Is Sisyphus Really Happy? : Construction and Initial Validation of an Assessment Tool Measuring Existential Concerns Rooted in Work

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Abstract

To date, existential approaches to work are very limited in empirical research and are mainly focused on the burnout phenomenon. More extensive research is probably hampered by the lack of a validated measure that reflects the cognitions experienced by workers when work does not contribute to (or hampers) existential fulfillment. In response, the present study aimed to develop and validate an assessment tool measuring existential concerns rooted in work. As designed, the construct comprises the five biggest existential concerns (i.e. death, meaning, identity, freedom, and isolation) that any worker is likely to experience with respect to work—at different levels of intensity, depending on individual and environmental determinants. Accordingly, five distinct scales were developed and psychometric properties of the assessment tool were examined by means of a cross-sectional study. To support discriminant and criterion-related validity, a framework in which the newly developed construct mediate the relationship between meaningful work and burnout was complementarily proposed and tested. Evidence was found for the proposed five-factor structure, the reliability of the scales, discriminant validity, as well as criterion-related validity. In addition, findings support that existential concerns rooted in work might cause occupational health issues and psychological distress. The newly developed assessment tool may therefore be considered as a promising instrument for future research in work and occupational health psychology.

Keywords: existential concerns; assessment tool; scale validity; existential psychology; burnout; meaningful work

Introduction

"The gods had condemned Sisyphus to ceaselessly rolling a rock to the top of a mountain, whence the stone would fall back of its own weight. They had thought with some reason that there is no more dreadful punishment than futile and hopeless labor."   --- Albert Camus

Work plays a crucial part in many individuals' lives (e.g. Harpaz, & Fu, 2002; Rosso et al., 2010; Super & Šverko, 1995; Veltman, 2016). Over the last decades, it has been associated with the satisfaction of basic psychological needs that go beyond material needs, such as the needs for collective purpose and identity (Jahoda, 1982, Paul & Batinic, 2010; Stiglbauer & Batinic, 2012). Many workers seem to be aware of these benefits and tend to perceive employment not only as a source of income but also as an instrument of self-realization, which is reflected in the development of expressive expectations regarding their jobs (e.g. May et al., 2004; Vendramin & Parent-Thirion, 2019). In this context, the workers' quest for meaning has progressively emerged as a matter of concern for scholars and practitioners (Lepisto & Pratt, 2017), resulting in studies exploring how meaningful work affects attitudes and well-being (Allan, Batz-Barbarich et al., 2019) and, even, in the conceptualization of meaningful work as a fundamental human need (Yeoman, 2014). Similarly, part of the research on vocational behaviors (e.g. Dobrow, 2004; Duffy et al., 2014; Hall & Chandler, 2005; Wrzesniewski et al., 1997) has started considering career as a calling, in order to examine the notion that individuals may pursue a sense of significance in their occupation.

Aside from the growing recognition of links between work and development of a flourishing life, scholars also investigated the construct of existential concerns. Drawn from the literature in existential psychology, existential concerns are ultimate concerns about life, provoked by the awareness of threats inherent to human condition—such as the finitude and the meaninglessness of existence (Koole et al., 2006; van Bruggen et al., 2017). When such thoughts become pervasive, they are likely to cause anxiety and psychological distress (e.g. Glas, 2003; van Bruggen et al., 2015). Given the part played by work in the general quest for existential significance (Harpaz, & Fu, 2002; Pines, 1993; Schnell, 2011), existential concerns rooted in work can be expected to occupy workers' minds and to fuel occupational health problems. In that respect, work is sometimes depicted as a potential source of *existential frustration* (e.g. Längle, 2003; Riethof & Bob, 2019), a frustration state in which, according to Frankl (1958), the will to find out significant purposes to live for is frustrated, causing apathy.

This view is of great interest in today's society since testimonials from workers suggest that many occupations are perceived as meaningless and worthless (see e.g. Bailey & Madden, 2019; Koloc, 2013; Lepisto & Pratt, 2017). The prevalence of the phenomenon notably led Graeber (2018) to popularize the notion of *bullshit-jobs*, referring to jobs that are "so completely pointless, unnecessary, or pernicious that even the employees cannot justify their existence" (p. 9).

Undoubtedly, existential concerns in relation with meaningless work constitute a topical explanatory mechanism in the development of occupational health problems. Since they induce apathy, such concerns might also partially explain decrease in motivation, positive attitudes, and performance outcomes at work. To date, however, existential approaches to work are very limited in empirical research and are only focused on the burnout phenomenon (e.g. Arman et al., 2011; Evers et al., 2004; Loonstra et al., 2009; Pines, 2004). In fact, very little investigation has been done into how existential concerns concretely manifest in the work settings. Studies examining the development of burnout usually refer to the general construct of existential fulfillment (i.e. fulfillment in life, characterized by the view that life is meaningful and matters, e.g. Längle et al., 2003; Loonstra et al., 2007) and rely on *ad hoc* scales. Because construct is not specific to work and could very well assess traits instead of states, it tends to limit, by essence, the understanding of existential concerns rooted in the subjective experience of work. In addition, several studies (e.g. Pines, 2004; Pines & Keinan, 2005) tend to present meaningless as the major concern of interest, while a broader range of existential concerns—such as death, identity, freedom, or isolation —have actually been identified in the literature (see e.g. Koole et al., 2006; van Bruggen et al., 2015; 2017). It follows that a well-validated assessment tool covering the broad range of existential concerns in the specific context of work is needed to foster studies adopting an existentialist view on occupational health problems and other relevant work-related phenomena.

In response to previous considerations, the present research aims to construct a set of scales reflecting the most major existential concerns adapted to the work context. As designed, existential concerns rooted in work are intended to describe the main cognitions experienced by workers when work does not contribute to (or hampers) existential fulfillment. Theoretical foundations for the construct relevance are presented and followed by scales development. The psychometric properties of the tool are examined by means of a cross-sectional study. In order to support discriminant and criterion-related validity, a framework in

which the newly developed construct mediate the relationship between meaningful work and burnout is also proposed and tested.

Theoretical Background

Existentialism and its Contributions to Psychology

The notion of existential concerns refers to existentialism, a form of philosophical movement that originated in Europe in the 1930s and 1940s (Stone, 2013). Although existentialist thinkers varied extensively in their views, a number of common features emerge from the perspectives they developed. Existentialism can be easily summarized in Sartre's famous sentence 'existence precedes essence' (2007, p. 26). According to existentialists, the human being does not possess any inherent identity or pre-established purpose at the time of life birth. On the contrary, one is in charge of determining a meaning for one's life by one's actions. In other words, what one does defines one's essence. Overall, this paradigm emphasizes a particular view of the human being, in which individuals are unique, free, responsible and willing to find meaning in their lives (Pervin, 1960). Logically, it also implies that if one fails to find authenticity or avoids decisive choices, one must be hold responsible (Gravil, 1976). Awareness of this responsibility brings anguish or dread, especially because human beings know that they are finite beings. In that sense, freedom is at the same time a blessing and a curse. Individuals are sentenced to choose their path without being sure that their choice is the good one, albeit being aware that they only have one trial (Mróz, 2009).

In line with existentialism, several psychologists (e.g. Heine et al., 2006; Heintzelman & King, 2014; Maslow, 1968; Pervin, 1960) acknowledged that developing and maintaining a meaningful life is a major concern for individuals, as well as a human need. Interestingly, some of them adopted a new approach to psychology and psychotherapy—i.e. existential psychology—that considers how existential concerns affect mental health and well-being (e.g. Berman et al., 2006; Frankl, 1958; Längle, 1990; May, 1969; Yalom, 1980). Impactful insights were notably provided by Frankl (1968), who developed logotherapy, a therapeutic approach based on the premise that frustration arises when the quest for existential meaning remains unfulfilled—until becoming pathogenic. A lack of meaningfulness and sense of purpose would lead people to experience, what Frankl calls an *existential vacuum*, a psychological state characterized by apathy, boredom, and meaninglessness. Conversely, people would encounter *existential fulfillment* if they manage to overcome the psychological conflicts resulting from existential boundaries—in particular, the limits caused by death, limited abilities, and the outer world (Loonstra et al., 2007). In sum, existential psychology

postulates that human beings must complete several existential tasks in order to reach fulfillment. Besides accepting their human condition, they must realize their full potential while being able to consider themselves as part of their surrounding environment (Längle et al., 2003; Loonstra et al., 2007).

Even if existential psychologists were initially reluctant to predict human behaviors through the application of universal laws (Pervin, 1968), scholars increasingly grasped the potential contributions of existentialism to research in psychology. They started to conduct empirical studies, including experiments, in order to investigate and prove the influence of major existential concerns on cognitions and behaviors (e.g. Baldwin & Wesley, 1996; Greenberg et al., 2004; Kesebir & Pyszczynski, 2012; Koole et al, 2006; Koole et al., 2014; Reed, 2020; Shaver & Mikulincer, 2012; Scott & Weems, 2013; Vaes et al., 2014; Scrima et al., 2022; Young et al., 2021). As a result, some attempts to conceptualize and measure existential concerns have progressively appeared in the literature (e.g. Bylski & Westman, 1991; Good & Good, 1974; Thorne, 1973; van Bruggen et al., 2017; Weems et al., 2004).

