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Cost of Unemployment

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Abstract

We use the differences between life satisfaction and emotional well-being of employed and unemployed persons to analyze how a person's employment status affects cognitive well-being. Our results show that unemployment has a negative impact on cognitive, but not on affective well-being, which we interpret as a loss in identity utility. Living in a partnership strengthens the loss in identity utility of men, but weakens that of women. Unemployment of a person's partner reduces the identity loss of unemployed men, but raises it for women. These results suggest that the unemployed's feeling of identity is affected by traditional gender roles, while this does not seem to be the case for the affective part of their subjective well-being.

JEL-Code: I310, J600, J220.

Keywords: unemployment, happiness, life satisfaction, Day Reconstruction Method, identity, partnership, gender roles.

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1. Introduction

Unemployed people report a lower subjective well-being than employed people. Only part of this difference in well-being can be attributed to the income loss from unemployment. The remaining – and arguably even larger – part is caused by the loss of non-pecuniary benefits of employment (cf. Winkelmann and Winkelmann 1998). According to Knabe et al. (2010), these non-pecuniary losses are mainly detrimental to the unemployed's general assessment of their life circumstances, while their affective or emotional well-being in everyday life does not suffer. Since life satisfaction reflects a combination of cognitive and affective components of subjective well-being, these results suggest that the loss of cognitive, non-affective benefits of employment, such as the definition of personal status and identity that is derived from conforming to social norms (cf. Jahoda 1981), is decisive for the reported misery of unemployed people.

The identity approach developed by Akerlof and Kranton (2000) provides a promising framework for separating the utility loss resulting from a loss in status and identity from the utility loss that results from changes in the affective experiences. They divide an individual's total utility function into an individualistic part and an identity part. The individualistic part “captures the standard economics of own actions and externalities” (Akerlof and Kranton 2000, p. 719) and is directly related to affective experiences. The second “identity part” of the utility function represents cognitive judgments. It is only this latter part that takes account of the cognitive assessments of personal circumstances. Suffering from unemployment can be attributed to the deviation from a social norm only to the extent to which unemployment lowers this part of the utility function.

The main problem that arises with this approach is separating the impact of unemployment on the two parts of the “identity-augmented” utility function empirically. In this paper, we provide a new identification strategy: by analyzing two distinct well-being measures, we are able to distinguish between changes in cognitive well-being (related to social status and identity) and changes in affective well-being (reflecting other influences present in daily experiences).

The first measure is the respondents' global assessment of their life satisfaction, which combines the cognitive and affective components of well-being. The second measure of subjective well-being aggregates information on the experience of different emotions during the day, which allows the emotional, affective components of happiness to be captured (see

Kahneman et al. 2006). By exploiting the different degrees to which the two measures reflect cognitive and emotional aspects of subjective well-being, we can isolate the effect of unemployment on identity utility, i.e. we can separate social norm effects from other effects affecting well-being.

Our data also allows us to investigate how strongly the effect of own unemployment on identity depends on family status and the employment status of one's partner. Being single or living in a partnership may affect how important employment is for an individual's social status. If traditional gender roles matter, then having a family might raise the societal expectation to have a job for men (who are assumed to be the "breadwinner" of the family), whereas it might reduce this expectation for women (who can revert to the traditional role of the "housewife"). Similarly, the employment status of a partner may affect the degree to which one suffers from deviating from the social work norm. *A priori*, the effect can go in either direction. One possibility is that being unemployed hurts one's well-being more if one's partner is also unemployed because one cannot shift the responsibility to be the breadwinner onto one's partner. The reverse effect is also conceivable: the partner's unemployment may alleviate the well-being loss from own unemployment if it means that the strength of the social work norm within the family is reduced.

We find strong support for social norm effects of unemployment for both men and women independently of the employment situation of their partners. Living in a partnership is beneficial for the cognitive well-being of employed men, while the reverse is true for unemployed men. However, the latter suffer less when their spouses are also unemployed. This suggests that the strength of the social work norm within the family is reduced if the female partner is unemployed. Even though unemployed men may no longer be the breadwinner of the family, they do not suffer from having to shift this burden to their wives. For unemployed women, by contrast, cognitive well-being is higher if their partners are employed. Apparently, having an employed partner eases women's retreat to traditional gender roles and provides a way for unemployed women to redefine their identity and thus at least partially restore their identity utility.

There are striking differences in the way unemployment and partnership affect cognitive and affective well-being measures. Even though the cognitive well-being of unemployed men with employed wives is the lowest of all groups, they report the highest average level of affective well-being. For both unemployed women and men, it turns out that the

unemployment of the partner has a negative impact on their affective well-being. Such findings highlight the multidimensionality of well-being and the importance of distinguishing between different dimensions of well-being.

We will proceed as follows. After a brief review of the related literature, section 3 discusses the strategy with which social norm effects are identified. Section 4 describes the survey design. Section 5 presents the main results derived from both descriptive statistics and sections 6 and 7 provide regression analyses. The last section summarizes the main findings and concludes.

2. Related literature

The relative importance of the different channels by which unemployment affects subjective well-being has been examined in psychological studies, which use survey data containing self-reported information about respondents' subjective well-being and their perceived deprivation of the latent benefits of work. These studies generally show that the loss of social status and identity emerges as the most important non-pecuniary cost of unemployment (cf. Creed and Macintyre 2001, Paul and Batinic 2010).

Instead of using subjective information on people's perceived social status, the economic approach to analyzing the impact of unemployment on well-being is to use external circumstances as indicators for the perceived social statuses of employed and unemployed persons. For example, Clark (2003) studies the relationship between regional unemployment rates and mental health in Britain. His results show that the well-being gap between the employed and unemployed narrows as regional unemployment increases. This suggests that the social work norm is weakened if unemployment becomes a social normality. Similar results have been found for the United Kingdom (Shields and Wheatley Price 2005), Australia (Shields et al. 2009), South Africa (Powdthavee 2007), and Germany (Clark et al. 2010). Chadi (2011), however, argues that it is not unemployment *per se* that drives these results, but the fact that one becomes a welfare recipient, providing further (indirect) evidence for the existence of social norm effects.

Clark (2003) also analyzes the role of the employment status of spouses. His findings suggest that while employed people report lower mental well-being when other family members are unemployed, the mental well-being of unemployed men is significantly higher when their spouse is unemployed. Unemployed women suffer less than employed women

from their partners' unemployment. Similar results are found by Scutella and Wooden (2008) with Australian data. Both papers report that it is not just a partner's unemployment that alleviates the effect of one's own unemployment, but that this effect also occurs when the partner is out of the labor force.

These studies, however, could not distinguish between the cognitive and emotional effects of unemployment because they use composite well-being measures (e.g. the GHQ-12 and life satisfaction). Their findings are also consistent with an alternative explanation for the positive impact of a partner's non-employment on the well-being of an unemployed person. The partner's presence might (also) affect one's emotional experiences during the day by influencing the way in which unemployed people spend their leisure time. Being unemployed and alone may be much harder to bear than being unemployed when there is a partner with whom to spend the time. The utility derived from leisure may thus depend on the possibility of spending this time with other family members, in particular with one's partner. Hence, the same circumstances that affect the unemployed's subjective well-being through a social norm effect may also affect it by changing their emotional experiences during everyday activities. To get a clear picture of the total effects of the employment status of partners on the subjective well-being of employed and unemployed persons, it is thus necessary to identify the impact of social norms and identity and to separate them from emotional effects.

