Nikolova, Milena

Working Paper

Work orientations and economics

GLO Discussion Paper, No. 1645

Provided in Cooperation with:
Global Labor Organization (GLO)

Suggested Citation: Nikolova, Milena (2025) : Work orientations and economics, GLO Discussion Paper, No. 1645, Global Labor Organization (GLO), Essen

This Version is available at:
https://hdl.handle.net/10419/323349

Work orientations and economics

Milena Nikolova

The University of Groningen and GLO

Address: Nettelbosje 2, 9742 NA, Groningen

E-mail: m.v.nikolova@rug.nl

Abstract

A growing body of research in economics shows that workers care about more than just pay, often seeking social status, career mobility, or meaningful work. This chapter introduces the work orientations framework—a concept from psychology—as a unifying lens for understanding these motivations. Work orientations capture individuals' core beliefs about the role of work: earning a living ("paycheck"), achieving recognition and advancement ("career"), or finding fulfillment ("calling"). These orientations are not mutually exclusive, and many people hold a mix that shapes their workplace behavior. Economists have long examined financial incentives, alignment with an organization's mission, and career ambitions, but these strands remain fragmented. Integrating them within the work orientations framework broadens standard economic models, offers a richer view of labor supply and effort, and suggests new priorities for data collection, measurement, and theory development. The chapter reviews current evidence and outlines avenues for future empirical and conceptual research.

Keywords: Work orientations, Job orientation, Career orientation, Calling orientation, Labor economics

JEL Codes: J22, J24, J28, I31

Acknowledgements: This working paper is based on a chapter forthcoming in the edited volume *Work Meaning and Motivation: Interdisciplinary Perspectives on Work Well-being*, published by Springer and edited by Milena Nikolova (me). I am grateful to Duncan Gallie, Robert Dur, Juliette de Wit, Arne Kalleberg, Lea Cassar, Heiner Schumacher, and participants at the 2025 Groningen Work and Well-being Workshop and the 2025 BEHCHA Scientific Workshop – *Meaningful Work, Well-being, and Mental Health: Recent Advances* at the University of Cagliari for their valuable comments. All errors are my own.

1. Introduction

Standard labor economics has long assumed that people work primarily to earn income, viewing labor effort as a disutility traded off against leisure. In the (neo-)classical framework, labor supply reflects the trade-off between the utility of income and the utility of leisure foregone, implying that effort is merely a means to an end (Cassar & Meier, 2018; Spencer, 2015). Labor supply, therefore, depends on the tradeoff between the utility of income and the utility of leisure, which individuals give up when working. This "work-as-pain" viewpoint prescribes a simple solution for managers – they can motivate workers using the appropriate wage levels.

However, a growing body of theoretical and empirical work in behavioral and labor economics has challenged this viewpoint, suggesting that non-monetary motivations for working matter (e.g., Ariely, Kamenica, & Prelec, 2008; Camerer & Malmendier, 2007; Cassar & Meier, 2018; Chadi, Jeworrek, & Mertins, 2016; Delfgaauw & Dur, 2008; Heyes, 2005; Kosfeld, Neckermann, & Yang, 2017).

This chapter contributes to this body of work by suggesting that people's motivations for working can be understood by looking at their work orientations. Work orientations—conceptualized as "job," "career," or "calling"—capture stable beliefs about the role of work in life and provide an organizing lens for integrating heterogeneous worker motivations into economic models. These orientations help explain why people value different aspects of work and can enrich existing economic models. Proposed by Bellah, Madsen, Sullivan, Swidler, and Tipton (1985) and operationalized empirically by Wrzesniewski, McCauley, Rozin, and Schwartz (1997),

work orientations comprise three dimensions: job, career, and calling. [1,2] Individuals with a job orientation view work as a way to earn a living, nothing more than that. Furthermore, the career-motivated view their work as a way to get social recognition, promotions, and advancement in their profession. In contrast, the calling-oriented view their work as an end in itself and a beckoning to work that is morally, socially, or personally important or fulfilling (Rosso et al., 2010). The calling-oriented are typically engaged in activities that seek to make the world a better place and contribute to society, in addition to viewing work as a source of fulfillment (Rosso et al., 2010; Wrzesniewski et al., 1997). What people are called to do may or may not be pleasurable or challenging (Wrzesniewski et al., 1997).[3]

While the economics literature has not specifically examined work orientations, several prominent theoretical models have explored non-monetary motivations for working. For example, the preferences for meaning framework (Cassar & Meier, 2018) suggests that individuals derive utility not only from wages but also from the intrinsic meaning of their work,

[1] The idea that people have different work orientations goes back to Goldthorpe et al.'s *The Affluent Worker: Industrial Attitudes and Behaviour* (1968). Based on interviews with manual workers in Britain in the 1960s, they proposed three types of work orientation: instrumental (= job orientation, workers view their work as a means to an economic end), bureaucratic (= career orientation, workers view their work as a career, associated with social status and promotion), and solidaristic (= work as a group activity, including social interaction and intrinsic rewards; work satisfies workers' need for relatedness). The instrumental and bureaucratic work orientations correspond closely to Bellah et al.'s "job" and "career" orientations, respectively. The solidaristic orientation focuses more on group identity and relatedness. Goldthorpe et al. (1968) did not consider these orientations to be mutually exclusive: "[…] these three orientations to work are not intended to stand in *total* contrast to each other: the point that *all* work activity, in industrial society at least, tends to have a basically instrumental component is fully accepted." (p. 41). I am grateful to Duncan Gallie for pointing me to this important work.

[2] Bellah et al. (1985) introduced the concept of work orientations in terms of job, career, and calling in a chapter titled "Finding Oneself" which discussed how Americans define themselves through work. Work that is a job is about "economic success, security, and all that money can buy" (Bellah, Madsen, Sullivan, Swidler, & Tipton, 2008, p. 66). Furthermore, the "self" for whom work is a career looks not just for economic success, but also prestige, social status, and power. Finally, for those with a calling orientation, work is an indivisible and moral part of their life, it is about performing meaningful and valuable activities for the benefit of the larger community and does not serve personal self-interest (Bellah et al., 2008).

[3] A calling can be linked to enjoyment, but it doesn't have to be. It is more clearly tied to a sense of fulfillment.

which is based on the organization's mission, as well as workers' ability to achieve competence, autonomy, and relatedness. This framework assumes that workers have different preferences for meaning. Consequently, workers with strong preferences for meaning will accept lower wages in exchange for meaningful jobs. Yet, not all workers search for meaning, and the same job characteristics may matter differently to individuals, implying that there are substantial heterogeneities in people's preferences for meaning (De Schouwer et al., 2023). At the same time, the causes and consequences of these heterogeneities remain unclear (Cassar & Meier, 2018).

One key difference between the preferences for meaning and work orientations frameworks lies in the understanding of worker motivation. The preferences for meaning framework categorizes individuals as having stronger or weaker preferences for meaningful work, typically treating wages and meaning as trade-offs (e.g., Kesternich et al., 2021), even though the original theory allows for the possibility that they can be complements (Cassar & Meier, 2018). However, the preferences for meaning framework does not account for having a career orientation.

In this sense, the work orientations framework is broader than the preferences-for-meaning model, as it recognizes that individuals may relate to their work in multiple ways and that career considerations are also important. For instance, a truck driver might view working primarily as a source of income, but also identify with the work and believe that their line of work is central to who they are as a person because of a family tradition or a belief in the social value of transporting goods. In this case, both higher pay and a sense of purpose could motivate effort. Similarly, a worker may view their work as a stepping stone in

achieving social status, while also seeing the broader job as meaningful. The work orientations framework then offers a more comprehensive and flexible view of how people approach working.