Conceptualization of Existential Concerns Rooted in Work

Existential Concerns

In humans, the state of being in the world necessarily triggers self-awareness and conscious thoughts about the self and its existence (Thorne, 1973). In a context where human condition and human realities constrain pursuit of fundamental human motives by essence, people are naturally prone to struggle with existential concerns (Pyszczynski et al., 2010). Such concerns tend to stay latent. However, while people strive to build sense of meaning and personal values within their allotted time on earth, they may live particular experiences that entirely call into questions the way they perceive and evaluate themselves as human beings (Sullivan et al., 2012). Typically, negative events (illness, trauma, loss of a loved one, etc.) that highlight conflicts between inner desires and experience of reality are expected to activate anxious apprehensions (Koole et al., 2006; van Bruggen et al., 2015). Under such circumstances, an individual is likely to mull concerns over and to suffer from psychological distress. Scholars sometimes use the concept of *existential anxiety* (e.g. van Bruggen et al., 2015; Weems et al, 2004) to refer to the distress situation where coping with existential concerns becomes challenging. This conceptual choice stresses that distress associated with existential concerns is a state of helplessness caused by feelings of uncontrollability (see e.g. Barlow, 2000).

Even though existential concerns may appear as very abstract cognitions at first sight, experimental psychology brought evidence that they exist and potentially affect people's functioning on a daily basis (Koole et al, 2006). Researchers notably observed that exposure to existential threats can trigger reactions that aim at gaining psychological security back, and subsequently, at buffering anxiety. For instance, it was found that reminding participants of their mortality leads to power seeking behaviors (Belmi & Pfeffer, 2016) and intensifies adherence to cultural worldviews (e.g. political views, nationalism, capitalism…) that make the world sound meaningful and orderly (e.g. Greenberg et al., 1994; Jonas & Greenberg, 2003; Kasser & Sheldon, 2000). In parallel, scholars developed self-reported measures of existential concerns, which confirmed (e.g. van Bruggen et al., 2017; Weems et al., 2004), once applied in the empirical context, that such concerns can be conscious and can vary in intensity across individuals and circumstances. In this respect, Young and colleagues (2021) managed to identify profiles of insecurity orientations based on different types of existential concerns and found that profiles were differently associated with various sociocultural and personality indicators. Other studies also supported, for example, that conscious existential concerns are relatively high among individuals who were exposed to natural disasters (Scott & Weems, 2013; Weems et al., 2016).

The Five Big Existential Concerns

Recently, scholars have started to make distinctions between different types of existential concerns. In particular, Koole et al. (2006) identified a discrete set of "five big existential concerns"—i.e. meaning, death, identity, freedom, and isolation—and reviewed several empirical studies to support their relevance for understanding human attitudes and behaviors. Drawing on this conceptualization as well as on other conceptual works (i.e. Glas 2003; 2013; Tillich, 1952; Yalom, 1980), Van Bruggen et al. (2017) proposed a similar categorization in order to develop a new scale assessing existential concerns—the Existential Concerns Questionnaire (ECQ). The administration of the questionnaire revealed that the five domains are strongly interconnected, while providing evidence that existential concerns are a complex construct which cannot be reduced to one domain only. The nature of the different concerns can be depicted as follows:

Meaning. Human condition is associated with a strong and central desire to believe that life is meaningful (e.g. Heine et al., 2006; Heintzelman & King, 2014; Maslow, 1968; Pervin, 1960), whereas life experience may rapidly challenge rationality and pre-established systems of beliefs (Koole et al., 2006). According to existential psychologists, individuals are

personally responsible for their quest for meaning. Consequently, they are particularly vulnerable to the collapse of their personal bases for meaning and tend to doubt regarding their ability to derive meaning from life in case of adverse experience (van Bruggen et al., 2015). When such concerns endure over time, they potentially lead to a profound sense of emptiness characterized by the feelings that human endeavors are pointless and absurd (Sullivan et al., 2012).

Death. Due to their capacity to reflect on the being and the nonbeing, humans must deal with the knowledge of their inevitable death. This notably causes death anxiety, a well-known phenomenon in psychology (e.g. Alvarado et al., 1995; Lee et al., 2020; McMordie, 1979). The underlying assumption of death concerns is that uneasiness stems from the awareness of finitude despite a strong desire for continued existence (Koole et al., 2006). Indeed, living in itself can be considered as a goal which is doomed to failure and which can only result in frustration (Hayes et al., 2016). In this way, death ineluctably questions the sense of existence and relates to other existential concerns—meaning, in particular.

Identity. For existentialists, identity is not given prior to existence but results from the sum of one's actions during one's lifetime. The ongoing construction of identity involves being *authentic* throughout life in the sense of being true to oneself (Aho, 2014) and living according to values determined by the self only (Grene, 1952). On this basis, individuals may have concerns because they feel that they are losing contact with themselves (van Bruggen et al., 2017). More concretely, they may struggle to integrate their various experiences into a consistent whole that sheds light on their place in the world. They may also experience limited self-insight and get confused when it comes to distinguish the self from the non-self (Koole et al., 2006). In line with this observation, psychology has shown that unclear self-definition is particularly uncomfortable for individuals, who tend to rely on their personal identity to create coherence among life experiences and find life significance (Berman et al., 2006; Christiansen, 1999). Accordingly, identity concerns are likely to develop and grow in a context where personal identity seems uncertain and unfathomable.

Freedom. From an existentialist point of view, people permanently choose their personal life trajectory among an infinite number of possible paths. In spite of their background, people are free to reflect on the natural and social properties they were born with and to give them personal meaning in order to create their own identity (Aho, 2014). Human beings are free precisely because who they are is never set in stone, irrespective of attributes given by others and past actions. Should this be the case, their essence would ultimately be

determined (Walz & Koenkel, 1951). In practice, however, freedom and free will are continuously threatened by burden of responsibility and external considerations to the self (Koole et al., 2006; Pyszczynski et al., 2010). First, freedom implicitly means that the chooser is entirely responsible for the choices made (van Bruggen et al., 2015), which can naturally raise concerns and doubts regarding potential errors of judgment. Second, because people are anxious about their responsibility, they are probably more inclined to make choices based on natural and social properties that become normative reasons to act (Crowell, 2020). Although freedom is generally associated in psychological sciences with positive consequences (Koole et al., 2006), burden of responsibility has found support in three experiments conducted by Iyengar and Lepper (2001) who observed that provision of extensive choices undermine satisfaction and motivation. Hence, it turns out that freedom may induce complex cognitions and concerns.

   Isolation. People naturally look for shared subjective experiences to confirm their views of reality and to validate their beliefs (Pinel et al., 2006). For this reason, meaning in life always entails "a state of being in contact" with others (Debats et al., 1995, p. 371). This view is consistent with Sartre's famous sentence "Hell is other people" (1946) which emphasizes that others' judgments inevitably affect self-knowledge. One cannot help caring about others' perspectives since they convey information about how one fits into the world. Still, if one ends being what judgments state, others become hellish. The point is that others can never understand one's self entirely because one cannot be reduced to observable attributes only. By essence, one's mind is out of reach. Although individuals desperately want to feel connected to others, they may live social experiences that remind them that they are fundamentally misunderstood and, as a result, alone (Koole et al., 2006). In fact, it can be argued that being isolated in the sense of not feeling fully understood by others' minds is the inevitable consequence of social cognitive mechanisms that heighten sensitivity to the mind of others (Bering, 2008). This frustration potentially leads to isolation concerns.

Existential Concerns in the Context of Work

   Actions taken and choices made in the professional context necessarily contribute to defining one's essence. A large portion of time is generally spent at work, making unlikely that meaning built in the professional context does not impact meaningfulness in life as a whole (Steger & Dick, 2010; Steger et al., 2012). Furthermore, in today's secular society, work represents an attractive alternative to other—traditional—sources of fulfillment, such as religious communities (Pines & Aronson, 1988; Riethof & Bob, 2019; Schaufeli & Enzmann,

1998; Tomic & Tomic, 2008). It follows that work tends to be considered as an important means of self-expression from which people instinctively try to derive existential significance (Lysova et al., 2019). As many people develop high expectations about work and its contribution to existential fulfillment, they are possibly subject to disappointment and frustration rooted in work experience (Pines, 1993; Riethof & Bob, 2019). This paves the way for the development of existential concerns specifically rooted in work. Consequently, the five aforementioned existential concerns may be highly instrumental in understanding certain cognitions rooted in work.

