpsyg.2018.02546>
- Christian, M. S., Garza, A. S., & Slaughter, J. E. (2011). Work engagement: A quantitative review and test of its relations with task and contextual performance. *Personnel Psychology*, 64(1), 89-136. <https://doi.org/10.1111/j.1744-6570.2010.01203.x>
- Choi, D., Ilies, R., & Lin, K. J. (2017). A Novel Mechanism Linking Emotional Demands, Citizenship Behaviors, and Well-Being. In *Academy of Management Proceedings* (Vol. 2017, No. 1, p. 10447). Briarcliff Manor, NY 10510: Academy of Management. <https://doi.org/10.5465/AMBPP.2017.10447abstract>
- Clark, M. A., Michel, J. S., Zhdanova, L., Pui, S. Y., & Baltes, B. B. (2016). All work and no play? A meta-analytic examination of the correlates and outcomes of workaholism. *Journal of Management*, 42, 1836-1873. <http://dx.doi.org/10.1177/0149206314522301>
- Clark, M. S., & Mills, J. (1993). The difference between communal and exchange relationships: What it is and is not. *Personality and Social Psychology Bulletin*, 19(6), 684-691. <https://doi.org/10.1177/0146167293196003>
- Clark, M. S., & Mills, J. R. (2011). A theory of communal (and exchange) relationships. *Handbook of theories of social psychology*, 2, 232-250.
- Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., & Miene, P. (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology*, 74(6), 1516–1530. <http://dx.doi.org/10.1037/0022-3514.74.6.1516>
- Cobb, S. (1976). Social support as a moderator of life stress. *Psychosomatic Medicine*, 38(5), 300–314. <http://dx.doi.org/10.1097/00006842-197609000-00003>
- Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). *Applied multiple regression/correlation analysis for the behavioral sciences* (3rd ed.). Hillsdale, NJ: Erlbaum.
- Cohen, S., & Wills, T. A. (1985). Stress, social support, and the buffering hypothesis. *Psychological Bulletin*, 98, 310-357. <https://doi.org/10.1037/0033-2909.98.2.310>
- Colquitt, J. A., & Simmering, M. J. (1998). Conscientiousness, goal orientation, and motivation to learn during the learning process: A longitudinal study. *Journal of Applied Psychology*, 83, 654-665. <https://doi.org/10.1037/0021-9010.83.4.654>
- Cook, W. L., & Kenny, D. A. (2005). The Actor–Partner Interdependence Model: A model of bidirectional effects in developmental studies. *International Journal of Behavioral Development*, 29, 101-109. <https://doi.org/10.1080/01650250444000405>
- Cropanzano, R., Anthony, E. L., Daniels, S. R., & Hall, A. V. (2017). Social exchange theory: A critical review with theoretical remedies. *Academy of Management Annals*, 11(1), 479 –516. <http://dx.doi.org/10.5465/annals.2015.0099>
- Cropanzano, R., & Mitchell, M. S. (2005). Social exchange theory: An interdisciplinary review. *Journal of Management*, 31(6), 874–900. <http://dx.doi.org/10.1177/0149206305279602>
- Damasio, A. R. (2001). Emotion and the human brain. In A. R. Damasio & A. Harrington (Eds.), *Unity of knowledge: The convergence of natural and human science* (pp. 101–106). New York, NY: New York Academy of Sciences.
- Deci, E. L., & Ryan, R. M. (2008). Self-determination theory: A macro theory of human motivation, development, and health. *Canadian Psychology*, 49, 182-185. <https://doi.org/10.1037/a0012801>
- Deci, E. L., Ryan, R. M., Gagné, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former Eastern Bloc country. *Personality and Social Psychology Bulletin*, 27, 930–942. <https://doi.org/10.1177/0146167201278002>
- De Cremer, D., & Van Lange, P. A. (2001). Why prosocials exhibit greater cooperation than proselves: The roles of social responsibility and reciprocity. *European Journal of Personality*, 15, 5-18. <https://doi.org/10.1002/per.418>
- Deelstra, J. T., Peeters, M. C. W., Schaufeli, W. B., Stroebe, W., Zijlstra, F. R. H., & van Doornen, L. P. (2003). Receiving instrumental support at work: When help is not welcome. *Journal of Applied Psychology*, 88(2), 324–331. <https://doi.org/10.1037/0021-9010.88.2.324>

- De Jonge, J., Dormann, C., Janssen, P. P., Dollard, M. F., Landeweerd, J. A., & Nijhuis, F. J. (2001). Testing reciprocal relationships between job characteristics and psychological well-being: A cross-lagged structural equation model. *Journal of Occupational and Organizational Psychology*, 74(1), 29–46. <https://doi.org/10.1348/096317901167217>
- De Jonge, J., Le Blanc, P. M., Peeters, M. C., & Noordam, H. (2008). Emotional job demands and the role of matching job resources: A cross-sectional survey study among health care workers. *International Journal of Nursing Studies*, 45, 1460–1469. <https://doi.org/10.1016/j.ijnurstu.2007.11.002>
- Demerouti, E., Bakker, A. B., Nachreiner, F., & Schaufeli, W. B. (2001). The job demands-resources model of burnout. *Journal of Applied psychology*, 86, 499–512. <https://doi.org/10.1037/0021-9010.86.3.499>
- Demerouti, E., Bakker, A. B., Peeters, M. C., & Breevaart, K. (2021). New directions in burnout research. *European Journal of Work and Organizational Psychology*, 30(5), 686–691. <https://doi.org/10.1080/1359432X.2021.1979962>
- Demerouti, E., Geurts, S.A.E., & Kompier, M.A.J. (2004). Positive and negative work-home interaction: Prevalence and correlates. *Equal Opportunities International*, 23(1), 6–35. <http://dx.doi.org/10.1108/02610150410787837>
- De Spiegelaere, S., Van Gyes, G., De Witte, H., & Van Hootegem, G. (2015). Job design, work engagement and innovative work behavior: A multi-level study on Karasek's learning hypothesis. *Management Review*, 26, 123–137. <http://dx.doi.org/10.1688/mrev-2015-02-DeSpiegelaere>
- Dixon, S. K., & Kurpius, S. E. R. (2008). Depression and college stress among university undergraduates: Do mattering and self-esteem make a difference?. *Journal of College Student Development*, 49(5), 412–424. <http://dx.doi.org/10.1353/csd.0.0024>
- Douglas, E. J., & Morris, R. J. (2006). Workaholic, or just hard worker?. *Career Development International*, (11), 5, 394–417. <https://doi.org/10.1108/13620430610683043>
- Drefahl, S. (2012). Do the married really live longer? The role of cohabitation and socioeconomic status. *Journal of Marriage and Family*, 74(3), 462–475. <https://doi.org/10.1111/j.1741-3737.2012.00968.x>
- Driskell, J. E., & Salas, E. (1992). Collective behavior and team performance. *Human Factors*, 34(3), 277–288. <https://doi.org/10.1177/001872089203400303>
- Dunfield, K. A., O'Connell, L., Kuhlmeier, V. A., & Kelley, E. A. (2011). Examining the diversity of prosocial behaviour: Helping, sharing, and comforting in infancy. *Infancy*, 16, 227–247. <https://doi.org/10.1111/j.1532-7078.2010.00041.x>
- Dunn, E. W., Aknin, L. B., & Norton, M. I. (2008). Spending money on others promotes happiness. *Science*, 319(5870), 1687–1688. <http://dx.doi.org/10.1126/science.1150952>
- Du Toit, R., Pritchard, N., Heffernan, S., Simpson, T., & Fonn, D. (2002). A comparison of three different scales for rating contact lens handling. *Optometry and Vision Science*, 79(5), 313–320. <http://dx.doi.org/10.1097/00006324-200205000-00011>
- Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological Review*, 95, 256–273. <https://doi.org/10.1037/0033-295X.95.2.256>
- Eisenberger, R., Lynch, P., Aselage, J., & Rohdieck, S. (2004). Who takes the most revenge? Individual differences in negative reciprocity norm endorsement. *Personality and Social Psychology Bulletin*, 30, 787–799. <http://dx.doi.org/10.1177/0146167204264047>
- Elliott, G., Kao, S., & Grant, A. M. (2004). Mattering: Empirical validation of a social-psychological concept. *Self and Identity*, 3(4), 339–354. <https://doi.org/10.1080/13576500444000119>
- Emerson, R. M. (1976). Social exchange theory. *Annual Review of Sociology*, 2, 335–362. <http://dx.doi.org/10.1146/annurev.so.02.080176.002003>
- Eng, P. M., Rimm, E. B., Fitzmaurice, G., & Kawachi, I. (2002). Social ties and change in social ties in relation to subsequent total and cause-specific mortality and coronary heart disease incidence in men. *American Journal of Epidemiology*, 155(8), 700–709. <https://doi.org/10.1093/aje/155.8.700>
- Eriksson, M., & Lindström, B. (2006). Antonovsky's sense of coherence scale and the relation with health: A systematic review. *Journal of Epidemiology and Community Health*, 60(5), 376–381. <https://doi.org/10.1136/jech.2005.041616>
- Eriksson, M., & Lindström, B. (2007). Antonovsky's sense of coherence scale and its relation with quality of life: A systematic review. *Journal of Epidemiology and Community Health*, 61(11), 938–944. <https://doi.org/10.1136/jech.2006.056028>
- Falvo, R., Visintin, E. P., Capozza, D., Falco, A., & De Carlo, A. (2013). The relationships among workaholism, proactivity, and locomotion in a work setting. *Social Behavior and Personality: An International Journal*, 41, 1557–1569. <https://doi.org/10.2224/sbp.2013.41.9.1557>

- Farmer, S. M., Van Dyne, L., & Kamdar, D. (2015). The contextualized self: How team-member exchange leads to coworker identification and helping OCB. *Journal of Applied Psychology, 100*(2), 583–595. <https://doi.org/10.1037/a0037660>.
- Fisher, J. D., Nadler, A., & Whitcher-Alagna, S. (1982). Recipient reactions to aid. *Psychological Bulletin, 91*, 27–54. <https://doi.org/10.1037/0033-2909.91.1.27>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research, 18*(1), 39–50. <https://doi.org/10.1177/0022243781018001>
- France, M. K., & Finney, S. J. (2009). What matters in the measurement of mattering? A construct validity study. *Measurement and Evaluation in Counseling and Development, 42*(2), 104–120. <https://doi.org/10.1177/0748175609336863>
- French, K. A., Dumani, S., Allen, T. D., & Shockley, K. M. (2018). A meta-analysis of work–family conflict and social support. *Psychological Bulletin, 144*(3), 284–314. <https://doi.org/10.1037/bul0000120>
- Froidevaux, A., Hirschi, A., & Wang, M. (2016). The role of mattering as an overlooked key challenge in retirement planning and adjustment. *Journal of Vocational Behavior, 94*, 57–69. <https://doi.org/10.1016/j.jvb.2016.02.016>
- Gable, S. L., & Reis, H. T. (2010). Good news! Capitalizing on positive events in an interpersonal context. *Advances in Experimental Social Psychology, 42*, 195–257. [http://dx.doi.org/10.1016/S0065-2601\(10\)42004-3](http://dx.doi.org/10.1016/S0065-2601(10)42004-3)
- Gabriel, A. S., Koopman, J., Rosen, C. C., & Johnson, R. E. (2018). Helping others or helping oneself? An episodic examination of the behavioral consequences of helping at work. *Personnel Psychology, 71*, 85–107. <http://dx.doi.org/10.1111/peps.12229>
- Gagné, M. (2003). Autonomy support and need satisfaction in the motivation and well-being of gymnasts. *Journal of Applied Sport Psychology, 15*, 372–390. <https://doi.org/10.1080/714044203>
- García-Vázquez, F. I., Valdés-Cuervo, A. A., Martínez-Ferrer, B., & Parra-Pérez, L. G. (2020). Forgiveness, gratitude, happiness, and prosocial bystander behavior in bullying. *Frontiers in Psychology, 2827* (10), 1664–1078. <https://doi.org/10.3389/fpsyg.2019.02827>
- Garland, E. L., Fredrickson, B., Kring, A. M., Johnson, D. P., Meyer, P. S., & Penn, D. L. (2010). Upward spirals of positive emotions counter downward spirals of negativity: Insights from the broaden-and-build theory and affective neuroscience on the treatment of emotion dysfunctions and deficits in psychopathology. *Clinical Psychology Review, 30*(7), 849–864. <https://doi.org/10.1016/j.cpr.2010.03.002>
- Gassman-Pines, A. (2011). Associations of low-income working mothers' daily interactions with supervisors and mother-child interactions. *Journal of Marriage and Family, 73*(1), 67–76. <https://doi.org/10.1111/j.1741-3737.2010.00789.x>
- George, J. M., & Jones, G. R. (2000). The role of time in theory and theory building. *Journal of Management, 26*, 657–684. <http://dx.doi.org/10.1177/014920630002600404>
- Gleason, M. E. J., Iida, M., Bolger, N., & Shrout, P. E. (2003). Daily supportive equity in close relationships. *Personality and Social Psychology Bulletin, 29*, 1036–1045. <http://dx.doi.org/10.1177/0146167203253473>
- Gordon, H. J., Demerouti, E., Le Blanc, P. M., Bakker, A. B., Bipp, T., & Verhagen, M. A. (2018). Individual job redesign: Job crafting interventions in healthcare. *Journal of Vocational Behavior, 104*, 98–114. <https://doi.org/10.1016/j.jvb.2017.07.002>
- Gouldner, A. W. (1960). The norm of reciprocity: A preliminary statement. *American Sociological Review, 25*, 161–178. <http://dx.doi.org/10.2307/2092623>
- Grandey, A. A. & Gabriel, A. S. (2015). Emotional labor at a crossroads: Where do we go from here? *Annual Review of Organizational Psychology and Organizational Behavior, 2*, 323–349. <https://doi.org/10.1146/annurev-orgpsych-032414-111400>
- Grandey, A. A., & Melloy, R. C. (2017). The state of the heart: Emotional labor as emotion regulation reviewed and revised. *Journal of Occupational Health Psychology, 22*(3), 407–422. <https://doi.org/10.1037/ocp0000067>
- Grant, A. M., & Gino, F. (2010). A little thanks goes a long way: Explaining why gratitude expressions motivate prosocial behavior. *Journal of Personality and Social Psychology, 98*(6), 946–955. <https://doi.org/10.1037/a0017935>
- Greenhaus, J. H., & Powell, G. N. (2006). When work and family are allies: A theory of work family enrichment. *Academy of Management Review, 31*(1), 72–92.
- Griep, Y., & Zacher, H. (2020). Temporal dynamics in organizational psychology. Oxford, Oxford University Press: Oxford Research Encyclopedia of Psychology. <https://doi.org/10.1093/acrefore/9780190236557.013.32>



