
Self-Determination Theory and Its Relation to Organizations



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Summary

Self-determination theory (SDT) is a macro theory of human motivation that utilizes concepts essential for organizational psychology. Among the concepts are types and quality of motivation and basic (i.e., innate and universal) psychological needs. Further, the theory has specified social-environmental factors that affect both the satisfaction versus frustration of the basic psychological needs and the types of motivation. The social-environmental factors concern ways in which colleagues, employees' immediate supervisors, and their higher-level managers create workplace conditions that are important determinants of the employees' motivation, performance, and wellness. In addition, SDT highlights individual differences that also influence the degrees of basic need satisfaction and the types of motivation that the employees display. This theoretical framework has gained increasingly attention within the context of work the last 15 years, showcasing the importance of basic psychological needs and type of work motivation in explaining the relation from workplace factors to work behaviors, work attitudes and occupational health.

Keywords: self-determination theory, work motivation, basic psychological needs, work performance, well-being

Self-Determination Theory

Self-determination theory (SDT) (Deci & Ryan, 2000; Ryan & Deci, 2017) is a theory of basic psychological needs in motivation, development, personality, and wellness. It has become a very prominent approach to human motivation around the world, and it has been applied in many domains of life, including the workplace and other types of organizations. The theory is built upon an organismic-dialectical meta-theory in that it assumes humans are active organisms striving for growth through integration of both internal and external psychological material. It further recognizes that the surrounding social environments either support or thwart this natural tendency. Hence, SDT is a motivational theory that examines the interaction of our inherent developmental tendencies with our external environments.

SDT is concerned primarily with the quality or type of motivation and with a set of psychological needs. Specifically, SDT distinguishes between autonomous motivation and controlled motivation. When autonomously motivated, people engage in activities with a full sense of willingness, volition, and choice. By contrast, when controlled, people engage in activities with a sense of coercion, pressure, and demand. Considerable SDT research has examined the different consequences of autonomous versus controlled motivations. In addition to the differentiation of the types (i.e., qualities) of motivation, SDT has specified three basic and universal psychological needs—the needs for competence, autonomy, and relatedness. Satisfaction of the inherent needs have proven essential nutrients for optimal motivation, functioning, and health.

SDT, as a macro theory, has been formulated in terms of a set of six mini-theories, each of which addresses different aspects of motivation. The distinction between autonomous and controlled motivation plays a key role in each of the mini-theories, as do the basic needs for competence, autonomy, and relatedness.

Cognitive Evaluation Theory

The first of the SDT mini-theories was cognitive evaluation theory (CET) (Deci & Ryan, 1980). It concerns how factors in social environments affect intrinsic motivation—the prototype of autonomous motivation (Deci, 1975). When intrinsically motivated for an activity, people engage in it because they find it interesting and enjoyable, and while doing it they experience satisfaction of the three basic psychological needs. Research has shown that factors that frustrate the basic needs for competence or autonomy tend to diminish intrinsic motivation, whereas factors that support those needs tend to enhance intrinsic motivation. Factors that support the needs are referred to as *informational* and those that thwart them are referred to as *controlling*.

The first studies focused on the effects of rewards, where it was found that certain types of rewards, such as performance-contingent rewards, were likely to be perceived as controlling and thus to diminish intrinsic motivation. Other rewards, such as positive feedback, were more readily perceived as informational and thus contributed to supporting competence and enhancing intrinsic motivation. Although controversial at the time, a meta-analysis by Deci, Koestner, and Ryan (1999) confirmed the distinction between informational and controlling rewards and also neuropsychological research lends support (e.g., Di Domenico & Ryan, 2017). This distinction between informational and controlling environments, or as it has later been termed, the distinction between need-supportive and need thwarting contexts, broadened the investigations of social contexts on motivational processes across a broad range of life's domains.

Organismic Integration Theory

The second mini-theory was organismic integration theory (OIT) (Ryan, Connell, & Deci, 1985). It is concerned with the internalization and integration of extrinsic motivation. Because many activities are not interesting, and therefore not intrinsically motivated, extrinsic contingencies are often required as a source of motivation. OIT suggested that extrinsic motivation can vary in its degree of control versus autonomy as a function of the degree to

which the motivation is internalized. Specifically, OIT proposes that there are four types of extrinsic motivation or regulation depending on their degree of internalization and integration. *External regulation* involves being regulated by controlling external reward-and-punishment contingencies, including both material and social factors. It is the least autonomous type of extrinsic motivation. *Introjected regulation* refers to behavior being regulated by internal, controlling contingencies such as contingent self-esteem or the avoidance of shame and guilt. Introjection is a partial internalization and is the second least autonomous type of extrinsic motivation. A more autonomous type of extrinsic motivation is referred to as *identified regulation* and results from a fuller internalization of the personal importance and value of the behavior. Finally, *integrated regulation* is behavior that has been fully assimilated and has become part of the person's sense of true or integrated self. It is the most autonomous type of extrinsic motivation.

Autonomous motivation, which was introduced earlier, comprises intrinsic motivation and fully internalized extrinsic motivation, whereas controlled motivation comprises external and introjected regulations. In addition, in SDT, the concept of amotivation refers to the lack of intention and motivation, and of course it is wholly non-autonomous.