Meaning Concerns Rooted in Work. Meaning concerns rooted in work focus on the extent to which work really contributes to existential meaning. To work potentially helps to ask the general and existential question 'Why am I here?' (Lips-Wiersma & Wright, 2012). Indeed, doing a purposeful job—which for instance has positive impact on the greater good (e.g. Allan, 2017; Grant, 2007; Steger et al., 2012) or fuel the development of the inner self (Lips-Wiersma & Wright, 2012)—gives meaning to actions and provides assurance that one is doing the right thing on earth (Rosso et al., 2010). The relationship between work and life significance tends to be supported by empirical research. Typically, a meta-analysis found that meaningful work is consistently correlated with higher levels of life satisfaction and life meaning (Allan et al., 2019). As key as meaningful work might be, however, workers do not systematically have a job that provides them with a strong and reassuring system of meaning (Graeber, 2018). A recent study, in particular, seems to indicate that work experience nourishes doubts and concerns regarding the broader meaning of existence. After conducting and analyzing 52 interviews with academics, Knights and Clarke (2014) observed that many participants constantly "*re-examined the wider meaning and benefit of their work*" (p. 345) and felt insecure about it. Given workers' expectations regarding meaningful work in today's society, meaning concerns are very likely to develop in various other occupations and are, therefore, an interesting aspect to investigate.

Death Concerns Rooted in Work. Death concerns rooted in work question the benefits of the lifetime spent at work considering finitude of life. In fact, such concerns are deeply intertwined with meaning concerns. Meaning in life—including meaning built at work—is a known buffer against death anxiety (Mascaro & Rosen, 2006; Routledge & Juhl, 2010). In the face of death, people naturally search for meaning and purpose in life (Koole et al., 2006). Whilst time is running out, the performance of a time-consuming job—which is not necessarily perceived as worthy—is likely to raise concerns regarding a potential waste of

time. Precisely, the worry that meaning might still be missing in life is expected to strengthen anxiety about time passing by and limited time perspective (Lyke, 2013; Tomer et al., 2008). Previous research suggests that perceptions related to remaining time on earth influence the nature of motivation at work, as well as work attitudes and work behaviors. For instance, broader time perspective has been associated with motivation to continue working, growth motivation, work engagement, and crafting of challenging job demands (Kooij et al., 2013; 2017). In the same way, the present existential concern posits that awareness of death and limited time perspective affect workers' cognitions, especially with respect to meaning built at work and resultant priorities in life.

Identity Concerns Rooted in Work. Identity concerns rooted in work focus on potential inability to be one's self at work and to build work-related identity in line with personal views. Scholars traditionally acknowledge that work environment contributes to shaping workers' identities (Miscenko & Day, 2016). People usually aspire to construct *positive* work-related identities, partly characterized by virtuous content or complementarity with other identities rooted in other aspects of life (Dutton et al., 2010). Yet, a number of studies suggested that workers often experience identity threats or identity tensions due to challenging identity demands emanating from work context (Petrigliari, 2011). In particular, qualitative data revealed that people may feel that they must sacrifice important parts of themselves on account of occupational role or cannot clearly affirm who they are at work (Elsbach, 2003; Kreiner et al., 2006). Since identity is a well-known source of anxiety, the existence of identity threats in the work context suggests the emergence of identity concerns specifically rooted in work.

Freedom Concerns Rooted in Work. Freedom concerns rooted in work focus on the extent to which professional choices are really made and were really made freely. The part played by work in existential fulfillment logically led scholars to apply existentialist theories to vocational trajectories (e.g. Bloland & Walker, 1981; Cohen, 2003; Homan, 1986; Miller & Rottinghaus, 2014; Sterner, 2012). Career choices have been argued to highlight existential concerns on the grounds that workers are perfectly aware that opportunity to derive existential meaning from work depends on career decisions (Cohen, 2003; Miller & Rottinghaus, 2014). Like any other major decision in life, career decisions are likely to revive the tension that exists between limitations of one's factual nature and desire to transcend constrains to create identity—which is a major topic of concern for existentialists (see Aho, 2014). Not only are people constrained by their natural and social backgrounds, but they may also be tempted to

voluntarily displace their personal responsibility to others. As suggested by Cohen (2003), the fear of responsibility in the face of various career options might urge certain individuals to comply with others' expectations at the expense of personal interests. All in all, it follows that choices made in the professional context are matter for existential concerns, supporting the existence of freedom concerns specifically rooted in the experience of work.

   Isolation Concerns Rooted in Work. Isolation concerns rooted in work focus on others' judgments about one's occupation and consequent feelings of isolation. Such concerns only emerge because others' judgments on the self specifically matter with respect to work. In support of this view, Dutton et al. (2010) proposed that appraisal is a decisive process in the construction of positive identities at work. According to the authors, how people evaluate the content and the meaning of work-related identities—based on own assessments and others' assessments—affects their perception of self-worth and their attitudes towards self-definition. Research investigating *dirty work* (i.e. work perceived by society as physically, socially or morally tainted; Hughes, 1958) suggests that workers adopt coping strategies, such as cognitive reframing, in reaction to identity devaluation stemming from others (e.g. Ashforth & Kreiner 1999; Elsbach & Kramer, 1996). Despite the implementation of such strategies, Ashforth and Kreiner (1999) acknowledged that stigmatizing views are likely to result in ambivalent feelings about work role, especially in context where "social perceptions are acutely salient" (p. 428). Assumption is notably supported by a recent study (Rabelo and Mahalingam, 2019), in which building cleaners reported feeling ashamed—and anxious—due to the lack of recognition of their occupation. Bearing in mind that workers are not insensitive to others' judgments about their occupation, it is assumed that individuals may feel isolated and misunderstood because of the work they do. Such conclusion highlights the relevance of isolation concerns rooted in work.

Relationships Between Existential Concerns Rooted in Work and Other Constructs

Meaningful Work

   Work is meaningful when workers subjectively perceive it as contributing to existential meaning through the fulfillment of fundamental needs and dimensions (Both-Nwabuwe et al, 2017). Beyond the fulfillment of needs, desires and motivations, meaningful work also entails the notion that people must perceive their job as worthy in order to justify its performance (Lepisto & Pratt, 2017). Contrastingly, a meaningless job reveals discrepancy between expectations of existential fulfillment in work and concrete work experience, resulting in concerns regarding the merits of current job position.

The experience of meaningless work constitutes an existential threat since it brings to light that quest for existential meaning is—at least partly—jeopardized. One of the predictable outcomes of meaningless work is thus the development of recurring thoughts about the extent to which work contributes (or does not contribute) to achieving meaning in life (i.e. meaning concerns). In that respect, meaning concerns rooted in work should be distinguished from meaningful work. Meaning concerns refer to cognitions calling into question the potential for finding existential meaning through work in general. What is at stake is the intensity of this questioning (and underlying anxiety) rather than the perception of meaningfulness in itself. In comparison, the construct of meaningful work simply focuses on perception of meaningfulness with respect to the work that is done.

Besides meaning concerns, meaningless work should in principle highlight other existential concerns as well. As noted earlier, the different types of existential concerns rarely grow in isolation. Perception of meaninglessness could easily impair ability to manage death concerns, triggering thoughts regarding potential waste of lifetime at work. It could also challenge the soundness of the professional choices made in the past and, as a result, question free will. Finally, meaningless work could induce identity and isolation concerns, in an attempt to better understand the origin of meaninglessness. Indeed, as already argued, social contacts and identity create coherence among life experiences and play a reassuring role in the face of uncertainty. In sum, it is therefore suggested that existential concerns rooted in work should be negatively related to meaningful work.

Burnout

Burnout usually refers to a specific work-related syndrome that results from a prolonged exposure to stress (Melamed et al., 2006) and prevents the incumbent from maintaining strong involvement at work (Schaufeli et al., 2009). Conceptually, the phenomenon tends to be associated with high job demands that deplete physical and emotional resources and thereby cause exhaustion (Maslach et al., 1996). Although burnout was initially a "slippery" concept, a relative consensus about three core dimensions of the construct (i.e. exhaustion, cynicism, and lack of personal accomplishment) allowed for the development of a multidimensional theory of burnout (Maslach, 1982) and a self-assessment questionnaire (i.e. the Maslach Burnout Inventory, MBI; Maslach, 1996). The MBI has rapidly become predominant in the field (Boudreau et al., 2015; Maslach et al., 2001; Schaufeli, 2021).

Since exhaustion appears in the overwhelming majority of burnout definitions and is *prominently* assessed in the MBI, many scholars tend to acknowledge that this dimension is the core component of burnout (Schaufeli, 2021). Yet, as clearly stated by Maslach and Leiter (2016), "exhaustion is not the whole story" (p. 108) when it comes to define burnout. An exclusive focus on work overload and fatigue underestimates the important part played by meaning in the development of burnout, while conflating the notions of burnout and strain (Leiter & Maslach, 2016). In fact, while burnout might simply appear to be a fatigue state in response to stressful and taxing events, the phenomenon has also been described as a frustration or disillusionment state following failure to achieve certain outcomes bearing significance. For instance, Freudenberger (1980), one of the first authors to investigate the phenomenon, defined burnout as "a fatigue or frustration brought about by *devotion* to a cause, a way of life, or relationship that has *failed* to *produce* the expected reward" (p. 13). In the same vein, Pines (1993) argued that burnout results from a feeling of failure rooted in the inability to find significance in life through work. Accordingly, burnout would rather appear as a disorder of psychological well-being characterized by a lack of existential fulfillment than as a state of exhaustion related to work conditions (Riethof & Bob, 2019). Because burned out people fail to derive existential significance from their work, they would lack the motives to perform their daily tasks and would progressively feel drained.

