Coping with Unemployment: Relationships Between Duration of Unemployment, Coping Styles, and Subjective Well-Being

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Abstract

The present study examined whether the association between duration of unemployment and impairment in emotional and physical well-being is mediated by a change in the general pattern of coping responses. A cross-sectional study with 119 unemployed participants found that (1) duration of unemployment is associated with a decrease in productive coping and an increase in non-productive coping and that (2) the association between duration of unemployment and somatic complaints is mediated by an increase in non-productive coping. Further results showed that neuroticism and mood-regulation expectancies were meaningfully related to productive and non-productive coping. These results are discussed within the framework of theories of self-regulation.

Keywords: Unemployment, stressor duration, coping, emotional well-being.
Coping with Unemployment: Relationships Between Duration of Unemployment, Coping Styles, and Subjective Well-Being

Unemployment is regarded as an intense stressor because it deprives individuals of positive benefits associated with employment (e.g. opportunity of skill use, interpersonal contact, money and physical security, see Jahoda, 1982; Warr, 1987). In addition, unemployment may impose further secondary stressors on individuals, such as worry, uncertainty, and financial and marital difficulties (Price, Friedland, & Vinokur, 1998). A recent meta-analysis of the relationship between unemployment and emotional and physical well-being (McKee-Ryan, Song, Wanberg, & Kinicki, 2005) found convincing evidence that unemployment is associated with decreased emotional well-being and increased physical complaints. The results point to a causal effect of unemployment: According to McKee et al. (2005), longitudinal studies found that being laid-off was followed by a reduction in emotional well-being, whereas reemployment was followed by significant improvements in emotional well-being, life-satisfaction, and subjective physical health. Cross-sectional studies demonstrate that unemployed individuals report lower emotional well-being, life satisfaction and physical health than employed individuals.

The meta-analysis by McKee-Ryan and colleagues (2005) also demonstrated that duration of unemployment has significant impact on the emotional well-being of unemployed individuals, showing that reports of negative affect typically increase with the duration of unemployment. One way to account for this finding is to assume that increased negative affect associated with prolonged unemployment results from repeated unsuccessful attempts of problem-focused coping. Lazarus and Folkman (1984) introduced the idea that people deal with a situation which is taxing or exceeding their personal resources in either of two ways: Problem-focused coping aims at countering a threat by changing the environment, which ideally means solving the problem at hand (e.g., trying hard to find a job after being laid-off). Emotion-focused coping, on the other hand, aims at regulating negative emotions by changing
internal processes rather than the external world (e.g., denying the fact that one has been laid-off). According to Lazarus and Folkman (1984), the prolonged confrontation with a stressor can lead to exhaustion if problem-focused coping strategies are employed unsuccessfully over a long period of time. Thus, the higher negative affect reported by individuals with a longer history of unemployment may be due to exhaustion.

Another way to account for the finding that duration of unemployment is related to impairments in emotional well-being is to suggest that individuals alter the way in which they cope with unemployment, which may then have an impact on emotional well-being. There is some evidence that stressor duration may be related to the general pattern of coping responses. For example, a study by Harnish, Aseltine & Gore (2000) investigated the relationship between stressor duration and coping responses for a diverse range of stressors including interpersonal problems, role strains, illnesses, and transitional experiences. They found that shorter stressor duration was related to active behavioral coping, while longer duration was associated with a dominance of avoidance and cognitive coping. This study supports the assumption that the profile of coping strategies employed by an individual may change with stressor duration.