- Guilaran, J., de Terte, I., Kaniasty, K., & Stephens, C. (2018). Psychological outcomes in disaster responders: A systematic review and meta-analysis on the effect of social support. *International Journal of Disaster Risk Science*, 9(3), 344-358. <https://doi.org/10.1007/s13753-018-0184-7>
- Hamilton (1963). The evolution of altruistic behavior. *The American Naturalist*, 97, 354-356.
- Harju, L. K., Hakonen, J. J., & Schaufeli, W. B. (2016). Can job crafting reduce job boredom and increase work engagement? A three-year cross-lagged panel study. *Journal of Vocational Behavior*, 95, 11-20. <https://doi.org/10.1016/j.jvb.2016.07.001>
- Hektner, J. M., Schmidt, J. A., & Csikszentmihalyi, M. (2007). Experience sampling method: Measuring the quality of everyday life. Thousand Oaks, CA: Sage
- Heller, K., & Rook, K. S. (1997). *Distinguishing the theoretical functions of social ties: Implications for support interventions*. In S. Duck (Ed.), *Handbook of personal relationships: Theory, research and interventions* (p. 649-670). John Wiley & Sons Inc.
- Heller, D., & Watson, D. (2005). The dynamic spillover of satisfaction between work and marriage: the role of time and mood. *Journal of Applied Psychology*, 90(6), 1273-1279. <https://doi.org/10.1037/0021-9010.90.6.1273>
- Henrich, N., & Henrich, J. P. (2007). Why humans cooperate: A cultural and evolutionary explanation. Oxford, UK: Oxford University Press.
- Hepach, R., Vaish, A., & Tomasello, M. (2012). Young children are intrinsically motivated to see others helped. *Psychological Science*, 23, 967-972. <https://doi.org/10.1177/0956797612440571>
- Hirst, G., Van Knippenberg, D., & Zhou, J. (2009). A cross-level perspective on employee creativity: Goal orientation, team learning behavior, and individual creativity. *Academy of Management Journal*, 52, 280-293. <https://doi.org/10.5465/amj.2009.37308035>
- Hobfoll, S. E. (1989). Conservation of resources: a new attempt at conceptualizing stress. *American psychologist*, 44(3), 513-524. <https://doi.org/10.1037/0003-066X.44.3.513>
- Hobfoll, S. E., Halbesleben, J., Neveu, J. P., & Westman, M. (2018). Conservation of resources in the organizational context: The reality of resources and their consequences. *Annual review of organizational psychology and organizational behavior*, 5, 103-128. <https://doi.org/10.1146/annurev-orgpsych-032117-104640>
- Holland, P., Cooper, B., & Sheehan, C. (2017). Employee voice, supervisor support, and engagement: The mediating role of trust. *Human Resource Management*, 56(6), 915-929. <https://doi.org/10.1002/hrm.21809>
- Hornstein, H. A. (1982). Promotive tension: Theory and research. In V. Derlega & J. Grzelak (Eds.), *Cooperation and helping behavior: Theories and research* (pp. 229-248). New York: Academic.
- Holt-Lunstad, J., Smith, T. B., & Layton, J. B. (2010). Social relationships and mortality risk: a meta-analytic review. *PLoS Medicine*, 7(7), e1000316. <https://doi.org/10.1371/journal.pmed.1000316>
- House, J. S. (1981). *Workstress and social support*. Reading, MA: Addison-Wesley.
- House, J. S., & Kahn, R. L. (1985). Measures and concepts of social support. In: S. Cohen, & S. L. Syme (Eds.), *Social support and health* (pp. 83-108). Orlando, FL: Academic Press.
- Huang, J. L., Chiaburu, D. S., Zhang, X., Li, N., Grandey, A. A. & Chen, G. (2015). Rising to the Challenge. *Journal of Applied Psychology*, 100, 1398-1408. <https://doi.org/10.1037/a0038976>
- Ilies, R., Keeney, J., & Goh, Z. W. (2015). Capitalising on positive work events by sharing them at home. *Applied Psychology*, 64(3), 578-598. <https://doi.org/10.1111/apps.12022>
- Jolly, P. M., Kong, D. T., & Kim, K. Y. (2021). Social support at work: An integrative review. *Journal of Organizational Behavior*, 42(2), 229-251. <https://doi.org/10.1002/job.2485>
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33, 692-724. <https://doi.org/10.5465/256287>
- Kamdar, D., & Van Dyne, L. (2007). The joint effects of personality and workplace social exchange relationships in predicting task performance and citizenship performance. *Journal of Applied Psychology*, 92, 1286-1298. <https://doi.org/10.1037/0021-9010.92.5.1286>
- Karasek, R. A. (1979). Job demands, decision latitude, and mental strain: Implications for job redesign. *Administrative Science Quarterly*, 24, 285-308. <https://doi-org.proxy.library.uu.nl/10.2307/2392498>
- Kashdan, T. B., & Steger, M. F. (2006). Expanding the topography of social anxiety: An experience-sampling assessment of positive emotions, positive events, and emotion suppression. *Psychological Science*, 17(2), 120-128. <https://doi.org/10.1111/j.1467-9280.2006.01674.x>
- Keltner, D., & Haidt, J. (1999). Social functions of emotions at four levels of analysis. *Cognition & Emotion*, 13(5), 505-521. <https://doi.org/10.1080/026999399379168>
- Killinger, B. (2006). The workaholic breakdown syndrome. In R. J. Burke (Ed.), *Research companion to working time and work addiction* (pp. 61-88). Elgar.

- Klein, H. J., & Lee, S. (2006). The effects of personality on learning: The mediating role of goal setting. *Human Performance*, 19, 43-66. [https://doi.org/10.1207/s15327043hup1901\\_3](https://doi.org/10.1207/s15327043hup1901_3)
- Knoll, N., Burkert, S., & Schwarzer, R. (2006). Reciprocal support provision: Personality as a moderator?. *European Journal of Personality*, 20, 217-236. <https://doi.org/10.1002/per.581>
- Kop, N., & Euwema, M. C. (2001). Occupational stress and the use of force by Dutch police officers. *Criminal Justice and Behavior*, 28, 631-652. <https://doi.org/10.1177/009385480102800505>
- Kopman, J., Lanaj, K., & Scott, B. A. (2016). Integrating the bright and dark sides of OCB: A daily investigation of the benefits and costs of helping others. *Academy of Management Journal*, 59, 414-435. <https://doi.org/10.5465/amj.2014.0262>
- Kossek, E. E., Pichler, S., Bodner, T., & Hammer, L. B. (2011). Workplace social support and work-family conflict: A meta-analysis clarifying the influence of general and work-family-specific supervisor and organizational support. *Personnel Psychology*, 64(2), 289-313. <https://doi.org/10.1111/j.1744-6570.2011.01211.x>
- Krebs, D. L. (1970). Altruism: An examination of the concept and a review of the literature. *Psychological Bulletin*, 73(4), 258-302. <https://doi.org/10.1037/h0028987>
- Krueger, R. F., Hicks, B. M., & McGue, M. (2001). Altruism and antisocial behavior: Independent tendencies, unique personality correlates, distinct etiologies. *Psychological Science*, 12, 397-402. <https://doi.org/10.1111/1467-9280.00373>
- Lahey, B. & Cassady, P. B. (1990). Cognitive Processes in Perceived Social Support. *Journal of Personality and Social Psychology*, 59, 337-343. <https://doi.org/10.10370022-3514.59.2.337>
- Lahey, B., & Cohen, S. (2000). Social support theory and measurement. In: Cohen, S., Underwood, L.G., Gottlieb, B. (Eds.), *Social Support Measurement and Intervention: A Guide for Health and Social Scientists*. Oxford University Press, Toronto, pp.29-52.
- Lanaj, K., Johnson, R. E., & Wang, M. (2016). When lending a hand depletes the will: The daily costs and benefits of helping. *Journal of Applied Psychology*, 101, 1097-1110. <https://doi.org/10.1037/apl0000118>
- Lenaert, B., Ponds, R., & van Heugten, C. (2018). Learning to feel tired: A classical and operant conditioning approach to chronic fatigue. *International Journal of Behavioral Medicine*, 25(S1), S20-S20. <https://doi.org/10.1007/s12529-018-9740-1>
- Lesener, T., Gusy, B., Jochmann, A., & Wolter, C. (2020). The drivers of work engagement: A meta-analytic review of longitudinal evidence. *Work & Stress*, 34(3), 259-278. <https://doi.org/10.1080/02678373.2019.1686440>
- Lewin, K. (1936). *A dynamic theory of personality*. New York: McGraw-Hill.
- Liang, J., Krause, N. M., & Bennett, J. M. (2001). Social exchange and well-being: Is giving better than receiving? *Psychology and Aging*, 16, 511-523. <https://doi.org/10.1037/0882-7974.16.3.511>
- Liden, R. C., Wayne, S. J. and Sparrowe, R. T. 2000. An examination of the mediating role of psychological empowerment on the relations between the job, interpersonal relationships, and work outcomes. *Journal of Applied Psychology*, 85, 407-416. <https://doi.org/10.1037/0021-9010.85.3.407>
- Liszkowski, U., Carpenter, M., Striano, T., & Tomasello, M. (2006). Twelve- and 18-month-olds point to provide information for others. *Journal of Cognition and Development*, 7(2), 173-187. [https://doi.org/10.1207/s15327647jcd0702\\_2](https://doi.org/10.1207/s15327647jcd0702_2)
- Malecki, C. K., & Demaray, M. K. (2006). Social support as a buffer in the relationship between socioeconomic status and academic performance. *School Psychology Quarterly*, 21(4), 375-395. <https://doi.org/10.1037/h0084129>
- Marcinkus, W. C., Whelan-Berry, K. S., & Gordon, J. R. (2007). The relationship of social support to the work-family balance and work outcomes of midlife women. *Women in Management Review*, 22 (2). 86-111. <https://doi.org/10.1108/09649420710732060>
- Maricuțoiu, L. P., Sulea, C., & Iancu, A. (2017). Work engagement or burnout: Which comes first? A meta-analysis of longitudinal evidence. *Burnout Research*, 5, 35-43. <https://doi.org/10.1016/j.burn.2017.05.001>
- Marshall, S. K. (2001). Do I matter? Construct validation of adolescents' perceived mattering to parents and friends. *Journal of Adolescence*, 24(4), 473-490. <https://doi.org/10.1006/jado.2001.0384>
- Martela, F., & Ryan, R. M. (2016). The Benefits of Benevolence: Basic Psychological Needs, Beneficence, and the Enhancement of Well-Being. *Journal of Personality*, 84(6), 750-764. <https://doi.org/10.1111/jopy.12215>
- Maslyn, J. M., & Uhl-Bien, M. (2001). Leader-member exchange and its dimensions: Effects of self-effort and other's effort on relationship quality. *Journal of Applied Psychology*, 86, 697-708. <https://doi.org/10.1037/0021-9010.86.4.697>
- May, D. R., Gilson, R. L., & Harter, L. M. (2004). The psychological conditions of meaningfulness, safety and availability and the engagement of the human spirit at work. *Journal of Occupational and Organizational Psychology*, 77, 11-37. <https://doi.org/10.1348/096317904322915892>

