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ARTICLE

Testing the incongruence model with longitudinal data: How employment status preferences affect mental health over time

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Abstract

According to the incongruence model, unemployed people experience incongruence between their actual as compared to their desired employment status, which is an important source of distress. In contrast to other theories, this model is able to explain why unemployed people feel worse not only compared to employed people but also compared to people in other life situations, such as students, homemakers and retirees, who are assumed to experience low levels of incongruence. The current study analysed two longitudinal samples ($n = 1066$ and $n = 1036$ at T1) that were followed over 2.5 and 1.5 years, with six and five measurement points, respectively. The results show that (1) unemployed people who found new jobs experienced a reduction in their incongruence levels; (2) changes in incongruence were associated with changes in mental health; (3) changes in incongruence mediated the effects of changes in employment status on mental health. In addition, (4) mental health changes associated with other employment status changes such as entering (or leaving) the labour force (i.e., becoming a student, homemaker or retiree) were also mediated by changes in incongruence levels. Furthermore, the effects remained stable when the influence of the latent and manifest functions of employment was controlled.

KEYWORDS

congruence, distress, employment status, incongruence, mental health, out of the labour force, unemployment

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Practitioner points

- Unemployed people usually show a strong preference for employment, which leads to negative mental health effects. Thus, interventions should aim at stabilizing the mental well-being of unemployed individuals, which could also help to facilitate their access to employment.
- For unemployed people with many obstacles to reemployment, such as health impairments and low educational attainments, it may be preferable to aim at foregrounding the value of meaningful activities outside paid employment in order to improve their mental health.
- While unemployment leads to negative mental health effects, this is much less the case for being out of the labour force (such as students, homemakers and retirees). As technological developments might restrict access to employment for an increasing number of people in the future, a re-evaluation of employment in society could improve the mental health of unemployed individuals.

INTRODUCTION

Unemployment is a chronic problem for modern societies. Statistics show that a non-negligible proportion of the labour force is typically unemployed at any given point in time in industrial and post-industrial economies (OECD, 2020). The current wave of automatization that is driven by digitalization and robotization as well as the rise of artificial intelligence might lead to additional massive job losses (Frey & Osborne, 2017; Virgilio et al., 2024), which would further reinforce this problem. Unemployment does not only entail economic costs and individual scarring effects on income and career trajectories (Schmelzer, 2011; Schneer & Reitman, 1997; Theunissen et al., 2011), but also leads to distress (McKee-Ryan et al., 2005; Paul & Moser, 2009). Because of the high value of paid employment in modern societies, long-term and mass unemployment due to technological developments could lead to a higher number of people suffering from the detrimental effects on mental health (Lima et al., 2021), thus severely impacting public health. However, despite ample socio-psychological research (see meta-analyses by Paul & Moser, 2009), the underlying processes that mediate these negative effects of unemployment on mental health are still not fully understood.

A possible cause for distress during unemployment might be the incongruence between one's actual and preferred life situation. According to theories from various fields of psychological research, such a kind of incongruence leads to impaired mental health (Paul & Moser, 2006). After job loss, unemployed peoples' employment situation is assumed to be incongruent with their employment status-related values and goals, which in turn triggers distress.

In the field of psychological unemployment research, the concept of incongruence is not only important as an explanatory mechanism for unemployed people's distress that could complement the mechanisms specified in Jahoda's (1981, 1982, 1997) latent deprivation model, which is currently the most prominent theory in the field. The incongruence model is also relevant because it is able to answer important questions that are not covered by the latent deprivation model. In particular, the incongruence model can explain why unemployed people do not only have worse mental health compared to employed people, but also compared to other people who are out of employment, such as students, homemakers and retirees. Thus, the concept of incongruence might describe the core of the psychological experience of unemployment better than the variables specified in Jahoda's model, while explaining some variance in mental health that is not covered by them.

So far, the experience of incongruence among unemployed individuals can only be inferred from their typically high level of employment commitment, which measures the importance placed on paid work (Paul & Moser, 2006). The present studies used a more direct measure of employment status incongruence, thereby providing the first longitudinal test of the incongruence model of unemployment

distress. Due to the intraindividual study design, we were able to examine the effects of employment status changes on changes in incongruence levels and to analyse whether this relationship mediates the negative effects of losing a job or finding reemployment on mental health. Furthermore, the longitudinal data allowed us to test whether changing into or out of the OLF-status (i.e., being student, homemaker or retiree) has similar effects as reemployment and whether this similarity can be explained by a reduction of incongruence. We also examined whether the mediating effect of incongruence remained stable when the influence of Jahoda's manifest and latent functions of employment were controlled.

This paper continues as follows: first, we outline the theoretical model of incongruence among unemployed people and the proposed consequences for unemployment distress. Then, we give an overview of prior empirical evidence on employment commitment, which—due to a lack of studies measuring incongruence directly—has been used as a proxy measure to infer incongruence among unemployed individuals. This empirical background is followed by a description of the two study designs, the measured variables and the analytical strategy. In our results section, we test our hypotheses using multilevel models. Finally, we discuss our results on a theoretical level, including the limitations of our study as well as the implications for future research and practice.

INCONGRUENCE AS A PSYCHOLOGICAL STATE OF UNEMPLOYED PEOPLE

The incongruence model (Paul et al., 2016; Paul & Moser, 2006) builds on theories from several psychological fields concerned with the aspiration of human beings to reduce cognitive or motivational discrepancies. All these theories agree that, if such a reduction is not possible, negative effects on well-being and satisfaction follow (e.g., Festinger, 1957; Holland, 1985; Lawler, 1973; Locke, 1969; Miller, 1959; Rogers, 1957). Furthermore, the desire for something which is currently inaccessible—that is, employment—is a substantial part of the unemployment concept. This is reflected in the legal definitions of unemployment, which are also used for labour market statistics. In all countries relevant to this study, these definitions include actively searching for a job as a central criterion identifying unemployed individuals (e.g., ECB, 2013; Eurostat, 2024b; OECD, 2024). The incongruence model therefore proposes that (1) unemployed people typically experience a high level of incongruence between their preferred employment status on the one hand and their current employment status on the other hand, and that (2) this experience of incongruence impairs their mental health.

However, the incongruence model assumes a general preference for employment in (post)industrial societies not only for unemployed, but also for employed people. This is ascribed to a historically grown general preference for employment in industrial and post-industrial societies. In the Western world, the historical process leading to the generally positive view of work prevailing in the respective countries today began already in the Middle Ages with Benedictine monks including manual labour in their monastic life (Kocka, 2003, p. 80). This development was intensified during protestant reformation, when work was more and more seen as a moral duty for all people, irrespective of rank and status (Conze, 1972, p. 163). In early modern times, this very positive view of work was then stripped of its religious foundations and its purely secular positive effects were increasingly propagated (Münch, 1998, pp. 312–316). Authorities started a war on vagrancy and begging and incarcerated large numbers of poor and unemployed people in so-called workhouses under atrocious conditions, trying to turn alleged idlers into diligent workers (Garraty, 1978, p. 44). Philosophers and early economic theorists such as Adam Smith and John Locke argued that it is work that gives value to things and that is the real source of the wealth of a nation (Conze, 1972, p. 168; Füllsack, 2009, pp. 50–51). Finally, Karl Marx celebrated work as a constituting element of human nature, because only in work and through work are people able to find meaning in life, actualize themselves as human beings and elevate themselves above the level of animals (Conze, 1972, p. 200). In the end, this centuries-long trend towards an ever more positive view of work and labour (Füllsack, 2009) has thoroughly shaped the world we live in and ‘resulted in a factual transformation of the whole of society into a laboring society’ (Arendt, 1998, p. 5). As can be deduced

from the job search criterion explained above, definitions of unemployment used for labour market statistics reflect this general preference for employment in Western societies. Thus, the preference for employment is manifested in the (expected) behaviour of unemployed individuals.

The high value of paid employment in modern societies is reflected in empirical studies, as, for example, around 70% of US citizens answer that they would continue to work even if they could live comfortably without working (Highhouse et al., 2010). The European Values Survey showed that in all 45 European countries that were studied (with the only exception of Iceland) people agreed more than they disagreed with statements such as 'Work is a duty towards society' or 'Work should always come first, even if it means less spare time' (Stam et al., 2016, p. 315). Other research, such as the meaning of working study (MOW International Research Team, 1987; Snir, 2014), demonstrated that a high value of work is not restricted to Western countries, but can also be identified in other modern cultures which did not undergo a protestant reformation, for example, Japan. Thus, work appears to rank highly in people's value systems, which makes unemployment a life situation that is incompatible with generally shared beliefs.