In this promising body of research, empirical studies found a negative correlation between existential fulfillment or meaning in life and burnout (Loonstra et al., 2009; Pines, 2004; Riethof & Bob, 2019; Tomic et al., 2004). For obvious conceptual reasons, a similar link should appear between existential concerns rooted in work and burnout. Furthermore, the very nature of existential concerns implies a form of anxiety. Like any other form of anxiety (Barlow, 2000), concerns are likely to tax cognitive resources, to affect concentration and to lead to dysfunctional performance at work. They can also favor the adoption of coping mechanisms, such as avoidance strategies. In a situation where work progressively becomes the source of anxious thoughts and distress, one might possibly react by increasing mental distance with work. All in all, it is therefore suggested that existential concerns rooted in work are likely to be positively related to burnout.

Present Research

Theoretical and empirical findings suggest a need to investigate further the experience of existential concerns specifically rooted in work. Such construct may be useful to gain insights in occupational health problems and employees' functioning in general. As already

stated, none of the instruments so far developed to assess existential fulfillment or existential concerns take into account the peculiarities of the work experience. Even the newly developed ECQ (van Bruggen et al., 2017)—which has the advantage to make a distinction between the different types of existential concerns and, while doing so, to ensure some content validity— measures very abstract sources of existential anxiety that cannot be simply transposed to the work context (e.g. "*It frightens me that at some point in time I will be dead.*" or "*I struggle with the feeling that in the end I am on my own in life.*"). In order to address the limitations of currently available scales, the present research aims to develop a set of scales measuring the five big existential concerns (i.e. meaning, death, identity, freedom, isolation), as manifested in the concrete experience of work.

Complementarily, and for the purpose of supporting criterion-related validity of the assessment tool, the present research puts forward a new framework in which the newly developed construct mediate the relationship between meaningful work and burnout. Considering above arguments, it is proposed that existential concerns lead to higher levels of burnout-related symptoms, to the extent that concerns express a lack of existential fulfillment originating in the experience of meaningless work. Correspondingly, it is hypothesized that meaningful work negatively predicts existential concerns rooted in work (H1), which in turn, positively predict burnout (H2).

Figure 1.

Graphical representation of the proposed framework
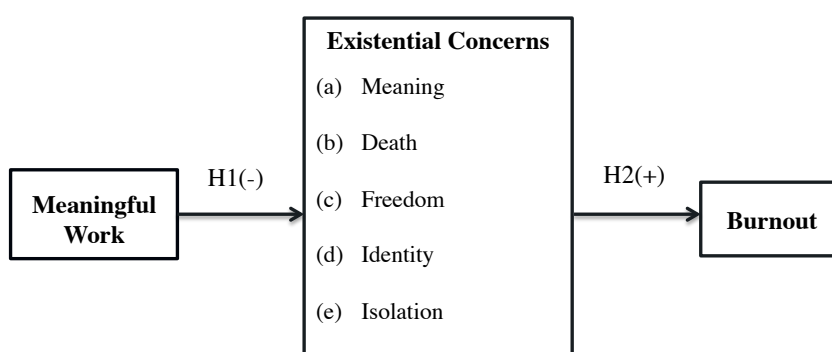
Methods

Based on recommendations made by DeVellis (2003) and Hinkin (1998), five steps were followed to develop the scales and provide first evidence for their validity. In phase 1, an original pool of items was generated. Comprehensive screenings of measures of existential concerns and close constructs (e.g. existential fulfillment, existential anxiety, existential

thinking, meaning in life, career indecision and anxiety…) were carried out to inspire the development of items and guarantee the singularity of the newly developed construct. At the end of this first phase, scales were administered to a representative sample of the working population by means of an online survey. In phase 2, a preliminary examination of items' performance was conducted based on the results of the survey. In phase 3, Exploratory and Confirmatory Factor Analyses (EFA, CFA) were performed on the dataset. The objective was to assess the quality of the proposed factor structure and to provide support for discrimination between the "big five existential concerns" (i.e. meaning, death, identity, freedom and isolation). Once unidimensionality had been established for each scale, internal consistency was examined using Cronbach's alpha, in phase 4.

Finally, in phase 5, discriminant and criterion-related validities were examined. To this end, analyses were carried out to investigate to what extent scores on existential concerns rooted in work differ from scores on meaningful work and burnout. This was particularly necessary for two reasons. First, as already discussed, meaningful work and existential concerns rooted in work—especially meaning concerns—are very close concepts. Second, it could be argued conceptually that burnout is the ultimate version of existential concerns, that is to say a form of existential frustration rooted in work that has reached its climax. For this reason, risk of overlap had to be ruled out. With respect to criterion-related validity, the aforementioned framework was examined in parallel to the widely accepted assumption that work pressure is positively related to burnout (the whole model is hereinafter referred to as "hypothesized model"). Due to the very nature of constructs at stake, it was forecasted that the positive relationship between work pressure and exhaustion would be stronger than the positive relationship between existential concerns (predicted by meaningful work) and Exhaustion. In contrast, it was assumed that existential concerns affect mental distance and cognitive impairment more strongly than work pressure. As a matter of fact, existential concerns were expected to be a major of source of cynicism and to tax important cognitive resources while working.

Study Design and Procedure

To evaluate the newly developed scales and to test the hypothesized model, data were collected using a cross-sectional design and self-reported measures. An online questionnaire, available via link, was administered in English to a working population coming from various organizations and job positions. People from professional and private networks were directly contacted to fill it out. Participants recruited, in turn, other suitable candidates. Additionally,

the link was shared among different groups and pages in the social media. Indeed, variability in respondents' profiles was crucial to improve the representativity of the sample. The questionnaire included an introduction providing a short description of the research topic. Description was very broad to avoid response bias and only mentioned the examination of the relationship between well-being and "various experiences that people may have with respect to their work". After giving their consent to participate, participants were invited to fill out the questionnaire, which took approximately 10 minutes. No particular incentives to participation were offered.

Sample

A total of 222 of participants completed the questionnaire until the end. Some responses were disregarded because participants had failed to pass the attention check or did not have a relevant profile for the purpose of the study (i.e. having a job or having temporarily stopped working after burnout diagnosis). Eventually, the sample contained 201 valid and eligible responses. This sample size is acceptable, knowing that the five scales of existential concerns are all comprised of four items. As a matter of fact, scholars often recommend a ratio of respondents to items of at least 10:1 (Nunnally, 1978; Schwab, 1980), or a minimum of 200 respondents in order to perform the factor analyses accurately (Comrey & Lee, 1992; Hinkin, 1998; Kline, 2011). The final sample content is described in greater detail in *Table 1* below.

Table 1.

Overview of the sample representativity

	Sample (N=201)
Gender	
Man	40.8%
Woman	59.2%
Age	
Mean	35.99
SD	9.56
Education	
High school	5.5%
Bachelor's degree	22.9%
Master's degree or higher	71.6%
Job status	
Permanent job	72.6%
Fixed-term contract	17.9%
Self-employed	7%
Other (e.g. unemployed)	2.5%

Industry	
Banking, Finance, & Insurance	20.4%
Education & Research	19.4%
Manufacturing & Engineering	13.4%
Computing & IT	11.4%
Healthcare & Social Care	7.5%
Public Administration	7.5%
Other (e.g. Art & Entertainment, Retail, Energy, Consulting, Law, Charity…)	20.4%
Working hours	
Mean	39.8
SD	7.5
Occupation Tenure	
Mean	7.8
SD	7.4

Measures

On top of existential concerns rooted in work, the administered questionnaire included various socio-demographic variables (i.e. age, gender, education, job status, industry, working hours, job/occupation/organizational tenure), meaningful work, burnout, and work pressure.

Meaningful Work

Meaningful work was assessed using the one-dimensional scale from Bunderson and Thompson (2009). The scale was chosen on account of its shortness (five items) and non-specific items. From an existentialist perspective, individuals are supposedly free to determine what provides meaning to their actions. Therefore, it is preferable to avoid normative items that are driven by a pre-established definition of meaningfulness. Two examples of items are "*The work that I do is meaningful*" and "*What I do at work makes a difference in the world*". The response scale ranged from 1 (strongly disagree) to 7 (strongly agree).

Work Pressure

Work pressure was assessed using four items from the Tilburg Work Pressure Questionnaire (Roe & Zijlstra, 2000). The scale measures subjective perceptions concerning the state of strain caused by overwhelming workload and its anticipation. Investigations on the structural model of work pressure suggest that the construct flows from a wide range of job stressors (Roe & Zijlstra, 2000), which supports its use to control the general effects of job demands on burnout in the research model. The selected items were "*Sometimes I have the feeling that I lost grip on my work*", "*Sometimes I have the feeling that my work is getting too demanding*", "*I have the feeling that I'm under pressure in my work*", and "*During my work I*

feel urged/hurried". The response scale ranged from 1 (strongly disagree) to 5 (strongly agree).