Causality Orientations Theory

The third SDT mini-theory concerns individual differences or personality factors in motivational orientations. Whereas CET and OIT are concerned with how social contexts affect the state levels of motivations, and, in turn, performance and wellness outcomes, causality orientations theory (COT) (Deci & Ryan, 1985) addresses how enduring individual differences in people's motivational orientations affect their outcomes. There are three causality orientations—autonomous, controlled, and impersonal. *Autonomy orientation* refers to viewing one's surroundings as informational and being focused on interest and opportunities for growth. *Controlled orientation* refers to viewing contexts as controlling where external contingencies and power structures guide behavior. Impersonal orientation relates to amotivation and lack of intentional action where performance anxieties and avoidance of failures pertain. According to the theory, everyone has each of those three orientations to some degree as personal characteristics. Thus, people vary in the strength of each of the orientations, and it is the strength of those orientations that predict outcomes. Thus, a person is not characterized as one of the three types of people, although the person may have one of the orientations that is considerably stronger than the other two.

Basic Psychological Needs Theory

Research on CET, OIT, and COT made it very clear that the basic psychological needs for competence autonomy, and relatedness play an important part in the quality of peoples' motivation and wellness. This prompted a clear definition of basic psychological needs and the formulation of the fourth mini-theory—namely, basic psychological needs theory (BPNT) (Ryan, 1995). Whereas some theories use the term needs to refer to what people desire, BPNT emphasizes that the basic psychological needs are essential nutrients for integrity, high quality motivation, and well-being. While many basic psychological needs have been suggested, there are currently three that satisfy the definition of a basic need within the SDT framework—competence, autonomy, and relatedness. The need for *competence* refers to the

feeling of being effective in one's interactions with the environment and experiencing opportunities to both express and exercise one's capacities; the need for *autonomy* concerns the feeling of choice and concurrence with one's own actions; and the need for *relatedness* concerns the feeling of belonging and connection with others such that one is cared for by others and cares for those others. The three basic psychological needs are considered universal as they apply across gender, age, and cultures in being essential for well-being. Furthermore, integration, as described in relation to OIT, is assumed to be a natural process, but a process that requires nutrients. The three basic psychological needs, when satisfied, act as the nutrients through which social environments and causality orientations are manifest in high quality motivation.

Goal Contents Theory

Subsequent research showed that the basic needs were differentially afforded or crowded out by different lifestyles and the aspirations that prompt them. Specifically, the aspirations for accumulating wealth, becoming famous, and looking attractive were found to form one factor, whereas the aspirations for experiencing personal growth, forming close affiliations, contributing to one's community, and being physically fit formed a second factor. The first factor was termed *extrinsic aspirations*, whereas the second was termed *intrinsic aspirations*. That set the stage for the formulation of goal contents theory (GCT) (Kasser & Ryan, 1996). GCT is concerned with the distinction between extrinsic and intrinsic aspirations or life goals as it became apparent that these not only shaped peoples' attitudes and behaviors differently, but also that the pursuit and attainment of the extrinsic life goals were associated with need frustration and ill-being, whereas the pursuit and attainment of intrinsic life goals were associated with need satisfaction and well-being.

Relationships Motivation Theory

The last mini-theory, relationships motivation theory (RMT) (Deci & Ryan, 2014), was formulated on the basis of empirical research about the dynamics of close personal relationships. Evidence indicates that high-quality relationships are strongly related to need satisfaction and autonomous motivation within the relationship, whereas lower quality relationships are related to need frustration and controlled motivation within the relationship. Because close personal relationships are not crucial to the workplace, this mini-theory will receive relatively little attention in what follows.

SDT as a Lens for the Study of Motivational Processes at Work

Research has used the motivational concepts within SDT's mini-theories to explain phenomena across various areas of psychology and several applied domains, including the organizational domain. In 2005, Gagné and Deci (2005) published a review article summarizing the early SDT organizational studies. Following this, a burgeoning literature has developed, and this was summarized in an article by Deci, Olafsen, and Ryan (2017). That article pointed to more than 200 contributions, and since then the literature has increased further.

At the core, this body of research has attempted to identify, examine, and explain antecedents and outcomes of motivational processes described across the mini-theories of SDT. Deci et al. (2017), after reviewing the research, presented a basic SDT model in the workplace. The model consists of two main categories of independent variables, namely social contexts and individual differences. Specifically, studies have sought to identify workplace factors as contextual variables of importance for motivational processes as described in CET. Furthermore, causality orientations, described in COT, and aspirations, described in GCT, have also been examined to account for individual differences in motivational processes at work, albeit to a much lesser extent than the contextual variables.

These two sets of independent variables have been shown to predict performance and wellness outcomes, often with satisfaction versus frustration of the basic psychological needs and/or autonomous versus controlled work motivation appearing as mediators in the model, in accordance with BPNT and OIT respectively. Typically, studies include either the basic needs or types of motivation, although some include both. A meta-analysis by Van den Broeck, Ferris, Chang, and Rosen (2016) displayed the associations between these SDT concepts. In this analysis, each of the basic needs was negatively related to amotivation. The satisfaction of the need for autonomy and competence demonstrated negative and significant relations with external motivation, whereas the need for relatedness was unrelated to external motivation. Each basic need had positive significant relations with introjected, identified, and intrinsic motivation. Further, in a longitudinal analysis, Olafsen, Deci, and Halvari (2018) found that the social context represented by managerial need support was associated with need satisfaction and, in turn, with autonomous work motivation. Importantly, in this study, the authors did not find the reverse link for the needs and motivations, hence the order of the variables in the model was unidirectional. Another thing that is important to note, is that research employing SDT to study organizational questions has for the most part emphasized the bright motivational process (i.e., need satisfaction and autonomous motivation), while the dark side of these motivational processes (i.e., need frustration and controlled motivation) was set on the research agenda in the first part of the 2010s (Gillet, Fouquereau, Forest, Brunault, & Colombat, 2012).