In the case of unemployment, duration of unemployment may be related to distress because individuals may tend to switch from the long-term goal of finding reemployment to the short-term goal of down-regulating negative emotions arising from being unemployed. That is, as individuals are confronted with prolonged negative affect caused by unemployment, they may experience a greater need for coping strategies which – rather than serving the long-term goal of finding reemployment – immediately decrease negative affect. Support for this assumption can be derived from theoretical models of coping with job loss. For example, Latack, Kinicki, and Prussia (1995) suggested that people can pursue two types of coping goals when confronted with unemployment: control coping strategies which aim at resolving the stressful situation by finding reemployment, and escape coping strategies which
are focused on avoiding or denying the stressful situation. They noted that a history of unsuccessful attempts to find a job may provoke a person to abandon control coping goals in favor of escape coping goals. In a related vein, Leana and Feldman (1988) proposed that unemployed people are likely to employ active coping strategies – engaging in behaviors which are aimed at eliminating the state of being unemployed – if job loss is appraised as reversible, while resorting to palliative coping – e.g., denial, alcohol use or excessive sleep – if job loss is appraised as irreversible. Thus, a long duration of unemployment may provoke appraisals that job loss is irreversible, which may promote palliative coping and decrease active coping in unemployed individuals.

So far, there is little empirical evidence that individuals shift from active coping strategies to strategies which serve the goal of immediately regulating negative emotions as duration of unemployment increases. There was no indication of a shift towards palliative coping strategies in a longitudinal study by Kinicki, Prussia and McKee-Ryan (2000), who found that unemployed individuals increased proactive search strategies over a four-month period. However, a four-month period may be too short to capture changes in coping strategies in response to unemployment. Several studies have shown that unemployed (compared to employed) individuals are more likely to use alcohol (Catalano, Dooley, Novaco, Wilson, & Hough, 1993; Claussen, 1999; Rasky, Stronegger, & Freidl, 1996). Presumably, the tendency to use alcohol as a means to deal with negative emotions may be especially pronounced among individuals with a long history of unemployment. However, there are so far no studies which investigated the relationship between duration of unemployment and coping strategies over an extended period of time.

To investigate the relationship between duration of unemployment and coping strategies, the present research draws on a distinction between productive and non-productive coping (Cunningham, 2002; Cunningham, Brandon & Freydenberg, 2002). By definition, productive coping leads to a sustained, long-term reduction in negative affect. Some
productive coping strategies – like problem-solving, planning, and seeking instrumental support – may not take effect immediately but have long term benefits because they serve to neutralize the “root” cause of the stressful situation. Other productive strategies – like positive reframing and seeking emotional support – are beneficial in the long run because they ameliorate negative affect in a non-defensive way. A large body of research indicates that productive coping strategies have positive effects on mood and physical well-being with respect to a wide range of stressors (e.g., Larsen & Prizmic, 2004; Lazarus & Folkman, 1984; Matheny, Aycock, Pugh, Curlette, & Canella, 1986; Mullen & Suls, 1982; Schwarzer & Leppin, 1991). Non-productive coping strategies, on the other hand, may have short term benefits, such as a release of negative affect and/or an immediate reduction in negative mood, but may lead to long-term impairments in mood and physical health. For example, denying the fact that he will be laid-off due to a factory closing may relieve a worker from negative mood, while it will certainly not increase the likelihood of reemployment and will hence not serve to solve the problem that gave rise to negative emotions in the first place. Similarly, substance abuse, venting negative emotions, self-blame and behavioral disengagement can be used to express negative affect or may temporarily rid a person from negative mood. Although it takes effect immediately, the ameliorating effect which can be achieved by these coping strategies may only last for a few minutes (venting), hours (substance abuse) or days (behavioral disengagement). Empirical evidence suggests that non-productive coping strategies may lead to higher levels of negative mood in the long run, that is, when they are rigidly employed over several weeks or months (Larsen & Prizmic, 2004; Lazarus & Folkman, 1984; McKenna, Zevon, Corn, & Rounds, 1999; Suls & Fletcher, 1985).

Whether or not a single coping strategy qualifies as “productive” depends on the nature of the stressor. Generally speaking, problem-focused coping is considered to be more productive than emotion-focused coping, and empirical research generally seems to support this claim (see the meta-analysis of Penley, Tomaka, & Wiebe, 2002). There are, however,
important exceptions to this general rule. If people cannot change the cause or the course of a stressful situation – for example, when dealing with a chronic disease – then emotion-focused strategies like optimism, positive reframing, seeking social support, religious involvement, and acceptance are associated with long-term decreases in subjective distress (e.g., Alferi, Culver, Carver, Arena, & Antoni, 1999; Carver, et al., 1993; Taylor, 1989; Taylor, Kemeny, Aspinwall & Schneider, 1992; Taylor, Wayment, & Collins, 1993; Urcuyo, Boyers, Carver, & Antoni, 2005). Thus, the distinction between problem-focused and emotion-focused coping does not square with long-term effectiveness.