Burnout

Burnout-related symptoms were assessed using the whole set of 33 items from the general version of the Burnout Assessment Tool (BAT; Schaufeli et al., 2020). The BAT was initially developed to review conceptualization of the burnout construct and to address various criticisms made against the MBI (Maslach & Jackson, 1981; Maslach, 1996), including conceptual flaws, psychometric shortcomings and practical issues (Sakakibara et al., 2020). It notably adds several dimensions to the construct that henceforth covers four core dimensions of symptoms (i.e. exhaustion, mental distance, cognitive impairment, and emotional impairment) as well as two dimensions of secondary symptoms (i.e. psychological complaints and psychosomatic complaints). A selection of sample items is (respectively, for each dimension) "*I feel mentally exhausted*", "*I struggle to find any enthusiasm for my work*", "*I feel unable to control my emotions*", "*I have trouble staying focus*", "*I feel anxious and/or suffer from panic attack*", and "*I suffer from palpitations or chest pain*". As recommended by the authors' scale, a 5-point frequency scale (ranging from never to always) was used.

Data Analysis

Data analysis started in phase 2 with the preliminary examination of items performance. Completeness and distributions of the items scores (i.e. mean, median, variance, skewness and kurtosis) were scrutinized to check that missing values was random and that variability in response was adequate (e.g. Van den Broeck et al., 2010).

In phase 3, EFA and CFA were performed using *Mplus8* (Muthén & Muthén, 2017). All analyses were conducted based on MLM estimator due to evidence of some nonnormality in the data. As suggested by Byrne (2012), the measurement model was tested based on both ML and MLM estimators for comparison. Results exhibited a scaling corrector factor greater than 1.00, indicating $\chi 2$ discrepancy resulting from the use of different estimators, and thereby, the presence of scores deviating from normality (Bentler, 2005; Byrne, 2012). In order to assess goodness-of-fit, multiple and complementary indices were taken into account. In particular, two absolute fit indices—root mean square error (RMSEA; Steiger & Lind, 1980) and standardized root mean square residuals (SRMR) —were considered in combination with two incremental fit indices—comparative fit index (CFI; Bentler, 1980) and Tucker-Lewis index (TLI; Tucker & Lewis, 1973) (see for e.g. Byrne, 2012). Goodness-of-fit was evaluated based on the cutoff values proposed by Hu and Bentler (1999) for each fit index. That is, the hypothesis of a well-fitting model is supported by a RMSEA lower than

0.08 (preferably 0.06 or less), a SRMR lower than 0.08 (preferably 0.05 or less) as well as by CFI and TLI higher than 0.90 (preferably higher than 0.95).

In phase 4, internal consistency was examined using Cronbach's alpha, which assesses how well a set of items measure the same psychological construct (DeVellis, 2003). Rule of thumb usually advises that α-values between 0.7 and 0.8 are acceptable whereas α-values between 0.8 and 0.9 are very good (Nunnally & Bernstein, 1994).

In phase 5, discriminant validity was assessed following the Fornell-Larcker criterion (1981). Hence, it was checked whether the average explained variances of the latent factors corresponding to existential concerns are greater than their squared correlations with meaningful work and burnout. Criterion-related was examined based on the hypothesized model. Hypotheses were tested with Structural Equation Modeling (SEM) techniques, using *Mplus8* (Muthén & Muthén, 1998-2017) and MLM estimator. Eleven latent factors were included in the initial measurement model—the five big existential concerns (i.e. meaning, death, freedom, identity, isolation), the four core symptoms of burnout (i.e. exhaustion, mental distance, cognitive impairment, emotional impairment), meaningful work, and work pressure. As a preliminary step, analyses were performed to validate the measurement model. As for the burnout construct, the CFA outputs revealed that using a four-factor model based on the short-term version of the BAT (instead of the full version) significantly improved the model fit— from acceptable to close. By contrast, using a five-factor model (i.e. full-model including the secondary symptoms) led to poor model fit. Consequently, the items proposed in the short-version of the BAT were selected as indicator variables for each core symptoms of Burnout, whereas secondary symptoms were not considered.

After the validation of the measurement model, three alternative models were proposed to test the different hypotheses at stake. More specifically, the hypothesized model ($M_{Theoretical}$) was tested and compared to a version of the hypothesized model in which direct paths had been added between meaningful work and the four burnout-related symptoms ($M_{Theoretical\ and\ DE}$). The objective was to examine whether the effect of (poor) meaningful work on burnout is fully mediated by existential concerns, or to put it differently, whether such effect necessarily implies the development of existential concerns. Goodness-of-fit was assessed using TLI, CFI, RMSEA, and SRMR. The fits of nested models were compared using corrected chi-square-difference values ($MLM\Delta\chi_2$). Since the BAT was initially designed to provide a general assessment of the burnout syndrome, a model was also tested with burnout as a second-order factor composed of the core symptoms factors ($M_{Burnout}$). This latter model is not nested with the two other models, which only allowed for a descriptive comparison.

Scales Development and Results

Phase 1: Items Development

Pools of four items were developed for each of the five big existential concerns—meaning, death, identity, freedom, and isolation—rooted in work. This number of items per scale represents a compromising approach that mitigates the risk of responses biases caused by long surveys and boredom (Schriesheim & Eisenbach, 1990), whilst ensuring an adequate assessment of internal consistency reliabilities (Harvey et al., 1985). In order to ensure consistency, all items assess cognitions or beliefs and are introduced accordingly (e.g. "I think that", "I am concerned that", "I worry that"). Importantly, items were worded in such a way that existential concerns are geared towards work and not towards other components of life. The two scales assessing concerns related to freedom and meaning include reverse-scored items, mainly to reduce agreement bias, disrupt automatic answering, and broaden the coverage of the constructs (Weijters & Baumgartner, 2013). Concerning the answering format of the scales, 5-point Likert-type scales were used, as recommended by Hinkin (1998). Indeed, there are pieces of evidence that psychometric properties of 5-point scales do not improve significantly with the addition of new points (Lissitz & Green, 1975). The description of each scale is provided in Table *2*.

Phase 2: Preliminary Examination of Items Performance

Since only one value was missing in the whole dataset, no specific pattern could be identified and value missing was considered as random. Table 3 provides an overview of items characteristics per scale. Apart from the items assessing isolation concerns, all means ranged from 1.98 to 3.52, suggesting that items were not worded too strongly (DeVellis, 2003; Stumpf et al., 1983). A brief analysis of frequency tables confirmed that high scores (5) had been reported for each item (including for items assessing Isolation). Furthermore, the standard deviations of all items largely exceeded 0.5, which indicates a relatively high variance and thence, potential for discrimination among the respondents based on items and construct (Stumpf et al., 1983). Interestingly, skewness values indicated a tendency for low scores (Van den Broeck et al., 2010) on isolation, with the lowest score (i.e. 1) occurring the most frequently and frequency progressively declining as the score increases for all items. The majority of respondents did not seem to be concerned by isolation.

Table 2.

Scales description: existential concerns rooted in work

Concern	Description	Item contents (exact formulations are changed because of publishing concerns)
Meaning	Meaning concerns rooted in work focus on the extent to which work really contributes to existential meaning.	1. Concerned about not achieving desired meaning through work 2. At ease with desired meaning achieved through work 3. Concerned about work not contributing to meaning 4. Concerned about fulfillment in life through work
Death	Death concerns rooted in work question the benefits of the lifetime spent at work considering finitude of life.	1. Concerned to spend limited time working 2. Wondering why life is wasted on work 3. Worrying about realizing wasting life on work 4. Considering it absurd to spend life working
Identity	Identity concerns rooted in work focus on potential inability to be one's self at work and to build work-related identity in line with personal views.	1. Concerned about work not allowing identity development 2. Worried about work not helping identity development 3. Concerned about no possibility to express oneself through work 4. Concerned that work requires one to be different than oneself
Freedom	Freedom concerns rooted in work focus on the extent to which professional choices are really made and were really made freely.	1. Thinking career choices are made freely 2. Concerned about being forced in certain directions regarding work choices 3. Thinking current job results from self made free choices 4. Thinking to be restricted in work choices
Isolation	Isolation concerns rooted in work focus on others' judgments about one's occupation and consequent feelings of isolation	1. Concerned not being accepted by other because of work 2. Worried about isolation because of work 3. Worried about not being related to because of work 4. Concerned about not being appreciated by others because of work

Table 3.

Items characteristics per scale

Items	M	SD	Skewness	Kurtosis
Meaning	2.61—3.17	1.08—1.32	0—0.55	-1.23—-0.51
Death	2.84—3.52	1.23—1.29	-0.61—0.02	-1.22—-0.64
Identity	2.28—2.71	1.16—1.29	0.26—0.7	-.044—-1.12
Freedom	1.98—2.43	0.97—1.19	0.38—0.97	-1.1—0.37
Isolation	1.6—1.73	0.98—1.08	1.33—1.62	0.58—1.66

Phase 3: Factor Analysis

Factor analyses were carried out in M*plus* to assess the distinctiveness of the different existential concerns. In the first instance, an exploratory factor analysis was conducted using an oblique rotation (i.e. PROMAX). A four-factor structure emerged, where the items assessing death, freedom, identity and isolation clearly loaded on distinct dimensions. Corresponding factor loadings reached at least |0.5|, with no cross-loadings emerging above |0.15|. By contrast, items assessing meaning did not load on a specific factor, but cross-loaded on the same factors as items assessing death, freedom and identity. Because meaning concerns are intrinsically related to other existential concerns from a theoretical perspective, this result was not that surprising. A closer examination of the results revealed that only one item had a factor loading exceeding |0.40| (i.e. "*I am at peace with the accomplishment my work offers me in life (R)*" loaded 0.42 on the factor including the items assessing identity), which reflected poor significance and poor stability (Costello & Osborne, 2005).