But is the work orientations framework a meaningful addition to economics or merely a cosmetic addendum? I argue that the work orientations framework can be a unifying factor bringing together disconnected strands of literature related to preferences for meaning (Cassar & Meier, 2018) and career concerns (e.g., Dewatripont et al., 1999a, 1999b). Integrating career orientations into the preferences for meaning framework can offer useful insights for economists, explaining, for example, why workers with both strong career and meaning preferences exert the highest effort and may accept low wages for meaningful work or work that offers promotion possibilities, for example. Empirical evidence shows that work orientations explain a non-trivial share of the variation in labor market attitudes (Nikolova, 2024) and job quitting behavior (Nikolova & De Wit, 2025), even after accounting for job satisfaction and personality traits. This so far limited evidence suggests that work orientations matter and should receive further attention by economists.

2. What are work orientations?

2.1. Measuring work orientations

Work orientations are the deeply-held beliefs about the role of work in people's lives and their main motivation for working. Wrzesniewski et al. (1997) introduced the concept into psychology and measured three orientations—job, career, and calling—using an 18-item questionnaire administered to a sample of 196 non-faculty university employees. The original scale was later shortened to ten items (Dekas and Baker 2014; Jiang and Wrzesniewski 2023), and the true/false format was replaced with a five- or seven-point Likert scale (see Table 2). In addition

to the items, Wrzesniewski et al. (1997) presented respondents with three vignettes, each illustrating one orientation (Table 1). Participants rated how closely each vignette described them, from "very much like me" (scored as 3) to "not at all like me" (scored as 0).

There are several ways to construct measures of work orientations based on the items and vignettes. In the original study, Wrzesniewski et al. (1997) classified respondents into three mutually exclusive categories based on the highest score they received on the vignettes. Wrzesniewski et al. (1997) showed that roughly a third of respondents aligned primarily with each of the three orientations, forming the basis of the tripartite model of work orientations.[4]

Another way to construct work orientations measures from the collected survey data is to use Principal Component Analysis (PCA) to construct three indices of job, career, and calling orientations using the items in Table 2. Workers can then be classified into mutually exclusive categories based on the highest score they receive on either the job, career, or calling index, as in Nikolova (2024). This approach does not allow for the coexistence of work orientations.

Nikolova and De Wit (2025) offer an alternative way of measuring work orientations based on the items in Table 2. They use PCA to construct work orientations as continuous indices rather than categorizing respondents into mutually exclusive categories.[5] This approach allows workers to have coexisting work orientations. The regression analyses then explore the association between each of the work orientations while holding constant the other two orientations.

[4] Wrzesniewski et al. (1997) showed within the same occupation—administrative assistants (n=24)—roughly a third identified with each dimension thus reflecting the distribution of the overall sample. Subsequent studies among university students (Gandal et al., 2005), accounting professionals in China (Lan, et al., 2013), and IT project managers (McKevitt et al., 2017) also found meaningful variation in work orientations within a single profession, suggesting that work orientations do not just simply depend on occupation.

[5] Nikolova and De Wit (2025) exclude the "I am eager to retire" item from Table 2 because it is unclear how respondents at the beginning of their career answer such a question.

Furthermore, Nikolova and De Wit (2025) also provide results with archetypal analysis, which offers a way to construct overlapping work orientations by identifying "pure types" or idealized profiles of work orientations. Unlike cluster analysis, archetypal analysis does not assign respondents to mutually exclusive categories; instead, each individual is represented as a weighted combination of archetypes (Cutler & Breiman, 1994; Eugster & Leisch, 2009). Archetypal analysis allows for a configurational understanding of work orientations, reflecting the possibility that people can simultaneously identify with multiple orientations to varying degrees.

Table 1: Work orientations vignettes

Category A people work primarily enough to earn enough money to support their lives outside of their jobs. If they were financially secure, they would no longer continue with their current line of work, but would really rather do something else instead. To these people, their jobs are basically a necessity of life, a lot like breathing or sleeping. They often wish the time would pass more quickly at work. They greatly anticipate weekends and vacations. If these people lived their lives over again, they probably would not go into the same line of work. They would not encourage their friends and children to enter their line of work. Category A people are very eager to retire.
Category B people basically enjoy their work, but do not expect to be in their current jobs five years from now. Instead, they plan to move on to better, higher level jobs. They have several goals for their futures pertaining to the positions they would eventually like to hold. Sometimes their work seems a waste of time, but they know that they must do sufficiently well in their current positions in order to move on. Category B people can't wait to get a promotion. For them, a promotion means recognition of their good work, and is a sign of their success in competition with coworkers.
For Category C people, work is one of the most important parts of life. They are very pleased that they are in their line of work. Because what they do for a living is a vital part of who they are, it is one of the first things they tell people about themselves. They tend to take their work home with them and on vacations, too. The majority of their friends are from their places of employment, and they belong to several organizations and clubs relating to their work. They feel good about their work because they love it, and because they think it makes the world a better place. They would encourage their friends and children to enter their line of work. Category C people would be pretty upset if they were forced to stop working, and they are not particularly looking forward to retirement.

Source: Wrzesniewski et al. (1997)

Table 2: Work orientations items in Nikolova (2024), based on Wrzesniewski et al. (1997)

Q1 I enjoy talking about my work with others
Q2 My work is one of the most important things in my life
Q3 My main reason for working is financial: to support my family and lifestyle
Q4 I am eager to retire
Q5 If I was financially independent, I would continue my current work even if I wasn't getting paid for it
Q6 My work makes the world a better place
Q7 I would choose my current line of work again if I had the chance
Q8 I expect to be in a higher-level job in five years
Q9 I view my job as a stepping stone to other jobs
Q10 I expect to be doing the same work in five years

Source: Wrzesniewski et al. (1997)

There is a debate in the literature on the number of relevant work orientations. Schabram et al. (2023) critique the idea of three mutually exclusive work orientations and propose a more flexible framework in which job and calling are opposites of the same dimension, while career orientation functions as an independent dimension. This framework results in four distinct work orientation profiles. The job-oriented profile (low calling, low career) includes individuals who view work primarily as a means of financial security and stability, prioritizing predictability over growth or purpose. The career-oriented profile (low calling, high career) consists of those focused on personal success and upward mobility, without viewing work as a calling. The calling-oriented profile (high calling, low career) represents individuals who are deeply committed to experiencing meaningful work but do not emphasize career advancement, such as social workers, teachers, and nurses who prioritize purpose over prestige. Finally, the hybrid profile (high calling, high career) includes individuals who find their work intrinsically meaningful while also striving for professional growth and achievement. This revised typology challenges the traditional tripartite model (job, career, calling) by demonstrating that career ambition and a sense of calling can

coexist rather than being mutually exclusive. Yet, this typology does not allow for the coexistence of job and calling orientations, which may be problematic.

Using cross-sectional data from over 2,000 working individuals in the Dutch LISS panel collected in April/May 2023, Nikolova (2024) finds support for the tripartite model of work orientations, based on the 10-item scale from Wrzesniewski. According to Nikolova (2024),[6] the job and the calling orientation index load onto separate dimensions, with a moderate correlation of 0.39. In the sample of 1,747 workers who do not expect involuntary unemployment in Nikolova and De Wit (2025), the correlation between the job and calling orientation is 0.30. These low correlations between the job and calling orientations imply that these orientations are not simply opposite ends of a single continuum, but rather represent distinct constructs. By contrast, Jiang & Wrzesniewski (2023) treat calling and job orientations as opposite poles of the same underlying dimension. However, Jiang & Wrzesniewski (2023) focused on unemployed individuals and excluded two items that capture the job orientation (Q4 and Q5 in Table 2). This raises an important empirical question about whether the job and calling orientations are best seen as separate or as opposites of the same construct.