Drawing on the extant literature on coping with unemployment (e.g., Gowan, Riordan, & Gatewood, 1999; Grossi, 1999; Kinicki, Prussia, & McKee-Ryan, 2000; Latack, Kinicki, & Prussia, 1995; Leana & Feldman, 1990, 1995; McKee-Ryan et al., 2005; Wanberg, 1997; Wanberg, Kammeyer-Mueller, & Shi, 2001), we consider the following coping strategies as productive in dealing with unemployment: Active coping, planning, and seeking instrumental support may be considered productive because all of these strategies may serve to find reemployment. Positive reframing and seeking emotional support are considered productive in dealing with unemployment because these strategies are effective in regulating negative emotions in a non-defensive manner. On the other hand, we consider denial, behavioral disengagement, substance abuse, self-blame and venting emotions as non-productive coping strategies in dealing with unemployment. Although these strategies may be used to express negative emotions (venting, self-blame) or may offer some immediate relief (denial, disengagement, substance abuse), they are counterproductive in solving the root problem, may be disruptive to social relationships or physical health, and are thus bound to lead to increased negative mood and physical symptoms in the following weeks and months.

There seem to be some coping strategies, which cannot be readily categorized as productive or non-productive in the context of unemployment. For example, whereas some authors (e.g., Leana & Feldman, 1995) argue that distancing – dissociating oneself from a
stressor by using distraction or other means – will decrease the chances of quick reemployment, others (e.g., Gowan et al., 1999) suggest that distancing can help unemployed individuals to gather the emotional and motivational resources needed to actively hunt for a new job. Similarly, it is hard to decide whether coping strategies such as acceptance, humor or religion are productive or non-productive when facing unemployment. Thus, we will focus on coping behaviors for which there is consensus that they can be classified as either productive or non-productive in the context of unemployment.

To summarize, our reasoning suggests that the relationship between duration of unemployment and impairments in emotional well-being and physical health is mediated by a change in coping strategies. As duration of unemployment increases, individuals may be inclined to abandon productive coping strategies in favor of non-productive coping. A shift toward non-productive coping may in turn be associated with increased negative mood and lower levels of physical health.

Duration of unemployment is a situation-centered aspect of the stressful experience of being unemployed. We also investigated whether two person-centered variables – neuroticism and mood-regulation expectancies – are related to productive and non-productive coping. Individuals high in neuroticism typically experience high levels of negative affect and may therefore have a strong desire to employ coping strategies which swiftly (though not permanently) reduce negative emotions (Costa & McCrae, 1987). Thus, we expected neuroticism to be positively related to non-productive coping. Negative mood-regulation expectancies (NMR-expectancies, Catanzaro & Mearns, 1990) are beliefs about one’s ability to down-regulate negative moods. Several studies have shown that NMR-expectancies are prospectively related to reduced depressive symptoms and better physical health in different samples (Catanzaro & Greenwood, 1994; Catanzaro, Wasch, Kirsch & Mearns, 2000; Kirsch, Mearns & Catanzaro, 1990, Mearns & Mauch, 1998). Since people high in NMR-expectancies believe
that they have the ability to dissolve negative emotions, they may be less inclined to employ non-productive coping strategies and may tend to use productive coping to a higher degree.

Thus, the present research had four goals. First, we sought to replicate the relationship between duration of unemployment and impairments in emotional and physical well-being. Second, we investigated whether duration of unemployment is related to the use of productive and non-productive coping strategies. Third, we tested whether coping strategies mediate the relationship between duration of unemployment and impairments in emotional and physical well-being. And fourth, we explored whether neuroticism and mood-regulation expectancies are related to productive and non-productive coping among unemployed individuals.