Correspondingly, meta-analyses have shown that unemployed and employed people show a similar level of employment commitment, as both groups value employment very highly (Paul & Moser, 2006). In line with the incongruence model, this finding indicates that unemployed people experience a mismatch between their work-related preferences and their actual work-related life situation, while employed people do not. Therefore, and in line with theoretical expectations, losing a job or finding new employment after unemployment can be expected to lead to changes in the degree of (in)congruence an individual experiences. We therefore hypothesize:

Hypothesis 1a: Changes between employment and unemployment are accompanied by significant changes in incongruence. Specifically, finding a new job after unemployment leads to reduced levels of incongruence while the opposite is true for changes from employment to unemployment.

However, the comparison between unemployed persons (i.e., persons with a desire to work) and employed persons does not capture the whole reality. Another important group of people consists of those who are out of the labour force (OLF, defined by not having a job and not looking for one; Eurostat, 2024a). Members of this group typically have lives filled with roles such as being a student, a parent and homemaker, or a pensioner. These roles are probably accompanied by a reduced preference for employment. This argument is in line with Super's (1980) lifespan, life-space theory of career development. According to this approach, people fulfil a variety of different roles during their life cycle, with the importance of specific roles typically waxing and waning during different stages of life. For example, for young people the role of being a student is often more important than the role of being a worker. In many instances, the importance of employment also temporarily decreases when the individual takes on domestic roles such as spouse, homemaker and parent, often leading to either a reduction in working hours or a pausing of paid work. Moreover, pensioners often completely abandon the role of being an employee. Empirical findings support these theoretically derived assumptions. For example, the transition to motherhood among Swedish women led to a reduction in the self-assessed importance of work in the respondents' lives, compared to women who did not bear a child (Evertsson, 2012). Furthermore, the association between age and career commitment (a dimension closely related to employment commitment) is curvilinear, meaning that it increases in young age whereas when workers approach retirement age, their career commitment declines more and more (Katz et al., 2019).

Thus, while industrial and post-industrial societies generally value a strong work ethic, there might exist specific periods in an individual's life when other roles become more important than the role of being a worker. This suggests that incongruence levels among OLF individuals should be low, because in these specific phases of their lives people will probably aim at important goals outside of employment, such as graduating successfully or bringing their children healthily and happily through their first years of life. High levels of incongruence, on the other hand, should be a specific characteristic

of unemployment, leading to distress only for unemployed people, but not OLF people. We therefore propose:

Hypothesis 1b: Employment status changes between unemployment and OLF lead to changes in incongruence, with changing from OLF to unemployment leading to an increase and changing from unemployment to OLF leading to a reduction of incongruence.

INCONGRUENCE AS AN EXPLANATION FOR UNEMPLOYMENT DISTRESS

The incongruence model states that heightened levels of incongruence are not only characteristic for unemployed people, but also a cause for their impaired mental health. In clinical psychology (Grawe, 2004; Rogers, 1957), such discrepancies have also been proposed as causes of serious mental health problems. For example, in Grawe's (2004) consistency theory, incongruence, describing the discrepancy between individuals' goals and their perception of reality, is proposed to be a central mechanism leading to the development and maintenance of psychopathological symptoms. Meta-analytic evidence supports this assumption (Fries & Grawe, 2006).

Therefore, it can be assumed that incongruence between one's employment status preferences and one's actual employment situation should also have negative consequences for mental health. Indeed, meta-analyses on employment commitment have already demonstrated that *high* commitment among unemployed people, but *low* commitment among employed people is associated with distress (Paul & Moser, 2006). Thus, it is not employment commitment per se that is correlated with mental health but its *congruence* with the individual's current employment status, supporting the incongruence model. In the present study, in line with the aforementioned findings, we expected changes in incongruence to be predictive for changes in mental health:

Hypothesis 2: Changes in incongruence are associated with changes in distress. An increase in incongruence is accompanied by an increase in distress, while a decrease in incongruence is accompanied by a decrease in distress.

Furthermore, we also wanted to test whether the incongruence model can predict variance in mental health that is not explained by the currently most influential theoretical account in psychological unemployment research, that is, Jahoda's latent deprivation model (Jahoda, 1981, 1982, 1997). This model explains the distress that unemployed people typically experience by a lack of five so-called latent functions of employment, that is, time structure, status, social contact, regular activity and collective purpose. These latent functions are described as corresponding to basic human needs which can be fulfilled by different institutions in different societies. However, Jahoda claims that, in modern societies, only the institution of employment serves to fulfil the latent functions to an extent that is enough to fully maintain mental health and well-being. In other words, while a limited amount of the latent functions can be found in other social roles such as student or homemaker, it is clearly employment that is the main provider of these functions in modern societies. Thus, following Jahoda's theory, not only unemployed, but also OLF persons should be deprived of these benefits of employment. Nonetheless, this group of people has been shown to be—on average—less distressed than unemployed people (e.g., Paul & Moser, 2006; Selenko et al., 2011). Jahoda's latent deprivation model cannot explain this difference in mental health without making auxiliary assumptions because both groups—OLF as well as unemployed people—are out of paid work and should thus be cut off the beneficial effects of the latent functions of employment (Jahoda, 1981, 1982, 1997). In contrast, the incongruence model is able to explain this difference in distress between unemployed people and OLF people, because it assumes a high level of incongruence only in the former group, but not in the latter.

Furthermore, we assume that the effects of incongruence and of the latent functions on mental health are not redundant. In other words, we expect that incongruence explains at least some variance in mental health that is not explained by the latent functions because the underlying theoretical processes for incongruence should be largely independent from the processes for latent deprivation: Jahoda's latent functions are conceptualized as corresponding to basic psychological needs that influence human well-being, regardless of the individual's awareness of these needs. The argument that the latent functions—and their absence—are experienced unconsciously is underlined by empirical evidence, which shows that access to the latent functions leads to improved mental health even if individuals explicitly consider these functions as unimportant for themselves (Zechmann, 2017). Thus, while the loss of the latent functions is an important factor in explaining why individuals suffer during unemployment, it is still unclear whether unemployed people consciously ascribe their suffering to their current employment situation and whether they would want to change it. As incongruence is based on conscious employment-related preferences colliding with an actively perceived reality, the incongruence model provides an explanation that is different from Jahoda's but does not contradict it. Therefore, although the underlying theoretical processes are clearly distinct from each other, both models complement each other in explaining the detrimental consequences of unemployment on mental health. Additionally, the incongruence model captures factors not considered by Jahoda's latent functions, like values and life goals. Thus, even if the latent functions were perceived consciously, the incongruence model would still be an important complement to Jahoda's theory. We therefore hypothesize:

Hypothesis 2a: Changes in incongruence are associated with changes in distress even when the effects of the manifest and latent functions of employment are controlled.

So far, our hypotheses covered the effects of employment status changes on incongruence levels and of changes in incongruence levels on changes in mental health. These assumptions suggest that changes in employment status also exert an effect on changes in distress, that is:

Hypothesis 3a: Changes between unemployment and employment lead to changes in mental health, with becoming unemployed leading to an increase and becoming employed leading to a reduction in distress.

Hypothesis 3b: Employment status changes between unemployment and OLF lead to changes in mental health, with changing from OLF to unemployment leading to an increase and changing from unemployment to OLF leading to a reduction in distress.

However, these hypotheses do not test for the indirect effect which the incongruence model assumes, that is, a transmission of the negative effects of job loss and reemployment on mental health via changes in people's incongruence levels. Therefore, we tested to what extent changes in incongruence levels mediate the effect of employment status changes on changes in distress.

Hypothesis 4a: Changes in incongruence mediate the effects of job loss or reemployment on mental health.

Hypothesis 4b: Changes in incongruence mediate the effects of employment status changes between unemployment and OLF on mental health.

Figure 1 displays the expected effects of employment status changes as well the expected mediation.

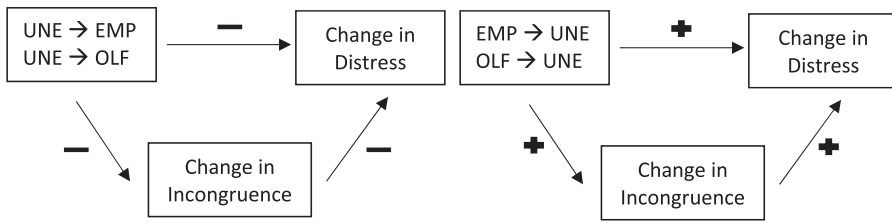


FIGURE 1 Mediation model of the effect of employment status changes on changes in distress via changes in incongruence. EMP, employed; OLF, out of labour force; UNE, unemployed.

PRIOR EMPIRICAL EVIDENCE

To the best of our knowledge, employment status incongruence among unemployed people has not yet been measured directly. As the best proxy measure available in existing research, states of incongruence can be inferred from a combination of people's employment commitment and their current employment status. If an unemployed person reports high levels of employment commitment (and an employed person reports low levels), they are deemed to be in an incongruent state. As ample evidence shows, both groups are highly committed to employment. Thus, when measured with this indirect method, employment status incongruence appears to be prevalent among unemployed people. Additionally, research showed a negative correlation between incongruent levels of employment commitment and mental health (see meta-analysis by Paul & Moser, 2006).