3. Social norms and identity: two new identification strategies

To identify the reasons for the misery of the unemployed, it is necessary to learn more about how cognitive and affective components of subjective well-being are affected when people become unemployed. We apply the theoretical decomposition of subjective well-being into an affective and a cognitive component as suggested by the identity approach (Akerlof and Kranton 2000). The individualistic part of utility depends directly on a person's own (and potentially also other's) actions, which determine the consumption of goods, services, and leisure. This utility component is directly affected by emotional or affective experiences. The second "identity part" of the utility function represents cognitive judgments. It is only this latter part that takes account of the utility derived from adhering to the social norms and ideals relevant for one's own social category. People derive "identity utility" from the status of the social categories to which they belong and from the degree to which they conform to the

norms of these social categories. They suffer a loss of identity utility if they deviate from these norms.

In order to separate the two components of a person's total utility empirically, we need two distinct self-reported measures of subjective well-being that are saturated to varying degrees with judgment and affective experience.

- *Affective well-being* is related to the individualistic part of the utility function. It refers to the pleasantness of people's emotional lives and can be represented by the summation of the strength of positive and negative feelings people actually experience over time (Kahneman 1999).
- *Cognitive well-being* is related to the identity utility. It encompasses global evaluative judgments of one's life circumstances. People have to create a reference framework for what constitutes the best and the worst possible life and then compare their own life circumstances with these extremes. To do so, people take into account how other people are living and how their own life was at other points in time (Dolan and Kahneman 2008). They also consider their purpose and meaning in life, which transcends the day-to-day experiences relevant for affective well-being (Loewenstein 2009).

Reported emotions, gathered, for instance, with the Day Reconstruction Method (DRM, Kahneman 2006), mainly reflect a person's affective experiences. A comparable measure for cognitive well-being is not at hand. However, we can measure the cognitive well-being indirectly by exploiting the fact that life satisfaction, the most popular measure of subjective well-being, is a (one-dimensional) construct in which respondents have already weighted and aggregated many aspects of their individual well-being. Although answers to the standard question about one's general life satisfaction mainly reflect the cognitive, judgmental assessment of what constitutes a satisfied life, the life satisfaction measure is also influenced by emotional aspects (cf. Diener et al. 2009, Kahneman and Deaton 2010). Having information about people's emotional well-being and contrasting this affective measure with overall life satisfaction, we can derive cognitive well-being as a residual measure of life satisfaction.

We operationalize identity theory in a way that allows us to empirically test for the social norm effects of unemployment. We assume that reported life satisfaction LS_i is an empirical proxy for total utility and is represented by an additively separable life satisfaction function in

which affective experiences A_i affect the individualistic utility component f only and do not enter the cognitive assessment function g of a person's self-image or identity, denoted by I_i :

$$LS_i = f(A_i) + g(I_i) + h(v_i). \quad (1)$$

As life satisfaction also depends on other factors v_i , such as personal and cultural characteristics (see e.g. Diener et al. 1985 for a discussion), we also include a third function $h(v)$ in equation (1). $f(A)$ and $g(I)$ are monotonously increasing functions.

We are interested in how i) one's own employment status, ii) family status, and, if applicable, iii) the employment status of one's spouse influence affective experiences and identity utility. Hence, we are interested in W_i (*own employment status, family status, employment status of the spouse*), where $W_i \in \{A_i, I_i\}$ denotes the affective or cognitive well-being measure. In what follows, we denote "being employed" by e and "being unemployed" by u . Furthermore, we represent "being single" by s and "living in a partnership" by p . Since we will analyze a cross-sectional survey in this paper, we compare the subjective well-being of different persons in different situations. With respect to their affective experience, we may ask, for instance, in which direction a person's employment status relates – on average – to affective experiences A when people live together with a spouse who is in employment

$$\Delta A(e/u, p, e) = \frac{1}{N} \sum_{i=1}^N A_i(e, p, e) - \frac{1}{M} \sum_{j=1}^M A_j(u, p, e), \quad (2)$$

where N denotes the total number of employed persons whose spouse is employed and M denotes the total number of unemployed persons whose spouse is employed. If $\Delta A(e/u, p, e) > 0$, unemployed people report lower *affective well-being* than employed people with the same type of partner.

In the same way, we may examine the relation between the life satisfaction of unemployed persons and their spouse's employment status:

$$\Delta LS(e/u, p, e) = \frac{1}{N} \sum_{i=1}^N LS_i(e, p, e) - \frac{1}{M} \sum_{j=1}^M LS_j(u, p, e). \quad (3)$$

If $\Delta LS(e/u, p, e) > 0$, unemployment would be negatively related to the life satisfaction, i.e. the *total utility*, of people with employed partners.

Without making any more restrictive assumptions, we can apply a first identification strategy. Even though identity utility is not directly observable, using the differences (2) and

(3), we can derive qualitative statements from equation (1) when one's own employment status affects the two measures in opposite directions. Using (1), we have

$$\begin{aligned}\Delta I(e/u, \cdot) &= I(e, \cdot) - I(u, \cdot) \\ &= g^{-1}(LS(e, \cdot) - f(A(e, \cdot)) - h(v)) - g^{-1}(LS(u, \cdot) - f(A(u, \cdot)) - h(v)).\end{aligned}\quad (4)$$

Since g^{-1} is a monotonously increasing function, we have $\text{sgn}[\Delta I(e/u, \cdot)] = \text{sgn}[\Delta LS(e/u, \cdot) - \Delta f(A(e/u, \cdot))]$ with $\Delta X(e/u, \cdot) = X(e, \cdot) - X(u, \cdot)$, $X \in \{I, LS, A\}$, and $\Delta f(A(e/u, \cdot)) = f(A(e, \cdot)) - f(A(u, \cdot))$. Even without knowing the precise functional form of $f(A)$ (with $f'(A) > 0$), we can sign ΔI , and observe an identity effect, if the differences of the two measures are of different signs. For instance, we have

$$\Delta LS(e/u, p, \cdot) > 0 \wedge \Delta A(e/u, p, \cdot) < 0 \Rightarrow \Delta I(e/u, p, \cdot) > 0, \quad (5)$$

where at most one of the two inequalities on the left-hand side may be a weak inequality. If employed persons report a higher life satisfaction than unemployed persons (for a given employment status of their partner) while their affective well-being is smaller than that of unemployed persons, one can conclude that being in employment has to be associated with higher identity utility than being unemployed, and thus reflects a positive social norm effect.

In the same way, we can analyze whether the presence of a partner might have an influence on identity utility by looking at $\Delta I(\cdot, s/p, \cdot)$ and how a partner's employment status may affect one's own identity utility, e.g. $\Delta I(\cdot, \cdot, e/u)$.

The first identification strategy has the potential to reveal identity effects. However, due to the very strong requirement that the impact on life satisfaction and affective well-being has to be of opposite signs, we may not be able to find robust evidence for the existence of identity effects even if they are actually present. In particular, this method does not allow the identification of social norm effects when unemployment affects both affective experiences and cognitive assessments in the same direction.

To overcome this problem, we apply a second identification strategy that makes explicit use of the magnitudes of the estimated effects by making more restrictive assumptions about the functional form of $f(A)$ and $g(I)$. In the following, we apply a linear version of equation (1):

$$LS_i = \omega_A \cdot A_i + \omega_I I_i + \omega'_v v_i, \quad (1\text{-linear})$$

where $\omega_A, \omega_I > 0$ and the vector ω_v denote the unknown weights with which affective experience A_i , identity utility I_i , and a vector of other factors, v_i , enter life satisfaction. With such a specification, we can estimate how life satisfaction depends on one's own employment status, partnership status, employment status of the partner and potential interactions. When we regress life satisfaction on personal economic and socio-demographic characteristics, while controlling for individual differences in affective experiences A_i , a significant residual relationship between a person's employment status and life satisfaction would be suggestive of an identity effect.