- Messick, D. M., & McClintock, C. G. (1968). Motivational bases of choice in experimental games. *Journal of Experimental Social Psychology*, 4, 1-25. [https://doi.org/10.1016/0022-1031\(68\)90046-2](https://doi.org/10.1016/0022-1031(68)90046-2)
- Miles, L. K. (2009). Who is approachable? *Journal of Experimental Social Psychology*, 45, 262-266. <https://doi.org/10.1016/j.jesp.2008.08.010>
- Monin, J. K., Poulin, M. J., Brown, S. L., & Langa, K. M. (2017). Spouses' Daily Feelings of Appreciation and Self-Reported Well-Being. *Health Psychology*. Advance online publication. <http://dx.doi.org/10.1037/hea0000527>
- Muller, D., Judd, C. M., & Yzerbyt, V. Y. (2005). When moderation is mediated and mediation is moderated. *Journal of Personality and Social Psychology*, 89(6), 852-863. <https://doi.org/10.1037/0022-3514.89.6.852>
- Muthén, L.K. and Muthén, B.O. (1998-2012). Mplus User's Guide. Seventh Edition. Los Angeles, CA: Muthén & Muthén
- Navarro, J., Roe, R. A., & Artiles, M. I. (2015). Taking time seriously: Changing practices and perspectives in work/organizational psychology. *Revista de Psicología del Trabajo y de las Organizaciones*, 31(3), 135-145. <https://doi.org/10.1016/j.rpto.2015.07.002>
- Nezlek, J. B. (2017). A practical guide to understanding reliability in studies of within-person variability. *Journal of Research in Personality*, 69, 149-155. <https://doi.org/10.1016/j.jrp.2016.06.020>
- Ng, T. W., Sorensen, K. L., & Feldman, D. C. (2007). Dimensions, antecedents, and consequences of workaholism: A conceptual integration and extension. *Journal of Organizational Behavior*, 28, 111-136. <https://doi.org/10.1002/job.424>
- Ohly, S., Sonnentag, S., Niessen, C., & Zapf, D. (2010). Diary studies in organizational research. *Journal of Personnel Psychology*, 9(2), 79-93. <https://doi.org/10.1027/1866-5888/a000009>
- Ohnhaus, E. E., & Adler, R. (1975). Methodological problems in the measurement of pain: a comparison between the verbal rating scale and the visual analogue scale. *Pain*, 1(4), 379-384. [https://doi.org/10.1016/0304-3959\(75\)90075-5](https://doi.org/10.1016/0304-3959(75)90075-5)
- Ouweneel, E., Le Blanc, P. M., Schaufeli, W. B., & van Wijhe, C. I. (2012). Good morning, good day: A diary study on positive emotions, hope, and work engagement. *Human Relations*, 65(9), 1129-1154. <https://doi.org/10.1177/0018726711429382>
- Ouweneel, E., Schaufeli, W., & Le Blanc, P. (2009). Van Preventie naar amplitie: interventies voor optimaal functioneren. *Gedrag & Organisatie*, 22(2), 118-135. <https://doi.org/10.5117/2009.022.002.002>
- Park, K. O., Wilson, M. G., & Lee, M. S. (2004). Effects of social support at work on depression and organizational productivity. *American journal of health behavior*, 28(5), 444-455. <https://doi.org/10.5993/AJHB.28.5.7>
- Payne, S. C., Youngcourt, S. S., & Beaubien, J. M. (2007). A meta-analytic examination of the goal orientation nomological net. *Journal of Applied Psychology*, 92, 128-150. <https://doi.org/10.1037/0021-9010.92.1.128>
- Peeters, M. C. W. (1994). *Supportive interactions and stressful events at work: An event-recording approach*. [Doctoral dissertation, The Radboud University Nijmegen]. The Radboud Repository of the Radboud University Nijmegen. <https://repository.ubn.ru.nl/handle/2066/145860>
- Peeters, M. C. W., Arts, R., & Demerouti, E. (2016). The crossover of job crafting between coworkers and its relationship with adaptivity. *European Journal of Work and Organizational Psychology*, 25, 819-832. <https://doi.org/10.1080/1359432X.2016.1160891>
- Peeters, M. C.W., Buunk, B. P., & Schaufeli, W.B. (1995). Social interactions and feelings of inferiority. *Journal of Applied Social Psychology*, 25, 1073-1089. <https://doi.org/10.1111/j.1559-1816.1995.tb00618.x>
- Peeters, M. C.W., & Le Blanc, P. M. (2001). Towards a match between job demands and sources of social support: A study among oncology care providers. *European Journal of Work and Organizational Psychology*, 10, 53-72. <https://doi.org/10.1080/13594320042000034>
- Piliavin, J.A. (2009). Altruism and helping: The evolution of a field: The 2008 Cooley-Mead presentation1. *Social Psychology Quarterly*, 72(3), 209-225. <https://doi.org/10.1177/019027250907200305>
- Piliavin, J. A., Dovidio, J. F., Gaertner, S. L., & Clark, R. D., III (1981). *Emergency intervention*. Academic Press.
- Piliavin, J. A., & Siegl, E. (2007). Health benefits of volunteering in the Wisconsin longitudinal study. *Journal of Health and Social Behavior*, 48(4), 450-464. <https://doi.org/10.1177/002214650704800408>
- Pletzer, J. L., Balliet, D., Joireman, J., Kuhlman, D. M., Voelpel, S. C., & Van Lange, P. A. M. (2018). Social value orientation, expectations, and cooperation in social dilemmas: A meta-analysis. *European Journal of Personality*, 32(1), 62-83. <https://doi.org/10.1002/per.2139>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common Method Biases in Behavioral Research: A Critical Review of the Literature and Recommended Remedies. *Journal of Applied Psychology*, 88(5), 879-903. <https://doi.org/10.1146/annurev-psych-120710-100452>

- Porter, G. (2001). Workaholic tendencies and the high potential for stress among co-workers. *International Journal of Stress Management*, 8, 147-164. <https://doi.org/10.1023/A:1009581330960>
- Porter, G. (2006). Profiles of workaholism among high-tech managers. *Career Development International*, 11, 440-462. doi: 10.1108/13620430610683061
- Postema, A., Bakker, A. B., & van Mierlo, H. (2021). Work-Sports enrichment in amateur runners: A diary study. *The Journal of Psychology*, 155(4), 406-425. <https://doi.org/10.1080/00223980.2021.1894411>
- Preacher, K. J., Curran, P. J., & Bauer, D. J. (2006). Computational tools for probing interactions in multiple linear regression, multilevel Modeling, and latent curve analysis. *Journal of Educational and Behavioral Statistics*, 31, 437-448. <https://doi.org/10.3102/10769986031004437>
- Preacher, K. J., Zyphur, M. J., & Zhang, Z. (2010). A general multilevel SEM framework for assessing multilevel mediation. *Psychological Methods*, 15, 209-233. <https://doi.org/10.1037/a0020141>
- Qualtrics, 2019. Provo, Utah, USA, Retrieved from <https://www.qualtrics.com>
- Rahmadani, V. G., Schaufeli, W. B., Ivanova, T. Y., & Osin, E. N. (2019). Basic psychological need satisfaction mediates the relationship between engaging leadership and work engagement: A cross-national study. *Human Resource Development Quarterly*, 30(4), 453-471. <https://doi.org/10.1002/hrdq.21366>
- Rau, R., Georgiades, A., Fredrikson, M., Lemne, C., & de Faire, U. (2001). Psychosocial work characteristics and perceived control in relation to cardiovascular rewind at night. *Journal of Occupational Health Psychology*, 6(3), 171-181. <https://doi.org/10.1037/1076-8998.6.3.171>
- Raykov, T. (2005). Analysis of longitudinal studies with missing data using covariance structure modeling with full-information maximum likelihood. *Structural Equation Modeling*, 12, 493-505. [https://doi.org/10.1207/s15328007sem1203\\_8](https://doi.org/10.1207/s15328007sem1203_8)
- Rayle, A. D. (2006). Mattering to others: Implications for the counseling relationship. *Journal of Counseling & Development*, 84(4), 483-487. <https://doi.org/10.1002/j.1556-6678.2006.tb00432.x>
- Rayle, A. D., & Chung, K. Y. (2007). Revisiting first-year college students' mattering: Social support, academic stress, and the mattering experience. *Journal of College Student Retention: Research, Theory & Practice*, 9(1), 21-37. <https://doi.org/10.2190/X126-5606-4G36-8132>
- Rayle, A. D., & Myers, J. E. (2004). Counseling adolescents toward wellness: The roles of ethnic identity, acculturation, and mattering. *Professional School Counseling* 8(1), 81-90. <https://www.jstor.org/stable/42732418>
- Reina-Tamayo, A. M., Bakker, A. B., & Derks, D. (2017). Episodic demands, resources, and engagement: An experience-sampling study. *Journal of Personnel Psychology*, 16, 125-136. <https://doi.org/10.1027/1866-5888/a000177>
- Reis, H. T., & Gable, S. L. (2000). Event-sampling and other methods for studying everyday experience. In H. T. Reis & C. M. Judd (Eds.), *Handbook of Research Methods in Social and Personality Psychology* (pp. 190-222). New York, NY: Cambridge University Press
- Repetti, R., Wang, S., & Saxbe, D. (2009). Bringing it all back home: How outside stressors shape families' everyday lives. *Current Directions in Psychological Science*, 18(2), 106-111. <http://dx.doi.org/10.1111/j.1467-8721.2009.01618.x>
- Robinson, B. E. (1998). *Chained to the desk: A guidebook for workaholics, their partners and children, and the clinicians who treat them*. New York University Press.
- Robinson, B. E., Flowers, C., & Carroll, J. (2001). Work stress and marriage: A theoretical model examining the relationship between workaholism and marital cohesion. *International Journal of Stress Management*, 8, 165-175. <https://doi.org/10.1023/A:1009533415030>
- Robinson, B. E., & Post, P. (1997). Risk of addiction to work and family functioning. *Psychological Reports*, 81, 91-95. <https://doi.org/10.2466/pr0.1997.81.1.91>
- Rodríguez-Modroño, P., & López-Igual, P. (2021). Job quality and work-life balance of teleworkers. *International Journal of Environmental Research and Public Health*, 18(6), 3239. <https://doi.org/10.3390/ijerph18063239>
- Rodríguez-Muñoz, A., Sanz-Vergel, A. I., Demerouti, E., & Bakker, A. B. (2014). Engaged at work and happy at home: A spillover-cross-over model. *Journal of Happiness Studies*, 15(2), 271-283. <https://doi.org/10.1007/s10902-013-9421-3>
- Rodríguez-Muñoz, A., Sanz-Vergel, A. I., Antino, M., Demerouti, E., & Bakker, A. B. (2018). Positive experiences at work and daily recovery: Effects on couple's well-being. *Journal of Happiness Studies*, 19(5), 1395-1413. <https://doi.org/10.1007/s10902-017-9880-z>
- Rosenberg, M., & McCullough, B. C. (1981). Mattering: Inferred significance and mental health among adolescents. *Research in Community & Mental Health*, 2, 163-182.