However, this indirect method of measuring incongruence implies a dichotomous conceptualization of employment status as 'employed' vs. 'not employed', which would lead to distorted results for OLF people or for unemployed people who would prefer to be OLF. For example, a young unemployed person could strongly prefer further education (or an older unemployed person could prefer retirement) to being unemployed, but might be uninterested in taking up a job. These people would experience incongruence between their preferred and realized employment status, but this incongruence would probably not be captured by a scale measuring employment commitment. Therefore, studies using a more direct measure of employment status incongruence—instead of inferring states of incongruence from proxy measures like employment commitment—are advisable.

Furthermore, prior studies were usually cross-sectional, which could have produced misleading results. For example, high neuroticism (see Creed et al., 2009) could simultaneously increase the likelihood of unemployment and lead to a general dissatisfaction, including about one's employment status. As general dissatisfaction would also result in high levels of incongruence, the cross-sectional association between unemployment and incongruence would then be illusory.

Meta-analyses of the few existing longitudinal showed a small significant reduction of employment commitment after job loss, but no significant change after reemployment (see Paul & Moser, 2006). However, these studies were hampered by few measurement points and small sample sizes, leading to inconclusive results. In order to overcome these problems, we tested the incongruence model with two longitudinal datasets with direct measures of incongruence, several measurement points and relatively large sample sizes, avoiding problems of low-test power.

Concerning the proposed detrimental effects on mental health, meta-analyses on the scarce longitudinal data on employment commitment (Paul & Moser, 2006) resulted in one marginally significant effect and one insignificant effect. The small sample sizes ($N < 200$) might have contributed to this inconclusive result pattern. It is thus not yet certain whether the findings are robust when tested with longitudinal data.

Moreover, evidence regarding the mediation effect of employment status changes on distress via changes in incongruence seems to be scarce. To the best of our knowledge, almost all studies scrutinizing the incongruence model so far have tested either the association of unemployment with incongruence or the effect of incongruence on distress (e.g., Creed et al., 2009; Paul & Moser, 2006). Only

one study actually conducted a mediation analysis, but this was restricted to cross-sectional data (Paul et al., 2016). Thus, our study adds important insights in the indirect effect of unemployment on mental health via perceived incongruence from a longitudinal perspective. In addition, to the best of our knowledge, no test for incremental validity of incongruence in relation to the latent deprivation model has so far been conducted. This means that no study has tested whether incongruence, when used simultaneously to the latent functions *sensu* Jahoda, is able to explain additional variance in distress that is not already explained by the latent functions. However, from the stance of theory development, this test is of particular importance in order to fully explain the underlying psychological mechanisms leading to unemployment distress. Because without incremental validity, incongruence would be redundant as a predictor of mental health. Our study aims to fill this research gap as well.

OUTLINE OF STUDIES

In order to check the robustness of our results across different designs and samples, we tested our main hypotheses with two longitudinal studies. The first one was a paper-and-pencil study with unemployed people who partly found new jobs or became OLF during the course of the study. The second sample was based on an online panel mainly consisting of employed and OLF people, with a small number of unemployed participants. In the following, we will describe the methods and results of both studies together and then discuss the implications of our results in the final section of the paper.

Study 1

The first study consists of a six-wave longitudinal study with unemployed individuals who completed paper-and-pencil questionnaires in intervals of 2–4 months. Unemployed respondents were recruited via employment agencies, counselling facilities or governmental training programmes in several German cities or with the help of charitable organizations working with unemployed people. The participants were either directly approached inside or outside these institutions or recruited via online advertisements and postings in online forums for unemployed people. Each respondent's employment status could vary between unemployment, reemployment and OLF from one wave to the other, but every participant included in the sample was unemployed at least once during the course of the study. All participants received five Euros compensation for each questionnaire that was filled out and returned.

At T1, $N=1021$ unemployed, 42 employed and three OLF people participated in our study (the employed and OLF people were included because they reported to be certain to become unemployed in the near future, for example, when a temporary job contract was ending). At T2, T3, T4, T5 and T6, $n=714$, $n=638$, $n=616$, $n=572$ and $n=520$ respondents—who were unemployed at least once during the observation period—took part. At T6, 44.30% of the participants had found reemployment. Table 1 shows the distribution of employment status at later measurement times.

The sample, consisting mainly of German citizens, had a relatively low level of education. Gender was divided almost equally between male and female respondents. Average age was 38 years. More detailed information on demographic characteristics can be found in Table 2.

Study 2

Participants of Study 2 were members of an online survey panel (respondi AG, <http://www.respondi.com>), which recruits its members via a range of different methods, for example, advertisements in social media. For the present investigation, which consisted of six waves, members were invited per e-mail and offered the opportunity to take part in a raffle as reward for participation. At T1, 1,517 persons completed the questionnaire. After data cleaning (e.g., exclusion of participants with implausibly short

TABLE 1 Study samples and different employment status groups.

Subgroup	T1	T2	T3	T4	T5	T6
Study 1						
N	1064	714	638	616	572	520
Unemployed	1021 (96%)	556 (78%)	377 (59%)	315 (51%)	271 (47%)	237 (46%)
Employed	40 (4%)	139 (19%)	224 (35%)	256 (42%)	247 (43%)	231 (44%)
OLF	3 (0%)	19 (2%)	37 (6%)	45 (7%)	54 (9%)	52 (10%)
Study 2						
N	1036	456	424	349	256	183
Unemployed	50 (5%)	20 (4%)	21 (5%)	16 (5%)	13 (5%)	7 (4%)
Employed	816 (79%)	358 (79%)	337 (79%)	284 (81%)	211 (82%)	151 (82%)
OLF	170 (16%)	78 (17%)	66 (16%)	49 (14%)	32 (13%)	25 (14%)

Note: Time 1 (T1) of Study 2 was not included in the analyses reported here because focal variables had not yet been measured at this wave.

TABLE 2 Demographic sample characteristics.

Demographics	Study 1	Study 2
Gender		
Male	49.40%	46.0%
Female	50.60%	54.0%
Age (on average)	37.54 years (SD = 12.46, Range = 15–65)	34.95 years (SD = 10.94, Range: 18–86)
Education		
Not completed school	3.2%	.2%
9 years of schooling	33.2%	5.4%
10 years of schooling	29.1%	25.2%
High-school diploma (12–13 years of schooling)	15.3%	29.0%
University degree	19.2%	40.3%
German citizenship	90.0%	99.5%
In a relationship	50.3%	63.5%
Children		
1–3 children	39.9%	24.2%
3 or more children	3.2%	1.2%
N	1.064	456

Note: For Study 1, the demographic information presented here refers to T1. For Study 2, the information refers to T2, as focal variables had not yet been measured at T1.

response times), the final sample for T1 consisted of 1036 respondents. As the longitudinal study covered various distinct topics, with incongruence being only one among several others, the measure of incongruence in this study was not assessed at T1, but only from T2 to T6. This was done in order to avoid to overstretch the time burden of the respondents, which could have resulted in a high rate of drop outs. Therefore, the analyses presented here are based on the subsample of respondents from T2 to T6. Time lags between measurement points ranged between 5 and 7 months. At T2, 456 persons took part. At T3, T4, T5 and T6, $n = 424$, $n = 349$, $n = 256$ and $n = 183$ respondents took part. The distribution of employment status at later measurement times can be found in [Table 1](#).

The study sample consisted of a small surplus of female (vs. male) respondents at T2. Average age was 35 years. The level of education was high, with 40% of the respondents having a university degree. Nearly 100% of the participants were German citizens (see Table 2).

MEASURES

Employment status

In order to capture employment status changes, we measured employment status with two separate, dichotomous variables. The variable Employment (0 = unemployment, 1 = employment) was used for the subsample of employed and unemployed individuals. The variable OLF (0 = unemployment, 1 = OLF) measured the difference between unemployed and OLF people.

Incongruence

We measured employment status incongruence with a newly developed nine-item scale. Earlier versions of this scale had been pre-tested with cross-sectional samples, which resulted in the exclusion of two of the original items and the addition of three new items. This final scale was then pre-tested with another cross-sectional sample of $N = 253$ unemployed and $N = 269$ employed people. An EFA (principal factor analysis) resulted in a clear one-factor solution with the first factor explaining 64.5% of the variance between items. No other factor had an Eigenvalue > 1.00 . Internal consistency was very good ($\alpha = .92$).