4. Survey design

Between March and July 2008, we interviewed a total of 1,054 persons in Germany, of whom 737 respondents were either employed full-time or unemployed without being engaged in any type of welfare program. From these 737 persons, we had to drop 25 interviews due to lack of understanding and missing answers. The total number of usable interviews was 712, 365 of which were with full-time employees and 347 were unemployed. 364 persons (194 employed and 170 unemployed) were interviewed in the region in and around Magdeburg, and 348 persons (171 employed and 177 unemployed) were interviewed in Berlin. Interviews lasted between 30 and 60 minutes.

Both employed and unemployed respondents were selected randomly. The unemployed were approached directly by the interviewers in the local employment offices and asked whether they would like to participate in a survey. They could then choose whether the interview would take place directly on site, at their home, or at the local university. We only interviewed long-term unemployed persons eligible for the means-tested "Unemployment benefit II". Unemployed interviewees received a compensation of 10 euro. About 15 percent of the unemployed we approached participated in the interview. To recruit employed respondents, we randomly selected addresses from the telephone directory of the district of the employment offices and sent a letter in which we briefly explained the purpose of our study (without yet mentioning that we would ask respondents to provide information about their time-use and feelings) to these households and told them that we had selected them to participate in the study. Within three days, we gave all these households a telephone call to make an appointment for the face-to-face interview, which then took place either at the university or at the interviewee's home. Of all the persons contacted and willing to talk to us

on the phone, 55 percent were in the target group, i.e. full-time employed. Among these, roughly 20 percent were willing to participate in our survey. Employed respondents did not receive a compensation payment. To make the sample representative for the entire German population, we calculated survey weights based on sex, age, vocational training, family status, unemployment duration, and day of the week, using representative data from the German Socio-Economic Panel. In all the following analyses, we will make use of the weighted data.

To assess the emotional well-being of survey respondents, we applied the Day Reconstruction Method (DRM), developed by Kahneman et al. (2004a, b). The central point is the measurement of affective experiences of the participants during the previous day. Using a standardized survey questionnaire, the respondents were asked to list all activities they were engaged in during the course of that day, beginning with the first one after waking up and concluding with the last one before going to bed, and to note the start and end time of each activity. After finishing this part of the questionnaire,¹ respondents had to describe each activity by answering questions concerning what exactly they did during that activity, with whom they interacted, and how they felt during each activity listed in their diary. We specifically asked respondents to assess how strongly they experienced various affect dimensions on a scale from 0 (“not at all”) to 10 (“very much”). Positive affects were measured using the attributes “relaxed”, “happy”, “comfortable/at ease”, and “enjoying myself”. Negative affects comprised “lethargic/dull”, “insecure/anxious”, “stressed”, and “frustrated/annoyed”.

To compare the affective experience between different individuals, we calculated the *net affect*, a common measure of mood in the psychology literature (Bradburn 1969). The net affect is constructed as a single index of affective experiences, defined as the difference between the average score the respondent gives to all positive attributes and the average score of all negative attributes. Defining A_{ij} as person i 's net affect during activity j , we have

$$A_{ij} = \frac{\sum_{l=1}^L PA_{ij}^l}{L} - \frac{\sum_{k=1}^K NA_{ij}^k}{K}, \quad (6)$$

¹ When conducting the survey, we followed the recommendation by Kahneman et al. (2004c) that the diary be completed before respondents become aware of the specific contents of later questions. Otherwise their construction of the diary might suffer from selection bias.

where PA_{ij}^l represents the affect score of the l -th (out of L) positive emotion person i reports for activity j , and NA_{ij}^k represents the affect score of the k -th (out of K) negative emotion. The time-weighted affective experience over the course of the day is then given by

$$A_i = \sum_j h_{ij} A_{ij}, \quad (7)$$

where h_{ij} is the fraction of total waking time person i spends on activity j .²

In the final part of the questionnaire, respondents answered questions about themselves and their life circumstances, e.g. job satisfaction (where applicable), health status, education, income, number of children, social contacts, employment, and marital status. At the very end of the survey, we asked people about their subjective assessment of their life satisfaction LS_i . Respondents were asked to answer the question “How satisfied are you with your life as a whole?” on a scale from 0 (“not at all”) to 10 (“very much”). Instead of these questions being asked at the beginning, they were asked at the end of the interview to avoid that drawing attention to these issues would influence the responses to other questions.

5. Results

In Knabe et al. (2010), we use the same dataset to analyze the differences in affective and cognitive well-being of employed and unemployed persons. In this paper, we extend the analysis by looking at the effects of partnership and the partner’s employment status on subjective well-being and by empirically separating the identity effects of unemployment.

Table 1 summarizes some descriptive statistics for the subsamples of single and partnered respondents (also separated by their partner’s employment status). Each of these subsamples is separated further into subsamples of the employed and the unemployed. The groups are quite similar with respect to their personal characteristics. The strongest differences arise with respect to household income and the level of education. On average, employed people enjoy a substantially higher net household income and have obtained higher levels of education than unemployed people in our sample.

² For a discussion of the net affect and alternative measures of affective experiences see e.g. Knabe et al. (2010).

Table 1: Descriptive statistics

	single		partnered							
	employed	unemployed	overall		partner employed		partner unemployed		partner inactive	
			employed	unemployed	employed	unemployed	employed	unemployed	employed	unemployed
Age	40.3	42.4	42.4	39.9	43.2	38.5	37.6	42.2	50.1	45.9
Male	55.9%	62.2%	27.9%	55.5%	30.3%	60.3%	19.0%	48.7%	18.6%	50.6%
Income										
Gross Labor Income	2,032.03 €		2,979.74 €		2,999.04 €		1,967.36 €		4,331.58 €	
Net Labor Income	1,394.33 €		1,847.66 €		1,867.46 €		1,442.43 €		2,505.54 €	
Net HH Income	1,588.84 €	673.57 €	3,193.75 €	1,107.47 €	3,212.21 €	1,304.60 €	2,245.63 €	990.87 €	5,083.63 €	889.55 €
Qualification										
No degree	5.3%	21.3%	1.8%	23.3%	0.5%	16.7%	7.1%	28.8%	4.2%	12.5%
Vocational degree	56.4%	62.8%	37.6%	64.8%	38.4%	63.0%	28.6%	64.4%	33.3%	75.0%
University degree	38.3%	16.0%	60.5%	11.9%	61.1%	20.4%	64.3%	6.8%	62.5%	12.5%
Number of children in the HH	0.6	1.1	1.1	1.3	1.2	1.1	1.7	1.4	1.1	1.3
Persons in HH	1.4	1.5	2.5	2.5	2.5	2.6	3.4	2.4	2.8	2.1
Working Hours per Week	39.4		42.7		42.6		45.7		44.8	
Wake-up time	6:52 AM	7:17 AM	6:51 AM	7:29 AM	6:49 AM	7:37 AM	6:29 AM	7:06 AM	6:25 AM	7:33 AM
Go-to-sleep time	11:05 PM	11:03 PM	11:15 PM	11:04 PM	11:18 PM	10:53 PM	10:54 PM	10:49 PM	11:24 PM	11:01 PM
Time Awake during the day	16:13	15:46	16:23	15:34	16:29	15:16	16:25	15:43	16:59	15:28
Avg. number of distinct activities	13.1	12.6	11.7	12.4	11.7	12.5	13.6	12.2	11.5	12.7
Average length of each activity	1:14	1:15	1:24	1:15	1:24	1:13	1:12	1:17	1:28	1:12
Observations	94	188	271	159	216	54	14	59	24	16

Note: The column “partnered – overall” also includes people whose partners are in education or workfare measures or whose employment status is unknown.