Finally, the basic SDT model in the workplace consist of two main categories of work outcomes, namely work behaviors and attitudes, and health and wellness. In this body of research, the importance of basic psychological needs satisfaction and the autonomous forms of motivation for employees' work behavior, work attitudes, and general wellness have become evident. On the other hand, frustration of basic psychological needs and controlled motivation may have detrimental effects on these diverse outcomes. In the following, this model is highlighted through a review of the literature.

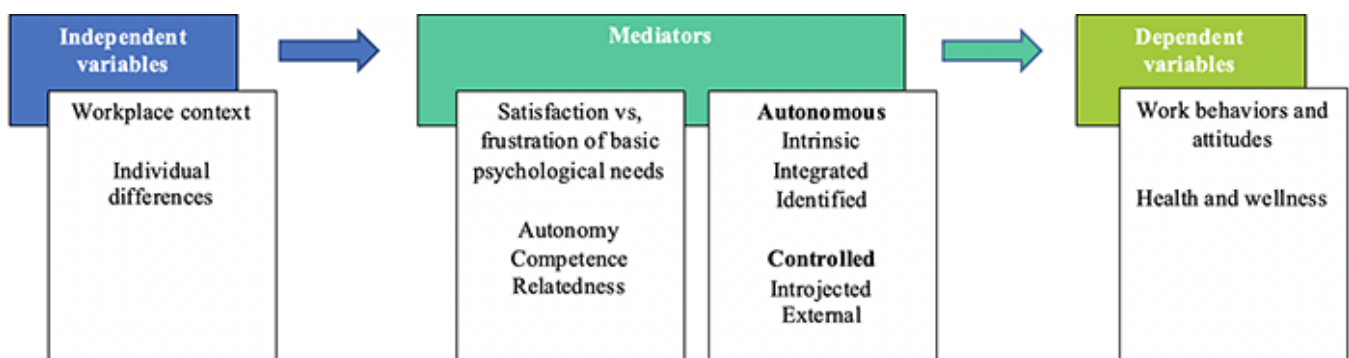


Figure 1. The basic SDT model in the workplace (Deci et al., 2017).

Research on the Basic SDT Model in the Workplace

Researchers on SDT in work organizations has done an outstanding job of identifying antecedents and outcomes of satisfaction and frustration of the basic needs as well as quality of work motivation across cultures, industries, and occupations. The following literature review of SDT research in work organizations will present core SDT articles and various other studies although it will not be possible to review them all given their quantity.

Antecedents of the Basic SDT Model in the Work Domain—Social-Contextual Climate and Individual Differences

A large part of the literature on SDT in work organizations pertains to social-contextual variables that promote need satisfaction and optimal motivation at work according to the basic SDT model in the workplace. Three broad categories of such social-contextual factors stand out in the literature and are reviewed here, namely, interpersonal climate, job design, and compensation. In addition, studies pertaining to individual differences variables are reviewed.

Interpersonal Climate

Although also other aspects of the social climate have also been investigated, much of the research on the interpersonal climate at work involves how different types of leadership either support or thwart the basic psychological needs and promote different kinds of motivation. Need support refers to understanding and acknowledging others' perspectives, providing them meaningful information, offering opportunities for choice, and encouraging self-initiation (Deci et al., 2017). By contrast, a controlling or need-thwarting style describes a manager imposing external constraints on behavior in order to make others produce specific outcomes by being demanding, rigid, inflexible, and pressuring.

As mentioned, in studies within the work domain, need support has typically been studied through employees' perceptions of their immediate managers (Baard, Deci, & Ryan, 2004; Olafsen, Halvari, Forest, & Deci, 2015), but a few studies have explored need support from other levels in the organization, such as colleagues (Jungert, Koestner, Houliort, & Schattke, 2013; Moreau & Mageau, 2012). These and other studies have shown the importance of need support for satisfaction of employees' basic psychological needs (Baard et al., 2004; Olafsen et al., 2015; Olafsen et al., 2018) and autonomous work motivation (Williams et al., 2014). In addition, studies have shown direct implications of managerial need support on work behavior, work attitudes, and employee well-being (e.g., Kanat-Maymon, Mor, Gottlieb, & Shoshani, 2017; Williams et al., 2014).

The large literature on the importance of managerial need support for employee need satisfaction, work motivation, and work functioning was summarized in a meta-analysis by Slemp, Kern, Patrick, and Ryan (2018). The meta-analysis focused on managerial need support

in 83 unique samples of participants, and the findings showed that managerial need support was positively related to employees' basic need satisfaction and autonomous motivation. Additional results showed positive relations of need support to general well-being, job satisfaction, and work performance. The meta-analysis also showed evidence of a path model similar to the SDT work model discussed above. In sum the meta-analysis concluded that need support is "a leadership approach that is consistent with self-determination and optimal functioning in work settings" (Slemp et al., 2018, p. 706).