In addition, Willner, Lipshits-Braziler, and Gati (2020) propose a 5-dimensional model of work orientations, whereby, in addition to the job, career, and calling orientations, they find evidence for the existence of two other dimensions: *social embeddedness* and *busyness.* The social embeddedness orientation, which is similar to relatedness from Self-Determination Theory (Deci & Ryan, 2000; Ryan & Deci, 2017), reflects the desire for belonging and connection at work,

[6] Nikolova (2024), which is the only study to date in economics that has used work orientations the way psychologists conceptualize them, also measured work orientations using the vignettes from Wrzesniewski et al. (1997), but reports that these yielded very noisy and inconsistent results.

emphasizing relationships and feeling part of a group, while the busyness orientation represents working primarily to fill time, avoid boredom, and maintain a sense of activity. Future research should prioritize understanding whether social embeddedness and busyness are indeed additional work orientations and how they interact with the job, career, and calling orientations, and whether and how they matter for labor market outcomes.

While valuable, psychological studies on work orientations often rely on small, non-representative samples, making it difficult to draw broad conclusions. As a result, many questions about the validity, reliability, and development of work orientations remain unanswered. In particular, the relative influence of social and genetic factors, the impact of the work environment, the long-term stability of work orientations in large representative samples, and their cross-cultural comparability have yet to be systematically studied. For example, it is not yet fully understood whether and how work orientations change over the life course.[7] While Wrzesniewski (1999) shows that work orientations are stable over a short period of six months, in a seven-year longitudinal study of amateur musicians, Dobrow (2013) found that calling levels declined over time, even among those who initially reported strong callings. Similarly, Zhang, Hirschi, and You (2021) observed changes in calling during the transition from university to work among Chinese students. Most students began with a high calling, but for the majority, it declined over time. Overall, work orientations tend to be "sticky" once formed but can change at pivotal moments (Schabram et al., 2023).

[7] Cotofan et al. (2023) show evidence on the stability of work values by documenting long-term trends in preferences for meaning, career advancement, and income using repeated cross-sectional data from the United States between 1973 and 2004. They present results by age group and survey year, illustrating how these preferences vary across cohorts and over time. The young tend to rank income and promotions higher and meaning lower than older respondents. I thank Robert Dur for pointing me to this fact.

2.2. Distinguishing work orientations from related concepts

The psychology literature clearly distinguishes between *meaning in work* (i.e., work meaningfulness) and *meaning of work* (i.e., the role of work in people's lives) (Willner et al., 2020). The meaning of work has three aspects (Roberson, 1990): work values, work centrality, and work orientations. *Work values* are the desired outcomes of work—what individuals seek to achieve through their jobs, such as high income, job security, or autonomy (Rosso, Dekas, & Wrzesniewski, 2010). Therefore, work values influence the self-selection into particular types of jobs, while work orientations are about how someone thinks about work in general and what determines their motivation for working in the first place. Furthermore, extrinsic work values (i.e., valuing pay, promotions, and benefits) do not need to fully overlap with the job and career orientations, and likewise, intrinsic work values (e.g., valuing autonomy or work that allows for socialization) do not need to coexist with having a calling orientation. An example of this would be the leader of a non-profit organization who sees their work as a calling but may negotiate a high salary, a permanent contract, and work benefits because they believe that their expertise is unique or valuable and deserves financial recognition. Having a strong job orientation may also coincide with intrinsic job values – for example, someone may view work as a means to earn money but still value autonomy and working with others.

Work values are typically elicited in surveys by asking people about the importance of job security, high income, advancement opportunities, having an interesting job, doing work that allows people to help others, or is useful to society. Individuals may have both extrinsic and intrinsic work values at the same time, but one type may be more dominant depending on personal preferences and cultural influences. Sociological and economic research has often

referred to work values as work orientations (Clark, 1997, 2010; Clark & Kozák, 2023; Gallie, 2019; Kalleberg & Marsden, 2013, 2019; Zou, 2015). A more accurate term for work values is therefore *job preferences,* as used in Gallie, Felstead, and Green (2012), as this term accurately reflects the notion of desired outcomes of work.

Work centrality reflects the relative importance of work in a person's life compared to other activities and domains (e.g., family, leisure, religion). For people with high work centrality, work is a crucial part of their identity and a source of meaning. Research on work centrality has studied whether people would continue working even if they were financially independent. It is typically measured using survey items, such as: "I would enjoy having a job even if I did not need the money," and "A job is just a way of earning money – no more." Unlike psychological studies that frame work orientations as deeply held beliefs about the meaning of work, sociological research often uses the terms "work orientations" and "work centrality" synonymously (Haller, Klösch, & Hadler, 2023). Yet, work centrality is about the extent to which work is prioritized relative to other life domains such as family or religion. Work orientations, which are distinct from both work centrality and work values, concern how individuals define the meaning of work itself—whether they see it primarily as a job (a means to earn money), a career (a path to success), or a calling (a source of purpose and fulfillment) (Wrzesniewski et al., 1997). Work orientations are therefore broader than work centrality. Work orientations are about *why* work matters and what meaning it holds, while work centrality is about *how much* work matters in someone's life *relative to other life domains* (e.g., religion, family, volunteer activities). For example, a social worker may view their daily job as a calling, but still find their family the most important source of meaning in their life. Conversely, a CEO may have high work centrality, but

have a high career and not a calling orientation, seeking work as a way to achieve social status. It may also be possible to have a high work centrality, because of cultural or social expectations, where work is viewed as a moral duty (reflecting a strong work ethic), but still view work as a means to earning money.

The partial conceptual overlap between work values, work orientations, and work centrality makes it challenging to clearly distinguish them. In addition, measures of work centrality, from the International Social Survey Programme (ISSP) Work Orientations module, fielded in 1989, 1997, 2005, and 2015, such as "A job is just a way of earning money – no more" and "I would enjoy having a paid job even if I did not need the money" directly correspond to two of the items comprising the job and calling orientations, respectively, from the Wrzesniewski et al. (1997) scale (see Table 2). This becomes empirically tricky if individuals score high on both work centrality and calling orientation measures, but identify predominantly with a career orientation. In addition, the ISSP has a work values module asking respondents to rate the importance of having a job that offers "Good opportunities for advancement," which is arguably related to the career orientation, which again muddies the concepts of work values and work orientations.

In addition, work orientations are distinct from the concept of "work ethic." As Congleton (1991) explains, an internal work ethic involves a moral commitment to work for its own sake—an internalized norm that may be transmitted from parents to children and leads people to supply more effort regardless of extrinsic rewards. In contrast, work orientations reflect personal beliefs about what work is for, i.e., what its broader purpose in a person's life is: income, status, or

meaning. A job-oriented worker may have a strong work ethic, while a calling-oriented worker may work hard not out of duty, but because the work is personally fulfilling.

A final distinction I explore is between *work meaningfulness* (experiencing tasks and work as personally fulfilling or socially purposeful) and having a calling orientation (having the deeply-rooted belief that work is morally, personally, or socially significant). Some individuals may primarily identify with a calling orientation but still encounter tasks that feel less meaningful within their work. For example, a teacher who finds educating students a calling may feel that administrative paperwork is meaningless. However, this does not necessarily mean their overall work orientation shifts—rather, the meaningfulness of specific tasks varies. In addition, a NASA scientist and a janitor can both find their tasks meaningful in terms of helping put a man on the moon (Carton, 2018), but they may have different work orientations. Yet, currently, the well-known scale for measuring work meaningfulness, the WAMI (Steger, Dik, & Duffy, 2012), contains the item "I know my work makes a positive difference in the world" that seems very similar to the calling item in the work orientations scale by Wrzesniewski "My work makes the world a better place," which are empirically and conceptually very similar. Nikolova (2024) reports a correlation of 0.44 between the calling orientation index and the WAMI scale, suggesting some, though not a full, overlap. Nikolova and De Wit (2025) report a 0.59 correlation between a binary WAMI indicator and the calling orientation.