Method

Participants and Procedure

Visitors in a local Federal Employment Office (German: Agentur für Arbeit) were approached and were asked to volunteer in a study on “Attitudes on unemployment”. Most individuals agreed to volunteer once they learned that their responses would be kept confidential (8 individuals declined to participate; response rate = 94%). Participants received a questionnaire which contained all of the measures collected in this study, which they completed while waiting in the office. The experimenter offered to answer any questions participants might have. Participants who did not finish any formal education were not included in the following analyses. Overall, 119 participants (58 men and 61 women) were included in the data analyses. Occasional missing data reduces the number of complete data sets for some analyses.

Measures

Age, duration of unemployment and education. Because pilot testing revealed that participants were concerned that their identity might be revealed by their answers, age and duration of unemployment (both on file at the Federal Employment Office) were assessed in terms of categories rather than as continuous variables. To indicate their age, participants
checked one of the following categories: (1) under 20 (5.9 percent of participants), (2) 21 to 30 (40.3 percent of participants), (3) 31 to 40 (31.9 percent of participants), (4) 41 to 50 (20.2 percent of participants) and (5) 51 to 60 (1.7 percent of participants). Duration of unemployment was assessed on a five-point scale labeled (1) less than six months (35.3 percent of participants), (2) between six and 12 months (20.2 percent of participants), (3) between 1 and 2 years (11.8 percent of participants), (4) between 2 and 4 years (19.3 percent of participants) and (5) more than four years (13.4 percent of participants). Education was assessed by asking participants to indicate the highest degree attained: Graduating from secondary school (10 years of education, 69 percent of participants), graduating from higher secondary school with a qualification for university entrance (13 years of education, 19 percent) or obtaining a university degree (18 years of education, 12 percent).

Neuroticism and mood-regulation expectancies. Neuroticism was assessed using the scale from the Five-Factor Inventory (Neo-FFI, German translation by Borkenau & Ostendorf, 1993). Participants rated 12 items on a 6-point scale with endpoints labeled strongly disagree (1) and strongly agree (6). After reversing negatively keyed items, internal consistency was high (α = .89). Thus, we computed scores for neuroticism by averaging responses over the 12 items. Negative mood-regulation expectancies were measured using the 10 items assessing general regulation expectancies from the NMR-inventory by Catanzaro and Mearns (1990). All items begin with the stem “When I’m upset, I believe that…”. Sample items include “I can usually find a way to cheer myself up”, “I’ll end up feeling really depressed” (reversed), and “I can do something to feel better”. Items had to be rated on a 5-point scale with endpoints labeled strongly disagree (1) and strongly agree (5). After reversing negatively keyed items, internal consistency was high (α = .81), and a score for NMR-expectancies was computed by averaging responses over the 10 items.

Coping strategies were assessed by means of the Brief-COPE (Carver, 1997) in the German translation by Knoll (Knoll, Rieckmann & Schwarzer, 2005). This measure assesses
14 coping strategies by 2 items each. The original Brief-COPE asks participants how they deal with distressing events in general. In the present study, instructions were modified so that participants were explicitly asked to respond to the items with reference to their current situation of being unemployed. As outlined above, coping strategies were combined according to productivity. Coping strategies which were supposed to be productive in overcoming unemployment – active coping, planning, positive reframing, emotional support and instrumental support – were combined to form a scale of productive coping ($\alpha = .79$). Coping strategies which were classified as non-productive in the context of unemployment – denial, venting emotions, substance abuse, behavioral disengagement and self-blame – were combined for a scale of non-productive coping ($\alpha = .59$). Low to medium internal consistencies might be expected given that there is no reason to believe that all of the productive (or non-productive) coping strategies are related due to a common causal mechanism. (E.g., if a person resorts to alcohol to reduce negative mood, why should he also necessarily be inclined to vent negative emotions?) Productive and non-productive strategies can, however, be aggregated because there are theoretical arguments that they have similar effects. Hence, summary scores do not reflect scales which necessarily meet the criteria of classical test theory, but rather indexes (cf. Streiner, 2003; see also Cronbach & Shavelson, 2004) of behaviors which are equivalent in the sense that they either serve to enhance the likelihood of reemployment or regulate negative mood in a non-defensive manner (productive coping) or provide a means to immediately release and/or reduce negative emotions while decreasing the likelihood of neutralizing the cause of distress (non-productive coping).