The scale referred to a preceding question asking for the respondents' current employment status, with 18 options representing a large range of possible employment status situations existing in Germany (e.g., full-time employed, part-time employed, apprenticeship, odd jobs/marginal employment, attending school, attending university, military service, voluntary year of social service, unemployment, prolonged illness/unable to work, homemaking, retirement, early retirement). This question was followed by nine items inquiring whether the respondents felt that their current employment status matched their work-related values and goals and how satisfied they were with their employment status. The nine items were as follows: (1) 'I am very satisfied with my current employment status' (reverse coded), (2) 'Actually, I would prefer to be in a different employment status', (3) 'My current employment status corresponds to my ideals' (reverse), (4) 'I am enjoying my current employment status' (reverse), (5) 'Recently, I have thought about how I can change my employment status', (6) 'My current employment status matches my values and beliefs well' (reverse), (7) 'I have recently taken specific steps to change my employment status', (8) 'With regard to my plans for life, my current employment status is exactly the right one' (reverse), (9) 'Sometimes I am a little bit envious of people who are in a different employment status than I am' (translation from German into English by the authors). Respondents answered these items on a scale from 1 = *is not true at all* to 5 = *is absolutely true*. In the longitudinal samples analysed here, internal consistency was good, with Cronbach's alpha ranging from $\alpha_{\min} = .86$ at T1 to $\alpha_{\max} = .94$ at T6 for Study 1 and $\alpha_{\min} = .91$ or higher for Study 2.

Additionally, we checked for measurement invariance within persons across the six waves (e.g., Liu et al., 2017; Vandenberg & Lance, 2000). In Study 1, the fit of the configural and weak invariance models did not differ, $\Delta\chi^2(40) = 55.69$, $p > .05$, indicating metric invariance. Thus, the factor structure and the factor loadings of the incongruence scale did not vary over time. Scalar invariance, which measures equality of intercepts (i.e., whether the same person responds to the scale in the same way at different points in time; also called strong invariance), was not achieved: $\Delta\chi^2(40) = 129.66$, $p < .0001$. In Study 2, the fit of the strong and the strict (measuring equality of residuals) invariance models did not differ, $\Delta\chi^2(4) = 1.90$, $p > .05$, indicating that the items' uniqueness (i.e., the percentage of explained variance that is not shared with other variables) was the same at all measurement points. In other words, from the participants' perspective, the meaning of incongruence was always the same from T2 to T6.

Mental health

We assessed distress with the German version (Linden et al., 1996) of the General Health Questionnaire (GHQ-12, Goldberg & Hillier, 1979) in both studies. The 12 items assessing a range of psychopathological symptoms had four response options, with higher values reflecting higher distress (sample item: 'Have you recently been feeling unhappy and depressed?'). The measure had good or very good reliabilities at all six measurement points, with Cronbach's alpha ranging from $\alpha_{\min} = .91$ at T1 to $\alpha_{\max} = .92$ at T6 for Study 1 and $\alpha_{\min} = .78$ at T2 to $\alpha_{\max} = .86$ at T6 for Study 2.

Latent and manifest functions of employment

In Study 1, access to the latent functions of employment sensu Jahoda (1981) was measured with 30 items that represented a mix of established scales (Brief et al., 1995; Evans & Banks, 1992; Feather & Bond, 1983; Miles, 1983; Šverko et al., 2008) and some newly formulated items. A more detailed description of the development of this scale can be found in a previous paper (Zechmann & Paul 2019). Cronbach's alpha for each subscale measuring the different latent functions was always at least satisfactory, ranging from $\alpha_{\min} = .81$ for the time structure scale at T5 to $\alpha_{\max} = .90$ for the collective purpose scale at T6. For the present analyses, a composite score for all latent functions was used. Using such an overall score is established practice in the research field (e.g., Brief et al., 1995; Creed et al., 2003) since the latent functions are conceptually and empirically related to each other (Jahoda, 1981). Higher scores on this measure indicate more access to the latent functions, that is, less latent deprivation (sample items: Time structure: 'My life is temporally organized and structured'; Social contact: 'I have many social contacts'; Collective purpose: 'At this time in my life I feel I'm making a positive contribution to society at large'; Status: 'I feel like no one respects me' (reverse); Activity: 'My time is filled with things to do').

In order to measure manifest deprivation, Study 1 used a four-item scale for financial strain (Creed & Macintyre, 2001; Ullah, 1990) that has been frequently used in research on Jahoda's (1981, 1982, 1997) model. Respondents were asked to rate the extent of their financial difficulties (e.g., 'Do you have serious financial worries?') on a 5-point scale ranging from 1 = *never* to 5 = *all the time*. Higher scores indicate more pronounced financial strain. Internal consistency was very good, ranging from $\alpha_{\min} = .89$ at T1 to $\alpha_{\max} = .94$ at T5.

In Study 2, the latent and manifest benefits of work scale (LaMB) by Muller et al. (2005) were used for the measurement of the functions of employment. This instrument includes 33 items, using a seven-point bipolar Likert scale format. The items were translated into German using the translation-back-translation method. Apart from the activities subscale ($\alpha_{\min} = .65$ at T4 to $\alpha_{\max} = .67$ at T3), the resulting German scales had good internal consistencies at all five waves, with Cronbach's alpha always $\alpha_{\min} = .80$ or higher. For the present analyses, a composite score for all latent functions was used. Manifest deprivation was measured by the corresponding LaMB subscale.

Demographic control variables

In both studies, we controlled for gender (0 = male, 1 = female), age (in years) and level of formal education. The reason was that meta-analyses have demonstrated that these characteristics can influence mental health in the context of unemployment (McKee-Ryan et al., 2005; Paul & Moser, 2009). For the analyses, we dichotomized education into low (not completed school, 9 years of schooling) and high education (10 years of schooling, high-school diploma, university degree) in Study 1. In Study 2, the sample showed a much higher average education than in Study 1. Thus, in order to prevent unbalanced groups, we used a different method of dichotomization: In Study 2, education was dichotomized into low (not completed school, 9 years of schooling, 10 years of schooling, high-school diploma) and high education (university degree). Counting high school as high education would have led to unbalanced groups.

DROPOUT ANALYSIS

In order to check for selective dropout, we compared participants who had dropped out of the study after T1 (i.e., who only answered the questionnaire at T1) to those who answered at least one other questionnaire after T1.

In Study 1, older, $t(525.35) = -8.70, p < .001, d = -.58$, female, $\chi^2(1) = 51.10, p < .001, d = .45$, and more educated, $\chi^2(1) = 42.14, p < .001, d = .41$, participants were more likely to respond again. Responders also reported higher incongruence, $t(1040) = -3.30, p < .01$. However, the effect size was weak with $d = -.23$. Furthermore, responders showed slightly lower manifest deprivation, $t(574.19) = 2.44, p < .05, d = -.16$. Both groups did not differ with regard to their amount of access to the latent functions, $t(1064) = -.08, p > .05$, and importantly, with regard to distress, $t(1061) = -.84, p > .05$.

In Study 2, dropouts and people answering at least one additional questionnaire after T1 did not differ with regard to their age, $t(1034) = -.59, p > .05, d = .04$, education, $\chi^2(1) = 3.58, p > .05, d = .12$, manifest deprivation, $t(1032) = -1.89, p > .05, d = .12$ and amount of access to the latent functions, $t(1034) = .19, p > .05$. Female participants were more likely to respond again after T1, $\chi^2(1) = 5.24, p < .05, d = .14$. Incongruence and distress were only measured from T2 onwards: responders had lower levels of incongruence than non-responders at T2, $t(455) = 2.21, p < .05$. Yet, this was only a weak effect, $d = .33$. Both groups did not differ with regard to the distress they experienced, $t(427) = .67, p > .05, d = .10$. Thus, we found only little attrition bias with regard to the variables that were substantively relevant for our analyses in both studies.

ANALYTICAL STRATEGY

Multilevel models

Due to the longitudinal study design, repeated measures of the same person (Level 1: within-person differences, that is, age, employment status, incongruence, distress, latent functions and manifest deprivation) were nested in people (Level 2: between-person differences, that is, gender and education). For the subsample of unemployed and employed people, the intraclass correlation was $ICC = .51$ in Study 1 and $ICC = .55$ in Study 2. In other words, 51% and 55%, respectively, of the total variability in distress resulted from variance between people, indicating the use of multilevel modelling was necessary (see Kreft & de Leeuw, 1998, pp. 9–10). For the subsample of unemployed people and people out of the labour force, the intraclass correlation was $ICC = .55$ in Study 1 and $ICC = .67$ in Study 2. As a consequence, we conducted multilevel analyses using R version 3.5.3 and packages *lme4* (Bates et al., 2015) as well as *mediation* (Tingley et al., 2014). The multilevel models calculated the average effect of changes within persons from one measurement time point to another on changes in the dependent variables. For example, regarding employment status, the average effect of changes from unemployment to employment or OLF (and vice versa) on the change in incongruence and distress was calculated. As standardization of Level 1 predictors is not possible in multilevel models, we reported unstandardized regression coefficients (Nezlek & Mroziński, 2020).