Given these ambiguities, there is an urgent need to further refine the distinctions between work values, orientations, work ethic, and centrality to ensure that empirical studies accurately capture individuals' perspectives on work and the meaningfulness they experience from work.

3. Work orientations and economics

Work orientations, conceptualized as the long-term views on work as a job, career, and calling, do not feature in the economics literature beyond Nikolova (2024) and Nikolova and De Wit (2025). This chapter argues that they should. Several existing conceptual frameworks in economics can serve as a basis, starting with classical and neoclassical economics, the preferences for meaning framework, identity utility theory, models of career concerns, and tournament theory. At their core, these theories make different assumptions about people's work motivations, which have implications for the labor supply and effort that workers put in, and the optimal incentive schemes.

3.1. Work as a disutility

According to Spencer (2014), mainstream economics sees work as a disutility for three key reasons. First, classical economists like Adam Smith and Jeremy Bentham saw work as an inherently painful economic necessity — something people endure only to earn a wage. Smith called work 'toil and trouble,' while Bentham described it as 'pain.' [8] Second, work reduces leisure time, a view emphasized in neoclassical economics, where work is a trade-off against leisure. Third, traditional economic models assume that workers naturally try to avoid work, i.e., they are "shirking." To reduce workers' natural inclination to shirk, firms pay efficiency wages, i.e., wages that exceed the marginal product of labor. This reduces the demand for labor and creates involuntary unemployment, which serves as a deterrent: if a worker is caught shirking and fired,

[8] Lazear (2018) argues that the idea that non-monetary aspects of work are important is spelled out in Adam Smith's The Wealth of Nations (1776), Book I, Chapter X. Smith outlines five key factors influencing wage differences across occupations, laying the foundation for compensating wage differentials theory. These factors are: agreeableness of the job (i.e., how pleasant or unpleasant it is), the difficulty and cost of learning the job (i.e., how much training or education is required), the stability of employment (i.e., whether work is constant or subject to layoffs), the level of trust and responsibility involved, and the probability of success in the occupation. However, rather than explaining the non-monetary motivations for working, these factors primarily account for why wages differ across jobs, as Smith generally viewed labor as something people engage in out of necessity rather than intrinsic fulfillment.

finding a new job becomes more difficult in the presence of unemployment (Shapiro & Stiglitz, 1984).

These perspectives largely ignore the possibility that work can be more than a source of income and that workers can have non-monetary motivations for working. Traditional economic models, therefore, broadly assume that work is a "paycheck" (Farzin, 2009). Based on research in psychology and economics (Mantler et al., 2022; Nikolova, 2024; Wrzesniewski et al., 1997), work is primarily a disutility for roughly a third of workers. They may dislike working for its own sake or simply value their leisure time more. For them, a job is mainly a means to earn a living and pay the bills, even though they may identify with the career and calling orientations to some degree as well. However, it is still unclear whether these individuals should be labeled as "shirkers." After all, they are fulfilling their job requirements and value non-working time.

A growing body of research suggests that workers value their working conditions and the social purpose of their organization (Cassar & Meier, 2018). Furthermore, according to procedural utility theory, individuals can derive satisfaction from the process of working in and of itself (Frey, Benz, & Stutzer, 2004). For example, the self-employed choose their career path over a more stable and secure career as an employee because they value procedural aspects of work, such as having autonomy and control over their work (Benz & Frey, 2008; Binder & Blankenberg, 2020). Furthermore, scientists and nonprofit workers often accept lower financial compensation in exchange for work that aligns with their intrinsic motivation (Hamermesh, 2018; Leete, 2001; Preston, 1989; Stern, 2004). Furthermore, some workers accept a pay cut to engage in meaningful work (Bäker & Mechtel, 2018; Hu & Hirsh, 2017; Kesternich, Schumacher, Siflinger, & Schwarz, 2021) or work for an employer offering corporate social responsibility (Burbano, 2016).

At the same time, not all workers search for meaning. For example, not all scientists want to contribute to science (Sauermann & Roach, 2014), not all self-employed individuals enjoy "being their own boss" (Binder & Blankenberg, 2020; Fuchs-Schündeln, 2009), and some individuals demand higher and not lower wages for engaging in meaningful work (De Schouwer et al., 2023; Kesternich et al., 2021). This suggests that there are substantial heterogeneities in the beliefs that people have about the role of work in their lives. Studying work orientations could therefore be important to understanding these heterogeneities.

3.2. Mission-based matching models

Some models in economics explicitly model intrinsic motivation, assuming that some workers have a calling (i.e., "dedication to the job"), while others view their work as a job (Rebitzer & Taylor, 2011; Taylor, 2007). For example, Heyes (2005) assumes that individuals either have a vocation (i.e., a calling) or they do not, treating it as a binary state rather than a continuum. In his model, workers with a vocation are intrinsically motivated to go above and beyond their contractual obligations, while non-vocation-driven workers provide only the required level of effort. Because vocation is unobservable to employers, wages act as a self-selection mechanism—low wages deter non-vocational workers, ensuring that only those with a true calling enter the profession. This assumption underpins his argument that raising wages in vocational fields may attract the "wrong" type of workers (i.e., those without a true calling), ultimately lowering overall workforce quality.

Similarly, Besley and Ghatak (2005) argue that mission-driven organizations (e.g., nonprofits or public service organizations) function best when workers' motivations align with

the organization's mission. The authors show that when this alignment exists, organizations can rely less on monetary incentives, as workers derive intrinsic motivation from their work.

Furthermore, Delfgaauw and Dur (2007, 2008) analyze how workers' motivation, firms' hiring decisions, and incentives interact. Their 2007 paper focuses on signaling and screening. Because firms cannot directly observe worker motivation, they must design compensation schemes carefully. Higher wages attract more applicants but also more low-motivated workers, creating a trade-off between filling vacancies and maintaining a motivated workforce. Employers may intentionally offer lower wages to filter out less motivated workers, even at the risk of leaving some positions unfilled.

Delfgaauw and Dur (2008) analyze how public sector incentives influence worker selection and motivation, explaining why some civil servants are highly "dedicated" while others appear disengaged (i.e., "lazy"). Their model predicts that the public sector attracts both dedicated workers, who accept lower pay for meaningful work, and lazy workers, who seek low-effort environments. To balance costs and productivity, governments distort incentives by offering weaker effort requirements and job security to lazy workers while demanding higher effort from motivated ones. This creates a pay structure different from the private sector, where performance-based incentives are more common. When effort is unverifiable, lazy workers may crowd out dedicated workers, leading to lower overall motivation. As a result, public sector organizations must carefully design incentive structures to retain dedicated employees without enabling disengagement among others.

While these papers highlight the role of intrinsic motivation (e.g., Delfgaauw & Dur, 2007), mission (e.g., Besley & Ghatak, 2005), and calling (e.g., Heyes, 2005), they do not explain the

sources of heterogeneity in intrinsic motivation, nor do they consider other job characteristics beyond pay and a sense of calling or "dedication" to the organizational mission. The preferences for meaning framework explicitly specifies the sources of heterogeneity by explaining that workers' preferences for meaning depend on the following job characteristics: mission, autonomy, competence, and relatedness (Cassar & Meier, 2018).