Positive and negative affect were measured using the Positive and Negative Affect Schedule (PANAS, Watson, Clark & Tellegen, 1988). This measure consists of 2 10-item scales and was developed to provide brief measures of positive affect (PA) and negative affect (NA). Participants were asked to read each adjective and to indicate on a 5-point scale with endpoints labeled not at all (1) and extremely (5) “how much you have experienced that
particular feeling during the past week”. Internal consistency was high for both PA ($\alpha = .85$) and NA ($\alpha = .84$) and scores for PA and NA were derived by averaging ratings for each scale.

*Somatic complaints* were assessed using an abbreviated version of the Pennebaker Inventory of Limbic Languidness (PILL, Pennebaker & Watson, 1991). For each of 16 physical symptoms (e.g., headaches, palpitations, muscle pains, dizziness, coughing), participants rated on a 5-point-scale with endpoints labeled *not at all* (1) and *very much* (5), how much they had experienced this symptom in the last week. Ratings of somatic complaints had good internal consistency ($\alpha = .85$) and mean scores were derived by averaging the 16 ratings.

Results

*Descriptive Statistics, Intercorrelations of Variables and Preliminary Analyses*

As can be seen in Table 1, productive coping was positively related to PA but unrelated to NA and somatic complaints. Non-productive coping was negatively related to PA and positively related to NA and somatic complaints. Furthermore, duration of unemployment was positively associated with age ($r = .40, p < .001$) and negatively related to years of education ($r = -.31, p < .01$). Also, duration of unemployment was higher for women than for men, $t(117) = 2.71, p < .01$. Therefore, these three variables were controlled for in all of the following analyses including duration of unemployment.

*Duration of Unemployment, Affect, and Somatic Complaints*

The associations of duration of unemployment with PA, NA and somatic complaints were analyzed by subjecting each variable to a 5 (duration: less than 6 months, 6 to 12 months, 1 to 2 years, 2 to 4 years, more than 4 years) $\times$ 2 (gender: female vs. male) $\times$ 3 (education: 10 years, 13 years, 18 years) factorial analysis of variance controlling for age (ANCOVA). In none of these analyses did gender, education or age have significant impact on the dependent variable, nor were there any interactions of factors. Therefore, only duration of unemployment was retained as a factor, and the analyses were run again. The results
showed that duration was unrelated to PA \((F(4, 113) < 1)\) but significantly related to NA \((F(4, 113) = 3.04, p < .05, \eta = .31)\) and to somatic complaints \((F(4, 113) = 3.21, p < .05, \eta = .32)\).

Negative mood and somatic complaints were lowest among participants who reported being unemployed for less than six months and highest for participants who were unemployed for more than four years (see Table 2). The correlation between duration and negative affect failed to reach conventional levels of significance \((r = .17, p = .07)\). However, the correlation between duration and somatic complaints was significant \((r = .26, p < .01)\). Hence, participants with a longer history of unemployment reported more somatic complaints than participants who were recently affected by unemployment.

**Duration of Unemployment, Neuroticism, and Mood-Regulation Expectancies**

The associations of duration of unemployment with neuroticism and mood-regulation expectancies were analyzed by subjecting each variable to a 5 (duration: less than 6 months, 6 to 12 months, 1 to 2 years, 2 to 4 years, more than 4 years) \(\times\) 2 (gender: female vs. male) \(\times\) 3 (education: 10 years, 13 years, 18 years) factorial analysis of variance controlling for age (ANCOVA). There were no significant main effects or interactions in both analyses. In addition, there were no significant associations between duration of unemployment and neuroticism and NMR-expectancies when gender, education and age were removed from these analyses (for descriptive statistics, see Table 2). In sum, there was no evidence that duration of unemployment was significantly associated with either neuroticism or mood-regulation expectancies.