Fortunately, studies have shown that need support can be learned by managers and others. The first SDT intervention study in work organizations involved training managers, and results revealed that managers who received the training became more need-supportive and this had a positive effect on employees' satisfaction and trust (Deci, Connell, & Ryan, 1989). Similar results were found by Hardré and Reeve (2009), who showed that trained managers became more need-supportive and that the employees of the trained managers were more autonomously motivated and displayed higher levels of work engagement.

Leadership

Not only does need support, per se, as specified by SDT, promote high-quality motivational process at work, but some distinct leadership approaches bear clear similarities to the SDT need-supportive managerial style. For instance, transformational leadership (Bass & Avolio, 1995) has clear similarities to the need-supportive approach of SDT and promotes need satisfaction (Hetland, Hetland, Andreassen, Pallesen, & Notelaers, 2011) and autonomous motivation (Conchie, 2013; Gagné, Morin, et al., 2019). By contrast, transactional leadership, which emphasizes the exchange process through contingent rewards as well as corrective and monitoring behavior, has been linked to lower satisfaction of the basic psychological needs (Hetland et al., 2011) and to controlled motivation (Gagné, Morin, et al., 2019). Also, other leadership theories have been linked to the basic SDT model in the workplace. For instance, Trépanier, Boudrias, and Peterson (2019) showed how destructive leadership represented by tyrannical and laissez-faire management frustrated nurses' basic psychological needs, leading to controlled work motivation and impaired health.

Other Aspects of Social Climate

In addition to leadership approaches that have received considerable attention, other aspects of the social climate have also been investigated. For instance, perceptions of organizational support (Van den Broeck et al., 2016), quality of relationships (Trépanier, Fernet, & Austin, 2012), and communication quality (Nukta, Haueis, Spitzer, & Hille, 2011) have been related positively to the positive motivational mechanisms within SDT. On the other hand, climates characterized by conflict (Hon, 2012), harassment (Trépanier, Fernet, & Austin, 2013b), and bullying (Trépanier, Fernet, & Austin, 2015) have shown negative implications.

Job and Organizational Characteristics

Besides the clear relations of social climates to motivational processes, a fairly large literature has also examined the relations of job or organizational characteristics to motivational processes. In particular, studies of the job demands-resources (JD-R) model (Bakker & Demerouti, 2007) will be reviewed. The JD-R model proposes two broad categories of work characteristics, namely, job demands and job resources. Job demands are typically the work characteristics that require sustained mental and/or physical effort from employees and may thus be energy depleting with its associated physiological and psychological costs. Job resources are those characteristics of work that have a motivational potential by promoting development and goal achievement.

To unravel the underlying mechanisms of how such broad categories of work characteristics have these consequences, studies have made use of SDT. In particular, SDT has accounted empirically for the underlying processes by taking into account the basic psychological needs and type of work motivation. In particular, the motivational process of job resources can be explained by their contribution to the satisfaction of the basic psychological needs and, in turn, the internalization of work activities. The energetic process of job demands, on the other hand, can be explained by their negative impact on the basic need, leading to less internalization. One of the first studies on these relations was by Van den Broeck, Vansteenkiste, De Witte, and Lens (2008), who showed how basic psychological need satisfaction accounted for the psychological mechanism relating job resources to vigor and job demands to exhaustion. Subsequent research has expanded these findings to account for the full SDT model, where both basic psychological needs and type of work motivation have accounted for these underlying processes (Olafsen & Halvari, 2017; Trépanier, Forest, Fernet, & Austin, 2015). Furthermore, studies have shown that job challenge demands and job hindrance demands are differentially related to work outcomes because of their differential relation to basic psychological need satisfaction and quality of motivation. In the meta-analysis by Van den Broeck et al. (2016), results indeed showed that although job resources were consistently predictive of satisfaction of the three basic psychological needs, job demands had mixed relations to satisfaction of these needs. Adding to this, Olafsen and Frølund (2018) showed how job challenges related positively to satisfaction of competence and autonomy, and in turn autonomous work motivation in predicting vitality, whereas job hindrances were negatively related to satisfaction of the basic psychological needs for autonomy, competence, and relatedness.

Compensation

Because of the crucial function of compensation in work organizations, the debate about its effects has been heated. In particular, the discussion has revolved around issues such as contingent rewards, justice perceptions, and money motives. The SDT-based literature on compensation in the work context is reviewed next.

Contingent Pay

Based on CET research, SDT postulates that contingent rewards create pressure toward control and are thus potentially harmful for need satisfaction and autonomous motivation. This postulate was supported in a large meta-analysis of 128 experiments on reward effects (Deci et al., 1999). A meta-analysis by Cerasoli, Nicklin, and Ford (2014) reached the same conclusions. In particular, Cerasoli et al. (2014) found that intrinsic motivation had a weaker effect on performance when incentives were performance contingent and a stronger relation when the incentives were not directly performance contingent. Furthermore, the meta-analysis showed that intrinsic motivation predicted performance quality, whereas extrinsic incentives were more strongly related to performance quantity.

Field studies have also supported these findings. Kuvaas, Buch, Gagné, Dysvik, and Forest (2016) showed that employees receiving pay-for-performance on a yearly basis reported less autonomous work motivation and more controlled work motivation. Although controlled work motivation related positively to work effort in this study, autonomous motivation was more strongly related to this performance measure. Moreover, Kuvaas et al. (2017) found that when testing the unique relation between intrinsic and extrinsic motivation on employee outcomes, intrinsic work motivation related positively to supervisor-rated performance, whereas extrinsic motivation—measured as the importance of compensation for work effort—related negatively to such performance. This latter publication also showed a negative correlation between intrinsic and extrinsic motivation across the two included studies. A diary study by Hewett and Conway (2015) showed that contingent verbal rewards were positively associated with introjected and external regulations, and for complex tasks, highly salient verbal rewards were also negatively associated with identified regulation as well as intrinsic motivation, showing the undermining effect of salient rewards on autonomous work motivation for heuristic task as suggested by earlier SDT research. In sum, these findings seem to indicate that pay-for-performance approaches tend not to be compatible with high-quality performance because of their implications on quality of motivation.