3.3. Identity utility

Another economic model that is related to work orientations is identity utility theory. According to Bellah et al. (2008, p. 66), work is about how we define our sense of self, or as they put it, "What we 'do' often translates to what we 'are." This statement seems to link work orientations with identity utility theory, though, as I argue below, the match between the two frameworks is far from perfect.

Specifically, Akerlof & Kranton (2000, 2005) argue that identity, i.e., how workers see themselves in relation to their organization, shapes workplace behavior and effort. Akerlof and Kranton (2005) classify workers into *insiders* (who internalize the organization's values) and o*utsiders* (who see work as transactional). According to their framework, organizations do not merely recruit workers who match their mission but actively shape workers' identities (e.g., military indoctrination and corporate cultures). Employees who internalize the firm's mission require less extrinsic motivation (lower wages, fewer incentives), while those who do not (i.e., the outsiders) need stronger financial incentives. The parallel with the work orientations framework is that job-oriented individuals are like outsiders, requiring high financial incentives to exert effort. Calling-oriented individuals are more likely to internalize organizational identity, aligning with Akerlof & Kranton's insider concept.

Yet, identity utility cannot fully explain career orientations. Career-motivated individuals are not simply insiders or outsiders; they work for status and social mobility, regardless of their mission alignment. Moreover, while Akerlof and Kranton's (2005) identity-based model shares similarities with the mission-based sorting framework (e.g., Besley & Ghatak, 2005), it assumes that firms actively shape worker identity over time. Akerlof and Kranton assert that firms "create" worker identities, whereas the work orientations framework suggests that motivations are largely dispositional (exogenous). While Akerlof and Kranton emphasize the power of organizations to shape worker identities, they consider the role of workers' initial motivations. These initial motivations affect how effectively an organization can foster a sense of belonging and align workers with the firm's mission. Consequently, both workers' initial motivations and organizational efforts to shape identities play a significant role in influencing behavior and performance. This implies that firms cannot easily convert a career-oriented individual into a calling-driven worker, even with identity-driven HR practices. Yet, this ability of organizations to mold identity is a key distinction between the two frameworks. While Akerlof and Kranton focus on organizational identity, the work orientations framework emphasizes how individual motivations interact with work, regardless of the organization's efforts to shape identity.

3.4. Preferences for meaning

The preferences for meaning model (Cassar & Meier, 2018; Kesternich et al., 2021; De Schouwer et al., 2023) suggests that individuals derive utility from meaningful work, i.e., work that they consider personally fulfilling or societally important. This framework assumes that workers have heterogeneous preferences for meaning, with some valuing purpose-driven work highly, while others do not. Job meaning is a function of the sources of meaning: mission,

autonomy, competence, and relatedness, and individuals have heterogeneous preferences for meaning, which means that they assign different weights to the sources of meaning (Cassar & Meier, 2018).

The model predicts that workers with strong preferences for meaning will accept lower wages in exchange for jobs that are personally fulfilling or serve a social purpose. This has important implications for labor market sorting. For example, mission-driven organizations can offer lower wages but still attract highly motivated workers who value purpose over pay. The model builds on standard utility theory but extends it by incorporating non-monetary job attributes as a direct input into the utility function. A worker's total utility U from a job is:

$$U = Y(w, e) + M(\vartheta, x, e) - C(e) \quad (1)$$

where w captures monetary compensation, M represents utility from meaningful work, and C denotes the cost of effort. Here, ϑ reflects an individual's preference for work meaning, while x represents the sources of meaning (i.e., autonomy, competence, relatedness, and mission). Workers with high ϑ are willing to accept lower wages for meaningful jobs because meaning increases their overall utility, leading to lower reservation wages and higher effort. These individuals are the "calling-oriented" in the work orientations model. Conversely, those with low ϑ prioritize wages and show little response to meaning.

While this model accounts for heterogeneity in worker preferences, it oversimplifies motivation by assuming that workers seek only money or meaning from their jobs. However, this framework overlooks the career orientation, where workers are driven by social status, promotions, and career advancement rather than direct intrinsic meaning (i.e., a calling) or financial incentives (i.e., a paycheck). Furthermore, the preferences-for-meaning model is

primarily oriented towards the tradeoff between money and meaning, even though Cassar and Meier (2018) acknowledge that wages and meaning could be substitutes.

Ultimately, while the preferences for meaning model explains how individuals trade off wages and meaning, it does not fully account for why some workers thrive in low-meaning but high-status jobs or disengage even in mission-driven organizations. A more comprehensive framework—such as work orientations theory—could be useful to provide additional insights into heterogeneous motivations for working and career concerns in particular.

3.5. Career concerns and tournament theory

Career concerns matter to individuals. For example, one in five respondents in the 2015 ISSP survey reported that they consider good opportunities for career advancement very important in their job, which is higher than the importance of income and flexible working hours (Clark & Kozak, 2023). Dewatripont, Jewitt, and Tirole (1999a) model how workers are motivated by the reputational effects of their performance, which influence future career prospects and earnings. More or better information does not always strengthen incentives—in some cases, it can make effort less worthwhile if it clouds the link between performance and perceived talent. In a follow-up paper (1999b), the authors apply this model to public sector agencies and argue that unclear or conflicting missions weaken these career-based incentives.

Career concerns models relate to the career orientation from the work orientations model. A career orientation reflects a person's understanding of the meaning of work as seeking status, advancement, and recognition. Relatedly, career concerns models explain how individuals are incentivized to perform well because others use their current performance to judge their ability, which affects future job opportunities and rewards.

Furthermore, tournament theory (Lazear, 2018; Lazear & Oyer, 2007; Lazear & Rosen, 1981) offers a complementary view to conceptualize career orientations. This framework views promotions as competitive tournaments, where employees compete for limited higher-level positions based on relative rather than absolute performance. The winners receive substantial rewards, such as higher wages, increased responsibilities, and career advancement opportunities, while those who do not advance remain at lower levels with smaller pay increases.

While tournament theory and career concerns theories effectively explain career-driven motivation, they do not fully fit within the broader work orientations framework, as they do not consider the calling and job orientations.

3.6. Work orientations in economics: sketching a conceptual framework

This chapter's main argument is that labor economics can be enriched by incorporating work orientations into a unified framework that integrates insights from existing models. A natural starting point is Cassar & Meier's (2018) preferences-for-meaning framework, which can be extended to incorporate overlapping motivations for work. Such a modified framework would accommodate overlapping motivations for working, recognizing that workers may simultaneously view work as financial stability, social prestige, and intrinsic fulfillment. This new model could facilitate the empirical investigation of the role of work orientations for labor supply, job sorting, organizational incentives, and the design of employment policies.

To extend Cassar & Meier's (2018) preferences-for-meaning model, I introduce career utility alongside intrinsic meaning and financial utility. The original model considers utility as a function of income (Y), meaning (M), and effort costs (C(e)). In this framework, work

meaningfulness depends on the satisfaction of one's innate needs of working: autonomy, competence, and relatedness (Nikolova & Cnossen, 2020).[9]

$$U = \lambda Y(w,e) + \vartheta M(x,e) + vS(p,e) - C(e) \qquad (2)$$

where *Y(w, e)* is income utility, dependent on wage *(w)* and increasing in effort *(e)*; *M(x, e)* is meaning utility, based on work characteristics *x* (autonomy, competence, relatedness), and *C(e)* is the disutility from work. The novel term here is *S (p, e)*, or career utility, which is a function of the probability of promotion *p*, increasing in effort *e.* Finally, the parameters λ, ϑ, v represent each orientation, where $\lambda + \vartheta + v \neq 1$. The three orientations do not need to add up to 1, as there are, in principle, no tradeoffs necessary between the orientations. A person could have high values on all three orientations, for example, a social entrepreneur who is mission-driven but also believes that working is about their reputation, social status, and pay.