Knabe et al. (2010) focus on the individuals' own employment status and find that employed persons report higher satisfaction with their life (7.074) than do the unemployed (4.385), i.e. $\Delta LS(e/u, \cdot) > 0$. By contrast, the net affects are 4.405 and 4.572, respectively, and the difference is not statistically significant. The weak inequality $\Delta A(e/u, \cdot) \leq 0$ is not rejected. Knabe et al. (2010) conjecture that unemployment affects life satisfaction and affective well-being differently because people do not adjust their aspirations when becoming unemployed but face hedonic adaptation to changing life circumstances, triggered by the opportunity to use the time in a way that yields higher levels of satisfaction than working. Using (4), this could be interpreted as suggesting $\Delta I(e/u, \cdot) > 0$: being in employment yields a positive identity utility derived from meeting the norms of one's social category.³

In this paper, we disentangle the aggregate effects analyzed by Knabe et al. (2010) by looking at men and women separately and distinguishing each group with respect to its partnership status. In this case, a more differentiated picture emerges. In Section 5.1, we focus on the role of the family status without considering the employment status of the partner when looking at the impact of unemployment on the different measures of well-being. In Section 5.2, we restrict our attention to partnered persons and explore how their partner's employment status affects the well-being of employed and unemployed people.

5.1 Partnership and well-being

Table 2 presents the average net affect and life satisfaction scores of singles and partnered persons and shows the respective differences. First, there appear to be substantial gender differences. For men, the identity loss is particularly strong for partnered persons. While the life satisfaction of unemployed partnered men is much lower than that of employed partnered men, ($\Delta LS^{men}(e/u, p, \cdot) = 3.380; p < 0.01$), we find that the opposite result holds for the net affect. The net affect of partnered men is significantly higher for the unemployed than for the employed (i.e. $\Delta A^{men}(e/u, p, \cdot) = -0.557; p < 0.1$). For single men, the well-being differences between the employed and the unemployed are much lower for both measures, but have the same sign as for partnered men. It turns out that the well-being ranking of the different employment and partnership states for men is exactly reversed between the two

³ Failing to reject the hypothesis that $\Delta A(e/u, \cdot) \leq 0$ provides only weak evidence that emotional well-being is not positively affected by a person's employment status. A stronger test would require to reject the hypothesis $\Delta A(e/u, \cdot) > 0$. In the following analysis, we will apply this stronger test when testing whether life satisfaction and emotional well-being move in different directions.

dimensions of subjective well-being. The highest life satisfaction is observed for employed men with partners (7.058), while partnered unemployed men report the lowest life satisfaction (4.066). At the same time, partnered employed men exhibit the lowest net affect score (3.678). The group with the strongest positive and least negative emotions – on average – is that of unemployed men living in a partnership (4.623).

We do not find such a complete well-being reversal for women. Even though partnership is associated with higher life satisfaction but lower net affect within the groups of employed and unemployed women, the well-being of unemployed women is lower than that of employed women according to both well-being measures. The different impact that unemployment and partnership seem to have on the cognitive and affective components of well-being strengthens the view that well-being analyses should pay close attention to the multi-dimensionality of subjective well-being.

Table 2: Life satisfaction and net affect by employment group, sex and partnership status

	Employed		Unemployed		Difference $\Delta A (e/u, \cdot, \cdot)$ and $\Delta LS (e/u, \cdot, \cdot)$	
	single (1)	partnered (2)	single (3)	partnered (4)	single (3)-(1)	partnered (4)-(2)
Men						
Net affect	4.402 (0.452)	4.066 (0.481)	4.555 (0.310)	4.623 (0.276)	-0.153 (0.548)	-0.557* (0.321)
Difference $\Delta A (\cdot, s/p, \cdot)$		0.336 (0.481)		-0.068 (0.415)		0.404 (0.635)
Life satisfaction	6.324 (0.332)	7.058 (0.360)	4.941 (0.272)	3.678 (0.313)	1.383*** (0.429)	3.380*** (0.343)
Difference $\Delta LS (\cdot, s/p, \cdot)$		-0.734** (0.360)		1.263*** (0.415)		-1.997*** (0.549)
Women						
Net affect	5.258 (0.356)	4.858 (0.432)	4.616 (0.233)	4.504 (0.324)	0.642 (0.426)	0.354 (0.405)
Difference $\Delta A (\cdot, s/p, \cdot)$		0.400 (0.432)		0.112 (0.399)		0.288 (0.588)
Life satisfaction	7.132 (0.247)	7.377 (0.289)	4.091 (0.245)	4.920 (0.292)	3.041*** (0.348)	2.457*** (0.328)
Difference $\Delta LS (\cdot, s/p, \cdot)$		-0.245 (0.289)		-0.829** (0.381)		0.584 (0.478)

*Note: A: net affect, LS: life satisfaction. Standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.*

Besides its role as a moderator of the effect of unemployment on subjective well-being, partnership in itself may matter for a person's cognitive and affective well-being. As Table 2 shows, having a partner is – on average – good for the life satisfaction of employed men and

women (though the effect is weaker and not statistically significant for women). This result is in line with other empirical studies (for a review, cf. Dolan, Peasgood and White 2008).

Comparing mean life satisfaction and mean net affect suggests that partnership positively affects the identity utility of employed men and women, i.e. partnership has a positive utility effect beyond the day-to-day experience of being together. Here, we can see that $\Delta LS^{men}(e, s / p, \cdot) = -0.734 < 0$ ($p < 0.05$) and $\Delta A^{men}(e, s / p, \cdot) = 0.336 > 0$ ($p > 0.1$). This implies that $\Delta I^{men}(e, s / p, \cdot) < 0$.⁴ The same result applies for unemployed women. Unemployed women in a partnership are not as unsatisfied with their life as unemployed single women, while the family status hardly affects their emotional well-being. Partnerships thus seem to have a positive effect on identity for unemployed women, i.e. $\Delta I^{women}(u, s / p, \cdot) < 0$.

For unemployed men, the opposite holds true. Their life satisfaction is substantially lower when partnered than when they are singles ($\Delta LS^{men}(u, s / p, \cdot) = 1.263$; $p < 0.01$), while the difference in the net affect appears negligible. As we have seen already, the life satisfaction of partnered men is significantly lower for the unemployed than for the employed, but this group's net affect is significantly higher. Taken together, both results provide strong evidence that the combination of living in a partnership while being unemployed is detrimental to the identity utility of men. Indeed, our results suggest that the identity loss from unemployment is stronger for partnered men than for single men. The difference in the losses of life satisfaction is significantly negative ($\Delta LS^{men}(e / u, s, \cdot) - \Delta LS^{men}(e / u, p, \cdot) = -1.997$; $p < 0.01$), but the net-affect difference seems to be of an opposite sign ($\Delta A^{men}(e / u, s, \cdot) - \Delta A^{men}(e / u, p, \cdot) = 0.404$; $p > 0.1$). We do not find such an effect for women. While they also report lower life satisfaction when unemployed (though the difference is less than that of single women), they also experienced a lower net affect. Hence, we cannot make a qualitative statement whether the identity loss from unemployment differs between single and partnered women.