Research on compensation does suggest that there exist some moderators on the effects of monetary rewards on motivation and other types of functioning. In a series of studies by Thibault Landry and colleagues, the functional meaning of rewards was examined. In both field and experimental studies, it has been shown that monetary rewards perceived as informational led to healthier forms of motivation, greater psychological health, and better overall work intentions than did cash rewards perceived as controlling, because informational rewards are conducive to greater basic psychological need satisfaction (e.g., Thibault Landry, Forest, Zigarmi, Houson, & Boucher, 2017; Thibault Landry, Zhang, Papachristopoulos, & Forest, 2019). These and other findings suggest that rewards can have a distinct effect on individuals' motivation and performance depending on whether they take on a need-supportive or controlling meaning.

Justice has also been suggested as a factor of importance when evaluating reward effects. For instance, in a study by Thibault Landry, Gagné, et al. (2017), it was shown that when bonuses were fairly distributed, using financial incentives made employees feel more competent and autonomous, which in turn fostered greater autonomous motivation and lower controlled motivation, and better work performance. Related, Hewett and Leroy (2019) found that higher bonuses associated with higher levels of perceived manager discretion in incentive allocation

enhanced procedural fairness, but those based on lower discretion did not. Further, bonuses enhanced intrinsic motivation indirectly through procedural fairness, but only when employees perceived their bonuses to be based on higher levels of perceived manager discretion.

In sum, this stream of research pertaining to contingent pay shows that it can play an undermining role on employees' autonomous work motivation by frustrating basic psychological needs. However, this research also shows that financial incentives are contextual, and when managed in an informational, need-supportive way, these detrimental effects may disappear.

Non-Contingent Pay

From a SDT perspective, the role of non-contingent pay for employee motivation, performance, and well-being is less clear. Some studies have reported a positive relation between pay level and intrinsic and autonomous work motivation (e.g., Kuvaas et al., 2016), whereas others have not found a positive relation between pay level and need satisfaction, and, subsequently, intrinsic work motivation (Olafsen et al., 2015). Regardless of amount, fairness perceptions of also non-contingent compensation seem relevant to need satisfaction and work motivation. In Olafsen et al. (2015), procedural pay justice was positively related to intrinsic motivation through satisfying employees' basic psychological needs. The same study showed that when managerial need support was low, distributive justice had a significantly positive relation to employee need satisfaction, suggesting that money may be more important when the environment is non-supportive. Furthermore, Hartmann and Slapničar (2012) found that the relation between pay justice and intrinsic work motivation was moderated by pay transparency in that procedural justice was a better predictor of intrinsic motivation when pay transparency was low, and that distributive justice was a better predictor of intrinsic motivation when pay transparency was high.

From the discussion regarding compensation, there are many aspects to take into account in assessing its motivating potential. As will be seen later, a number of studies point to autonomous work motivation as a sustainable type of motivation that creates positive consequences both for employees and organizations. To foster this type of motivation, it may be that paying the employees a fair wage level, in a way such that the pay is need-supportive, will yield the most positive results.

Employee Orientations and Aspirations

Within the work literature, individual differences as proposed by COT and GCT have received far less attention than social-contextual variables. In terms of causality orientations, Beard et al. (2004) found that both managerial need support and employee's autonomy orientation were linked to satisfaction of the basic psychological needs, and Lam and Gurland (2008) reported a positive association between employees' autonomy orientation and self-determined motivation, and a negative association between employee's control orientation and self-determined motivation. In a series of studies, Liu and colleagues studied autonomous causality orientations as they related to various work outcomes. For instance, Liu and Fu (2011) showed that autonomy orientation related positively to personal learning, job

involvement, and organizational citizenship behavior, and Liu, Zhang, Wang, and Lee (2011) found that autonomy orientation was positively related to psychological empowerment and negatively related to voluntary turnover. As seen from this review of the literature, studies have focused on autonomy orientation at work and have done little with controlled and impersonal orientations.

One of the first studies pertaining to aspirations based on GCT was by Vansteenkiste et al. (2007), who assessed employees' extrinsic and intrinsic life goals as they related to their well-being. The results showed that employees who held high extrinsic life goals were less satisfied with their jobs and less happy with their lives because holding an extrinsic relative to an intrinsic orientation thwarted satisfaction of the basic needs at work. Further, Jambrak, Deane, and Williams (2014) found that holding extrinsic work values related to burnout, whereas intrinsic work values predicted less intention of leaving the organization, and Roche and Haar (2013) showed that intrinsic aspirations were linked to higher levels of organizational citizenship behavior. Related to money, Thibault Landry et al. (2016) showed how people's motives for pursuing money related to well-being through satisfaction and frustration of the basic psychological needs. Further, a study by Zhang, Zhang, Forest, and Chen (2019) showed that perceptions of managerial need support promoted intrinsic goals by satisfying employees' basic psychological needs, whereas controlling environments promoted extrinsic goals by frustrating the basic psychological needs. In sum, this line of research clearly suggests that, in line with GCT, employees' work aspirations can be predictive of, as well as predicted by, the basic SDT model in the workplace. Intrinsic goals or aspirations are linked to the bright path of motivation, whereas extrinsic goals belong to the dark path in the model.