- Rotheram-Borus, M. J., Tomlinson, M., Gwegwe, M., Comulada, W. S., Kaufman, N., & Keim, M. (2012). Diabetes buddies: peer support through a mobile phone buddy system. *The Diabetes Educator*, 38(3), 357-365. <https://doi.org/10.1177/0145721712444617>
- Rudolph, C. W., Katz, I. M., Lavigne, K. N., & Zacher, H. (2017). Job crafting: A meta-analysis of relationships with individual differences, job characteristics, and +work outcomes. *Journal of Vocational Behavior*, 102, 112-138. <https://doi.org/10.1016/j.jvb.2017.05.008>
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. <http://dx.doi.org/10.1037/0003-066X.55.1.68>
- Ryan, R. M., & Deci, E. L. (2008). A self-determination theory approach to psychotherapy: The motivational basis for effective change. *Canadian Psychology* 49, 186-193. <https://doi.org/10.1111/j.1751-9004.2008.00098.x>
- Ryan, R. M., & Martela, F. (2016). Eudaimonia as a way of living: Connecting Aristotle with self-determination theory. In J. Vittersø (eds.), *Handbook of Eudaimonic Well-Being, International Handbooks of Quality-of-Life* (pp. 109-122). Springer International Publishing. [https://doi.org/10.1007/978-3-319-42445-3\\_7](https://doi.org/10.1007/978-3-319-42445-3_7)
- Sarason, B. R., Pierce, G. R., & Sarason, I. G. (1990). Social support: The sense of acceptance and the role of relationships. In B. R. Sarason, I. G. Sarason, & G. R. Pierce (Eds.), *Wiley series on personality processes. Social support: An interactional view* (pp. 97-128). Wiley.
- Schaufeli, W.B. (2006). The Balance of Give and Take: Toward a Social Exchange Model of Burnout. *The International Review of Social Psychology*, 19, 87-131. URL : <https://www.cairn.info/revue-internationale-de-psychologie-sociale-2006-1-page-75.htm>
- Schaufeli, W. B., Bakker, A. B., & Salanova, M. (2006). The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement*, 66, 701-716. <https://doi.org/10.1177/0013164405282471>
- Schaufeli, W. B., Bakker, A. B., van der Heijden, F. M. M. A., & Prins, J. T. (2009). Workaholism among medical residents: It is the combination of working excessively and compulsively that counts. *International Journal of Stress Management*, 16(4), 249-272. <https://doi.org/10.1037/a0017537>
- Schaufeli, W. B., Salanova, M., González-Romá, V., & Bakker, A. B. (2002). The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies*, 3, 71-92. <https://doi.org/10.1023/A:1015630930326>
- Schaufeli, W. B., Shimazu, A., Hakanen, J., Salanova, M., & De Witte, H. (2019). An ultra-short measure for work engagement: The UWES-3 validation across five countries. *European Journal of Psychological Assessment*, 35, 577-591. <http://dx.doi.org/10.1027/1015-5759/a000430>
- Schaufeli, W. B., Shimazu, A., & Taris, T. W. (2009). Being driven to work excessively hard: The evaluation of a two-factor measure of workaholism in the Netherlands and Japan. *Cross-Cultural Research*, 43(4), 320-348. <https://doi.org/10.1177/1069397109337239>
- Schaufeli, W.B., Taris, T.W., & Bakker, A.B. (2008). It takes two to tango: Workaholism is working excessively and working compulsively. In R.J. Burke & C.L. Cooper (Eds.), *The long work hours culture: Causes, consequences and choices* (pp. 203-226). Emerald.
- Schaufeli, W. B., Taris, T. W., & Van Rhenen, W. (2008). Workaholism, burnout, and work engagement: three of a kind or three different kinds of employee well-being? *Applied Psychology*, 57, 173-203. <http://dx.doi.org/10.1111/j.1464-0597.2007.00285.x>
- Schutte, N. S., Searle, T., Meade, S., & Dark, N. A. (2012). The effect of meaningfulness and integrative processing in expressive writing on positive and negative affect and life satisfaction. *Cognition & Emotion*, 26(1), 144-152. <https://doi.org/10.1080/02699931.2011.562881>
- Schwartz, C. E., & Sendor, R. M. (1999). Helping others helps oneself: Response shift effects in peer support. *Social Science & Medicine*, 48, 1563-1575. [https://doi.org/10.1016/S0277-9536\(99\)00049-0](https://doi.org/10.1016/S0277-9536(99)00049-0)
- Schwarz, N., & Clore, G. L. (1983). Mood, misattribution, and judgments of well-being: Informative and directive functions of affective states. *Journal of Personality and Social Psychology*, 45(3), 513-523. <https://doi.org/10.1037/0022-3514.45.3.513>
- Scollon C. N., Prieto C-K., Diener E. (2009). Experience Sampling: Promises and Pitfalls, Strength and Weaknesses. In: Diener, E. (eds) *Assessing Well-Being. Social Indicators Research Series*, vol 39. Springer, Dordrecht. [https://doi.org/10.1007/978-90-481-2354-4\\_8](https://doi.org/10.1007/978-90-481-2354-4_8)
- Scott, K. S., Moore, K. S., & Miceli, M. P. (1997). An exploration of the meaning and consequences of workaholism. *Human Relations*, 50, 287-314. <https://doi.org/10.1177/001872679705000304>



- Shrestha, N. (2021). Factor analysis as a tool for survey analysis. *American Journal of Applied Mathematics and Statistics*, 9(1), 4-11. <https://doi.org/10.12691/ajams-9-1-2>
- Shrout, P. E. (1998). Measurement reliability and agreement in psychiatry. *Statistical Methods in Medical Research*, 7, 301-317. <http://dx.doi.org/10.1191/096228098672090967>.
- Seers, A. (1989). Team-member exchange quality: A new construct for role-making research. *Organizational Behavior and Human Decision Processes*, 43, 118-135. [https://doi.org/10.1016/0749-5978\(89\)90060-5](https://doi.org/10.1016/0749-5978(89)90060-5)
- Seers, A., Petty, M. M., & Cashman, J. F. (1995). Team-member exchange under team and traditional management: A naturally occurring quasi-experiment. *Group & Organization Management*, 20, 18-38. <https://doi.org/10.1177/1059601195201003>
- Sels, L., Tran, A., Greenaway, K. H., Verhofstadt, L., & Kalokerinos, E. K. (2021). The social functions of positive emotions. *Current Opinion in Behavioral Sciences*, 39, 41-45. <https://doi.org/10.1016/j.cobeha.2020.12.009>
- Shumaker, S. A., & Brownell, A. (1984). Toward a theory of social support: Closing conceptual gaps. *Journal of Social Issues*, 40, 11-36. <https://doi.org/10.1111/j.1540-4560.1984.tb01105.x>
- Simpson, J. A., & Winterheld, H. A. (2012). Person-by-situation perspectives on close relationships. In K. Deaux & M. Snyder (Eds.), *Oxford handbook of personality and social psychology* (pp. 493-516). New York: Oxford University Press. <https://doi.org/10.1093/oxfordhb/9780190224837.013.21>
- Snippe, E., Jeronimus, B. F., aan het Rot, M., Bos, E. H., de Jonge, P., & Wichers, M. (2018). The reciprocity of prosocial behavior and positive affect in daily life. *Journal of Personality*, 86(2), 139-146. <https://doi.org/10.1111/jopy.12299>
- Spence, J. T., & Robbins, A. S. (1992). Workaholism: Definition, measurement, and preliminary results. *Journal of Personality Assessment*, 58, 160-178. [https://doi.org/10.1207/s15327752jpa5801\\_15](https://doi.org/10.1207/s15327752jpa5801_15).
- Switzer, G. E., Simmons, R. G., & Dew, M. A. (1996). Helping unrelated strangers: Physical and psychological reactions to the bone marrow donation process among anonymous donors. *Journal of Applied Social Psychology*, 26(6), 469-490. <https://doi.org/10.1111/j.1559-1816.1996.tb02726.x>
- Taris, T.W., Van Beek, I., & Schaufeli, W.B. (2010). Why do perfectionists have a higher burnout risk than others? A mediational analysis. *Romanian Journal of Applied Psychology*, 12, 1-7. <https://doi.org/10.1111/j.1464-0597.2011.00454.x>
- Taylor, S. E. (2011). Social support: A review. In H. S. Friedman (Ed.), *The Oxford handbook of health psychology* (pp. 189-214). New York, NY: Oxford University Press.
- Ten Brummelhuis, L. L., & Bakker, A. B. (2012). A resource perspective on the work-home interface: The work-home resources model. *American Psychologist*, 67(7), 545-556. <https://doi.org/10.1037/a0027974>
- Thoits, P. A. (1995). Stress, coping, and social support processes: Where are we? What next?. *Journal of Health and Social Behavior*, extra issue, 53-79. <https://doi.org/10.2307/2626957>
- Tims, M., Bakker, A. B. & Derks, D. (2013). The impact of job crafting on job demands, job resources, and well-being. *Journal of Occupational Health Psychology*, 18, 230-240. <https://doi.org/10.1037/a0032141>
- Tims, M., Bakker, A. B., & Derks, D. (2015). Examining job crafting from an interpersonal perspective: Is employee job crafting related to the well-being of colleagues?. *Applied Psychology*, 64(4), 727-753. <https://doi.org/10.1111/apps.12043>
- Tolentino, L. R., Garcia, P. R. J. M., Lu, V. N., Restubog, S. L. D., Bordia, P., & Plewa, C. (2014). Career adaptation: The relation of adaptability to goal orientation, proactive personality, and career optimism. *Journal of Vocational Behavior*, 84, 39-48. <https://doi.org/10.1016/j.jvb.2013.11.004>
- Tomasello, M. (2014). The ultra-social animal. *European Journal of Social Psychology*, 44(3), 187-194. <https://doi.org/10.1002/ejsp.2015>
- Totterdell, P., & Holman, D. (2003). Emotion regulation in customer service roles: Testing a model of emotional labor. *Journal of Occupational Health Psychology*, 8, 55-73. <https://doi.org/10.1037/1076-8998.8.1.55>
- Trivers, R. L. (1971). *The evolution of reciprocal altruism*. *Quarterly Review of Biology* 46, (1) , 35-37. <http://dx.doi.org/10.1086/406755>
- Uchino, B. N. (2009). Understanding the links between social support and physical health: A life-span perspective with emphasis on the separability of perceived and received support. *Perspectives on Psychological Science*, 4(3), 236-255. <http://dx.doi.org/10.1111/j.1745-6924.2009.01122.x>
- Uy, M. A., Lin, K. J., & Ilies, R. (2017). Is it better to give or receive? The role of help in buffering the depleting effects of surface acting. *Academy of Management Journal*, 60(4), 1442-1461. <https://doi.org/10.5465/amj.2015.0611>
- Vaish, A., Carpenter, M., & Tomasello, M. (2009). Sympathy through affective perspective taking and its relation to prosocial behavior in toddlers. *Developmental Psychology*, 45(2), 534-543. <https://doi.org/10.1037/a0014322>