5.2 Partner's employment status and well-being

In Table 3, we restrict our analysis to partnered persons and further disentangle the interactions between unemployment, partnership, and subjective well-being by also looking at

⁴ This argument rests on comparing the signs of the two point estimates. Since we cannot reject the null hypothesis that $\Delta A^{men}(e, s / p, \cdot) \leq 0$, however, this argument has to be taken with caution.

the employment status of the partners. The life satisfaction of employed men suffers from their partners' unemployment ($\Delta LS^{men}(e, p, e/u) = 1.219, p < 0.05$). For unemployed men, by contrast, the employment status of their partners exerts a much smaller, and statistically insignificant influence on their life satisfaction. Taken together, these two results imply that unemployment reduces the life satisfaction of men less if the partner is also unemployed ($\Delta LS^{men}(e, p, e/u) - \Delta LS^{men}(u, p, e/u) = 1.114; p > 0.1$), although this difference-in-differences is statistically not significant.

Table 3: Life satisfaction and net affect by employment status of the partners

	Employed		Unemployed		Difference $\Delta A(e/u, p, \cdot)$ and $\Delta LS(e/u, p, \cdot)$	
	partner employed (1)	partner unemployed (2)	partner employed (3)	partner unemployed (4)	partner employed (3)-(1)	partner unemployed (4)-(2)
Men						
Net affect	4.063 (0.191)	3.204 (0.790)	6.543 (0.403)	3.660 (0.383)	-2.480*** (0.446)	-0.456 (0.878)
Difference $\Delta A(\cdot, p, e/u)$	0.859 (0.813)		2.883*** (0.556)		-2.025** (0.985)	
Life satisfaction	7.167 (0.163)	5.948 (0.462)	3.518 (0.569)	3.413 (0.493)	3.650*** (0.592)	2.536*** (0.675)
Difference $\Delta LS(\cdot, p, e/u)$	1.219** (0.490)		0.105 (0.753)		1.114 (0.898)	
Women						
Net affect	4.766 (0.263)	5.105 (0.897)	5.346 (0.481)	3.499 (0.599)	-0.579 (0.549)	1.606 (1.078)
Difference $\Delta A(\cdot, p, e/u)$	-0.339 (0.935)		1.846** (0.769)		-2.185* (1.210)	
Life satisfaction	7.351 (0.175)	7.422 (0.356)	5.738 (0.341)	3.313 (0.445)	1.613*** (0.383)	4.109*** (0.570)
Difference $\Delta LS(\cdot, p, e/u)$	-0.071 (0.396)		2.425*** (0.561)		-2.496*** (0.687)	

Note: Standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level.

These results are in line with the findings by Clark (2003), but they are not in themselves indicative of a social norm effect because they could also have been brought about by differences in affective experiences.

For women, we observe the reverse results. The employment status of their partners does not seem to play a role for employed women but unemployed women report a significantly lower life satisfaction when their partner is also unemployed. Here, the difference-in-differences, i.e. the difference between women with employed and unemployed partners with

respect to their loss of life satisfaction from unemployment, is negative and statistically significant. This result differs from the observations by Clark (2003), who finds that employed women suffer from their partner's unemployment, while this loss in life satisfaction is (insignificantly) reduced if the woman is unemployed herself.

Even more striking are the differences with respect to emotional well-being. Both unemployed men and women whose partners are working enjoy their daily routines significantly more than those whose partners are unemployed. We observe this pattern for almost all activities during the course of the day (see Table A.1 in the Appendix for the net affect experienced in different activities). In fact, these groups (unemployed with employed partners) exhibit the highest net affect of all four groups both for men (6.543) and women (5.346), while the same groups report the second-lowest life satisfaction among all partnered persons. Again, the association between unemployment and subjective well-being differs substantially between these two dimensions of well-being. Being unemployed and having a partner who is unemployed, however, seems to be bad both cognitively and affectively. This combination is associated with the lowest (or, in case of the net affect of men, second-lowest) well-being scores of the four groups. We do not find significant differences in the net affect of employed men and women with respect to the employment status of their partners.

We now turn to the influence of unemployment and partnership on identity utility. For men with employed partners, identity utility is negatively affected by their own unemployment: from $\Delta LS^{men}(e/u, p, e) > 0$ and $\Delta A^{men}(e/u, p, e) < 0$ follows $\Delta I^{men}(e/u, p, e) > 0$. For men with unemployed partners and women with employed partners, we find only weak evidence of a negative identity effect of own unemployment since, even though we find $\Delta A(e/u, p, \cdot) < 0$, we cannot reject the hypothesis $\Delta A(e/u, p, \cdot) \geq 0$. For women with unemployed partners, life satisfaction and net affect appear to be affected in the same direction by their own unemployment.

Unemployment of the partner is negatively related to the life satisfaction and the net affect of all men and of unemployed women. For employed women, both relations are (insignificantly) positive. Since life satisfaction and emotional well-being are in all cases affected in the same direction, no qualitative conclusions can be drawn with respect to differences in identity utility.

6. Regression analysis for the first identification strategy

The results presented in the preceding section build on the comparison of group means. Since differences in the life satisfaction and emotional well-being between the groups could arise from heterogeneity in other personal characteristics, we make use of a regression analysis which takes into account individual differences in various individual factors, such as income, health, age, number of children etc.⁵ We postulate the following regression equation:

$$Y_i = \beta_1 UE^{own} + \beta_2 UE^{partner} + \beta_3 OLF^{partner} + \beta_4 UE^{own} * UE^{partner} + \beta_5 UE^{own} * OLF^{partner} + \alpha + \gamma' X_i + \varepsilon_i$$

where $Y_i \in \{LS_i, A_i\}$ is the indicator of subjective well-being, UE^j and OLF^j are dummy variables indicating that the person itself ($j = own$) or the person's partner ($j = partner$) is unemployed (UE) or inactive (out of the labor force – OLF). α is a constant, X_i is a vector of control variables, and ε_i is an error term.

Table 4: Regression results

	Life Satisfaction				Net Affect			
	men	women	partnered men	partnered women	men	women	partnered men	partnered women
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Unemployed	-0.326 (0.516)	-1.909*** (0.451)	-3.497*** (0.520)	-1.047** (0.479)	0.671 (0.577)	-0.033 (0.582)	2.659*** (0.545)	0.367 (0.726)
Partner	0.719* (0.425)	-0.346 (0.398)			-0.140 (0.475)	-0.617 (0.514)		
Unemployed *	-2.310*** (0.535)	0.447 (0.465)			-0.043 (0.598)	0.120 (0.601)		
Unemployed partner			-0.231 (0.601)	0.048 (0.924)			0.092 (0.629)	0.564 (1.399)
Inactive partner			0.631 (0.529)	0.115 (1.077)			-0.079 (0.555)	0.782 (1.631)
Unemployed *			0.911 (0.783)	-1.585 (1.018)			-2.434*** (0.820)	-1.909 (1.542)
Unemployed partner			1.638* (0.977)	-1.092 (1.238)			-1.830* (1.023)	-0.835 (1.874)
Unemployed * Inactive partner								
Demographic controls	age and age ² , health, educational attainment, number of children, (log) household income							
Observations	357	350	199	181	357	350	199	181
R-squared	0.445	0.447	0.539	0.510	0.153	0.092	0.265	0.132

Note: OLS, standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level. The reference category in columns 1,2 and 5,6 is “employed, single”; in columns 3,4 and 7,8 it is “employed with an employed partner”.