Outcomes of the Basic SDT Model in the Workplace

Both the basic psychological needs and quality of work motivation have received attention in the literature for predicting various work outcomes. This literature typically focused on the bright path of the basic SDT model in the workplace in terms of showing conditions and processes that foster healthy development and functioning by satisfying the basic psychological needs and promoting autonomous work motivation. More recently, research has also taken interest in the dark path of this model by looking at basic psychological need frustration and, to some extent, controlled work motivation as distinct mechanisms that explain cognitive, affective, and behavioral patterns in predicting the non-optimal or darker sides of human functioning. This has been an important extension as need frustration cannot be viewed simply as a low level of need satisfaction, and controlled motivation cannot be viewed simply as a low level of autonomous motivation. By considering both paths, research has been able to explain how these processes lead to effective functioning and well-being in contrast to compromised functioning and ill-being. This section is structured into work behavior, work attitudes, and wellness as broad categories of outcomes of the SDT workplace model.

Work Behavior

Organizations are, of course, very much concerned with the performance of their employees. Based on our screening of the literature, several studies have shown autonomous work motivation as being the optimal type of work motivation for high-quality performance. In studies by Trépanier, Forest, et al. (2015) and Sandrin, Gillet, Fernet, Leloup, and Depin-Rouault (2019), autonomous work motivation was positively associated while controlled work motivation was negatively associated with self-reported work performance. Studies also support such relations based on more objective performance measures such as supervisor-rated work performance (Kuvaas, Buch, Weibel, Dysvik, & Nerstad, 2017) and supervisor-rated creative performance among employees (e.g., Grant & Berry, 2011; Hon, 2012).

Several of the studies supporting the relation between autonomous motivation and work performance (or the negative association between controlled work motivation and work performance) have predicted the motivational concept from the basic psychological needs, and have also demonstrated indirect links between basic psychological need satisfaction and work performance (e.g., Olafsen & Halvari, 2017). There has also been support for direct relations between satisfaction of the basic psychological needs at work and work performance (e.g., Baard et al., 2004; Greguras & Diefendorff, 2009). A diary study by De Gieter, Hofmans, and Bakker (2018) showed that satisfaction of the needs for autonomy and competence predicted self-reported performance over ten consecutive working days. The meta-analytic findings in Van den Broeck et al. (2016) demonstrated that each of the basic needs had positive relations with the different performance measures.

Not only has performance been studied as an important work behavior outcome of the SDT workplace model, but a large body of literature pertains to the implications of quality of work motivation in relation to organizational citizenship behavior (Güntert, 2015), knowledge sharing behavior (Gagné, Tian, et al., 2019), organizational deviance (Bureau et al., 2018), absence (Austin, Fernet, Trépanier, & Lavoie-Tremblay, 2020), and a variety of other organizational behavior variables. Further, although indicated as an antecedent in the SDT workplace model, need-supportive behavior can also be promoted through the bright side of the motivational process. For instance, Robertson and Jones (2013) found that teachers' self-determined motivation was related to their level of need support, and Trépanier et al. (2012) showed how managers' autonomous motivation, and self-efficacy, were positively associated with their perception of their own transformational leadership behaviors.

As for the basic psychological needs, need satisfaction has been directly related to a decrease in deviant behavior in the organization (Lian, Lance Ferris, & Brown, 2012), greater learning (Nukta et al., 2011), and more organizational citizenship behavior (Chiniara & Bentein, 2015). In the meta-analysis by Van den Broeck et al. (2016), satisfaction of each of the basic psychological needs was negatively related to deviance, whereas only satisfaction of the needs for autonomy and relatedness predicted absenteeism. On the other hand, frustration of the basic psychological needs has been associated with higher levels of counterproductive work behavior (Van den Broeck et al., 2014).

Work Attitudes

The basic SDT model in the workplace has also been shown to display variation in employee's work attitudes. Basic psychological need satisfaction has, for instance, been directly related to a decrease in turnover intention (Trépanier, Fernet, et al., 2015) and an increase in positive work attitudes such as affective organizational commitment (e.g., Marescaux, De Winne, & Sels, 2013). Further, Van den Broeck et al. (2016) found that each of the basic needs was positively related to job satisfaction and affective commitment, and negatively related to turnover intentions. Contrary, frustration of the basic psychological needs has been related to increased turnover intention (Gillet, Forest, Benabou, & Bentein, 2015).

Regarding quality of motivation, autonomous work motivation has, for instance, been linked to increased work satisfaction (Gillet, Fouquereau, Lafrenière, & Huyghebaert, 2016) as well as occupational and organizational affective commitment (Fernet, Trépanier, Demers, & Austin, 2017), while decreased intention to quit (Austin et al., 2020). Conversely, controlled work motivation has related positively to both occupational and organizational continuance commitment (Fernet, Trépanier, et al., 2017) as well as normative organizational commitment (Gagné, Chemolli, Forest, & Koestner, 2008), while negatively to work satisfaction (Gillet et al., 2016).