This modified framework allows empirical examination of how different motivational systems interact, not just in isolation, but in combination. It connects existing strands of literature in labor economics, most prominently career concerns models and preferences for meaning, into one coherent framework that reflects the complex, overlapping worker motivations.

The model predicts that when both θ (meaning orientation) and v (career orientation) are high, effort will be high even when λ (financial orientation) is low. In addition, career-oriented workers may accept lower wages initially if promotion prospects are strong. This helps explain why PhD students, junior researchers, and unpaid interns often engage in high-effort work despite low pay and sometimes low-meaning tasks. If promotion possibilities are low or uncertain,

[9] According to Nikolova and Cnossen (2020), autonomy, competence, and relatedness explain 60% of the variation in work meaningfulness in a sample of European workers.

however, career-oriented individuals are likely to have low attachment to their jobs, as shown in Nikolova and De Wit (2025). Refining, extending, and empirically validating this framework could be important next steps for integrating work orientations more fully into economic analysis.

3.7. Work orientations and economic outcomes

Like studies in the psychology literature (Mantler, Campbell, and Dupré 2022; Wrzesniewski 1999), Nikolova (2024) finds that work orientations significantly influence job search behavior, quit intentions, and self-reported effort. Individuals with a predominant job orientation tend to exhibit lower effort than those with a calling orientation. Career-oriented individuals display higher quit intentions and job search activity than job-oriented individuals, but also report exerting less effort. These relationships hold even after controlling for job satisfaction, work meaningfulness—both established predictors of quits and effort—and personality traits.

Nikolova and De Wit (2025), a revised version of Nikolova (2024), confirm the job search and job quit findings using actual job-switch data. They show that a higher career orientation is associated with greater quit intentions, on-the-job search behavior, and actual job changes, particularly when career prospects are limited. In contrast, calling-oriented individuals are less likely to intend to quit or seek alternative employment, regardless of opportunities for meaningful work.

Given the scarcity of economics research on work orientations, these results highlight ample opportunities for further investigation into their causes and consequences.

4. Future outlook and a research agenda

Work orientations, capturing whether individuals see their work as a job, a career, or a calling, could enhance economists' understanding of labor market behavior, such as effort and

job quits. However, significant gaps remain in our understanding of how these orientations develop, change over time, and interact with economic, social, and technological factors. Addressing these questions will require systematic data collection, theorizing, and interdisciplinary collaborations. Below, I sketch some priorities for advancing empirical and conceptual inquiry related to work orientations in economics.

4.1. Longitudinal data collection

One of the most pressing research needs is longitudinal data tracking the work orientations of the same individuals over time, in combination with their life events, workplace characteristics, and behaviors. Most existing studies rely on cross-sectional data, including Nikolova (2024) and Nikolova and De Wit (2025), making it difficult to determine whether work orientations evolve in response to career transitions, economic shocks, or personal experiences.

Key questions that would make use of such longitudinal data include: How do work orientations change following career transitions such as promotions, job loss, or moves into self-employment? How are they shaped by major life events such as marriage, parenthood, or retirement? To what extent do coworkers' values, peer attitudes, or workplace cultures influence the development of calling or career orientations? And how do changes in work orientations interact with incentives, job satisfaction, effort, and workplace behavior over time?

4.2. Formation

It is furthermore crucial to understand how work orientations form in the first place. Psychological theories suggest that orientations stem from early socialization, yet we lack robust economic models capturing these processes (Dekas & Baker, 2014). Potential early-life correlates of work orientations may include parental influence and conditions experienced during childhood

and adolescence. Research by Cotofan et al. (2023) suggests that economic conditions during the impressionable years (ages 18–25) shape lifelong *job preferences*. Workers entering the labor market during a recession prioritize financial security, while those starting careers in booming economies place greater emphasis on meaning. Future studies should test whether this extends to work orientations more broadly. What is the role of one's experience at the first job in shaping work orientations? Are work orientations fixed in adolescence, or can they emerge or change later in response to work experiences?

4.3. Expanding the work orientations framework

The widely used tripartite model of work orientations—job, career, and calling—has generated valuable insights but may not fully capture the diversity of motivations that drive workers. Recent research suggests additional orientations, such as *social embeddedness* and *busyness* (Willner et al. 2020). Socially embedded workers value collegiality and belonging more than career advancement or societal impact, while those with a busyness orientation seek work primarily to stay occupied and maintain a routine.

Other possible orientations extend even further beyond the current framework. One is a *work-as-enjoyment* orientation, in which individuals value work for the pleasure or fun it provides, independent of income, status, or purpose. Another is a *work-as-salvation* orientation, [10] where work functions as a way to avoid inner emptiness or to attain a sense of moral worth. If such orientations exist alongside—or instead of—the job, career, and calling framework, they could alter economic predictions about labor supply, effort, motivation, and employer-provided working conditions. Future research should examine whether these orientations are conceptually

[10] I thank Davide Lunardon for the "work as salvation," suggestion.

distinct, economically significant, and worth incorporating into labor market models. At the same time, expanding the framework risks blurring the distinction between work orientations and related concepts such as work values. [11]

4.4. Work orientations and technological change

As technology continues to replace or restructure certain tasks or create new activities (Acemoglu & Restrepo, 2019; Nikolova et al., forthcoming), understanding how work orientations interact with technology is essential. Key questions include: Will AI-driven technological change reduce the prevalence of career-oriented workers if promotion opportunities diminish or job ladders flatten? Does technology expand opportunities for calling-oriented individuals to realize their purpose in work? More broadly, do emerging work environments reinforce existing orientations, or do they give rise to new and distinct ways of relating to work?

4.5. Integrating work orientations with work values, work centrality, and work meaningfulness

Although research on work orientations, work values, work centrality, and work meaningfulness has grown, these constructs remain partly fragmented. Each captures a related but distinct aspect of why people work and what they seek in their jobs, and the choice of which to study—whether as an outcome or as an explanatory variable—should depend on the research question. For example, work values are often more relevant for studying job satisfaction: the economics of happiness literature shows that income is not the sole determinant of job satisfaction (Clark 2001, 2010) and that values such as having an interesting job or good interpersonal relationships matter more than pay (De Neve, Krekel, and Ward 2018). By contrast,

[11] I thank Arne Kalleberg for raising this point.

work orientations have proven more useful for understanding outcomes such as motivation and effort (Nikolova 2024) or job quits (Nikolova and De Wit 2025).[12]

Understanding the interactions and interdependencies between work values, work centrality, and work orientations can deepen economists' insights into labor market behavior, motivation, and job satisfaction. It may even be argued that work orientations can be understood as higher-order patterns that reflect stable combinations of intrinsic and extrinsic work values.[13]

However, current surveys that collect information on these constructs do not clearly distinguish between the different concepts of work orientations, work values, work centrality, and work meaningfulness. Many existing datasets include measures of work values and centrality, but often leave out work orientations and meaningfulness or treat them interchangeably. This makes it hard to know what is actually being measured. Because of the conceptual and empirical overlap, researchers must be cautious in interpreting measures that could reflect more than one construct.

In conclusion, work orientations arguably offer a promising area for economic research, both conceptually and empirically. Adding them to economic models can deepen our understanding of motivation by linking ideas from psychology and sociology to labor economics. As work keeps changing with new technology and labor market trends, understanding how people view work could be key to better policy and workplace decisions.

[12] I am thankful to Arne Kalleberg for this insight.
[13] I thank Arne Kalleberg for raising this point.