- Van Beek, I., Hu, Q., Schaufeli, W. B., Taris, T. W., & Schreurs, B. H. (2012). For fun, love, or money: What drives workaholic, engaged, and burned-out employees at work? *Applied Psychology: An International Review*, 61(1), 30-55. <https://doi.org/10.1111/j.1464-0597.2011.00454.x>
- Van Beek, I., Schaufeli, W. B., & Taris, T. W. (2014). Are workaholism and work engagement differently associated with adult attachment and performance? In I. van Beek, (2014). *Understanding the dark and bright sides of heavy work investment: Psychological studies on workaholism and work engagement* [Doctoral dissertation, Utrecht University]. <https://www.wilmarschaufeli.nl/publications/Schaufeli/PhD/PhD%20Ilona%20van%20Beek%202014.pdf>
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., & Lens, W. (2008). Explaining the relationships between job characteristics, burnout, and engagement: The role of basic psychological need satisfaction. *Work & Stress*, 22, 277-294. <https://doi.org/10.1080/02678370802393672>
- Van den Broeck, A., Vansteenkiste, M., De Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, 83, 981-1002. <https://doi.org/10.1348/096317909X481382>
- Vandewalle, D. (1997). Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement*, 57, 995-1015. <https://doi.org/10.1177/0013164497057006009>
- Van Gelderen, B., Heuven, E., Van Veldhoven, M., Zeelenberg, M., & Croon, M. (2007). Psychological strain and emotional labor among police-officers: A diary study. *Journal of Vocational Behavior*, 71, 446-459. <https://doi.org/10.1016/j.jvb.2007.09.001>
- Van Kleef, G. A. (2009). How emotions regulate social life: The emotions as social information (EASI) model. *Current Directions in Psychological Science*, 18(3), 184-188. <https://doi.org/10.1111/j.1467-8721.2009.01633.x>
- Van Lange, P. A. (2000). Beyond self-interest: A set of propositions relevant to interpersonal orientations. *European Review of Social Psychology*, 11(1), 297-331. <https://doi.org/10.1080/14792772043000068>
- Van Lange, P. A., Bekkers, R., Schuyt, T. N., & Vugt, M. V. (2007). From games to giving: Social value orientation predicts donations to noble causes. *Basic and Applied Social Psychology*, 29(4), 375-384. <https://doi.org/10.1080/01973530701665223>
- Vansteenkiste, M., Neyrinck, B., Niemiec, C. P., Soenens, B., De Witte, H., & Van den Broeck, A. (2007). On the relations among work value orientations, psychological need satisfaction and job outcomes: A self-determination theory approach. *Journal of Occupational and Organizational Psychology*, 80, 251-277. <https://doi.org/10.1348/096317906X111024>
- Van Wijhe, C., Peeters, M., Schaufeli, W., & Van den Hout, M. (2011). Understanding workaholism and work engagement: The role of mood and stop rules. *Career Development International*, 16, 254-270. <http://dx.doi.org/10.1108/13620431111140156>
- Van Yperen, N. W., & Hagedoorn, M. (2003). Do high job demands increase intrinsic motivation or fatigue or both? The role of job control and job social support. *Academy of Management Journal*, 46(3), 339-348. <https://doi.org/10.5465/30040627>
- Vera, M., Martínez, I. M., Lorente, L., & Chambel, M. J. (2016). The role of co-worker and supervisor support in the relationship between job autonomy and work engagement, among Portuguese nurses: A multilevel study. *Social Indicators Research*, 126, 1143-1156. <https://doi.org/10.1007/s11205-015-0931-8>
- Vergauwe, J., Wille, B., De Caluwé, E., & De Fruyt, F. (2022). Passion for work: Relationships with general and maladaptive personality traits and work-related outcomes. *Personality and Individual Differences*, 185, 111306. <https://doi.org/10.1016/j.paid.2022.111306>
- Viswesvaran, C., Sanchez, J. I., & Fisher, J. (1999). The role of social support in the process of work stress: A meta-analysis. *Journal of Vocational Behavior*, 54(2), 314-334. <https://doi.org/10.1006/jvbe.1998.1661>
- Wang, C. C., & Wang, C. H. (2008). Helping others in online games: Prosocial behavior in cyberspace. *CyberPsychology & Behavior*, 11(3), 344-346. <https://doi.org/10.1089/cpb.2007.0045>
- Warneken, F., & Tomasello, M. (2008). Extrinsic rewards undermine altruistic tendencies in 20-month-olds. *Developmental Psychology*, 44(6), 1785-1788. <https://doi.org/10.1037/a0013860>
- Watson, D., Clark, L. A., & Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: the PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070. <https://doi.org/10.1037/0022-3514.54.6.1063>
- Wayne, S. J., & Ferris, G. R. (1990). Influence tactics, affect, and exchange quality in supervisor-subordinate interactions: A laboratory experiment and field study. *Journal of Applied Psychology*, 75, 487-499. <http://dx.doi.org/10.1037/0021-9010.75.5.487>

- Wayne J.H., Grzywacz J.G., Carlson, D.S., & Kacmar, K.M. (2007). Work-family facilitation: A theoretical explanation and model of primary antecedents and consequences. *Human Resource Management Review*, 17, 63–76. <http://dx.doi.org/10.1016/j.hrmr.2007.01.002>
- Weinstein, N., & Ryan, R. M. (2010). When helping helps: Autonomous motivation for prosocial behavior and its influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology*, 98(2), 222–244. <https://doi.org/10.1037/a0016984>
- Westman, M. (2001). Stress and strain crossover. *Human Relations*, 54, 557–591. <https://doi.org/10.1177/0018726701546002>
- Xanthopoulou, D., Bakker, A. B., Demerouti, E., & Schaufeli, W. B. (2009). Work engagement and financial returns: A diary study on the role of job and personal resources. *Journal of Occupational and Organizational Psychology*, 82(1), 183–200. <https://doi.org/10.1027/1866-5888/a000085>.
- Yang, L. Q., Sliter, M., Cheung, J. H., Sinclair, R. R., & Mohr, C. (2018). The Dark Side of Helping: Does Returning the Favor from Coworkers Hurt Employee Work Engagement?. *Journal of Business and Psychology*, 33, 741–760. <http://dx.doi.org/10.1007/s10869-017-9522-9>
- Yost-Dubrow, R., & Dunham, Y. (2018). Evidence for a relationship between trait gratitude and prosocial behaviour. *Cognition and Emotion*, 32(2), 397–403. <https://doi.org/10.1080/02699931.2017.1289153>
- Zeijen, M. E. L., Petrou, P., & Bakker, A. B. (2020a). The daily exchange of social support between coworkers: Implications for momentary work engagement. *Journal of Occupational Health Psychology*, 25(6), 439–449. <https://doi.org/10.1037/ocp0000262>
- Zeijen, M. E., Petrou, P., Bakker, A. B., & Van Gelderen, B. R. (2020b). Dyadic support exchange and work engagement: An episodic test and expansion of self-determination theory. *Journal of Occupational and Organizational Psychology*, 93(3), 687–711. <https://doi.org/10.1111/joop.12311>
- Zhang, Z., Li, P., Zhang, L., Zheng, J., & Xue, Z. (2020) Helping neighbors and enhancing yourself: a spillover effect of helping neighbors on work-family conflict and thriving at work. *Current Psychology*, 41, 1–12. <https://doi.org/10.1007/s12144-020-00864-4>
- Zhang, Z., Zyphur, M. J., & Preacher, K. J. (2009). Testing multilevel mediation using hierarchical linear models: Problems and solutions. *Organizational Research Methods*, 12, 695–719. <https://doi.org/10.1177/1094428108327450>





## Nederlandse Samenvatting

### Summary in Dutch

Het belang van sociale steun kan nauwelijks worden overschat. Mensen zijn sociale dieren die zich van nature verbinden met anderen om steun te geven en nemen (Baumeister, 2011; Tomasello, 2014). Sociale steun vermindert spanning, beschermt tegen eenzaamheid en depressie, en verbetert de gezondheid en het welzijn (Eng et al., 2002; French et al., 2018; Holt-Lunstad et al., 2010; Sarason et al., 1990). Het is daarom niet verrassend dat sociale steun één van de meest bestudeerde psychosociale concepten is in de wetenschappelijke literatuur (French et al., 2018; Thoits, 1995).

Omdat sociale steun erkend wordt als een essentiële factor die stress vermindert en zelfs voorkomt, is het een belangrijk onderwerp geworden in de arbeids- en gezondheidspsychologie (cf. De Jonge et al., 2001; Jolly et al., 2020; Peeters, et al., 1994; Rau, et al., 2001; Uy et al., 2017). Dit is te zien aan de prominente rol die sociale steun speelt in veel organisatiemodellen en theorieën, waaronder het demand-control-support model (Karasek, 1979). In dit model dient sociale steun als belangrijke buffer tegen de schadelijke effecten van taakeisen (e.g., Van Yperen & Hagedoorn, 2003). Daarnaast komt sociale steun ook voor in de job demands-resources theorie (Demerouti et al., 2001, 2021; Bakker & Demerouti, 2023), waarin het wordt geconceptualiseerd als een hulpbron die werknemers motiveert en beschermt tegen werkdruk.

Bovendien laat onderzoek zien dat werknemers die veel steun ervaren op het werk meer betrokken zijn bij hun werk (Park et al., 2004; Holland et al., 2017), meer controle ervaren, meer tevreden zijn op het werk en beter presteren (Abualrub, 2004; Guilaran et al., 2018; Liden et al., 2000; Marcinkus et al., 2007; Malecki & Demaray, 2006; Park et al., 2004). Echter, hoewel onderzoek duidelijk het belang van sociale steun binnen het werk- en privéleven van mensen benadrukt (French et al., 2018; Thoits, 1995), is er weinig bekend over hoe de uitwisseling van sociale steun zich precies ontvouwt over de tijd en van invloed is op de dagelijkse gevoelens van mensen tijdens het werk. Zo is het bijvoorbeeld niet duidelijk of het voor de gevolgen voor de steungever uitmaakt in welke context de steun wordt gegeven (is de steun nodig of wordt deze gewaardeerd?). In dit proefschrift onderzoeken we de gevolgen die steungevers kunnen ondervinden wanneer ze steun verlenen in verschillende contexten en aan verschillende ontvangers. We leggen uit waarom het belangrijk is om rekening te houden met zowel de rol van de steunverlener als die van de ontvanger. We identificeren twee kwesties die beperkte aandacht hebben gekregen in onderzoek, maar belangrijke implicaties hebben voor de theoretische ontwikkeling en de praktische implicaties van sociale steun. Enerzijds

richten we ons op het ontrafelen van de gevolgen van het geven, ontvangen, en vragen van sociale steun voor werknemers op dagelijkse basis. Anderzijds onderzoeken we wanneer de gunstige uitkomsten van sociale steun het sterkst zijn voor de steungever. We conceptualiseren sociale steun als “een uitwisseling tussen ten minste twee personen van middelen die door de verstrekker of de ontvanger worden gezien als bedoeld om het welzijn van de ontvanger te vergroten” (Shumaker & Brownell, 1984; p.13). Deze definitie past bij onze conceptualisering, omdat ze erkent dat sociale steun een uitwisseling van middelen is tussen ten minste twee personen en het belang van de onderliggende motieven voor de voordelen van sociale steun benadrukt. Het overkoepelende doel van dit proefschrift is om de gevolgen van sociale steun voor de steungevers beter in kaart te brengen en de mechanismen achter sociale steun op het werk beter te begrijpen door de dyadische aard ervan te erkennen en bestuderen (Shumaker & Brownell, 1984). In deze samenvatting worden de belangrijkste bevindingen uit dit proefschrift samengevat aan de hand van de vier onderzoeksvragen die centraal staan.

### **De belangrijkste bevindingen**

Het onderzoek dat wordt gerapporteerd in dit proefschrift richt zich op twee categorieën van uitkomsten. Hoofdstukken 2 en 5 behandelen steungedrag als uitkomst en hoofdstukken 2, 3 en 4 behandelen de gunstige welzijnsuitkomsten van sociale steun. We bespreken de bevindingen in volgorde van onze vier onderzoeksvragen.

### **Wat zijn de gevolgen van het verlenen, ontvangen en vragen van steun voor het steungedrag van werknemers? (Onderzoeksvraag 1)**

In hoofdstuk 5 hebben we onderzocht of werknemers gemotiveerd zijn om eerder ontvangen steun te beantwoorden met steun (i.e., genaamd de norm van wederkerigheid; (Cropanzano et al., 2017; Gouldner, 1960) en in welke mate werknemers geneigd zijn om collega's te helpen (Hornstein, 1982; Piliavin et al., 1981). In overeenstemming met het wederkerigheidsprincipe laten de resultaten zien dat werknemers meer geneigd zijn om hun collega's te helpen die daarom vragen en de neiging hebben om ontvangen steun te beantwoorden door steun terug te geven. Op dagen dat werknemers proactief om steun vragen, is de kans groter dat ze steun krijgen; en op de dagen dat werknemers steun krijgen, zijn ze meer geneigd om steun te geven. Deze bevindingen laten zien dat de tit-for-tat strategie, waarbij mensen elkaar helpen omdat ze een helpende relatie in stand willen houden (Axelrod, 1981), het dagelijks sociale gedrag van werknemers motiveert. Terwijl eerder onderzoek al liet zien dat het ontvangen en geven van steun in het algemeen positief met elkaar samenhangen (Bowling et al., 2005; Schaufeli, 2006),

blijkt uit het huidige onderzoek dat werknemers sociaal gedrag op het werk ook kunnen initiëren en versterken op dagelijkse basis. Medewerkers die actief tijd, aandacht en energie investeren door steun te vragen, te ontvangen en te geven op het werk, dragen aldus bij aan een prosociale cultuur waarin medewerkers letten op elkaars behoeften.

### **Wat zijn de welzijnsvoordelen van het geven van steun voor de steungevers en welke mechanismen verklaren deze effecten? (Onderzoeksvraag 2)**

Drie van onze studies hebben een welzijnsindicator als uitkomst. Uit al deze onderzoeken komt een consistent beeld naar voren: het geven van sociale steun hangt positief samen met het welzijn van de steungevers. Uit hoofdstuk 2 blijkt dat medewerkers die hun collega's overdag meer steun geven, meer betrokken en bevlogen zijn op het werk. Hoofdstuk 3 laat zien dat autonoom gemotiveerde steun samenhangt met een hogere mate van bevlogenheid op het werk omdat het voorziet in de dagelijkse psychologische behoeften van de ondersteuner (i.e., behoefte aan autonomie, verbondenheid en competentie).