Worker Well-Being and Functioning

According to SDT, satisfaction of the three basic psychological needs is essential to facilitate optimal workplace functioning. Research has linked basic need satisfaction to higher work engagement (e.g., Deci et al., 2001), psychological adjustment (Baard et al., 2004), happiness (Gillet et al., 2012), vitality (Vansteenkiste et al., 2007), and mindfulness (Olafsen, 2017) as well as less burnout (e.g., Fernet, Austin, Trépanier, & Dussault, 2013), anxiety (Deci et al., 2001), depressive symptoms (Thibault Landry et al., 2016), and distress (Boudrias et al., 2011). In the meta-analysis by Van den Broeck et al. (2016), satisfaction of each basic need demonstrated significant relations with indicators of well-being. That is, the relations were positive for positive affect, engagement, general well-being, and life satisfaction; and negative for negative affect, strain, and burnout.

In contrast to need satisfaction, need frustration has more recently been given increased attention in the work literature. For instance, Olafsen, Niemiec, Halvari, Deci, and Williams (2017) showed in a longitudinal analysis that there is a dark path of motivational processes in which frustration of the basic psychological needs related to increased work stress, which in turn was associated with higher levels of somatic symptom burden, emotional exhaustion, and turnover intentions among employees. Other studies have shown that frustration of the basic psychological needs is negatively related to happiness (Gillet et al., 2012), self-realization (Gillet et al., 2012), and vigor (Vander Elst, Van den Broeck, De Witte, & De Cuyper, 2012), and is positively related to work-home conflict (Huyghebaert, Gillet, Fernet, Lahiani, & Fouquereau, 2018), distress and depression (Rouse et al., 2019), and burnout in general (Huyghebaert et al., 2018). In sum, empirical studies suggest that need satisfaction is positively related to employee well-being and occupational health, and frustration of employees' basic psychological needs has a detrimental effect on well-being and occupational health. This goes to show that need frustration is a better explanation of individuals' ill-being and sub-optimal functioning.

Research has also demonstrated the implications of quality of motivation in relation to workers well-being and functioning. Several studies have reported a negative association between autonomous work motivation and indicators of ill-being such as perceived stress (Sandrin et al., 2019), burnout (Fernet, Chanal, & Guay, 2017), anxiety (Gillet, Fouquereau, Lafrenière, & Huyghebaert, 2016), and somatic symptoms (Williams et al., 2014), and a positive association has been found between autonomous work motivation and engagement (Austin, Fernet, Trépanier, & Lavoie-Tremblay, 2020), vitality (Graves & Luciano, 2013), and perceived health (Sandrin et al., 2019). On the other hand, controlled forms of work motivation have been associated with increased work stress (Sandrin et al., 2019), burnout (Fernet, Chanal, et al., 2017), and anxiety (Gillet et al., 2016), but a decrease in perceived health (Sandrin et al., 2019).

Moreover, studies have shown that satisfaction (or frustration) of basic psychological needs as well as type of motivational regulation can moderate the implications of social-contextual factors on well-being-related outcomes in the work domain. For instance, Trépanier, Fernet, and Austin (2013a) found that employees high in autonomous work motivation experienced less psychological distress in the presence of job demands. In sum, this body of research clearly goes to show that while basic psychological need satisfaction and autonomous work motivation is linked to better mental and physical health, basic psychological need frustration and controlled work motivation are more likely to promote ill-being.

Advancements of SDT Research in the Workplace

With the rapidly increasing literature on SDT in the work domain, new and advanced approaches to the study of work motivation based on this theoretical framework has emerged. Some of these important advancements to the field are reviewed in the following.

Person-Centered Approaches

In addition to the many variable-centered studies reviewed above, person-centered studies have started to emerge in the field of SDT in work organizations. Most of these studies have used person-centered approaches to understand how patterns of motivational regulations relate to various predictors and outcomes. Specifically, as it is assumed that people can have varying levels of the different types of motivational regulations, it becomes interesting to understand how different combinations or patterns of motivations relate to organizational factors. These studies of motivational profiles reveal distinct clusters of motivation and in turn show that these clusters are differentially related to various predictors and outcomes (e.g., Howard, Gagné, Morin, & Van den Broeck, 2016; Van den Broeck, Lens, De Witte, & Van Coillie, 2013). Most results point to four common profiles represented by high autonomy, high motivation, high controlled motivation, and low motivation. Further, results from these studies support the variable-centered studies in suggesting that autonomous forms of motivation are far more important in promoting positive workplace outcomes than more controlling forms. However, it also seems that as long as the profile contains high levels of autonomous forms of motivation, controlled motivation does provide negative implications. As such, employees higher in both forms are not at jeopardy, but the amount of controlled motivation does not give any benefits either. These results seem to hint at a relatively powerful impact of autonomous motivation, which is consistent with the qualitative (as opposed to the

quantitative) view on motivation. A study also investigated transitions between profile membership over time by examining temporal stability and change in employees' work motivation profiles (Fernet et al., 2019). In this study, the motivational profiles were entirely stable at the within-sample level, whereas within-person changes in profile membership occurred for 30–40% of employees.