References

Acemoglu, D., and P. Restrepo. 2019. “Automation and New Tasks: How Technology Displaces and Reinstates Labor.” *Journal of Economic Perspectives*, 33(2): 3–30.

Akerlof, G. A., and R. E. Kranton. 2000. “Economics and Identity.” *Quarterly Journal of Economics*, 115(3): 715–753.

Akerlof, G. A., and R. E. Kranton. 2005. “Identity and the Economics of Organizations.” *Journal of Economic Perspectives*, 19(1): 9–32.

Ariely, D., E. Kamenica, and D. Prelec. 2008. “Man’s Search for Meaning: The Case of Legos.” *Journal of Economic Behavior & Organization*, 67(3–4): 671–677.

Bäker, A., and M. Mechtel. 2018. “The Role of Task Meaning on Output in Groups: Experimental Evidence.” *Managerial and Decision Economics*, 39(2): 131–141.

Beadle, R. 2013. “Managerial Work in a Practice-Embodying Institution: The Role of Calling, the Virtue of Constancy.” *Journal of Business Ethics*, 113(4): 679–690.

Bellah, R. N., R. Madsen, W. M. Sullivan, A. Swidler, and S. M. Tipton. 1985. *Habits of the Heart: Individualism and Commitment in American Life*. Berkeley: University of California Press.

Bellah, R. N., R. Madsen, W. M. Sullivan, A. Swidler, and S. M. Tipton. 2008. *Habits of the Heart: Individualism and Commitment in American Life*. Berkeley and Los Angeles: University of California Press.

Benz, M., and B. S. Frey. 2008. “The Value of Doing What You Like: Evidence from the Self-Employed in 23 Countries.” *Journal of Economic Behavior & Organization*, 68(3–4): 445–455.

Besley, T., and M. Ghatak. 2005. “Competition and Incentives with Motivated Agents.” *American Economic Review*, 95(3): 616–636.

Binder, M., and A.-K. Blankenberg. 2020. “Self-Employment and Subjective Well-Being.” In K. F. Zimmermann, ed., *Handbook of Labor, Human Resources and Population Economics*. Springer Verlag.

Burbano, V. C. 2016. “Social Responsibility Messages and Worker Wage Requirements: Field Experimental Evidence from Online Labor Marketplaces.” *Organization Science*, 27(4): 1010–1028.

Camerer, C., and U. Malmendier. 2007. “Behavioral Economics of Organizations.” In P. Diamond and H. Vartiainen, eds., *Behavioral Economics and Its Applications*, 235–290. Princeton: Princeton University Press.

Carton, A. M. 2018. “‘I’m Not Mopping the Floors, I’m Putting a Man on the Moon’: How NASA Leaders Enhanced the Meaningfulness of Work by Changing the Meaning of Work.” *Administrative Science Quarterly*, 63(2): 323–369.

Cassar, L., and S. Meier. 2018. “Nonmonetary Incentives and the Implications of Work as a Source of Meaning.” *Journal of Economic Perspectives*, 32(3): 215–238.

Chadi, A., S. Jeworrek, and V. Mertins. 2016. “When the Meaning of Work Has Disappeared: Experimental Evidence on Employees’ Performance and Emotions.” *Management Science*, 63(6): 1696–1707.

Clark, A. E. 1997. “Job Satisfaction and Gender: Why Are Women So Happy at Work?” *Labour Economics*, 4(4): 341–372.

Clark, A. E. 2001. “What Really Matters in a Job? Hedonic Measurement Using Quit Data.” *Labour Economics*, 8(2): 223–242.

Clark, A. E. 2010. “Work, Jobs, and Well-Being across the Millennium.” In E. Diener, J. Helliwell, and D. Kahneman, eds., *International Differences in Well-Being*, 436–468.

Clark, A. E., Y. Georgellis, and P. Sanfey. 2001. “Scarring: The Psychological Impact of Past Unemployment.” *Economica*, 68(270): 221–241.

Clark, A. E., and M. Kozák. 2023. “Twenty Years of Job Quality in OECD Countries: More Good News?” IZA Discussion Paper No. 16597.

Congleton, R. D. 1991. “The Economic Role of a Work Ethic.” *Journal of Economic Behavior & Organization*, 15(3): 365–385.

Cotofan, M., L. Cassar, R. Dur, and S. Meier. 2023. “Macroeconomic Conditions When Young Shape Job Preferences for Life.” *Review of Economics and Statistics*, 105(2): 467–473.

Cutler, A., and L. Breiman. 1994. “Archetypal Analysis.” *Technometrics*, 36(4): 338–347.

De Neve, J.-E., C. Krekel, and G. Ward. 2018. “Work and Well-Being: A Global Perspective.” In J. F. Helliwell, R. Layard, and J. D. Sachs, eds., *World Happiness Report*, 74–128. New York: Sustainable Development Solutions Network.

De Schouwer, T., E. Gsottbauer, I. Kesternich, and H. Schumacher. 2023. “Work Meaning and Fair Wages.” Working Paper, 1–68.

Deci, E. L., and R. M. Ryan. 2000. “The ‘What’ and ‘Why’ of Goal Pursuits: Human Needs and the Self-Determination of Behavior.” *Psychological Inquiry*, 11(4): 227–268.

Dekas, K. H., and W. E. Baker. 2014. “Adolescent Socialization and the Development of Adult Work Orientations.” In H. R. Greve and M.-D. L. Seidel, eds., *Adolescent Experiences and Adult Work Outcomes: Connections and Causes*, Vol. 25, 51–84. Howard House, Wagon Line, Bingley BD16 1WA, UK: Emerald Group Publishing Limited.

Delfgaauw, J., and R. Dur. 2007. “Signaling and Screening of Workers’ Motivation.” *Journal of Economic Behavior & Organization*, 62(4): 605–624.

Delfgaauw, J., and R. Dur. 2008. “Incentives and Workers’ Motivation in the Public Sector.” *Economic Journal*, 118(525): 171–191.

Dewatripont, M., I. Jewitt, and J. Tirole. 1999a. “The Economics of Career Concerns, Part I: Comparing Information Structures.” *Review of Economic Studies*, 66(1): 183–198.

Dewatripont, M., I. Jewitt, and J. Tirole. 1999b. “The Economics of Career Concerns, Part II: Application to Missions and Accountability of Government Agencies.” *Review of Economic Studies*, 66(1): 199–217.

Dobrow, S. R. 2013. “Dynamics of Calling: A Longitudinal Study of Musicians.” *Journal of Organizational Behavior*, 34(4): 431–452.

Dur, R., and M. Van Lent. 2019. “Socially Useless Jobs.” *Industrial Relations: A Journal of Economy and Society*, 58(1): 3–16.

Eugster, M. J., and F. Leisch. 2009. “From Spider-Man to Hero—Archetypal Analysis in R.” *Journal of Statistical Software*, 30: 1–23.

Farzin, Y. H. 2009. “The Effect of Non-Pecuniary Motivations on Labor Supply.” *Quarterly Review of Economics and Finance*, 49(4): 1236–1259.

Frey, B. S., M. Benz, and A. Stutzer. 2004. “Introducing Procedural Utility: Not Only What, but Also How Matters.” *Journal of Institutional and Theoretical Economics*, 160(3): 377–401.

Fuchs-Schündeln, N. 2009. “On Preferences for Being Self-Employed.” *Journal of Economic Behavior & Organization*, 71(2): 162–171.

Gallie, D. 2019. “Research on Work Values in a Changing Economic and Social Context.” *Annals of the American Academy of Political and Social Science*, 682(1): 26–42.