For Study 1, we specified random intercept and random slope models to allow for inter-individual differences in each person's incongruence and distress trajectories over time. For Study 2, we could only use the same method for the subsample of unemployed and employed respondents. For the subsample of unemployed and OLF people, we had to restrict our analysis to random intercept models. In this case, random intercept and random slope models (as in Study 1) would have been too complex for the relatively small sample size.

Following a suggestion by Singer and Willett (2003, p. 140), time was measured in two different ways in Study 1: the first time variable represented time individually for every respondent as the number of days passed since their first measurement occasion. Thus, the values of this time variable were not identical for each participant at a specific wave, because respondents did not all receive the

questionnaires at exactly the same day and took varying amounts of time to fill them out and send them back. This time variable was included as predictor variable in our analyses. Furthermore, we also added the interaction of time (i.e., number of days passed since first measurement) and employment status in order to test whether the *speed of change* in the respective dependent variable was different for people in differing employment situations. In addition, we added a second time variable representing the six waves of our study in order to specify random slopes (the variable clocking days would have been too complex for this purpose and would have led to non-converging model estimation). We thus specified random slopes by a variable that counted the waves of the study and ranged from 0 to 5. In Study 2, the small sample size only allowed to use the six waves of our study as the time variable. As all relevant variables were only measured from wave 2 onwards, we specified random slopes by a variable that ranged from 0 to 4.

Sequence of analyses

First, we analysed whether intraindividual changes between unemployment and (re)employment led to changes in incongruence or distress, respectively (Hypothesis 1a and Hypothesis 3a). In a second analysis, we tested for changes in these dependent variables due to employment status changes between unemployment and OLF (Hypotheses 1b and Hypotheses 3b). For both studies, the models reflect changes in employment status in both directions: from unemployment to employment or OLF as well as from employment or OLF to unemployment. Next, we tested for the effect of within-person variations in incongruence on within-person variations in distress (as reflected in Hypothesis 2). To do so, person-mean centring was applied for the incongruence variable. This allowed us to analyse the effect of deviations of a person from his or her typical level of incongruence (i.e., deviations from each respondent's person mean) on changes in distress by simultaneously controlling for the person mean (i.e., a person's typical level of incongruence, see Singer & Willett, 2003). When necessary (e.g., Hypothesis 2a), we included the person-mean centred variables for manifest deprivation and overall access to the latent functions.

Finally, we tested whether within-person variations in incongruence mediated the influence of a person's employment status changes on within-person changes in distress (Hypotheses 4a and 4b). In these analyses, we followed the guidelines of Zhang et al. (2009) for lower-level mediation in multilevel models. Therefore, we applied CWC(M),¹ that is, we included the person-mean centred predictor (i.e., incongruence) on Level 1 and its person mean on Level 2 as a control variable. This procedure enabled partitioning Level 1 predictors into their within-person and between-person variance components in order to test the effect of change within the individual independent of differences between individuals.

Robustness checks

The frequent impossibility of generating the same results across different studies which has been observed in psychological research—known as the ‘replication crisis’ (Chuanpeng et al., 2016; Maxwell et al., 2015)—highlights the need to test the reliability of empirical findings with different datasets. Thus, we tested our main assumptions with two different data-gathering techniques—respondents filling out paper-and-pencil questionnaires as well as an online panel—and two differently composed samples, that is, a sample consisting of initially unemployed people in contrast to a sample from the general population consisting mainly of employed and OLF people. Additionally, the studies covered different time intervals between measurement points: from 2 to 4 months in Study 1 to 5 to 7 months in Study 2.

¹CWC(M) = centered within context with reintroduction of the subtracted means.

Furthermore, we tested the robustness of our findings through a comparative test with and without control variables, as suggested by Spector and Brannick (2011). This comparison allowed us to examine whether and to what extent the control variables affected the observed relationships between employment status changes, unemployment and distress. As the prior empirical evidence, we refer to inferences of employment status incongruence from employment commitment among unemployed people, we also tested whether our results stayed the same when this measure was added as a control variable.² This allowed us to determine whether the observed effects were indeed associated with consciously perceived incongruence rather than the more indirect measure of employment commitment among unemployed people.

RESULTS

Descriptives

As can be seen in Table 3, incongruence was considerably larger among unemployed people compared to employed people in both studies (Study 1: Spearman's $\rho = -.54$, $p < .01$, $d = -1.98$, 95% CI = $[-2.19; -1.76]$; Study 2: $\rho = -.37$, $p < .01$, $d = -2.30$, 95% CI = $[-2.79; -1.81]$ at the second measurement point).³ It was also significantly larger among unemployed people than among OLF people (Study 1: $\rho = -.17$, $p < .01$, $d = -1.23$; 95% CI = $[-1.70; -.75]$; Study 2: $\rho = -.64$, $p < .01$, $d = -1.80$, 95% CI = $[-2.36; -1.23]$). Respondents with higher incongruence also reported higher distress (Study 1: $r = .34$, $p < .01$; Study 2: $r = .37$, $p < .01$), higher manifest deprivation (Study 1: $r = .35$, $p < .01$; Study 2: $r = .45$, $p < .01$) and lower access to the latent functions of employment (Study 1: $r = -.36$, $p < .01$; Study 2: $r = -.15$, $p < .01$).

Multilevel models

With regard to incongruence, the results endorsed Hypothesis 1a. Multilevel models showed that reemployment led to a decrease of incongruence, and losing one's job led to an increase of incongruence (Study 1: $B = -1.52$, $p < .001$; Study 2: $B = -1.69$, $p < .001$, see Table 4), while controlling for time, the interaction of time and employment status, age, gender and education. Additionally, changes between unemployment and OLF were associated with significant changes in incongruence (Study 1: $B = -.75$, $p < .001$, $d_{\text{RAW}} = -.96$; Study 2: $B = -1.32$, $p < .001$, $d_{\text{RAW}} = -1.26$, see Table 4).⁴ Employment status changes from unemployment to OLF resulted in decreases of incongruence, whereas changes from OLF to unemployment resulted in increases, as proposed in Hypothesis 1b.

In both studies, changes in an individual's employment status had profound effects on the level of incongruence. Especially the size of the effect of reemployment or job loss, respectively, was remarkably strong (Study 1: $d_{\text{RAW}} = -1.88$; Study 2: $d_{\text{RAW}} = -1.76$). For illustrative purposes, the large changes resulting from finding a new job after unemployment are shown in the graphical display⁵ in

²Employment Commitment was measured by the German version of the Work Involvement Scale (Warr et al., 1979).

³In Study 1, we chose T2 for the descriptives instead of T1 because at the first measurement point all of the employed participants knew that they would lose their jobs soon (e.g., because their time-limited contracts were about to expire), making their situation atypical for normal employment. At T2, the employed participants were in a situation that was more typical for employment in general. Another reason for choosing T2 was the extremely small number of OLF people at T1, rendering comparisons for this group pointless. In Study 2, T2 was the first wave including the measure of incongruence.

⁴For effect size calculation in multilevel models, we referred to the procedures developed in a previous paper (reference deleted to preserve anonymity). In short, the respective unstandardized regression coefficient was divided by the standard deviation of the dependent variable. For d_{RAW} (based on Cohen's d), values of .20, .50 and .80 were considered small, moderate and large. For ES (based on the Pearson correlation coefficient r), values of .10, .30 and .50, and for d_{ab} (based on a multiplication of d and r), values of .02, .15 and .40 were interpreted as small, moderate and large, in agreement with established conventions.

⁵Study 1 was chosen for the graphical display due to the considerably higher number of unemployed people compared to Study 2.

TABLE 3 Intercorrelations between variables.

	Study 1		Study 2		1	2	3	4	5	6	7	8	9
	M	SD	M	SD									
1 Employment status (UNE vs. EMP)	.20	.40	.95	.22	—	—	—	—	.09	.04	—	—	—
2 Employment status (UNE vs. OLF)	.33	.18	.80	.41	—	—	.09	—	—	.04	—	—	—
3 Gender	.57	.50	.55	.50	—	.02	—	—	—	.13**	.04	.05	.06
4 Age	39.98	12.32	36.19	22.11	—	.03	—	—	.15**	—	.05	—	—
5 Education	.70	.46	.39	.49	.09*	—	.04	.07*	—	.18**	—	—	—
6 Latent functions	4.46	1.06	4.31	.66	.31**	.02	.11**	—	.06	—	—	—	—
7 Manifest deprivation	3.42	1.22	3.91	1.77	—	—	—	.14**	—	—	—	—	—
8 Incongruence	3.83	1.03	2.99	.73	—	—	.03	.20**	.03*	—	—	—	—
9 Distress	1.25	.64	1.97	.52	—	—	.01	.06	—	—	—	—	—

Note: Figures below diagonal refer to Study 1 at T2 (N = 714). Figures above diagonal refer to Study 2 at T2 (N = 456). Pearson's *r* was used for correlations of two continuous variables and Spearman's ρ for correlations of dichotomous with continuous variables. Employment status UNE vs. EMP: 0 = unemployed, 1 = employed, Employment status UNE vs. OLF: 0 = unemployed, 1 = OLF. Gender: male = 0, female = 1. Education: 0 = low education, 1 = high education.

p* < .05; *p* < .01.