Terwijl arbeid- en gezondheidsonderzoek keer op keer heeft aangetoond hoe fijn en nuttig het is om steun te ontvangen en een ondersteunend netwerk op het werk te hebben (French et al., 2018; Fitzmaurice, & Kawachi, 2002; Thoits, 1995), laat het huidige onderzoek zien dat werknemers door het geven van steun aan collega's ook hun eigen werkervaring kunnen optimaliseren. Dit fenomeen is in overeenstemming met de theorie van Kahn over hoe werknemers geëngageerd raken in hun werk (Kahn, 1990; May et al., 2004). Dienovereenkomstig kan het geven van steun worden gezien als een zinvolle manier om interacties aan te gaan die werknemers de kans geeft om zich waardevol te voelen en bevlogen aan het werk te zijn. In dit proefschrift zijn deze ideeën van Kahn uitgewerkt en toegepast binnen de context van werk. We hebben niet alleen laten zien wanneer en hoe, maar ook waarom het geven van steun de gevers van steun vervult en motiveert.

Verder laten onze bevindingen zien dat het geven van autonoom gemotiveerde steun ook gezien kan worden als een zelfbeschikkingsstrategie (Bakker & Van Woerkom, 2017) omdat de resultaten aangeven dat autonoom gemotiveerde steun een positief verband houdt met het welzijn van de steungever. Het benaderen van steun in termen van hoe autonoom/zelfgemotiveerd deze is (Ryan & Deci, 2000) kan waardevol zijn met betrekking tot het ontrafelen van de voordelen van het geven van steun op het werk en betreft een ander perspectief dan traditionele perspectieven. Zo suggereren Clark en Mills (1993, 2011) bijvoorbeeld dat de sociale uitwisseling binnen zakelijke relaties zich aan andere, strengere regels houdt en meer kosten met zich meebrengt dan het bieden van steun aan bijvoorbeeld familie en vrienden (de zogenoemde gemeenschapsrelaties). Volgens het onderzoek in dit proefschrift genereert het geven van zelfgemotiveerde

steun op het werk echter net zo goed welzijnseffecten, niet alleen voor de ontvanger maar ook voor de gevers. Het lijkt ons daarom zinvol voor toekomstig onderzoek om na te gaan met welke onderliggende motivatie steun gegeven wordt, ongeacht of de steun plaatsvindt binnen een werk of privé context.

Door te focussen op wanneer het verlenen van steun zelf geïnitieerd en gemotiveerd is, voldoet ons onderzoek aan een oproep van onderzoekers die pleiten voor een sterkere focus op zelf-geïnitieerde activiteiten binnen de arbeids- en gezondheidspsychologie (Ouweneel et al., 2009). Zelfgemotiveerde acties spelen dan ook een belangrijke rol in het stimuleren van het welzijn van werknemers en het voorkomen van ziek zijn (amplitie genoemd; Ouweneel et al., 2009). De in dit proefschrift gepresenteerde studies passen in dit perspectief en laten zien dat specifiek het geven van autonoom gemotiveerde steun een belangrijke rol speelt in de dagelijkse basisbehoeften en welzijnsprocessen van werknemers.

Tot slot kunnen we in hoofdstuk 4 zien dat de effecten van het geven van steun op het werk niet alleen merkbaar zijn binnen de werkcontext, maar ook kunnen overslaan van het werk naar thuis. Terwijl tot dusver de meeste studies zich concentreerden op de effecten van sociale steun binnen de werkcontext (Jolly et al., 2020), laat ons onderzoek zien dat het geven van steun ook het welzijn van steungevers buiten de werkplek kan bevorderen. Door autonoom gemotiveerde steun te geven aan collega's kunnen werknemers actief bijdragen aan hun eigen gevoel van ertoe doen (*to matter*) en stimuleren ze hun eigen emotionele welzijn na het werk. Deze bevindingen tonen aan dat niet alleen het *ontvangen* van steun een positieve invloed kan hebben op het gemoed thuis (Gassman-Pines, 2011), maar ook het *geven* van steun.

Ons onderzoek levert een belangrijke bijdrage aan de literatuur over prosociaal gedrag (Aknin et al., 2013; Martela & Ryan, 2016; Weinstein & Ryan, 2010) door aan te tonen dat ook het geven van steun op het werk welzijn kan opleveren voor de steungevers omdat het basisbehoeften vervult. Hoewel eerdere studies reeds hebben laten zien dat de psychologische basisbehoeften de welzijnseffecten van prosociaal gedrag kunnen verklaren, baseerde dit onderzoek zich op laboratoriumonderzoek en onderzoek bij studenten (Aknin et al., 2013; Martela & Ryan, 2016; Weinstein & Ryan, 2010). Het onderzoek in dit proefschrift voegt ecologische validiteit toe aan deze bevindingen en laat zien dat ze ook van toepassing zijn in de dagelijkse setting van werk en organisaties. Door het gevoel van 'ertoe doen' van steungevers bloot te leggen (d.w.z. het gevoel dat iemand zich belangrijk voelt voor anderen/de omgeving), valideren de resultaten van ons onderzoek bovendien eerdere bevindingen die aantoonen dat weldadigheid (het gevoel dat iemand voelt dat hij of zij goed doet voor anderen) de welzijnseffecten van prosociaal gedrag inderdaad verklaren naast de basisbehoeften (Martela & Ryan, 2016). Huidig en eerder onderzoek suggereren

beide dat mensen graag zien en voelen dat ze goed doen voor anderen (Hepach et al., 2012) en daarom welzijn ontleen aan het geven van steun aan anderen. Als zodanig onderstreept ons onderzoek de eeuwenoude ideeën van Aristoteles en laat het zien dat helpers, door anderen te helpen, bijdragen aan een gelukkiger en tevredener leven én dat dit nog steeds van toepassing is op de moderne werkvloer.

**Wanneer zijn werknemers die om steun vragen, ontvangen en steun geven het meest geneigd om ook steun te ontvangen en respectievelijk te geven? (Onderzoeksvraag 3)**

In overeenstemming met de principes van de sociale uitwisselingstheorie (Cropanzano et al., 2017; Gouldner, 1960) onderzochten en vonden we in Hoofdstuk 2 dat werknemers die 's ochtends sociale steun verlenen meer geneigd zijn om 's middags opnieuw sociale steun te verlenen wanneer de ontvangende collega 's ochtends ook sociale steun gaf. Dit geeft aan dat wederkerigheid van de ontvanger de initiatiefnemer stimuleert om opnieuw steun te verlenen en benadrukt daarmee dat wederkerigheid niet alleen een belangrijke vereiste is om gemotiveerd te zijn om initiële middelen te investeren in een relatie met collega's (Cropanzano et al., 2017; Gouldner, 1960), maar ook om de uitwisselingsrelatie in stand te houden.

Terwijl in hoofdstuk 2 werd aangetoond dat werknemers geneigd zijn eerder ontvangen steun diezelfde dag nog te beantwoorden met steun, voegt hoofdstuk 5 hieraan toe dat dit met name het geval is wanneer de ontvangen steun afkomstig is van een collega die de sociale uitwisselingsrelatie waardeert (d.w.z. de werkrelatie ziet als een sociale relatie van hoge kwaliteit). Werknemers die een goede relatie met hun collega hebben lijken meer geneigd om herhaaldelijk persoonlijke middelen in sociale werkrelaties te investeren (bijvoorbeeld tijd, energie, aandacht en moeite). Op dagen dat er steun wordt gevraagd aan een collega binnen een goede relatie, is de kans groter dat er ook daadwerkelijk steun wordt ontvangen. Volgens de *conservation of resources* (COR) theorie (Hobfoll, 1989; Hobfoll et al., 2018) investeren individuen alleen persoonlijke hulpbronnen wanneer ze de investering zien als een manier om de huidige hulpbronnen te beschermen of nieuwe hulpbronnen te verwerven. In lijn met dit perspectief laten onze bevindingen zien dat collega's die de relatie waarderen, de vraag voor steun eerder lijken te zien als een manier om toekomstige hulp te beschermen en daarom eerder geneigd zijn om steun te geven wanneer daar om gevraagd wordt (i.e., wederkerig altruïsme; Trivers, 1971).

Wanneer werknemers steun vragen aan werkverslaafde collega's (collega's die hoog scoren op werkverslaving), is de kans echter aanzienlijk kleiner dat aan het steunverzoek zal worden voldaan. Werknemers die geobsedeerd zijn door hun werk en buitensporig veel tijd en energie in hun werk steken, blijken egoïstischer en minder altruïstisch te



zijn (Allessandri et al., 2020; Douglas & Morris, 2006). Dergelijk gedrag kan gezonde en productieve sociale uitwisselingen tussen collega's ondermijnen. Volgens Allessandri en collega's kan men zich zelfs afvragen in hoeverre werkverslaafde werknemers überhaupt waardevol zijn voor de organisatie als ze weinig prosociaal gedrag vertonen, omdat prosociaal gedrag een kernaspect van de gezamenlijke werkprestaties vertegenwoordigt en zeer belangrijk is voor team- en organisatie-uitkomsten.

Ons onderzoek laat zien dat niet alleen de motivatie of de middelen waarover potentiële steungevers beschikken bepalend zijn voor hoeveel of hoe vaak sociale steun aan collega's wordt gegeven. Integendeel, wederkerig gedrag, de waargenomen kwaliteit van sociale werkrelaties en de innerlijke drang van de collega's beïnvloeden onder andere hoeveel of hoe vaak werknemers geneigd zijn om steun te geven (zie ook figuur 1 in de algemene introductie voor een visueel overzicht van alle concepten).

#### **Wanneer zijn de voordelen van het geven van steun het sterkst voor de steungever? (Onderzoeksvraag 4)**

Volgens de bevindingen in hoofdstuk 2 spelen de vitaliteit en positiviteit van de ontvangende partij (de collega's die de steun ontvangen) een belangrijke rol als we kijken naar wanneer het geven van steun de beste effecten heeft voor de steungevers. Zo blijkt het helpen van zeer geëngageerde (energieke en enthousiaste werknemers) een belangrijke conditie die de welzijnseffecten van het geven van steun versterkt. Verder onthulde hoofdstuk 3 dat steungevers ook meer welzijn genieten van het helpen wanneer zij collega's helpen tijdens episodes met hoge emotionele taakeisen (voor de steun ontvangers) en wanneer ze collega's helpen die laag prestatiegericht zijn. Steungevers hebben aldus meer baat bij het helpen van collega's die steun nodig hebben en minder bij het helpen van collega's die graag willen pronken met hun eigen capaciteiten. Tot slot blijkt uit hoofdstuk 4 dat positieve emoties van steunontvangers het gevoel van ertoe doen en positieve emoties thuis van de steungevers versterken. Oftewel, wanneer de ontvangende partij meer positieve emoties laat zien, heeft dit positieve effecten voor die steungevers. Volgens dit proefschrift beïnvloeden zowel de fluctuerende factoren, zoals positieve emoties, als de meer stabiele aspecten, zoals prestatiegerichtheid, de steungever. Dit betekent dat de voordelen van het geven van steun niet alleen fluctueren tijdens en over werkdagen maar ook afhankelijk zijn van wanneer en aan wie de steun wordt verleend.

Om te kunnen achterhalen hoe zowel fluctuerende factoren als relatief stabiele persoonlijke aspecten van steunontvangers van invloed zijn op de effecten van het geven van steun, maakten we gebruik van gemodereerde mediatiemodellen en cross-

level modellen (Muller et al., 2005). Volgens deze modellen interacteren stabiele factoren van collega's met de dagelijkse sociale processen van werknemers op het werk. Dit past bij het Person-by-Situation fit-perspectief (Lewin, 1936; Simpson & Winterheld, 2012), dat veronderstelt dat persoonlijkheidskenmerken die beter passen bij contextuele kenmerken, voor sommige individuen tot betere resultaten zullen leiden dan voor anderen (e.g., Oerlemans & Bakker, 2014). Ons onderzoek gaat echter nog een stap verder. Naast het idee dat persoonlijke aspecten situatie-specifieke uitkomsten beïnvloeden, laat dit proefschrift zien dat de persoonlijke aspecten van andere mensen, zoals de doeloriëntaties van de hulpontvangers, de dagelijks sociale steun processen van de hulpverleners positief kunnen beïnvloeden. Dit proefschrift draagt daarom bij aan de zelfbeschikkingstheorie en aan persoonlijkheidsonderzoek (bijv. Simpson & Winterheld, 2012; Vergauwe et al., 2022) door te laten zien dat naast het belang van de onderliggende motivatie voor de effecten van het geven van steun, het ook belangrijk is te overwegen wanneer (d.w.z. heeft de ontvanger ondersteuning nodig?) en aan wie (d.w.z. verwelkomt de ontvanger de ondersteuning?) de steun gegeven wordt.