Gallie, D., A. Felstead, and F. Green. 2012. “Job Preferences and the Intrinsic Quality of Work: The Changing Attitudes of British Employees 1992–2006.” *Work, Employment and Society*, 26(5): 806–821.

Gandal, N., S. Roccas, L. Sagiv, and A. Wrzesniewski. 2005. “Personal Value Priorities of Economists.” *Human Relations*, 58(10): 1227–1252.

Haller, M., B. Klösch, and M. Hadler. 2023. “The Centrality of Work: A Comparative Analysis of Work Commitment and Work Orientation in Present-Day Societies.” *Sage Open*, 13(3): 21582440231192114.

Hamermesh, D. S. 2018. “Why Are Professors ‘Poorly Paid’?” *Economics of Education Review*, 66: 137–141.

Heyes, A. 2005. “The Economics of Vocation or ‘Why Is a Badly Paid Nurse a Good Nurse’?” *Journal of Health Economics*, 24(3): 561–569.

Hu, J., and J. B. Hirsh. 2017. “Accepting Lower Salaries for Meaningful Work.” *Frontiers in Psychology*, 8: 1649.

Jiang, W. Y., and A. Wrzesniewski. 2023. “Perceiving Fixed or Flexible Meaning: Toward a Model of Meaning Fixedness and Navigating Occupational Destabilization.” *Administrative Science Quarterly*, 68(4): 1008–1055.

Kalleberg, A. L., and P. V. Marsden. 2013. “Changing Work Values in the United States, 1973–2006.” *Social Science Research*, 42(2): 255–270.

Kalleberg, A. L., and P. V. Marsden. 2019. “Work Values in the United States: Age, Period, and Generational Differences.” *Annals of the American Academy of Political and Social Science*, 682(1): 43–59.

Kesternich, I., H. Schumacher, B. Siflinger, and S. Schwarz. 2021. “Money or Meaning? Labor Supply Responses to Work Meaning of Employed and Unemployed Individuals.” *European Economic Review*, 137: 103786.

Knabe, A., and S. Rätzel. 2011. “Scarring or Scaring? The Psychological Impact of Past Unemployment and Future Unemployment Risk.” *Economica*, 78(310): 283–293.

Kosfeld, M., S. Neckermann, and X. Yang. 2017. “The Effects of Financial and Recognition Incentives across Work Contexts: The Role of Meaning.” *Economic Inquiry*, 55(1): 237–247.

Lan, G., C. Okechuku, H. Zhang, and J. Cao. 2013. “Impact of Job Satisfaction and Personal Values on the Work Orientation of Chinese Accounting Practitioners.” *Journal of Business Ethics*, 112: 627–640.

Lazear, E. P. 2018. “Compensation and Incentives in the Workplace.” *Journal of Economic Perspectives*, 32(3): 195–214.

Lazear, E. P., and P. Oyer. 2007. “Personnel Economics.” NBER Working Paper 13480.

Lazear, E. P., and S. Rosen. 1981. “Rank-Order Tournaments as Optimum Labor Contracts.” *Journal of Political Economy*, 89(5): 841–864.

Leete, L. 2001. “Whither the Nonprofit Wage Differential? Estimates from the 1990 Census.” *Journal of Labor Economics*, 19(1): 136–170.

Mantler, J., B. Campbell, and K. E. Dupré. 2022. “Jobs, Careers, and Callings: Exploring Work Orientation at Mid-Career.” *Journal of Career Development*, 49(5): 1152–1167.

McKevitt, D., R. Carbery, and A. Lyons. 2017. “A Profession but Not a Career? Work Identity and Career Satisfaction in Project Management.” *International Journal of Project Management*, 35(8): 1673–1682.

Nikolova, M. 2024. “Loud or Quiet Quitting? The Influence of Work Orientations on Effort and Turnover.” GLO Discussion Paper No. 1429. https://www.econstor.eu/bitstream/10419/294143/1/GLO-DP-1429.pdf.

Nikolova, M., and F. Cnossen. 2020. “What Makes Work Meaningful and Why Economists Should Care about It.” *Labour Economics*, 65: 101847.

Nikolova, M., and J. De Wit. 2025. “Work Orientations and Turnover.” Working Paper.

Nikolova, M., A. Lepinteur, and F. Cnossen. Forthcoming. “Just Another Cog in the Machine? A Worker-Level View of Robotization and Tasks.” *Economica*. doi:10.1111/ecca.70006.

Preston, A. E. 1989. “The Nonprofit Worker in a For-Profit World.” *Journal of Labor Economics*, 7(4): 438–463.

Rebitzer, J. B., and L. J. Taylor. 2011. “Extrinsic Rewards and Intrinsic Motives: Standard and Behavioral Approaches to Agency and Labor Markets.” In O. Ashenfelter and D. Card, eds., *Handbook of Labor Economics*, Vol. 4, 701–772. Elsevier.

Roberson, L. 1990. “Functions of Work Meanings in Organizations: Work Meanings and Work Motivation.” In P. Brief and W. R. Nord, eds., *Meanings of Occupational Work: A Collection of Essays*. Lexington, MA: Lexington Books.

Rosso, B. D., K. H. Dekas, and A. E. Wrzesniewski. 2010. “On the Meaning of Work: A Theoretical Integration and Review.” *Research in Organizational Behavior*, 30: 91–127.

Ryan, R. M., and E. L. Deci. 2017. *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. New York: Guilford Publications.

Sauermann, H., and M. Roach. 2014. "Not All Scientists Pay to Be Scientists: PhDs' Preferences for Publishing in Industrial Employment." *Research Policy*, 43(1): 32–47.

Schabram, K., J. Nielsen, and J. Thompson. 2023. "The Dynamics of Work Orientations: An Updated Typology and Agenda for the Study of Jobs, Careers, and Callings." *Academy of Management Annals*, 17(2): 405–438.

Shapiro, C., and J. E. Stiglitz. 1984. "Equilibrium Unemployment as a Worker Discipline Device." *American Economic Review*, 74(3): 433–444.

Spencer, D. A. 2014. "Conceptualising Work in Economics: Negating a Disutility." *Kyklos*, 67(2): 280–294.

Spencer, D. A. 2015. "Developing an Understanding of Meaningful Work in Economics: The Case for a Heterodox Economics of Work." *Cambridge Journal of Economics*, 39(3): 675–688.

Steger, M. F., B. J. Dik, and R. D. Duffy. 2012. "Measuring Meaningful Work: The Work and Meaning Inventory (WAMI)." *Journal of Career Assessment*, 20(3): 322–337.

Stern, S. 2004. "Do Scientists Pay to Be Scientists?" *Management Science*, 50(6): 835–853.

Taylor, L. J. 2007. "Optimal Wages in the Market for Nurses: An Analysis Based on Heyes' Model." *Journal of Health Economics*, 26(5): 1027–1030.

Willner, T., Y. Lipshits-Braziler, and I. Gati. 2020. "Construction and Initial Validation of the Work Orientation Questionnaire." *Journal of Career Assessment*, 28(1): 109–127.

Wrzesniewski, A. E. 1999. "Jobs, Careers, and Callings: Work Orientation and Job Transitions." PhD diss. University of Michigan.

Wrzesniewski, A. E., C. McCauley, P. Rozin, and B. Schwartz. 1997. "Jobs, Careers, and Callings: People's Relations to Their Work." *Journal of Research in Personality*, 31(1): 21–33.

Zhang, C., A. Hirschi, and X. You. 2021. "Trajectories of Calling in the Transition from University to Work: A Growth Mixture Analysis." *Journal of Career Assessment*, 29(1): 98–114.

Zou, M. 2015. "Gender, Work Orientations and Job Satisfaction." *Work, Employment and Society*, 29(1): 3–22.