**Duration of Unemployment and Coping**

To explore the relationships between duration of unemployment and coping behavior, we conducted a 5 (duration: less than 6 months, 6 to 12 months, 1 to 2 years, 2 to 4 years, more than 4 years) \(\times\) 2 (gender: female vs. male) \(\times\) 3 (education: 10 years, 13 years, 18 years) \(\times\) 2 (coping style: productive vs. non-productive) mixed factorial analysis of variance controlling for age (ANCOVA). This analysis did not yield significant main effects for gender.
or education, nor did gender or education enter in any significant interaction of factors. Age
was not significant as a covariate. Therefore, data were collapsed across gender and
education, and age was dropped as a covariate. A 5 (duration: less than 6 months, 6 to 12
months, 1 to 2 years, 2 to 4 years, more than 4 years) × 2 (coping style: productive vs. non-
productive) mixed factorial analysis of variance (ANOVA) yielded a significant effect of
coping style, \( F(1, 114) = 241, p < .001 \), indicating that participants reported using more
productive coping than non-productive coping (see Table 1). In addition, the interaction of
duration and coping style reached significance, \( F(4, 114) = 5.22, p < .01 \). Figure 1 illustrates
the interaction of coping style and duration by depicting standardized (rather than absolute)
values for productive and non-productive coping as a function of duration of unemployment.
Standardized values indicate the relative extent of productive and non-productive coping as
they are associated with duration of unemployment and are hence more illustrative than
absolute values. Individuals with a longer history of unemployment reported less productive
coping than participants who were unemployed for a few months only. Similarly, non-
productive coping was positively related to duration of unemployment and reached a plateau
after 2 years of unemployment. Supporting these analysis, the correlations between duration
of unemployment and coping behavior were significantly negative for productive coping (\( r =
-.30, p < .01 \)) and significantly positive for non-productive coping (\( r = .28, p < .01 \)). These
correlations remained significant when controlling for age, education and gender for both
productive coping (\( pr = -.27, p < .01 \)) and non-productive coping (\( pr = .22, p < .05 \)).

**Mediation Analyses**

Since the preceeding analyses provided evidence that (1) duration of unemployment
was related to non-productive coping as well as to somatic complaints and (2) non-productive
coping was associated with somatic complaints, the next set of analyses tested whether non-
productive coping mediated the association between duration of unemployment and somatic
complaints. Following the recommendations by Baron and Kenny (1986), mediation can be
assumed if the following conditions are met: (a) The predictor (duration of unemployment) is associated with the outcome (somatic complaints); (b) the predictor is associated with the mediator (non-productive coping); (c) the mediator is associated with the outcome, after controlling for the predictor; and (d) the predictor is unrelated to the outcome after controlling for the mediator. The findings reported in the preceding sections indicate that conditions (a) and (b) were met. Additional regression analyses showed that non-productive coping was related to somatic complaints after controlling for duration of unemployment ($\beta = .34$, $p < .001$), and that duration of unemployment was no longer related to somatic complaints when controlling for non-productive coping ($\beta = .16$, ns.). Sobel’s test indicated that the indirect path was significantly different from zero $Z = 2.42$, $p < .05$. Thus, all criteria for mediation were met (see Figure 2), demonstrating that non-productive coping mediates the relationship between duration of unemployment and somatic complaints.

Another set of mediation analyses was carried out which controlled for gender, age and education in the first step of regression. The results remained essentially unchanged. After controlling for age, gender and education, duration predicted somatic complaints ($\beta = .27$, $p < .05$) and duration predicted non-productive coping ($\beta = .26$, $p < .05$). Non-productive coping predicted somatic complaints after additionally controlling for duration ($\beta = .37$, $p < .01$). Finally, duration did no longer predict somatic complaints after additionally controlling for non-productive coping ($\beta = .17$, ns.). Sobel’s test indicated that the indirect path was significantly different from zero $Z = 2.16$, $p < .05$. Thus, non-productive coping mediated the association between duration of unemployment and somatic complaints after controlling for gender, age and education.