## Conclusie

Met dit proefschrift hebben we inzicht verschaft in de dagelijkse dyadische dynamiek van sociale steun op het werk. Sociale steun is niet alleen een essentiële hulpbron voor de ontvangers van steun, maar blijkt ook van waarde voor het welzijn van de steungever. Werknemers die meer steun geven aan hun collega's op een dagelijkse basis bevredigen hun dagelijks psychologische behoeften meer en hebben meer het gevoel dat ze ertoe doen. Bovendien zijn werknemers die meer steun geven meer bevlogen tijdens hun werk en ervaren zij een positiever emotioneel welzijn buiten het werk. De voordelen van het geven van steun zijn met name aanwezig wanneer steungevers steun geven tijdens werkepisodes waarin ontvangers hoge emotionele taakeisen ervaren. Steungevers blijken echter minder baat te hebben bij het helpen van collega's die graag willen pronken met hun eigen capaciteiten. Verder blijkt uit ons onderzoek dat medewerkers hun eigen kansen op het ontvangen van sociale steun kunnen vergroten door eerst zelf steun te geven. De kans dat werknemers gevraagde of wederkerige steun echter daadwerkelijk ontvangen, verandert gedurende de dag en is afhankelijk van aan wie steun gevraagd wordt (bijvoorbeeld van een werkverslaafde collega of een collega die de relatie waardeert) of van wie steun ontvangen wordt. Op basis van dit proefschrift kan men stellen dat hoe meer autonoom gemotiveerde steun medewerkers geven aan collega's, hoe beter ze zich voelen, en hoe meer steun ze zelf zullen ontvangen.

## Curriculum Vitae

Marijntje Zeijen was born on June 2nd 1989 in Geleen, The Netherlands. After graduating highschool she studied Psychology at Utrecht University. During her bachelor study she followed the Cognitive Neuropsychology track and the Work- and Organizational Psychology track. Marijntje participated in many committees and was a member of several boards, such as the Educational Committee, the student council of the Faculty board, hitchhiking contest committee, and a full-time boardmember of the student society of the Social Sciences Faculty (i.e., SGS; Studentengroep Sociale Wetenschappen). After obtaining her bachelor's degree in Psychology including a minor from Governance Sciences, Marijntje obtained two master degrees. In the year 2012 – 2013 she conducted the academic master Work- and Organizational Psychology and from 2013 – 2015 she conducted the research master Social and Health Psychology (both at Utrecht University). During her studies Marijntje worked as a teaching assistant for the statistics and methodology department and as a research assistant at a consultancy firm in Naarden (i.e., United Talent). Furthermore she worked as an employee at the railroadmuseum in Utrecht. In her final year, Marijntje went abroad to Helsinki (Finland) and worked together with Professor Dr. Jari Hakanen from Januari – April 2015.

At the end of 2015, Marijntje started her PhD project at the Center of Excellence for Positive Organizational Psychology at the Erasmus University Rotterdam. The first two papers from this project were awarded with the best paper award at the annual conference of the Dutch Association of Work and Organizational Psychology in 2017 (Nijmegen) and 2018 (Leuven). The third paper received an Honorable mention in 2019 (Amsterdam). Marijntje was also nominated in the top 5 of best research submissions by Tsuru Corporate Wellness researchprice and her second paper was shortlisted out of 71 PhD submissions for the Graduate School Award for PhD Excellence at the Erasmus University Rotterdam. Throughout the PhD traject Marijntje presented her work at several (inter)national conferences in Dublin (2017), Lissabon (2018) and Turin (2019).

In 2020 Marijntje started her current job as a post-doctoral researcher at the Faculty of Veterinary Medicine, Utrecht University. In Februari 2021 she became a mother from a daughter (Hera Vis Dieperink), and in Februari 2023 she will become mother for the second time, from a son.

## Publications

- Zeijen, M. E., Bakker, A. B., & Petrou, P. (2022). Providing social support at work matters and spills over to home: a multi-source diary study. *Current Psychology*, 1-15. <https://doi.org/10.1007/s12144-022-04108-5>
- Zeijen, M. E.L., Brenninkmeijer, V., Peeters, M. C., & Mastenbroek, N.J. (2021). Exploring the Role of Personal Demands in the Health-Impairment Process of the Job Demands-Resources Model: A Study among Master Students. *International Journal of Environmental Research and Public Health*, 18(2), 632-646. <https://doi.org/10.3390/ijerph18020632>
- Zeijen, M. E., Petrou, P., Bakker, A. B., & Van Gelderen, B. R. (2020). Dyadic support exchange and work engagement: An episodic test and expansion of self-determination theory. *Journal of Occupational and Organizational Psychology*, 93(3), 687-711. <https://doi.org/10.1111/joop.12311>
- Zeijen, M. E. L., Petrou, P., & Bakker, A. B. (2020). The daily exchange of social support between coworkers: Implications for momentary work engagement. *Journal of Occupational Health Psychology*, 25(6), 439-449. <https://doi.org/10.1037/ocp0000262>
- Zeijen, M. E.L., Peeters, M.C.W., & Hakanen, J.J. (2018). Workaholism versus work engagement and job crafting: What is the role of self-management strategies?. *Human Resource Management Journal*, 28(2), 357-373. <https://doi.org/10.1111/1748-8583.12187>
- B.R., van Gelderen., Zeijen, M. E.L., & R.J., Lambrichs (2018).Spanning, toewijding, steun: Gezond aan het werk. *Het Tijdschrift voor de Politie*, 8, 24-29.

## Submitted for publication

- Zeijen, M. E.L., Brenninkmeijer, V., Peeters, M. C., & Mastenbroek, N.J. (submitted september 2022). Burnout and Engagement Among Graduate Students: A study on the Long-Term Role of Personal Demands and Personal Resources. *International Journal of Stress Management*.
- Zeijen, M. E.L., Petrou, P. & Bakker, A.B (Received a Revise Resubmit). Giving and Taking Social Support at Work: An Experience Sampling Study Among Dyads. *Applied Psychology International Review*.
- Zeijen, M. E.L., Petrou, P. & Bakker, A.B (Received a Revise Resubmit). Providing social support at work matters and spills over to home: A multi-sourced diary study. *Current Psychology* (Received a Revise Resubmit)
- Zeijen, M. E.L., Taris, T., Brenninkmeijer, V., Peeters, M. C., & Mastenbroek, N. J. (will be submitted in october/november 2022). Well-being During the Transition From Study to Work. A two wave Longitudinal Study.

## Conference Contributions

- Zeijen, M. E.L., Brenninkmeijer, V., Peeters, M. C., & Mastenbroek, N. J. (2022). Exploring the Role of Personal Demands in the Health-Impairment Process of the Job Demands-Resources Model: A Study among Master Students. Presented at NVMO Conference, februari
- Zeijen, M.E.L., Petrou, P., & Bakker, A.B. (2019). When Asking for Help is Helpful. Presented at the Dutch Work and Organizational Psychology, Vrije Universiteit Amsterdam.
- Zeijen, M.E.L., Petrou, P., & Bakker, A.B. (2019). When Asking for Help is Helpful. Presented at the European Academy of Occupational Health, Turijn, Italië.
- Zeijen, M.E.L., Petrou, P., Bakker, A.B. & Van Gelderen (2018). Wat Satisfies the Support Provider? The Role of the Receiver's Demands and Goal Orientation". Presented at the Dutch Work and Organizational Psychology, Catholic University Leuven, Belgium.
- Zeijen, M.E.L., Petrou, P. & Bakker, A.B. (2018). The link between support provision and the provider's work engagement: The role of the receiver's emotional demands Presented at the European Academy of Occupational Health, Lissabon, Portugal.
- Pluut, H., Darouei, M., & Zeijen, M. E. L. (2018) When Multitasking Backfires: A Daily Diary Study on Work Fragmentation, Flow, and Job Performance. Paper presented at the 2018 Annual Conference of European Academy of Management, Reykjavik, Iceland. [Nominated for Best Paper Award]
- Zeijen, M.E.L., Petrou, P. & Bakker, A.B. (2017). Social Support Exchange at Work: A Smartphone Study. Presented at the Dutch Work and Organizational Psychology, Radboud University Nijmegen, the Netherlands.
- Zeijen, M.E.L., Petrou, P. & Bakker, A.B. (2017). Social Support Exchange at Work: A Smartphone Study. Presented at the European Association of Work and Organizational Psychology, Dublin, Ireland.
- Zeijen, M.E.L., Peeters, M.C.W. & Hakanen, J.J. (2016). Towards Unraveling the Underlying Mechanism of Job Crafting. Presented at the European Academy of Occupational Health, Athens, Greece.
- Zeijen, M.E.L., Peeters, M.C.W. & Hakanen, J.J. (2015). Towards Unraveling the Underlying Mechanism of Job Crafting. Presented at the Dutch Work and Organizational Psychology, WTC, Amsterdam, the Netherlands.
- Dorenbosch, L. W., Vink, M. , Beudeker, D. A., & Zeijen, M. E. L. (2015). Job gravitational effects of employee regulatory focus. Presented at the European Association of Work and Organizational Psychology, Oslo, Norway.



## Dankwoord

Wat heb ik vaak gedacht aan het schrijven van dit dankwoord. Inmiddels is het alweer zeven jaar geleden dat ik in deze PhD-achtbaan stapte. Het was september 2015, en ik had net de research master Social and Health Psychology in Utrecht afgerond. Ik kwam terug van een heerlijke reis, zes weken met Lilian door de Balkan en ik had heel veel zin in dit nieuwe werk avontuur. Maar goed ook, want deze motivatie heb je voor een PhD hard nodig. Bovendien doe je een PhD nooit alleen. In veel toonaangevende arbeids- en organisatie modellen is sociale steun een belangrijke voorspeller voor werkprestaties, motivatie en toewijding. Dit boekje was er zeker niet geweest zonder de steun, hulp, inspiratie, wijn, bier, tranen, peptalks, liefdevolle zetjes en keiharde schoppen onder de kont van de mensen om mij heen. Ik sta graag even stil bij die mensen die mij deze steun geven.

Paris (Paraskevas), my one and only co-promotor en begeleider van dit proefschrift. Ik ben jouw eerste aio en jij bent mijn eerste co-promotor. Dat maakt het misschien nog wel extra bijzonder. Ik ben je ontzettend dankbaar voor alles, onze meetings, brainstorms, tijd en energie die jij in ons project gestoken hebt. Ik ben dankbaar voor al je slimme ideeën, kennis en aandacht. Jij bent ontzettend goed in.....nou, eigenlijk alles! Je kunt ontzettend goed schrijven, analyseren, theoretiseren en ik heb zo ontzettend veel van jou geleerd. Je feedback zette me altijd aan tot denken en stimuleerde me om verder te gaan. Bovendien stond je altijd voor me klaar. En, weet je dat jij ook de allereerste verdediging deed die ik ooit meemaakte? Ik weet nog dat ik toen al onder de indruk was van al je talenten en secure houding. Hoe jij jouw potlood vasthield, meeschreef en telkens weer netjes teruglegde op de spreektafel, zo secuur heb jij mij ook begeleid, ontzettend veel dank! Pollá Pollá Efcharistó.

Arnold, de start, de persoon die ervoor heeft gezorgd dat ik dit proefschrift avontuur kon beginnen. Ik ben je hier heel erg dankbaar voor en voor je begeleiding. Ik heb veel van je geleerd en ik vind je onvoorstelbaar creatief. Als ik alleen al 10% daarvan heb mogen leren dan is dat al geweldig. Ik ben dankbaar voor alle brainstormsessies die jij organiseerde met alle PhD's. Deze waren heel inspirerend en jij wist telkens weer een oplossing voor van alles! Je stimuleerde ons om beeldend en helder te schrijven en enthousiasmeerde ons voor het vak. Ik heb veel van je geleerd en zal je briljante ideeën voor nieuwe onderzoeksmodellen, theorieën en analysemethoden, je energie, expertise en vastberadenheid met me meenemen, Arnold, heel erg bedankt!

Maria, als ik het heb over sociale steun, dan heb ik het over jou. Het kan bijna geen toeval zijn dat ook jouw proefschrift over sociale steun ging. Ik vind de symboliek

zo mooi dat jij als eerste een dagboekstudie deed naar sociale steun en dat, enkele decennia later, ik in jouw voetstappen mag treden. Je was mijn begeleider bij mijn masterscripties van zowel de academische als de research-master, en vervolgens heb je die rol nooit helemaal meer losgelaten. Al deze jaren dat ik aan mijn proefschrift werkte stond (fietste/wandelde) jij naast me. Wanneer het nodig was veegde je mijn tranen op, en schonk je me een koud biertje in om me vervolgens een streng duwtje de juiste richting op te geven. Emotionele steun staat op jouw lijf (en dit proefschrift) geschreven. Maria, ik had het werkelijk niet zonder jou gekund, heel veel dank!