TABLE 4 Prediction of incongruence.

	Study 1		Study 2	
	UNE vs. EMP	UNE vs. OLF	UNE vs. EMP	UNE vs. OLF
Intercept	3.89*** <.001 (.07)	3.88*** <.001 (.08)	4.55*** <.001 (.16)	4.95*** <.001 (.29)
Level 1 (within person)				
Time	.00*** <.001 (.00)	.00*** <.001 (.00)	-.19** .006 (.07)	-.08 .238 (.06)
Age	.01*** <.001 (.00)	.00** .006 (.00)	.00 .782 (.00)	-.01+ .070 (.01)
Employment	-1.52*** <.001 (.06)		-1.69*** <.001 (.15)	
Time*Employment	.00 .798 (.00)		.16* .019 (.07)	
OLF		-.75*** <.001 (.13)		-1.32*** <.001 (.19)
Time*OLF		.00+ .054 (.00)		.00 .951 (.07)
Level 2 (between person)				
Education	.11** .007 (.04)	.15*** <.001 (.04)	-.15* .026 (.07)	.00 .975 (.13)
Gender	.00 .952 (.04)	.02 .648 (.04)	.02 .739 (.07)	-.01 .939 (.16)
-2*log likelihood	7772.99	5397.61	2801.09	650.34
AIC	7858.4	5480.0	2859.3	694.9
BIC	7925.6	5544.5	2915.6	727.6
R ²	.66	.63	.71	.77
N	1032	1032	490	143

Note: The table displays unstandardized coefficients. Exact *p*-values are reported beneath coefficients. Standard errors can be found in parentheses. Time: Days (Study 1)/waves (Study 2) passed since answering first questionnaire. Employment: 0 = unemployment, 1 = employment. OLF: 0 = unemployment, 1 = OLF. Education: 0 = low education, 1 = high education. Gender: 0 = male, 1 = female. Abbreviations: AIC, Akaike Information criterion; BIC, Bayesian Information Criterion; N, number of respondents with changes between unemployment and employment/OLF; R², conditional R².
+*p* < .10; **p* < .05; ***p* < .01; ****p* < .001.

Figure 2 (for Study 1). In comparison to the first measurement point, all groups of respondents reported significantly lower incongruence after they had found a new job (from $t(48) = 1.91, p < .001$, for people reemployed from T2 onwards, to $t(9) = 1.60, p < .05$, for people reemployed from T6 onwards). This change consisted of about two full scale points (on a scale from 1 to 5). Furthermore, after reemployment, all groups showed similar levels of incongruence at T6, $F(4, 137) = .41, p > .05$, irrespective of the timing of their reemployment. In contrast (see Figure 2), continuously unemployed people showed high levels of incongruence at all measurement points and only a very weak downward trend during the study period.

In accordance with Hypothesis 3a, a change of the employment status from unemployment to reemployment led to a decrease in distress in both studies (Study 1: $B = -.33, p < .001, d_{\text{RAW}} = -.51$; Study 2: $B = -.37, p < .001, d_{\text{RAW}} = -.76$)⁶ while controlling for time, the interaction of time and em-

⁶See Table S1.1 in Appendix S1.

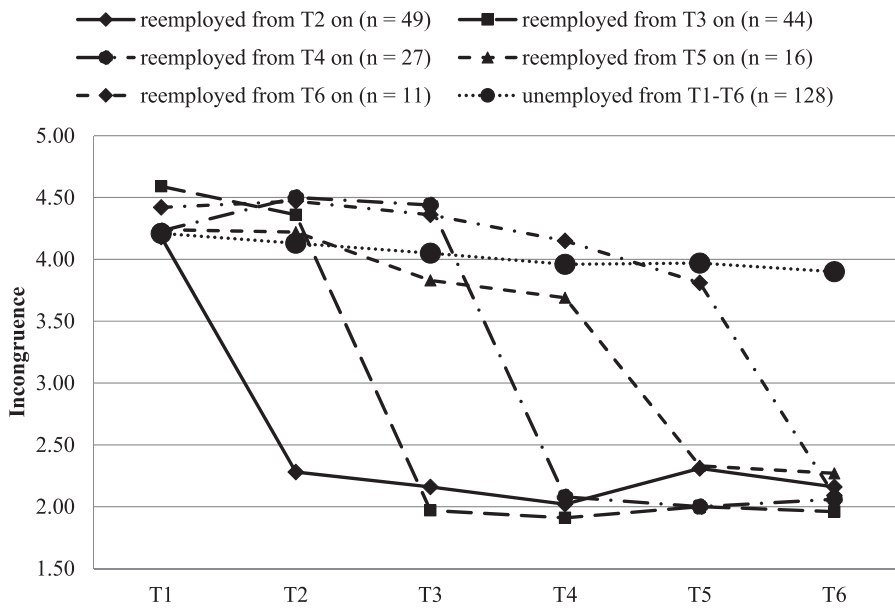


FIGURE 2 Average incongruence levels of initially unemployed people (at T1) who were reemployed from T2, T3, T4, T5 or T6 on and continuously unemployed people (dotted line) for Study 1. T, measurement point (=wave).

employment status, age, gender and education (for more details see: *reference deleted in order to preserve anonymity*). Accordingly, a change from employment to unemployment is associated with an increase in distress. With regard to Study 1, Hypothesis 3b was also supported: when a person changed from unemployment to OLF, distress decreased, while a change from OLF to unemployment led to an increase in distress ($B = -.21, p < .05, d_{\text{RAW}} = -.32$). In Study 2, while the sign pointed in the expected direction, there was no significant association of changes between unemployment and OLF and changes in distress ($B = -.19, p > .05, d_{\text{RAW}} = -.31$). Thus, Hypothesis 3b had to be rejected for Study 2.⁷

Concerning Hypothesis 2, within-person deviations from a person's typical incongruence level were associated with concurrent changes in distress (Study 1: for the subsample of unemployed and employed respondents: $B = .12, p < .001, ES = .18$, for the subsample of unemployed and OLF respondents: $B = .14, p < .001, ES = .22$; Study 2: for the subsample of unemployed and employed respondents: $B = .11, p < .001, ES = .22$, for the subsample of unemployed and OLF respondents: $B = .24, p < .001, ES = .39$)⁸ while controlling for employment status, a person's typical incongruence level, and demographics. In other words: an increase of incongruence was accompanied by an increase of distress, while a decline of incongruence was accompanied by a decline of distress. When the influence of the latent functions and manifest deprivation was controlled for, within-person changes in incongruence still predicted within-person changes in distress (Study 1: for the subsample of unemployed and employed respondents: $B = .03, p < .01, ES = .04$, for the subsample of unemployed and OLF respondents: $B = .05, p < .01, ES = .08$; Study 2: for the subsample of unemployed and employed respondents: $B = .09, p < .01, ES = .18$, for the subsample of unemployed and OLF respondents: $B = .24, p < .001, ES = .39$; see Table 5). Thus, Hypothesis 2a was supported.

Furthermore, within-person changes in incongruence mediated the effect of reemployment (and loss of employment) on distress while controlling for, age, gender and education and a person's typical incongruence level (Study 1: indirect effect = $-.19, 95\% \text{ CI } [-.23; -.16], p < .001, dab = -.29$;

⁷See Table S1.1 in Appendix S1.

⁸See Table S1.2 in Appendix S1.

TABLE 5 Prediction of distress.

	Study 1		Study 2	
	UNE vs. EMP	UNE vs. OLF	UNE vs. EMP	UNE vs. OLF
Intercept	.47*** <.001 (.09)	.42*** <.001 (.10)	1.39*** <.001 (.12)	1.03*** <.001 (.28)
Level 1 (within person)				
Time	.00*** <.001 (.00)	.00*** <.001 (.00)	.01 .839 (.04)	.01 .711 (.04)
Age	.00 .101 (.00)	.00 .184 (.00)	.00 .496 (.00)	.00 .237 (.00)
Employment status	-.05 .195 (.04)	-.17+ .075 (.10)	-.10 .239 (.09)	.20 .111 (.13)
Time*Employment status	.00* .010 (.00)	.00+ .071 (.00)	.01 .847 (.04)	-.02 .733 (.05)
Latent functions	-.32*** <.001 (.02)	-.30*** <.001 (.02)	-.13*** <.001 (.03)	-.10 .137 (.07)
Manifest deprivation	.07*** <.001 (.01)	.08*** <.001 (.02)	.03** .007 (.01)	-.02 .384 (.03)
Incongruence	.03** .004 (.01)	.05** .002 (.02)	.09*** <.001 (.02)	.24*** <.001 (.05)
Level 2 (between person)				
Education	-.05 .165 (.03)	-.07* .043 (.04)	-.01 .819 (.03)	-.04 .618 (.08)
Gender	.03 .384 (.03)	.03 .365 (.03)	.05 .197 (.04)	-.01 .920 (.09)
Incongruence	.26*** <.001 (.02)	.27*** <.001 (.02)	.21*** <.001 (.02)	.31*** <.001 (.05)
-2*log likelihood	4658.92	3825.94	1236.08	366.98
AIC	4783.7	3945.1	1335.5	444.2
BIC	4875.2	4032.9	1412.3	491.5
R ²	.69	.67	.63	.72
N	1029	1029	489	143

Note: The table displays unstandardized coefficients. Exact *p*-values are reported beneath coefficients. Standard errors can be found in parentheses. Time: Days (Study 1)/waves (Study 2) passed since answering first questionnaire. Employment status for models UNE vs. EMP: 0 = unemployment, 1 = employment. Employment status for models UNE vs. OLF: 0 = unemployment, 1 = OLF. Education: 0 = low education, 1 = higher education. Gender: 0 = male, 1 = female.