**Person-Centered Variables and Coping**

As expected, mood-regulation expectancies were positively related to productive coping and negatively related to non-productive coping. Also, neuroticism was positively
related to non-productive coping but unrelated to productive coping (see Table 1). A regression analysis of non-productive coping on neuroticism and NMR-expectancies found that each variable predicted non-productive coping over and beyond the other variable (for neuroticism: $\beta = .30$, $t(115) = 3.31$, $p < .01$; for NMR-expectancies: $\beta = -.29$, $t(115) = 3.22$, $p < .01$).

Since both neuroticism and NMR-expectancies were related to somatic complaints, we also tested whether non-productive coping mediated these relationships. For neuroticism, the correlations depicted in Table 1 demonstrate that conditions (1) and (2) were met. Further regression analyses showed that (3) non-productive coping was related to somatic complaints after controlling for neuroticism, ($\beta = .29$, $p < .01$). While neuroticism was still related to somatic complaints after controlling for non-productive coping ($\beta = .24$, $p < .05$), Sobel’s test indicated that the indirect path was significantly different from zero, $Z = 2.65$, $p < .01$.

Similarly, for NMR-expectancies, conditions (1) and (2) were met (see Table 1). Additional regression analyses found that (3) non-productive coping was related to somatic complaints after controlling for NMR-expectancies ($\beta = .37$, $p < .001$) and (4) NMR-expectancies were no longer related to somatic complaints after controlling for non-productive coping ($\beta = -.04$, ns.). Sobel’s test indicated that the indirect path was significantly different from zero $Z = 3.10$, $p < .001$.

Thus, all criteria for mediation were met, demonstrating that non-productive coping partially mediated the relationship between neuroticism and somatic complaints and fully mediated the relationship between NMR-expectancies and somatic complaints (see Figure 3).

Discussion

The results of this study were generally in accord with our expectations. First, we were able to replicate the finding (cf. McKee-Ryan et al., 2005) that duration of unemployment is associated with negative mood and somatic complaints. Clearly, unemployment seems to be a stressor to which people do not generally habituate (cf. Lazarus & Folkman, 1984). Second,
our data showed that duration of unemployment was related to the general pattern of coping responses. Although productive coping was overall more prevalent than non-productive coping, duration of unemployment was related to lower levels of productive coping and higher levels of non-productive coping. Third, the association between duration of unemployment and physical complaints was mediated by the use of non-productive coping strategies. Importantly, all of these associations were independent of age, education and gender.

We do note that the relationships among duration of unemployment, coping behavior and somatic complaints are correlational and do not provide evidence of causal relationships. However, the results of the mediation analyses are at least consistent with a causal interpretation of the possible effects of duration of unemployment. Also, evidence of mediation could be obtained after controlling for variables which were associated with duration of unemployment – age, education and gender – which rules out cohort effects. Thus, our results raise the possibility that duration of unemployment prompts the adoption of non-productive functional coping behavior, which in turn increase somatic complaints. This basic hypothesis should be tested in longitudinal studies of coping with unemployment.

Additional analyses showed that individuals high in neuroticism and low in mood-regulation expectancies were more likely to adopt non-productive coping strategies. For both neuroticism and mood-regulation expectancies, we also obtained evidence that the association between these variables and somatic complaints is mediated by non-productive coping. Hence, both high neuroticism and low NMR-expectancies may be risk-factors for developing somatic complaints among unemployed individuals because these person-centered variables may prompt the adoption of non-productive coping strategies. If these results can be replicated, then it may be worthwhile to design interventions which encourage unemployed individuals who are high in neuroticism or low in mood-regulation expectancies, or who have a long history of unemployment, to employ and stick with productive rather than non-
productive coping strategies (for promising programs designed for students, see Cunningham et al., 2002; Freydenberg et al., 2004).