Although the person-centered approaches for the most part have taken an interest in motivational profiles, studies have also started using the basic psychological needs as the basis for the study of profiles. Gillet, Morin, Choisy, and Fouquereau (2019) discovered four different profiles of basic psychological need satisfaction at work. The profile that characterized most employees revealed higher global levels of need satisfaction and a balance in the specific levels of autonomy, competence, and relatedness satisfaction (profile 1). The remaining profiles were characterized by moderately low to very low global levels of need satisfaction and a strong imbalance in the degree of satisfaction of each specific need. Job demand predicted a decrease, and job resources predicted an increase in likelihood of membership in profile 1. Furthermore, the lowest levels of physical fatigue were observed in the balanced profile, demonstrating the key role of employees' need satisfaction balance in the prediction of work outcomes. In another study, Rouse et al. (2019) identified five profiles based on measures of both need satisfaction and need frustration that became progressively less adaptive. Results further revealed that, based on measures of stress, depression, anxiety, and life satisfaction, the two first profiles were the most adaptive by experiencing the fewest symptoms of the indicators of ill-being and the highest levels of life satisfaction. By contrast, the two last profiles experienced the worst levels of dysfunction.

Longitudinal Approaches

Because the benefit of SDT is providing the underlying mechanisms linking workplace factors to work outcomes through basic psychological needs and/or quality of motivation, longitudinal studies are beneficial to reveal the temporal sequence of these motivational processes as they unfold at work. Research designs enabling the study of the development and change seem especially relevant for questions related to occupational health and work-related correlates. Luckily, the literature of SDT in the workplace has increasingly moved in the direction of longitudinal study designs with two or more measurement points. The majority of these studies are typically panel studies with the aim of describing and understanding developmental processes between focal variables within the basic SDT model in the workplace. For instance, in the study by Olafsen et al. (2018) mentioned above, the temporal associations among need support, need satisfaction, and autonomous work motivation were in focus, where the analyses over four measurement points were able to provide support for the sequence from need support to need satisfaction to autonomous work motivation in the basic SDT model in the workplace, as it is displayed in Figure 1. Furthermore, Austin et al. (2020) showed the path from fatigue to autonomous and controlled work motivation, and, in turn, affective, attitudinal, and behavioral work outcomes in a two-wave longitudinal study over 12 months, and Huyghebaert et al. (2018) showed how psychological safety climate had a negative association with burnout three months later through its negative relation with need frustration. These studies are examples of support of the intervening roles of the basic

psychological needs and quality of work motivation within SDT and how they can be used to study how and why workplace factors give implications for employee behavior, attitudes, and well-being.

Another form of longitudinal research that has entered the SDT literature in the work domain is diary studies. Although most studies of SDT in the work domain have examined the motivational process as they occur across individuals (between-person level), a few diary studies have been used to examine these processes as they occur within individuals (within-person level). This is important as the relations in question may not only differ across individuals but also vary within employees over time. Furthermore, whereas between-person effects are best suited for large, more lasting associations observed among employees, within-person effects typically focus on short-term changes. For instance, there is reason to believe that specific need satisfaction levels can vary in the short term within the context of work, and daily diary designs can offer great insight into the antecedents and processes of these processes. Consequently, the few diary studies in this field of research have sought to identify short-term, within-person processes occurring among work factors, important SDT variables, and work outcomes. For instance, in a study already mentioned above, De Gieter et al. (2018) demonstrated that the within-person relations between job resources, challenge and hindrance demands, and strain were mediated by autonomy need satisfaction, whereas the relations between job resources and hindrance demands, and performance were mediated by both competence and autonomy need satisfaction. In another study, Reizer, Brender-Ilan, and Sheaffer (2019) increased insight into the short-term dynamic fluctuations of the motivation-performance link in the workplace by showing the mediating role of daily positive and negative emotions and daily job satisfaction.

General Methodology

Deci et al. (2017) noted that the literature on SDT in work organizations to a great extent has made use of correlational cross-sectional designs. This limitation has since been alleviated by a number of new studies utilizing more rigorous research designs, most notably the already mentioned advanced longitudinal studies (e.g., Fernet et al., 2019; Olafsen, 2017; Olafsen et al., 2018), but also multilevel studies (e.g., Gagné, Morin, et al., 2019) and meta-analyses (Slemp et al., 2018; Van den Broeck et al., 2016), providing more confidence and nuance in the previous established antecedents and outcomes of the basic SDT model in the workplace. The field has also seen some recent interventions studies (e.g., Jungert, Van den Broeck, Schreurs, & Osterman, 2018; Lundmark, von Thiele Schwarz, Hasson, Stenling, & Tafvelin, 2018) that are focused on training in the concept of need support to increase need satisfaction and/or autonomous motivation. Such interventions are desirable, as experimental methods are in need to draw causal conclusions on the associations displayed in the basic SDT model in the workplace. With the many correlational studies that have gained insight into the various antecedents of this model, it is important to target these factors in interventions aimed at improving employee well-being (or decrease ill-being), performance, and other desirable behaviors and attitudes within the workplace. Conducting intervention studies focusing on a broader spectrum of environmental factors seems like a fruitful next step within this field of research. Finally, going into the 2020s, this field of research has several meta-analyses, and to complete the circle, meta-analytic findings of motivational regulations in this literature seems like the next step forward.

Conclusion

As the review of the status of SDT studies in the work domain demonstrates, a substantial body of literature contributes to our understanding of different phenomena within SDT in work organizations and organizational psychology in general. Together they go in the direction of supporting the theoretical postulations made by the SDT framework and the mini-theories in relation to the basic SDT model in the workplace: the social-contextual environment has important implications for the basic psychological needs, intrinsic motivation, and internalization of extrinsic motivation. The basic psychological needs provide the energy through which internalization occurs and explain how our immediate (and past) environments give implications for our work behavior, functioning, and health.

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