Abbreviations: AIC, Akaike Information criterion; BIC, Bayesian Information Criterion; N, number of respondents with changes between unemployment and employment/OLF; R², conditional R².

+*p* < .10; **p* < .05; ***p* < .01; ****p* < .001.

Study 2: indirect effect = -.17, 95% CI [-.23; -.10], $d_{ab} = -.35, p < .001$).⁹ This effect persisted also in the model which controlled for the manifest and latent functions (Study 1: indirect effect = -.05, 95% CI [-.10; -.02], *p* < .05, $d_{ab} = -.07$; Study 2: indirect effect = -.12, 95% CI [-.18; -.07], $d_{ab} = -.24, p < .001$; see Table 6). Thus, the reductions in incongruence that followed reemployment

⁹See Table S1.3 in Appendix S1.

TABLE 6 Multilevel analyses for testing the mediation of employment status changes on within-person changes in distress by within-person changes in incongruence when controlled for latent functions, manifest deprivation and demographic variables.

	Study 1		Study 2	
	UNE vs. EMP	UNE vs. OLF	UNE vs. EMP	UNE vs. OLF
Average indirect effect	-.05* .04 [-.10; -.02]	-.05*** <.001 [-.08; -.02]	-.12*** <.001 [-.18; -.07]	-.32*** <.001 [-.45; -.17]
Average direct effect	.00 .94 [-.05; .05]	-.10 .10 [-.22; .05]	-.09 .16 [-.23; .01]	.18+ .08 [-.02; .37]
Total effect	-.05* .04 [-.09; -.01]	-.15* .04 [-.26; -.02]	-.22*** <.001 [-.35; -.09]	-.14 .20 [-.36; .05]
Proportion mediated	1.01 .08 [-.05; 3.16]	.31* .04 [.05; 1.10]	.57*** <.001 [.27; 1.11]	1.94 .20 [-19.57; 27.71]

Note: The table displays unstandardized coefficients. Exact *p*-values are reported beneath coefficients. Numbers inside brackets are upper and lower limits of 95% confidence intervals. Each mediation analysis accounted for the effects of time, employment status, the interaction of employment status \times time, latent functions, manifest deprivation and demographic variables (age, gender and education).
+*p* < .10; **p* < .05; ****p* < .001.

significantly explained mental health improvements of unemployed people who had found new jobs. Correspondingly, the detrimental mental health effects for those who had lost their jobs can be traced back to increases in incongruence due to the change from employment to unemployment. Hypothesis 4a was supported.

In line with Hypothesis 4b, within-person changes in incongruence that followed employment status changes between unemployment and OLF explained within-person changes in distress while controlling for, age, gender and education in both studies (Study 1: indirect effect = $-.12$, 95% CI $[-.15; -.09]$, $p < .001$, $d_{ab} = -.18$; Study 2: indirect effect = $-.32$, 95% CI $[-.47; -.17]$, $p < .001$, $d_{ab} = -.52$).¹⁰ This mediation effect still existed when manifest deprivation and access to the latent functions was additionally controlled for (Study 1: indirect effect = $-.05$, 95% CI $[-.08; -.02]$, $p < .001$, $d_{ab} = -.08$; Study 2: indirect effect = $-.32$, 95% CI $[-.45; -.17]$, $p < .001$, $d_{ab} = -.52$, see Table 5).

Robustness of results

Our first robustness check, that is, the different study designs and differently composed samples, showed a high reliability of the results: employment status changes showed the same effects on incongruence and distress, regardless of the sampling technique, the number of OLF and unemployed people as well as the time intervals between the different measurement points. The mediation effects could also be identified in both samples. In addition, our results proved to be robust whether or not control variables were used: The effects of employment status changes and changes in incongruence remained statistically significant when the control variables age, gender and education were excluded from the analysis. Additionally, the effect sizes of the analyses with and without control variables were very similar or almost identical in all cases. Adding employment commitment as a

¹⁰See Table S1.3 in Appendix S1.

control variable also had no noteworthy impact on the statistical significance, direction and size of effects.¹¹

DISCUSSION

The studies reported here are the first ones using a direct measure of employment status incongruence with high reliability and constitute the first thorough longitudinal test of the incongruence model. In line with the incongruence model's assumptions, becoming unemployed was associated with increases in perceived incongruence, while leaving unemployment was accompanied by reductions of incongruence. Interestingly, this was not only true for comparisons of unemployment with employment, but also for comparisons of unemployment with being out of the labour force. Thus, elevated levels of incongruence appear to be a distinctive feature of the unemployment experience that differentiates it not only from the situation of employment but also from other types of employment status. Despite lacking the possibility to determine causal relationships with certainty—as provided by true experiments—studies which include control groups and pretests of the outcome variable are an acceptable method to infer causality also from quasi-experimental designs (Shadish et al., 2002). Both criteria are met in our multilevel analyses. Additionally, the changes in employment status always happened before the next measurement of incongruence in the samples of our analysis. Thus, we can assume that the employment status changes indeed were causes of the subsequent changes in incongruence levels, and not the other way around.

The effect of employment status changes on incongruence levels was rather large: Reemployment and a change from unemployment to OLF led to a considerable drop in incongruence levels. The corresponding effect sizes were substantially larger than the typical effect sizes of employment status changes on the latent functions as a dependent variable—not only in our study,¹² but also in comparison to prior, cross-sectional analyses of the effect of employment status on the latent functions sensu Jahoda (Aitken et al., 2024; Paul et al., 2023). The larger influence of employment status changes on incongruence than on the latent functions suggests that not being in the employment status one wants to be in captures the psychological core of the unemployment experience more comprehensively than being deprived of work and its consequences. This finding adds further weight to the interpretation that, in (post)industrial societies, incongruence represents something very close to a constitutive element of the experience of unemployment on a psychological level. This would also mean that other employment situations that seem to be very different at first glance share an important characteristic with unemployment which influences mental health, that is, incongruence. Examples would be older employees with a strong wish for early retirement, or full-time workers preferring part-time work.

Furthermore, changes in incongruence predicted changes in distress over five and six waves, respectively. This result remained stable even when we controlled for the influence of Jahoda's (1981) latent and manifest functions of employment. The mediation analyses further confirmed that the negative effects of the changes in employment status on mental health were transmitted by changes in incongruence. Thus, the incongruence model's focus on employment status preferences and their mismatch to an individual's current life situation provides an independent explanation of the negative effects of unemployment that is not already covered by the most established theoretical account in the field, that is, Jahoda's latent deprivation model. In other words, even if all latent and manifest functions would be fulfilled in unemployment, unemployed people would still experience

¹¹The analyses without control variables as well as the analyses with employment commitment are available in Appendix S2.

¹²A change from unemployment to employment lead to an increase in the latent functions in the size of $d_{\text{RAW}} = .62$ for Study 1 and $d_{\text{RAW}} = .14$ for Study 2 (vs. a decrease in incongruence of $d_{\text{RAW}} = -1.88$ and $d_{\text{RAW}} = -1.76$, respectively). A change from unemployment to OLF lead to a decrease in the latent functions in the size of $d_{\text{RAW}} = -.01$ for Study 1 and an increase in the size of $d_{\text{RAW}} = .39$ for Study 2 (vs. a decrease in incongruence of $d_{\text{RAW}} = -.96$ and $d_{\text{RAW}} = -1.26$, respectively). Employment status changes in the opposite direction are associated with the same effect sizes in the opposite direction.

some impairment in mental health due to the perceived incongruence with their employment status. Thus, Jahoda's latent deprivation model and the incongruence model are two independent theoretical models that complement each other in helping to explain the negative effects of unemployment on mental health. Furthermore, in contrast to the latent deprivation model, the incongruence model is also theoretically and empirically able to explain the regularly observed mental health differences between unemployed people and people who are not part of the workforce (OLF; Paul & Moser, 2006). Jahoda's model cannot explain why people in this group show lower levels of distress than unemployed persons without auxiliary assumptions, because both groups are out of employment and should thus both suffer from a similar loss of the latent functions of employment. The incongruence model, by contrast, is able to explain the mental health differences between unemployed and OLF people, as only the former are found to be in incongruent psychological states and thereby experience its negative consequences on mental health. In addition, the incongruence model takes a novel stance regarding the prevailing work-related ideology: Jahoda's model generally endorses the high value of employment in society by claiming that employment is inherently beneficial due to its ability to satisfy important psychological needs. In contrast, the incongruence model's focus on values and life goals suggests that an important cause of unemployed people's suffering could be altered by intentionally changing society's prevailing (yet probably not immutable) attitude towards employment.