⁵ The effects of the controls are discussed in detail in Knabe et al. (2010), see also Table A.2 in the Appendix.

The main results of the regressions are presented in Table 4. We find that unemployment significantly reduces the life satisfaction of single women as well as of men and women living in partnerships (Columns 1 and 2). While the life satisfaction of single women seems to be reduced more by unemployment than that of single men, this relationship is reversed for people living in partnerships. Among partnered men (Column 3), unemployment seems to hurt most if the partner is employed, whereas this effect is weaker if the partner is unemployed or inactive. The opposite holds true for partnered women (Column 4). In both cases, however, the differences are statistically insignificant (except for men with inactive partners).

With respect to emotional well-being, however, our results provide a very heterogeneous picture. There is no clear relationship between the net affect and unemployment for singles and partnered individuals (Columns 5 and 6). For partnered persons (Columns 7 and 8), we find that the emotional well-being of unemployed men is larger than that of employed men if their partners are employed. This positive difference in emotional well-being becomes significantly smaller if the partner is unemployed or inactive. The impact of unemployment on women's emotional well-being is small and statistically not significant. In the same way as for men, the interaction effect between own and partner's unemployment is negative. For women, however, it is statistically insignificant.

We summarize our results in Table 5 (first three columns). This facilitates the qualitative identification of changes in identity utility, which we can interpret as a social norm effect. In the upper part of the table, we present well-being differences between employed and unemployed persons and derive the respective effect on identity utility. We find that unemployed men with employed partners suffer from a loss in life satisfaction compared to employed men, but are able to adapt to changing life circumstances in the sense that they experience even higher levels of emotional well-being during the course of the day. Since both effects are statistically significant, this provides strong evidence that own unemployment reduces the identity utility of men if their partners are employed. We find similar, although not always statistically significant effects for single men and for men with unemployed partners. Hence, there appears to be a social norm effect of unemployment for men. We also find weak evidence for such an effect for women if their partner is employed, but not for women with unemployed partners or for single women.

Table 5: Identity effects (regression results)

	life satisfaction	net affect	identity utility	identity utility (under assumption (1-linear); Table 6)
	$\Delta LS(e/u, s)(>)0$	$\Delta A(e/u, s)(<)0$	$\Delta I(e/u, s)(>)0$	$\Delta I(e/u, s)(>)0$
own unemployment	men $\Delta LS(e/u, p, e) > 0$	$\Delta A(e/u, p, e) < 0$	$\Delta I(e/u, p, e) > 0$	$\Delta I(e/u, p, e) > 0$
	$\Delta LS(e/u, p, u) > 0$	$\Delta A(e/u, p, u)(<)0$	$\Delta I(e/u, p, u)(>)0$	$\Delta I(e/u, p, u) > 0$
	$\Delta LS(e/u, s) > 0$	$\Delta A(e/u, s)(>)0$	---	$\Delta I(e/u, s) > 0$
	women $\Delta LS(e/u, p, e) > 0$	$\Delta A(e/u, p, e)(<)0$	$\Delta I(e/u, p, e)(>)0$	$\Delta I(e/u, p, e) > 0$
	$\Delta LS(e/u, p, u) > 0$	$\Delta A(e/u, p, u)(>)0$	---	$\Delta I(e/u, p, u) > 0$
partnership	men $\Delta LS(e, s/p, \cdot) < 0$	$\Delta A(e, s/p, \cdot)(>)0$	$\Delta I(e, s/p, \cdot)(<)0$	$\Delta I(e, s/p, \cdot) < 0$
	$\Delta LS(u, s/p, \cdot) > 0$	$\Delta A(u, s/p, \cdot)(>)0$	---	$\Delta I(u, s/p, \cdot) > 0$
	women $\Delta LS(e, s/p, \cdot)(>)0$	$\Delta A(e, s/p, \cdot)(>)0$	---	$\Delta I(e, s/p, \cdot)(>)0$
	$\Delta LS(u, s/p, \cdot)(<)0$	$\Delta A(u, s/p, \cdot)(>)0$	$\Delta I(u, s/p, \cdot)(<)0$	$\Delta I(u, s/p, \cdot)(<)0$
partner's unemployment	men $\Delta LS(e, p, e/u)(>)0$	$\Delta A(e, p, e/u)(<)0$	$\Delta I(e, p, e/u)(>)0$	$\Delta I(e, p, e/u)(>)0$
	$\Delta LS(u, p, e/u)(<)0$	$\Delta A(u, p, e/u) > 0$	$\Delta I(u, p, e/u)(<)0$	$\Delta I(u, p, e/u) < 0$
	women $\Delta LS(e, p, e/u)(<)0$	$\Delta A(e, p, e/u)(<)0$	---	$\Delta I(e, p, e/u)(>)0$
	$\Delta LS(u, p, e/u) > 0$	$\Delta A(u, p, e/u) > 0$	---	$\Delta I(u, p, e/u) > 0$

Note: The signs $>$ and $<$ indicate that we can reject the hypothesis that the relation has the opposite sign at the 10%-confidence level (one-sided test). The signs $(>)$ and $(<)$ are used to show the sign of the point estimate in cases where we cannot reject the hypothesis that the true relation has the opposite sign (in Columns 1 and 2), or the sign of the identity effect in cases where we cannot reject the hypothesis that life satisfaction and net affect are affected in the same direction (Columns 3 and 4).

Living in a partnership affects the subjective well-being of the different group in distinct ways (middle part of Table 5). In all groups under consideration, singles appear to have a (insignificantly) higher emotional well-being than partnered persons, irrespective of their own employment status. The life satisfaction of men, however, depends positively on having a partner if the man is employed and negatively if he is unemployed. Taken together, this provides weak evidence that having a partner raises the identity utility of employed men. Since partnership is associated with lower life satisfaction and emotional well-being for unemployed men, partnership appears to be beneficial to a man's identity only if he can successfully play the role of a "breadwinner". The relationship between women's life

satisfaction and having a partner goes in the opposite direction to that of men. Employed women have a higher life satisfaction when single, unemployed women when partnered. Both effects are statistically not significant. This provides weak evidence that unemployed women's identity utility might be positively affected by living in a partnership. A potential explanation for this finding is that unemployed women are better able than men to engage in meaningful and identity-supporting activities in the household.

Unemployment of one's partner increases the life satisfaction of unemployed men and decreases that of employed men, though both effects are not statistically significant (lower part of Table 5). This result in itself does not allow us to conclude that the employment status of one's spouse has a social norm effect. As suggested by equation (3), only if we find an effect of the partner's unemployment on emotional well-being that does not go in the same direction as that of life satisfaction, may the change in life satisfaction indeed be interpreted as a social norm effect. As this is (weakly) true for men, our results provide some support for the idea that the presence of an unemployed spouse makes an unemployed person feel that they deviate less from the social norm. For a man, apparently, the unemployment of his wife reduces the strength of the identity loss he suffers from being unemployed. This may be explained by the fact that although he is no longer the breadwinner of the family he has not shifted the burden to his wife. For women, the changes in life satisfaction and net affect have the same sign, so that we are not able to identify clear identity utility effects.