In sum, the results of the EFA did not particularly indicate need for changes in the items selection. Indeed, items seemed to follow loading patterns depending on their original family of existential concerns. Nevertheless, the absence of a specific factor representing meaning concerns could signal poor fit of the theoretical model with the data. Concerns were partly addressed via the performance of a confirmatory factor analysis which investigated to what extent the theoretical and structural model of five factors fits the data. Fit indices (Table 4) suggested a good fit, supporting the relevance of the distinction between five existential concerns. All items loaded on their respective factors with significant (at $p < 0.05$) standardized loadings ranging from 0.55 to 0.83 for meaning, from 0.74 to 0.89 for death, from 0.59 to 0.79 for freedom, from 0.72 to 0.87 for identity, and from 0.73 to 0.91 for isolation. In addition, the theoretical 5-factor model clearly appeared as empirically superior to a 4-factor model that would not include a specific meaning factor (but would associate each meaning item with the factor for which loading was the highest in the EFA).

Table 4.

Fit Indices for the 5-factor model (in comparison with 1-factor and 4-factor models)

(N=200)	MLM χ^2	df	CFI	TLI	RMSEA	SRMR
1-factor model	1103.31	170	0.6	0.55	0.153	0.127
4-factor model	337.67	164	0.91	0.90	0.07	0.06
5-factor model	263.31	160	0.95	0.94	0.06	0.05

As suggested by Hinkin (1998), Modification Indices (MIs) were also computed in M*plus* to identify potential misspecifications in the theoretical model. The main purpose was to pinpoint potential cross-loadings by determining whether constrains of zero factor loadings on non-target factors undermined the quality of the model fit. Considering MI values equal or higher than 10, results did not indicate that estimating parameters freely would contribute to a significant drop in the MLMχ_2 statistic and, subsequently, to significant improvement in model fit (Byrne, 2012). In parallel, a handful of MIs reported the existence of residual covariance between items assessing Identity, as well as between items assessing isolation concerns. This probably derived from the use of similar wording in corresponding items. Due to the very small MIs values at stake, further *post hoc* analyses were not considered as worthy and the initially postulated model was not re-specified.

In conclusion, the outcomes of the CFA supported the relevance of the distinction between the five concerns. Items did not seem to cross-load on non-target factors, but only loaded appropriately on their theoretical factors. Complementary, fit indices confirmed good fit of the model, whereas no MI suggested substantial evidence of model misfit. As one might have expected, inter-correlations between the factors were high (Table 5), especially between meaning and other existential concerns (except for Isolation). Findings implied being cautious with mutlicollinearity when testing the whole set of existential concerns as predictors.

Table 5.
Correlations between latent factors corresponding to existential concerns

Scales	1	2	3	4	5
1. Meaning	/				
2. Death	0.79	/			
3. Identity	0.83	0.60	/		
4. Freedom	0.65	0.42	0.65	/	
5. Isolation	0.24	0.26	0.40	0.29	/

Phase 4: Internal Consistencies

The scales measuring meaning and freedom concerns exhibited good internal consistency—respectively, $\alpha=0.78$ and $\alpha=0.79$. The scales measuring death and identity concerns exhibited very good internal consistency—$\alpha = 0.87$ for both of them. Lastly, the scale measuring isolation concerns exhibited excellent internal consistency—$\alpha = 0.9$. Subsequent examination confirmed that internal consistency could not be improved by removing items from the scales.

Phase 5: Discriminant and Criterion-related Validity

Discriminant Validity in Relation With Meaningful Work and Burnout Constructs

The guidelines of Fornell-Larcker (1981) were followed to investigate discriminant validity of existential concerns in relation to meaningful work and burnout-related constructs (i.e. core symptoms as well as general syndrome). The values of AVE and R^2 were computed based on the outputs of a CFA conducted to test a measurement model including all latent factors. By doing so, discriminant validity was assessed between each existential concerns and each other constructs in a model where all existential concerns were study variables. Indeed, scales were initially developed to be used together. As shown in Table 6, the value of AVE was higher than values of R^2 for each existential concern (as well as for meaningful work and burnout-related constructs), supporting that scales measure different constructs than meaningful work and burnout.

Table 6.

Examination of discriminant analysis (AVE and R^2)

Scale	AVE	R^2					
		Meaningful Work	Exhaustion	Mental Distance	Cognitive Impairment	Emotional Impairment	Burnout
Meaning	0.70	-0.52	0.35	0.46	0.15	0.12	0.63
Death	0.63	-0.19	0.29	0.17	0.04	0.05	0.34
Identity	0.69	-0.38	0.37	0.36	0.12	0.11	0.60
Freedom	0.39	-0.13	0.17	0.08	0.01	0.03	0.34
Isolation	0.61	-	0.17	0.03	0.29	0.04	0.16

Criterion-related Validity and SEM Model

Table 7 displays the means, standard deviations, internal consistencies and correlations between study variables. Expected relationships clearly emerge between existential concerns and other constructs—except from the negative relationship between meaningful work and isolation concerns which is not significant.

Table 7.

Descriptive Statistics: Means, Standard Deviations and Intercorrelations Between Study Variables

Variables	M	SD	α	1	2	3	4	5	6	7	8	9	10	11
1. Meaningful work	4.93	1.20	0.91	-										
2. Meaning	2.91	0.90	0.78	-0.57***	-									
3. Death	3.03	1.07	0.87	-0.37***	0.65***	-								
4. Identity	2.48	1.06	0.87	-0.52***	0.69***	0.54***	-							
5. Freedom	2.23	0.86	0.79	-0.31***	0.50***	0.34***	0.53***	-						
6. Isolation	1.67	0.89	0.90	-0.06	0.17**	0.23***	0.32***	0.27***	-					
7. Work Pressure	3.37	1.00	0.84	-0.17***	0.37***	0.41***	0.27***	0.37***	0.29***	-				
8. Exhaustion	2.89	0.85	0.86	-0.28***	0.40***	0.41***	0.30***	0.48***	0.30***	0.58***	-			
9. Mental Distance	2.30	0.86	0.77	-0.60***	0.63***	0.44***	0.38***	0.59***	0.29***	0.35***	0.49***	-		
10. Cognitive Impairment	2.67	0.78	0.80	-0.25***	0.39***	0.25***	0.15**	0.39***	0.25***	0.36***	0.51***	0.45***	-	
11. Emotional Impairment	2.29	0.73	0.79	-0.29***	0.38***	0.32***	0.31***	0.42***	0.36***	0.45***	0.51***	0.43***	0.43***	-

Note. **$p <.05$; ***$p < .01$

The hypothesized model was tested using SEM, knowing that analysis had yielded a good fit for the measurement model (CFI = 0.95; TLI = 0.94; RMSEA = 0.04; SRMR = 0.06). As shown in Table 8, the hypothesized model ($M_{Theoretical}$) just offered an acceptable fit. Adding direct paths from meaningful work to the burnout-related symptoms ($M_{Theoretical\ and\ DE}$) did not significantly improve the model fit of $M_{Theoretical}$, which supported the fully mediated model. The alternative theoretical model in which burnout was considered as a syndrome consisting of four interrelated symptoms (second-order model; $M_{Burnout}$) presented slightly lower values for CFI and TLI as well as unsatisfactory value for SRMR, suggesting poorer fit. Interestingly, the relations between certain existential concerns (i.e. death and freedom) and the latent factor of burnout were not significant, whereas significant relationships emerged in $M_{Theoretical}$ between death/freedom concerns and cognitive impairment. All in all, this suggests considering the four core symptoms separately instead of the general syndrome of burnout when investigating relationships between burnout and other constructs.

Table 8.

Fit Indices for SEM Hypothesized Model and Alternative Models

Model (N=200)	MLM χ^2	df	CFI	TLI	RMSEA	SRMR	MLM$\Delta\chi_2$	Δdf
$M_{Theoretical}$	1163.31	741	0.91	0.90	0.05	0.08		
$M_{Theoretical\ and\ DE}$	1157.48	737	0.91	0.90	0.05	0.08	4.99	4
$M_{Burnout}$	1232.83	761	0.90	0.89	0.06	0.09	-	-

Note. **$p < .05$; ***$p < .01$

Results for the $M_{Theoretical}$, are reported in Figure 2. According to the model, meaningful work was negatively related to all existential concerns. Hypothesis 1 was supported, but this conclusion should be taken with a grain of salt. It should be noted that meaningful work appeared as a small but significant predictor of isolation in the hypothesized model, whereas both latent variables did not seem to be significantly correlated at first sight. In addition, the quick test of a structural model that only included latent factors for meaningful work and existential concerns did not reveal a significant relationship between the former latent variable and isolation. Presumably, the strength of the relationship between meaningful work and isolation was affected by the inclusion of burnout-related factors in the structural model, meaning that the hypothesis is only fully supported when the effect of meaningful work on burnout is examined.

Figure 2.