Limitations

In Study 1, we found a significant selective dropout with regard to initial incongruence levels. This might have influenced the results: since unemployed people with a higher sense of incongruence had a higher likelihood to stay in the study than unemployed people with low incongruence, the reduction in incongruence that is associated with reemployment might have been overestimated due to a regression towards the mean and the effect of this reduction on distress levels might thus have been biased, too. However, the effect size of this selective dropout was small. Furthermore, the dropout effect in Study 2 pointed in the opposite direction, yet results of the hypotheses tests were comparable to the results of Study 1. Thus, we consider it unlikely that selective dropout has severely distorted our findings.

The scale that was used to measure employment status incongruence showed a high internal consistency in both longitudinal studies. With regard to the question of measurement invariance, strict invariance was only achieved in the second study. For the first study, we found configural and metric invariance, but not scalar invariance, meaning that the factorial structure and the loadings of the items on the latent factor for incongruence did not change over time, but the means of the latent variable differed across the time points of the study. Yet, in contrast to the second study, Study 1 was characterized by a large number of changes in employment status, usually from unemployment to employment. A change in the mean of the latent variable is therefore not surprising and consistent with our hypotheses. We think that the decisive test in such a situation is for invariance of the scale's factorial configuration and factor loadings, which were both achieved.

A limitation specific to Study 2 is the small sample size for the analysis involving unemployed and OLF people. This made it necessary to use random intercept models instead of random intercept and random slope models as in the other analyses. The former models are more restrictive because they assume that the trajectory of change is identical for all participants, which might be an unrealistic assumption. Further research using larger sample sizes that allow estimating the more complex random intercept and random slope models is needed here.

Although the multilevel models include all possible changes between employment states, the uneven distribution of the groups of unemployed, employed and OLF people poses another limitation. In Study 1, the majority of participants were initially unemployed. Over time, a reduction in the number of unemployed and an increase in employed and—to a smaller extent—OLF people was observed. Thus, the

most frequent change in employment status occurred from unemployment to employment. However, changes from employment or OLF to unemployment were also observed. In Study 2, most people were employed and a considerable number of people were OLF at the beginning of the observed period. In this case, the different directions were more balanced: regardless of the uneven sample distributions, no specific type of change from one employment status to another is considerably more frequent than others. However, despite the majority of employment status changes leaning in one direction in Study 1, our results are consistent across both studies.

A more comprehensive analysis (which would require a bigger sample size) could distinguish between subgroups within the categories of unemployed, employed and OLF people. For example, the category of unemployed individuals could include a minority of people who only pretend to search for work, but prefer to live of benefits; incongruence could also vary with the extent of employment relationships (i.e., part- or full-time) and with their security (i.e., temporary or permanent contracts). Additionally, levels of incongruence might vary between students, homemakers and retired persons. While the interest of our study is in analysing incongruence between the three broad categories, another strand of research has already considered the effect of (in)congruence with regard to preferred and actual working hours on outcomes like mental health and work-related attitudes (Burke & Greenglass, 2000; Holtom et al., 2002; Loughlin & Murray, 2013). An analysis of incongruence and its effect on mental health in different subgroups of unemployed people and OLF people would certainly also be very interesting and of high importance. However, the three broad categories our study focuses are used in official labour market statistics and related laws and are therefore crucial for defining an individual's position in society. Thus, we believe that it is equally interesting to scrutinize incongruence on the level of these relatively broad categories, and not only on the level of more specific subgroups. Furthermore, the analysis of incongruence with these three employment states contributes to the theoretical explanation of the detrimental consequences of unemployment on mental health. Since unemployment is a mass phenomenon, explaining its the negative effects on mental health is highly important from a public health perspective.

Finally, our theoretical assumptions and the historical analyses we cited are mainly restricted to (post-)industrial societies from the Western world. Nevertheless, as pointed out in our theoretical section, a high level of work commitment can be found in economically developed societies worldwide, which would be an indicator of incongruence among unemployed people. Yet, to analyse the determinants of this high value of work in non-Western countries is beyond the scope of the present paper and a question for further research. In addition, more traditional societies may be characterized by different value systems. In summary, although our findings cannot be generalized for all existing societies, our analysis is at least of importance to understanding the detrimental consequences of being out of paid employment in the industrial and post-industrial world.

Implications for research and practice

In general, the incongruence hypothesis is less essentialist than Jahoda's (1981, 1982, 1997) manifest and latent deprivation model insofar as it does not recur to inherent and stable characteristics of employment in order to explain unemployed people's suffering. The deprivation model assumes the latent functions to be of the same universal importance for everyone and to be a core element of the very nature of employment. In contrast, the incongruence model takes a more relativist stance and focuses on employment-related values and life goals. While being generally high in developed societies, these values are not inherently immutable and tend to change during an individual's lifetime, as illustrated by the low incongruence levels among OLF persons. Thus, the incongruence model does not only offer an explanation for the relatively low distress levels found among OLF people (which the latent deprivation model struggles to explain, given that they are out of employment and its beneficial consequences), but also implies the opportunity to alleviate unemployed people's distress by creating or strengthening a positive attitude towards roles outside of employment in their lives. For unemployed people with slim chances of reemployment, for example, older persons with low education suffering from health

problems, it might sometimes even be advisable to develop interventions foregrounding the value of other meaningful activities, like volunteering or other activities in the community, or educational or sports programmes. Future research is needed to identify which of these activities contribute most to enhancing unemployed people's mental health. This research could then provide suggestions for policy interventions targeted at improving the mental health of unemployed people.

Due to the high value of employment in industrial and post-industrial countries, a total obliteration of incongruence among unemployed people with slim chances of reemployment seems unlikely. However, the shift in focus might partly reduce individuals' strong preferences for employment and thereby improve their mental health. This kind of interventions could lower costs for the health care system, even if this might also reduce job search intensity in the short run. In the long run, however, the stabilization of mental health could increase the chances of reemployment (Butterworth et al., 2012; Paul & Moser, 2009). A possible focus for interventions aiming at the stabilization of mental health of unemployed people with slim chances of reemployment can be deduced from prior research, which identified the reduced realization of agency-related life goals (i.e., power, achievement and variability) as contributing to lower life satisfaction among unemployed people (Paul et al., 2016). This finding suggests that interventions foregrounding communion-related life goals, that is, focusing on satisfying relationships with other people, could contribute to reduce incongruence in this group.

Research identifying activities which mitigate the detrimental consequences of unemployment on mental health could also prove to be useful on a wider scale. We do not know whether increasing automatization will indeed lead to a massive loss of jobs, as has been predicted (Frey & Osborne, 2017). The current rise of artificial intelligence additionally leads to pessimistic predictions concerning future unemployment rates, particularly if no broad-scale measures of reskilling are taken (Virgilio et al., 2024). However, should we one day really live in a world where employment has become the refuge of a small class of privileged people, the incongruence model offers a hopeful perspective telling us that we are able to re-build our values and beliefs in a way that would allow us to successfully adapt to this new jobless world. This would not be without precedent. During classical antiquity, work had a considerably worse reputation than it has today (Conze, 1972, p. 155 f.; Meier, 2003, p. 28). Maybe we will one day revive such attitudes.

AUTHOR CONTRIBUTIONS

Karsten Ingmar Paul: Conceptualization, funding acquisition, investigation, methodology, project administration, supervision, validation, writing—original draft, writing—review and editing. **Andrea Zechmann:** Data curation, methodology, investigation, project administration, formal analysis, software, validation, writing—original draft. **Monika Mlynec:** Formal analysis; methodology; software; visualization; writing – review and editing. **Barbara Stiglbauer:** Investigation, methodology, project administration, writing—original draft. **Eva Selenko:** Investigation, methodology, project administration, writing—original draft. **Bernad Batinic:** Funding acquisition, resources, supervision, writing—original draft. **Klaus Moser:** Funding acquisition, resources, supervision, writing—original draft.

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CONFLICT OF INTEREST STATEMENT

There are no conflicts of interest to declare.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study will be available from the corresponding author upon reasonable request after completion of the longitudinal studies.

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SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

Appendix S1.

Appendix S2.

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