7. Linearity between life satisfaction and net affect: the second identification strategy

Even under the rather general assumptions of equation (1), our first identification strategy enabled us to show that unemployment has a negative effect on the identity utility of employed men. For the other groups, however, we were able to find only weak support for our hypothesis of identity effects because we restricted ourselves to the comparison of signs. In what follows, we apply our second identification strategy, described in Section 3, that makes use of the magnitudes of the estimated effects. Using the linear version of equation (1)

$$LS_i = \omega_A \cdot A_i + \omega_I I_i + \omega'_v v_i, \quad (1\text{-linear})$$

where $\omega_A, \omega_I > 0$ and the vector ω_v denote the unknown weights with which affective well-being A_i , identity utility I_i , and a vector of other factors, v_i , enter life satisfaction, we can estimate the regression equation:

$$LS_i = \omega_A A_i + \beta_1 UE^{own} + \beta_2 UE^{partner} + \beta_3 OLF^{partner} + \beta_4 UE^{own} * UE^{partner} + \beta_5 UE^{own} * OLF^{partner} + \alpha + \gamma'v_i + \varepsilon_i$$

Since we control for individual differences in net affect A_i by adding it to the regressors, the residual relationship between a person's employment status and life satisfaction is suggestive of an identity effect (plus other influences on life satisfaction besides those running via emotional well-being and identity utility). The coefficients β_1 to β_5 capture these effects.

Table 6: Regression results (controlling for differences in emotional well-being)

	Life Satisfaction			
	men	women	partnered men	partnered women
Unemployed	-0.510 (0.493)	-1.898*** (0.404)	-4.311*** (0.524)	-1.184*** (0.398)
Partner	0.757* (0.405)	-0.133 (0.358)		
Unemployed * Partner	-2.299*** (0.509)	0.406 (0.417)		
Unemployed partner			-0.259 (0.571)	-0.161 (0.767)
Inactive partner			0.655 (0.503)	-0.175 (0.895)
Unemployed * Inactive partner			1.656** (0.761)	-0.877 (0.849)
Unemployed * Partner * Inactive partner			2.198** (0.936)	-0.782 (1.028)
Net Affect	0.275*** (0.046)	0.344*** (0.038)	0.306*** (0.066)	0.371*** (0.042)
Demographic controls	age and age ² , health, educational attainment, number of children, (log) household income			
Observations	357	350	199	181
R-squared	0.497	0.556	0.586	0.665

Note: OLS, standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level. The reference category in columns 1 and 2 is "employed, single"; in columns 3 and 4 it is "employed with an employed partner".

Table 6 presents the estimation results. In line with our assumptions, there is a strong positive relationship between the net affect and life satisfaction. Any relationships between employment statuses and life satisfaction that remain after controlling for differences in emotional well-being are suggestive of identity effects. The last column in Table 5 compares the identity effects derived using this method to the findings obtained under the less restrictive assumption (1). Own unemployment has a strong negative impact on the identity utility of men and women, independently of their family status and their partner's employment situation. Compared to the results in the third column of Table 5, where we only found strong

support for an identity effect of own unemployment for men with employed partners, the stronger assumptions of (1-linear) also allow for making much stronger statements about the identity impact of unemployment for the other groups.

Having a partner increases the identity utility of employed men significantly, but is associated with lower identity utility for unemployed men. We do not find significant identity effects of partnerships for women. If anything, living with a partner appears to raise the identity utility of unemployed women, whereas it reduces that of employed women. Unemployment of the partner is associated with an insignificant negative identity effect for employed men and women. For unemployed men, however, we find that the partner's unemployment is associated with a higher identity utility. The opposite result holds for unemployed women. The interaction effect between own unemployment and unemployment of the partner is significantly positive for men (see Table 6). This positive interaction effect confirms Clark's (2003) interpretation that unemployed men suffer less from not meeting the social norm of being in employment when their wives are also unemployed. We do not find such an effect for women, for whom the interaction effects are negative and statistically insignificant.

The similarity of the interaction effects with respect to whether the partner is unemployed or inactive is striking. It suggests that it is not so much the unemployment of a partner that affects how strongly a person suffers from own unemployment, but that the unemployed person sees his or her partner leaving the house for work every morning. Whether the partner stays home because he or she is unemployed or whether the partner has chosen voluntarily not to work does not make a significant difference for the impact of one's own unemployment on one's identity utility.

The result of an opposite impact of partnership on the identity effect of unemployment for men and women suggests that different gender roles play an important role for cognitive well-being. Traditional gender roles seem to still be internalized in a person's concept of the self. Partnered men might feel more unhappy when unemployed because they deviate more from their gender role as "breadwinner". This loss in identity is even more accentuated when the partner is working. When a man's status as provider for the household is taken from him, his position may be challenged by other family members, in particular by a working partner who takes on the role of the provider. By contrast, single women might feel a stronger social norm of employment when they have to make their own living, whereas living in a partnership

makes it harder for others to distinguish between stigmatized unemployment and voluntary inactivity due to intra-household division of labor. For women, it is thus easier to self-categorize as “housewife” or “mother” rather than “unemployed”, in which case the prescriptions of their respective social role puts less emphasis on being employed (see McFadyen 1995; for gender role attitudes also see e.g. Thornton, Alwin and Camburn 1983 and Fortin 2005).

8. Conclusion

Unemployment is detrimental to people’s subjective well-being. This has been proven by a multitude of studies showing that, on average, self-reported life satisfaction drops when workers become unemployed. Examining the life satisfaction effects of unemployment is illuminating, but it ignores important facets of subjective well-being by making use of only one composite indicator of well-being. In this paper, we argue in favor of taking a more differentiated approach to subjective well-being analysis that acknowledges that well-being has an affective and a cognitive component. We provide a methodological framework for separating these two components of well-being.

The affective component captures people’s emotional states, i.e. their positive and negative feelings, in everyday life. Cognitive well-being is a more reflective judgment of how close one’s own life circumstances come to a hypothetical ideal life. A person’s view of what constitutes an ideal life comprises its own, very personal conceptions of life goals, but it is also influenced by the ethical values and normative judgments of the society this person lives in. Such a distinction between affective and cognitive well-being is closely related to the identity-augmented utility function suggested by Akerlof and Kranton (2000). Affective well-being reflects the individualistic part of the utility function, whereas cognitive well-being corresponds to its identity component. Changes in a person’s life circumstances that affect how well this person lives in accordance with the prescriptions – goals, values and norms – of her social category should have an impact on her identity utility, and thus on her cognitive well-being.

We made use of a dataset that we collected through interviews with employed and unemployed persons in Germany and that contains information on respondents’ emotional well-being as well as their life satisfaction. Comparing respondents’ self-reported life satisfaction with their net affect (the commonly used aggregate measure of emotions), and

especially analyzing the differential movements of both well-being measures after changes in life circumstances, allowed us to draw conclusions about how unemployment affects identity utility. We also analyzed how other life circumstances, such as family status or a partner's employment status, shape the individually perceived prescriptions of one's social category and thus affect identity utility.

Unemployment is associated with substantially lower life satisfaction but hardly reduces affective well-being. In some cases, these two dimensions of subjective well-being even react in opposite directions. Employed men living in partnerships, for instance, are among the persons most satisfied with their lives, but report the lowest emotional well-being. Unemployed men with employed partners are the least satisfied with their lives but report the highest emotional well-being of all groups examined. They do not feel worse emotionally during an average day, but their unemployment imparts its negative well-being effect through the perceived deviation from their goals, values and/or social norm.

We do not find evidence that living in a partnership is beneficial to affective well-being: singles do not have more negative or less positive feelings than partnered individuals in everyday life. Having a partner, however, does affect the cognitive well-being in ways that crucially depend on a person's own employment status. Partnership raises the life satisfaction of employment men but lowers that of unemployed men. A completely different picture emerges for women: the life satisfaction of employed women is not affected by the family status while life satisfaction for unemployed women is higher when they are living in a partnership.