Graag bedank ik ook de leden van mijn promotiecommissie: Marise Born, Dimitri van der Linden, Maria Peeters, Laura den Dulk en Helen Pluut. Het is een ware eer en genoegen dat jullie de tijd hebben genomen om mijn proefschrift te lezen en beoordelen. Ik zie er naar uit om met jullie van gedachten te wisselen over de dagelijkse dyadische dynamiek van sociale steun op het werk.

Verder gaat mijn dank ook zeker uit naar alle lieve collega's op de 13<sup>e</sup> verdieping van het Mandeville. Hoewel het alweer bijna drie jaar geleden is dat we daar samen, nog vóór de pandemie samen werkten, ben ik alle steun, koffie en brainstorm sessies niet vergeten. In het bijzonder Marise, Daantje, Dimitri, Marjan, Kimberley, Juriena, Jan, en Heleen. En natuurlijk alle AIO's die vanuit hun eigen achtbaan me stimuleerden, inspireerden en enthousiasmeerden. Hopelijk kruisen onze wegen ooit weer: Julia (samen begonnen, altijd lieve woorden en samen moeder geworden), Yuri (genie, je inspireert en hebt geweldige energie), Hannah (gezelligheid en samen moeder geworden), Keri (veel wijze raad), Emma (dankjewel voor al je tips over het afronden van dit proefschrift), Danyang (learned a lot from you!), Anniek, Wei, Andrea, Gloria, Jason en Denise. Een speciale dank gaat ook uit naar Lara, mijn kamergenoot met wie ik vier en een half jaar een kantoor mocht delen. Jij hebt een hart van goud en was er altijd voor een peptalk. Jouw achtbaan ging iets sneller, maar ik weet dat jij altijd in mij geloofde en daar ben ik je ontzettend dankbaar voor. Lara lief en mooi mens, heel fijn dat jij er was!

Experience sampling een, twee of zelfs drie keer per dag, meerdere dagen lang tegelijkertijd met je collega en/of partner thuis meedoen aan een van mijn onderzoeken is best wel een opgave voor de deelnemers geweest. Mijn dank is dan ook ontzettend groot voor alle mensen die hiertoe bereid waren, evenals de studenten die mij hierbij geholpen hebben; zonder jullie was het niet gelukt. Bovendien, wil ik ook Benjamin van Gelderen en Robert-Jan Lambrichts bedanken voor de geweldige intensieve samenwerking bij de Politie. Jullie hebben mij meegenomen in jullie Politiewereld, en dat was te gek! Verder wil ik ook mijn oud stage bureau en samenwerkingspartner

United Talent bedanken, die mij de afgelopen jaren zijn blijven steunen en inspireren, jullie zijn een bijzonder clubje mooie mensen, heel erg bedankt voor al jullie steun. In het bijzonder, Etienne, Jeanette, en Annelijn. Tot slot ook nog dank aan collega's van de Universiteit Leiden, Helen en Maral. Heel erg bedankt voor de leuke samenwerking, en wie weet wordt het ooit nog gepubliceerd.

Graag bedank ik ook mijn huidige collega's in Utrecht. Nicole, Veerle en Maria, ons kleine maar heel fijne vrouwen team. Ik leer elke dag met heel veel plezier van jullie. Dankzij jullie heb ik de ruimte, tijd en energie gevonden om dit varkentje naast mijn onderzoeks- en docenten baan bij de UU te wassen. Ik kijk uit naar wat de toekomst te brengen heeft en ik hoop nog lang met jullie te kunnen samenwerken. Mijn dank gaat eveneens uit naar Wim, Harold, Lubberta, Lonneke, Luciel, Linda, Jan-Fekke, Richta, Toon, Tom en Wieby voor het warme team dat jullie zijn en voor jullie steunbetuigingen, lieve berichten, motivatie speeches, wandelingen en gezelligheid. Ik ben blij met zulke warme collega's. Verder ook graag een dank aan behulpzame collega's op een afstandje, Melissa, Leanne, Tessa, Judith, Renée en Joran. Also, a big thanks to Jari, for a very warm welcome to Helsinki and for showing me the real Finland. I have laughed a lot with and learned a lot from you.

Mijn paranimfen. Ik kan het nu wel eerlijk zeggen, vanaf de dag dat ik mijzelf zag promoveren zag ik jullie naast mij. Ik zag het gewoon helemaal voor me, de twee mooie mannen in mijn leven naast me in pak. Lars, ik ken je al zo lang, het langste van al mijn vrienden. Het laagland theater, Trevianum, Sittard. Toen je ook naar Utrecht kwam om te studeren kon ik mijn geluk niet op, mijn husband (sorry Bart) kwam naar Utrecht en uiteindelijk zelfs ook naar de FSW en SGS, heel heel heel erg gezellig! We hebben al heel wat reisjes erop zitten Budapest, Valfrejus, Zuid-Korea, maar de mooiste is toch wel tweede worden met de liftwedstrijd (of waren we derde?). Om vier uur s' nachts op een luguber tankstation bij Praag, vies kaasvlees filmen en dat ruziemakende koppel dat ons uiteindelijk toch nog heelhuids afzette in het centrum van Budapest. En, Michiel, Miel, medebewoner van het Mexicaans restaurant. Ik startte mijn PhD in deze toko en ik kan me geen betere plek voorstellen. Samenwonen op de AK, echt zoveel (veel te veel) wijn en vieze broccoli soep. Je hebt me zien opgroeien van student tot moeder en bent onmisbaar voor onze familie. Ik ben je zo dankbaar voor alles wat jij voor ons doet, en dat is heel veel. Ik kan me geen betere paranimfen voorstellen dan jullie twee. Maken jullie niet teveel grapjes in het zweetkamertje?

Mijn lieve vrienden. Hoewel ik bijna al mijn weekenden het afgelopen jaar in dit proefschrift heb gestoken, had ik dat echt niet volgehouden zonder jullie. Tommie, Mereltje (en Ona), Wat hebben we veel meegemaakt de afgelopen tijd, samen zwanger,

samen lief en leed en onze prachtige kinderen een week na elkaar. Ik vind het zo mooi dat we onze vriendschap in deze prachtige tijd op deze manier hebben kunnen verdiepen en jullie zijn zo'n mooie lieve ouders! En natuurlijk samen met Simon, Zwaan en Anne onze DnD avonturen, lekker op vakantie, feesten, concerten of wollige festivals, ik hoop dat we voor altijd nerdy blijven samen. Lars en Bart, gezellige oompjes van onze kinders. Jullie zijn een prachtig koppel, zoveel liefde. Blijf voor altijd jullie mooie zelf en blijf vooral dichtbij ons. Eva en Annet, al sinds dat we 16, 17 en 19 waren bij de LOT. Wat was dat een warm en spannend bad. We leerden onszelf ontdekken en vervolgens ook nog allemaal in Utrecht studeren. Door jullie heb ik me welkom gevoeld in Utrecht en ik ben blij dat jullie er nog steeds zijn! Spoorwegmeisjes Sara en Lauri, heerlijk om met jullie te huilen, lachen, drinken, logeren, kletsen en wandelen. Jullie zijn zo heerlijk eerlijk en open en zullen we later gewoon weer in het spoorwegmuseum gaan werken? Wereld 3? De vuurproef of toch liever buiten op het kindertreintje? Tom en Zosia, dank dank dank voor jullie smerige abc'tje, zonder jullie geen Lilian en zonder Lilian sowieso 0% proefschrift! En Zos, ook voor Maastricht- en theaterliefde, Brood en Geduld, Bloedwijn en King Lear. Daniekie, liefje, jij redde mij met groot liefdesverdriet naar de Johannes Camphuysstraat en wij werden een heerlijk klef mutsenkoppel. ABBA in de keuken, rode wijn en lycrapakjes, you really saved me. Maar ook heel veel dank aan Luit, Lisanne, Aliza, Hannah, Felice, Mathias, Elke, Tim, en Bridget jullie zijn prachtig mooie mensen.

En dan mijn liefste triatlon clubje. Pien, Maike, Martine en Emma. Wat heb ik jullie nodig gehad. Is dat proefschrift nou al af? Samen met jullie zweten, kletsen en rennen is de beste afleiding die er bestaat. Het is oprecht een waar genoegen om met jullie te sporten. We pushen, stimuleren en knuffelen elkaar. Al is het water nog zo koud, Maike en Pien zitten er dan al in. Ik hoop nog lang in jullie oksel te zwemmen, naast jullie heup te fietsen en lekker voor jullie uit te rennen (hihi). Daarnaast een speciaal dankwoord voor fietsers Theo en Diana, jullie hebben allebei een speciaal plekje in mijn hart.

Verder wil ik ook graag mijn familie en bonusfamilie noemen. Olga, Mark, Jos en Siem, jullie maken kerst en carnaval altijd gezellig. Complexe gedichten en nonnennvotten, in 2024 zijn we er weer bij maar dan mét de nieuwe lichting vasteloavend vierders! Mijn schoonouders, Robbie en Tjeerdie, wat ben ik blij met jullie als bonusouders. Jullie staan altijd voor ons klaar en zijn een fantastische steun en toeverlaat, dankjewel voor het oppassen, bourgondische dingen, gekke spellen, Ameland en vakanties! Eric en Ani, wereldreizigers en Berliners, jullie zijn een prachtig warm en mooi stel en het is fijn dat we altijd welkom zijn in Berlijn. We verheugen ons

op de Italiaanse bruiloft! Marina (leuke lunches op de EUR) Gerda, Jolanda en alle kinders, dank, proost en tot snel!

Joris, lief klein broertje van me en Valerie en Brammetje je prachtige vrouw en zoon. Ik ben gezegend met jou als lieve broer, je hebt een hart van goud en ik zou je nooit willen missen. Hoe verschillend we ook zijn (jij blond en blauwe ogen), gaan we steeds meer op elkaar lijken, en niet in het minste in de liefde voor onze kindjes. Ik houd van jou voor altijd en dat geldt ook voor Val en Bram.

Papskie, Mamskie, Marjon en Harrie, mijn aller liefste oudertjes en bonusouders. Ik ben ontzettend blij dat ik jullie mijn ouders mag noemen. Een scheiding is nooit leuk, maar ik zou mijn bonusouders toch echt niet meer kunnen missen. Ik voel mij zo gezegend met jullie. Jullie geven mij de beste steun, liefde, goede raad en ik weet dat ik altijd bij jullie mag aankloppen, of, als het echt even niet gaat, komen jullie meteen met gierende banden naar mij toe. Ik ben jullie zo dankbaar voor alles. En jullie liefde voor Hera en Sabe raakt me recht in het hart. Ik houd van jullie!

En dan mijn eigen roze familie, Lilian, Hera en Sabe. Jullie maken mij zo zo zo blij en trots. Lilian, jij bent mijn baken, mijn anker, mijn zielenmaatje. Jeetje wat hebben we gevloekt op dit proefschrift. Maar telkens als ik wilde stoppen, raapte jij mij op, schonk koffie of thee in en dan ging ik toch maar door. Het is absoluut en resoluut waar dat ik hier sta dankzij jou, en dat zal ik nooit vergeten! En, weetje dat we nu na acht jaar samen zijn praktisch even oud zijn als dit proefschrift? Mijn liefste vrouw, ik denk dat het tijd is dat we nu samen verder gaan zonder dit proefschrift, en daar heb ik heel veel zin in. Voor altijd samen met jou en voor altijd samen 'de mama's'.

Hera en Sabe. Sabe je bent er nog maar net, maar je hoort bij ons. Je bent de rust zelve en kijkt al zo wijs uit je ogen, je bent prachtig en zo gewenst. Je zus is ook zo blij met jou. Ik had verwacht dat ze wel wat jaloers zou zijn, maar dat is helemaal niet aan de hand, ze kust en knuffelt je de hele dag door. We mogen blij zijn als wij jou ook even mogen knuffelen. Hera, jij maakte mij moeder en leerde mij het geluk van oneindige liefde. Je hebt tomeloze energie en staat zó open voor iedereen. Je bent een grote krachtige brok liefde, en ik leer elke dag van jou. Liefste Hera en Sabe, mijn aller aller prachtigste dochter en zoon, aan jullie draag ik dit proefschrift op. Steun geven aan jullie is altijd intrinsiek gemotiveerd, en ik doe niets liever. Dankjewel dat ik deze rol mag spelen in jullie leven.

Maart 2023