Results of the hypothesized SEM model
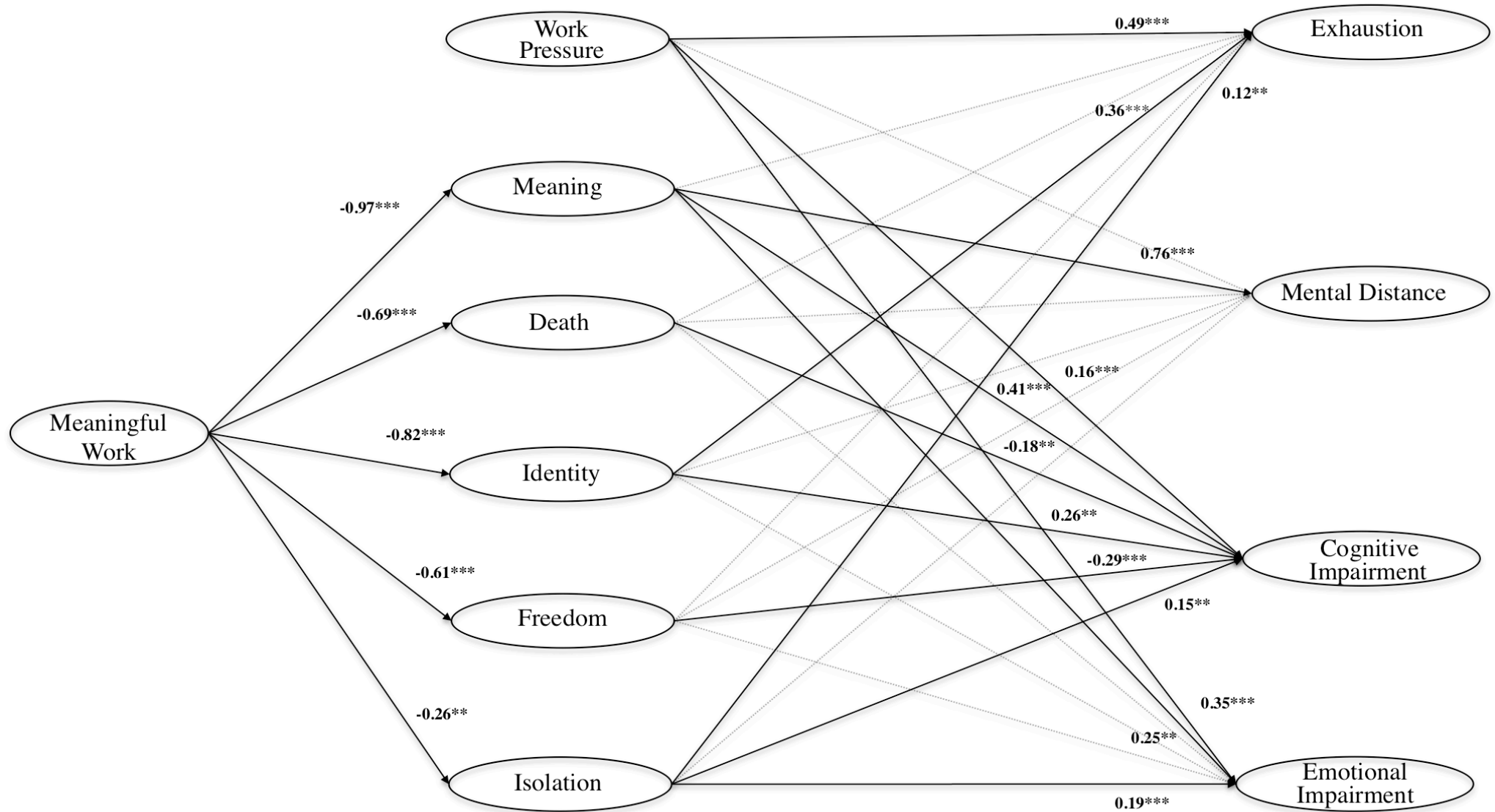
In line with Hypothesis 2, results provided evidence that significant relationships exist between the big five existential concerns and burnout-related symptoms. Latent factors for the core symptoms of burnout were systematically related with one existential concern at least. Importantly, work pressure was the best predictor for exhaustion (standardized indirect effect: $\beta = 0.49$), whereas existential concerns seemed to affect mental distance and cognitive impairment more strongly. In particular, meaning was the only significant predictor for mental distance ($\beta = 0.76$). However, contrary to expectations, death and freedom were negatively related to cognitive impairment (respectively, $\beta = -0.18$; $\beta = -0.29$). Taken together, results suggested significant relationships between the whole set of existential concerns and burnout (despite unexpected valence for death and freedom). Hypothesis 2 was thus partially corroborated.

Discussion

During recent decades, a handful of scholars have started to adopt an existentialist view on work and to explore how occupation affects existential fulfillment (e.g. Cohen, 2003; Kinjerski & Skrypnek et al., 2008; Loonstra et al., 2009; Pines, 2000: Riethof & Bob, 2019). Research mainly focused on the development of burnout, which, in this perspective, is the result of disillusionment stemming from frustrated quest for existential meaning (Riethof & Bob, 2019). Deeper investigations into the negative consequences of existential concerns on psychological health, work attitudes and work behaviors tend to be hindered by the lack of a valid and reliable domain-specific instrument. Therefore, the purpose of the present research was to develop an assessment tool measuring the five biggest existential concerns rooted in work and to validate its English version. In a minor way, the present research also contributes to existing knowledge of meaningful work and burnout phenomenon by proposing and testing a model in which existential concerns rooted in work mediate the two constructs.

Existential Concerns Rooted in Work

The results of the cross-sectional study, which involved a sample of 201 workers coming from various organizations and job positions, provide good support for the psychometric properties of the newly developed scales. Factor analysis backed that the best measurement model is the model in which each existential concern rooted in work represents a single latent factor, supporting that concerns are—closely related—but distinct. Resulting scales demonstrated sufficient potential for discrimination among respondents, as well as good reliability. Furthermore, discriminant analysis and structural relationship analysis confirmed that existential concerns rooted in work do not overlap with meaningful work and

burnout constructs. Last but not least, existential concerns were globally found to be associated with the two latter constructs in a predictable way, which supports criterion-related validity of the instrument. As a matter of fact, findings indicate that the global set of existential concerns fully mediated the relationship between meaningful work and burnout. As expected, the positive relationship between work pressure and exhaustion was stronger than the positive relationship between existential concerns and exhaustion. Likewise, existential concerns affected mental distance and cognitive impairment more strongly than work pressure. Still, unexpected outcomes also came out of statistical analyses. In that respect, two findings merit particular consideration since they provide valuable insights as regards the conceptualization and measurement of existential concerns rooted in work.

Multicollinearity and Relationships Between Existential Concerns

First, with respect to Hypothesis 2, death and freedom concerns were found to negatively predict cognitive impairment, whereas positive relationships were initially expected. Conceptually, it could be argued that the negative relationship between freedom and cognitive impairment is induced by burden of responsibility. Perception of free will implies that one had and still has the opportunity to change one's career path, which may trigger parasitic thoughts regarding one's occupation. Consistently with previous studies (Iyengar and Lepper, 2001), the more people feel free, the more they feel uncomfortable with respect to professional decisions. This could suggest that freedom scale, which mainly reflects the tension between limitations induced by factual nature and desire to create own identity, does not fully grasp the concerns raised by freedom in the context of work experience. The negative relationship between death concerns and cognitive impairment seems harder to explain but could reflect willingness to suppress further death-related thoughts, which are somewhat sensitive (Koole et al., 2006; Pyszczynski et al., 2003). In that case, results could also indicate potential issues with self-report assessment and only limited insights into conscious death concerns.

The most likely explanation for unexpected findings is, however, that high correlations between certain latent variables of existential concerns caused multicollinearity. Indeed, initial correlations between the latent factors of death and freedom, and the latent factor of cognitive impairment were positive. Moreover, such phenomenon might unravel why several structural paths between existential concerns—considered individually—and core symptoms of burnout were not significant. Multicollinearity occurs when independent variables in a predictive model are highly correlated and present some overlap in terms of brought

information (Billings & Wroten, 1978; Cortina, 1993; Grewal et al., 2004). Although it does not influence the overall fit of the model, it can produce misleading results and lead to inappropriate interpretations of SEM in which the role of each collinear predictor is wrongly assessed (Marsh et al., 2004). As such, the validity of conclusions regarding the individual effects of each family of existential concerns on core symptoms of burnout is clearly dubious. A cautious conclusion—which still supports Hypothesis 2 and criterion-related validity—is thus to acknowledge that existential concerns rooted in work, as a group of predictors, predict burnout-related symptoms.

Overall, findings suggest being cautious with mutlicollinearity when testing the whole set of existential concerns rooted in work as predictors. This observation was foreseeable because, theoretically speaking, existential concerns tend to fuel each other and to grow in parallel. Implicitly, results provide thus evidence that cognitions are intertwined.