Affective well-being is hardly influenced by family status. Hence, the changes in life satisfaction must be cognitive in nature and thus represent identity effects. The differences in these identity effects provide suggestive evidence that traditional gender roles matter substantially for the impact of unemployment on the identity utility of people living in partnerships. A potential reason why men suffer more from unemployment when they have a partner is that having a partner makes them feel obliged to provide for their partner. The failure to do so when unemployed makes them feel like they deviate more from the social norm than would be the case for unemployed singles. Women, on the other hand, might feel under less social pressure to have a job when they have a partner if it is socially acceptable (or perhaps even considered desirable) to dedicate oneself more to household and family work.

A similar argument applies to the impact of a partner's employment status. Again, there do not seem to be any gender differences with respect to how a partner's employment status affects emotional well-being. Both unemployed men and women suffer emotionally when their partner is also unemployed. The impact on identity, however, is of opposite signs for unemployed men and women. The identity utility of unemployed men is higher when their partner is unemployed than when she is employed, while the opposite holds for unemployed women. Again, a potential explanation is the influence of traditional gender roles. An unemployed man is made more aware of his inability to fill the role of the "breadwinner" if his wife is employed, while he does not feel as if he has shifted this burden to his wife if his wife is unemployed too. An unemployed woman suffers a loss in identity utility when her partner is unemployed because assuming the role of the "housewife" requires the partner to be employed. If he is not, it appears to be much harder for women to come to terms with their own labor market inactivity. In conclusion, gender roles seem to play an important role for people's well-being. They mainly affect the cognitive part of well-being, however. We did not find systematic gender differences with respect to affective well-being.

Our results highlight the different channels through which unemployment affects subjective-well-being and the different ways in which changes in identity are affected by life circumstances. To yield a better understanding of the cost of unemployment, it is essential to pay closer attention to the multidimensionality of subjective well-being. The methodological framework developed here allows us to at least distinguish between cognitive and affective aspects of well-being. This allows us to gain new insights into the determinants of happiness.

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Appendix

Table A.1: Net affect for different activities

Activities	employed men			unemployed men		
	partner employed	partner unemployed	difference (p-value)	partner employed	partner unemployed	difference (p-value)
Eating	6.53	5.83	0.352	6.85	4.23	0.000
Work	2.39	-0.93	0.025			
Break during work	4.95	2.25	0.001			
Commuting	2.45	4.51	0.171			
Housework	4.24	-3.75		5.38	4.38	0.206
Shopping	3.28			3.72	1.27	0.094
Childcare	4.16	2.50		5.74	4.54	0.267
Socialising	6.82	9.74	0.005	8.42	5.29	0.000
Relax/Walk	5.72	5.00		7.53	7.48	0.981
Hobby/Sport	5.49	3.75		8.80	7.63	0.078
Read/Music	5.52			5.19	5.48	0.828
TV	4.98	4.27	0.754	7.65	4.92	0.001
Travelling	4.47	7.50		4.03	2.52	0.219
All activities	3.64	1.60	0.009	6.66	4.06	0.001

Activities	employed women			unemployed women		
	partner employed	partner unemployed	difference (p-value)	partner employed	partner unemployed	difference (p-value)
Eating	6.20	8.41	0.005	5.70	4.07	0.012
Work	3.14	3.16	0.973			
Break during work	4.87	7.57	0.000			
Commuting	2.49	5.23	0.055			
Housework	3.10	5.00	0.119	2.18	1.03	0.101
Shopping	1.76	3.85	0.078	1.62	0.51	0.437
Childcare	2.45	3.89	0.120	6.60	3.86	0.014
Socialising	8.00	6.67	0.377	4.91	5.04	0.903
Relax/Walk	4.26	5.26	0.580	8.43	7.06	0.539
Hobby/Sport	3.73	9.50		7.67	5.23	0.084
Read/Music	6.81	3.41	0.158	5.93	1.88	0.015
TV	5.53	6.10	0.521	5.74	5.44	0.714
Travelling	4.69	7.06	0.116	3.47	3.46	0.998
All activities	4.41	4.77	0.724	4.47	3.53	0.202

Note: We report the duration-weighted average net affect for the respective activities. The p-values refer to the t-test of whether the scores for respondents with employed and unemployed partners are equal.

Table A.2: Regression results (complete)

	Life Satisfaction				Net Affect			
	men	women	partnered men	partnered women	men	women	partnered men	partnered women
Unemployed	-0.326 (0.516)	-1.909*** (0.451)	-3.497*** (0.520)	-1.047** (0.479)	0.671 (0.577)	-0.033 (0.582)	2.659*** (0.545)	0.367 (0.726)
Partner	0.719* (0.425)	-0.346 (0.398)			-0.140 (0.475)	-0.617 (0.514)		
Unemployed * Partner	-2.310*** (0.535)	0.447 (0.465)			-0.043 (0.598)	0.120 (0.601)		
Unemployed partner			-0.231 (0.601)	0.048 (0.924)			0.092 (0.629)	0.564 (1.399)
Inactive partner			0.631 (0.529)	0.115 (1.077)			-0.079 (0.555)	0.782 (1.631)
Unemployed * Unemployed partner			0.911 (0.783)	-1.585 (1.018)			-2.434*** (0.820)	-1.909 (1.542)
Unemployed * Inactive partner			1.638* (0.977)	-1.092 (1.238)			-1.830* (1.023)	-0.835 (1.874)
Age	-0.100 (0.075)	-0.153** (0.072)	-0.111 (0.106)	-0.136 (0.095)	-0.107 (0.083)	-0.143 (0.093)	-0.050 (0.111)	0.015 (0.145)
Age_squared	0.001 (0.001)	0.002* (0.001)	0.001 (0.001)	0.002 (0.001)	0.002 (0.001)	0.002 (0.001)	0.001 (0.001)	-0.000 (0.002)
Health satisfaction	0.324*** (0.046)	0.368*** (0.047)	0.343*** (0.060)	0.372*** (0.070)	0.315*** (0.051)	0.284*** (0.061)	0.227*** (0.063)	0.324*** (0.107)
Vocational training	0.155 (0.343)	1.206*** (0.285)	0.690 (0.514)	1.308*** (0.430)	0.839** (0.384)	0.554 (0.367)	1.475*** (0.538)	0.012 (0.652)
University education	0.390 (0.408)	1.407*** (0.404)	1.074* (0.560)	1.824*** (0.556)	0.307 (0.457)	0.035 (0.521)	1.229** (0.586)	-0.270 (0.841)
Number of children	-0.128 (0.108)	0.334*** (0.115)	-0.256* (0.131)	0.258 (0.168)	0.051 (0.121)	0.046 (0.148)	-0.064 (0.138)	0.372 (0.254)
ln(household income)	0.568** (0.235)	0.255 (0.263)	0.208 (0.316)	-0.163 (0.337)	0.075 (0.263)	-0.089 (0.339)	0.229 (0.331)	-0.526 (0.511)
Constant	1.368 (2.197)	4.524* (2.371)	4.830 (3.322)	6.773** (3.303)	2.339 (2.457)	6.165** (3.062)	-0.017 (3.479)	6.077 (5.001)
Observations	357	350	199	181	357	350	199	181
R-squared	0.445	0.447	0.539	0.510	0.153	0.092	0.265	0.132

Note: OLS, standard errors in parentheses. * denotes significance at the 10% level, ** at the 5% level, and *** at the 1% level. The reference category in columns 1,2 and 5,6 is “employed, single”; in columns 3,4 and 7,8 it is “employed with an employed partner”.