Specificity of Isolation Concerns

Second, with respect to Hypothesis 1, it appears that isolation concerns seem to behave in a different way than other concerns. The relationship between meaningful work and isolation concerns rooted in work is not crystal clear. While relationship between the two latent variables was initially not significant, meaningful work became a significant predictor of isolation after the inclusion of burnout-related symptoms, as dependent variables, in the structural model. Path coefficient, although significant, was considerably lower than other path coefficients corresponding to relationships between meaningful work and other existential concerns. Observation might suggest that, contrary to other existential concerns rooted in work, isolation concerns entail important aspects—in terms of content—that are not related to meaningful work. To some extent, items assessing isolation concerns (typically, "I worry that I will be isolated from others because of the work I do") could also reflect perceptions of isolation caused by other factors than others' judgments, such as work conditions (e.g. virtual offices; Marshall et al., 2007) or very demanding job. Another explanation could be that the negative effect of meaningful work on isolation concerns is mitigated by certain factors, such as the adoption of coping strategies in reaction to anticipated criticism from others (e.g. Ashforth & Kreiner 1999; Elsbach & Kramer, 1996). This could incidentally explain why scores on items related to isolation concerns tend to be low, in comparison with scores for other existential concerns rooted in work. For unclear reasons, the insertion of latent variables corresponding to burnout-related symptoms in the structural model might have heightened—or artificially created—the relationship between

meaningful work and existential concerns. Either way, the notion of isolation concerns rooted in work raises important questions and should probably be investigated further in future research.

Burnout Phenomenon and Meaningful Work

In addition to the development of an instrument measuring existential concerns rooted in work, the present work contributes to existing research on burnout. Consistently with existentialist theory, findings suggest that the process by which burnout develops might be related to existential frustration and high levels of existential anxiety (Längle et al., 2003; Riethof & Bob, 2019). As hypothesized, meaningful work negatively predicted existential concerns rooted in work (Hypothesis 1), which in turn, globally predicted burnout in a positive way (Hypothesis 2). In correspondence with previous and scarce studies (e.g. Loonstra et al., 2009; Pines, 2004; Tomic & Tomic, 2008), the present research confirms thus the relevance of a theoretical approach that differs from the traditional job demands-resources model in the burnout literature (e.g. Crawford et al., 2010; Demerouti et al., 2001; Hakanen et al., 2008; Halbesleben, 2006). Contrary to previous works that presented meaningfulness as a resource buffering the effect of job demands or work pressure on burnout (e.g. Allan et al., 2019; Correia & Almeida, 2020; Tei et al., 2015), the developed framework successfully looks into a new perspective in which poor level of meaningful work causes psychological distress.

Furthermore, by investigating the individual effects of existential concerns and work pressure on the four core symptoms of burnout, the present study contributes to better apprehension of the cynicism dimension of burnout. Indeed, despite the centrality of cynicism in early qualitative research on burnout (Leiter & Maslach, 2016), investigations on this dimension seems to have been neglected in the literature due to strong focus on exhaustion (e.g. Brenninkmeyer et al., 2001; Langelaan et al., 2007; Schaufeli, 2021; Seidler et al., 2014; Shirom et al, 2005). In line with expectations, only existential concerns rooted in work predicted mental distance significantly, while work pressure turned out to be a stronger predictor of exhaustion than concerns. Hence, results—which are consistent with previous research showing that work pressure has a strong relationship with exhaustion and a weak relationship with cynicism (e.g. Bakker et al., 2004; Demerouti & Mostert, 2010; Hakanen et al., 2006)—emphasize the major role played by existential concerns in the development of mental distance.

Taken together, findings stress that the current focus on exhaustion in the burnout literature disregards alternative causes for burnout and tends to downplay the negative consequences of existential frustration on psychological well-being. In practice, such approach is problematic because it leads to the design of prevention programs exclusively oriented towards work overload and other job stressors. In light of findings, burnout prevention could improve by enhanced consideration to the fit between workers, as human beings in search of personal meaning, and their jobs. Importantly, interventions in this matter should certainly not be reduced to organizational policies that, in the spirit of a simple "management of meaning" (Lips-Wiersma & Morris, 2009), impose prescriptive and undifferentiated forms of meaningful work to individuals experiencing meaninglessness in work. Instead, the right approach probably lies in attempts to understand and address the *why* one works.

Study Limitations and Suggestions for Future Research

In order to avoid fallacious interpretation of findings, some study limitations need to be acknowledged. First and foremost, it is worth noting that the present study is only a first step in the never-ending process of validating construct and corresponding assessment tool. In that respect, reservations can be made with respect to sample size and sample composition. Sample size was acceptable and complied with the traditional rule of thumb that advocates the minimum ratio of respondents to items of 10:1 (Nunnally, 1978; Schwab, 1980). Moreover, the number of respondents was sufficient to perform the factor analyses accurately (Comery & Lee, 1992; Hinkin, 1998; Kline, 2011). That being said, it is generally accepted that large sample sizes may improve the performance of statistical tests, increasing confidence in results (Hinkin, 1995). Additionally, in the present case, EFA and CFA were conducted on the same data set, which reduces the real added value of CFA (DeVellis, 2003; Noar, 2003). Performing CFA on an additional sample of acceptable size would have constituted an additional argument in favor of the hypothesized factor structure. Lastly, even if the present study included a heterogeneous sample composed of workers occupying various positions, it should be noted that the questionnaire was administered in English to non-native speakers, which implicitly excluded less educated workers from the study. Namely, holders of master's and doctoral degrees were overrepresented in the sample. All in all, it is suggested that future research could provide additional support for the psychometric properties of the assessment tool and add to the generalizability of the findings by testing translated scales in other work environments and countries.

A second noteworthy limitation results from the support of criterion-related validity by means of cross-sectional associations. Such methodological choice does not allow for the support of causal relationships in the hypothesized model and limits the interpretation of results. Nevertheless, cross-sectional design is typically used in scale development (DeVellis, 2003) and still constitutes a helpful first step in determining causality at the beginning stages of research on a topic (Spector, 2001). Since findings indicate significant relationships between concerns, meaningful work and burnout, they encourage future research exploring existentialist perspective on burnout and other work-related phenomena with more conclusive designs (for example, longitudinal designs).

A third limitation lies in some lack of evidence for content and face validities, which could have been improved via an additional phase in the scales development. Indeed, items were generated based on the exclusive use of a literature review that allowed for conceptualization of existential concerns rooted in work. This deductive approach could have been applied in combination with qualitative methods (e.g. interviews or focus groups) in order to refine conceptual definitions grounded in theory and better capture the construct of interest (Coleman et al., 2011; Hinkin, 1995). For future research, it is thus suggested to directly integrate workers' or experts' views during scales development and scales validation for the purpose of offering a more comprehensive overview of the phenomenon.

Aside from previous considerations highlighting methodological limitations, the present study paves the way for future research by raising interesting questions regarding the essence of existential concerns rooted in work and the nature of their mutual relationships. Although concerns share conceptual unity, it was observed that isolation has a very special relationship with meaningful work. In addition, correlations between existential concerns rooted in work varied from low to very high levels depending on the concerns at stake. This shows that concerns should not be considered, in keeping with reflective measurement, as dimensions of a common underlying latent construct that causes observed scales scores (Jarvis et al., 2003). That is, existential concerns should not be seen as the manifestations of an overarching construct. Results do not necessarily exclude, however, the possibility of developing a formative measurement model (e.g. Coltman et al., 2008; Diamantopoulos et al., 2008) in which existential concerns would indicate, all together, the emergence of a form of existential distress rooted in work. Obviously, undertaking would require further statistical analyses (e.g. Fleuren et al., 2018), as well as deeper investigations into other potential

indicators for such existential distress. In particular, the comprehensiveness of the list of existential concerns rooted in work should be ensured.

Finally, future studies might also broaden the scope of concepts examined in relation with existential concerns rooted in work. Studies might explore contributions of concerns in the prediction of new outcomes, including work attitudes and behaviors. Interestingly, they might also investigate how personality traits and personal factors relate to the development of existential concerns rooted in work. Although this matter of interest was not investigated in the present study, previous study demonstrated a link between the development of existential concerns and personality indicators (Young et al., 2021). Research on death anxiety also suggests, for instance, that death concerns might be associated with neuroticism and trait anxiety (Neimeyer et al., 2004). In the specific context of work, idealism could be a particularly relevant personal disposition to explore, especially in relation with the development of burnout. Indeed, idealistic individuals who have important expectations regarding meaningful work could be more inclined to burnout, due to deeper disappointment (Pines, 1996). The newly developed assessment tool allows for testing those new assumptions.

Conclusion

To conclude, results support psychometric properties of the instrument assessing the five big existential concerns rooted in work (i.e. meaning, death, identity, freedom, and isolation). Accordingly, the present scales might help researchers in work and occupational health psychology to examine new assumptions involving existential concerns or existential fullfillment in the work settings. In that respect, the present study already tends to confirm the relevance of an existentialist perspective on the burnout phenomenon. Furthermore, findings provide some understanding of the mutual relationships between existential concerns and, while doing so, highlight the need for further research into the overarching construct of existential distress, as well as into isolation concerns in particular. In sum, it is hoped that present findings, which only constitute preliminary insights into existential concerns rooted in work, bring to light the potential of existentialist perspectives for unraveling occupational health problems and other work-related phenomena.

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