From a broader perspective, our findings are relevant to theories of human self-regulation. A central function of self-regulation is to balance short-term benefits and long-term consequences of behaviors (Carver, 2004; Mischel & Ayduk, 2004). If short-term benefits and long-term consequences are in conflict (e.g., a person on a diet is offered a delicious snack), then self-regulatory processes may serve to protect the pursuit of long-term goals against actual temptations (e.g., the snack is declined). People who are unemployed may experience a similar conflict: Productive coping strategies may be helpful in finding reemployment, but they may not be as effective in immediately down-regulating negative mood. On the other hand, non-productive coping strategies may offer an immediate relief from negative emotions which lasts for a few minutes, hours or days, but they often exacerbate negative mood in the following weeks and months because they (1) do not solve the root problem and (2) may have be harmful to social relationships and physical health. From this perspective, switching from productive to non-productive coping may be considered an instance of a self-regulation failure (cf. Baumeister & Heatherton, 1996). People who have been unemployed for a long time may have a strong desire to express or rid themselves from negative mood, and some may thus abandon productive coping strategies in favor of non-productive strategies like substance abuse and denial. In accord with Lazarus and Folkman (1984), it seems reasonable that prolonged unemployment leads to exhaustion, especially if unemployed individuals have unsuccessfully relied on active coping strategies.

There are few studies so far which investigated the association between the duration of a real-life stressor and coping responses. However, we may speculate that the relationships between stressor duration, coping responses, and well-being that we found in the present study might also be found in other domains. For example, a study by Adler, Hoffman, Bliese, & Castro (2005) found that among male soldiers, deployment length in a peace-keeping
mission was related to somatic complaints. Here, too, this relationship may be mediated by a change in coping responses from productive to non-productive coping. Similarly, there is conclusive evidence that non-productive coping is associated with emotional impairment, behavioral problems and lower grades among high-school students (Cooper, Wood, Orcutt, & Albino, 2003; Mantzicopoulos, 1997; Thuen & Bru, 2004). Presumably, some students may be inclined to employ non-productive coping strategies in school because they have a longer history of school failure or have traits which foster the adoption of non-productive coping strategies (e.g., high neuroticism or low mood-regulation expectancies). However, these speculations have to be tested by future studies.

To sum up, our study found encouraging evidence which suggests that somatic complaints reported by unemployed individuals may be accounted for by variations in productive and non-productive coping, which in turn depend on the duration of unemployment. By further investigating the effects of stressor duration and the impact of personality variables, we may better be able to help people find more adaptive ways of coping with stress.
References


Footnotes

1 Additional analyses explored the relationships between the 4 scales of the Brief-COPE which could not be classified as representing either productive or non-productive coping (distraction, humor, acceptance, and religion) with the main variables of this study. First, humor ($r = .25, p < .01$) and distraction ($r = .35, p < .01$) were significantly correlated with productive coping and unrelated to non-productive coping. Religion was significantly correlated with unproductive coping ($r = .20, p < .05$) but unrelated to productive coping. Acceptance was unrelated to both productive and nonproductive coping. While religion, distraction, and acceptance were unrelated to duration of unemployment, humor was negatively related to duration of unemployment ($r = -.25, p < .01$). None of the 4 coping scales was significantly related to either positive affect, negative affect or somatic complaints.
Authors’ Note

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Table 1.

Descriptive Statistics and Two-Tailed Correlations Among Variables.

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<th>6</th>
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<th>11</th>
<th>M</th>
<th>SD</th>
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<tr>
<td>Age</td>
<td>-.06</td>
<td>.10</td>
<td>.40***</td>
<td>.16</td>
<td>.06</td>
<td>-.07</td>
<td>.10</td>
<td>.11</td>
<td>-.03</td>
<td>-.03</td>
<td>32.38</td>
<td>8.72</td>
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<td>Education</td>
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<td>-06</td>
<td>-.31***</td>
<td>-.19*</td>
<td>.16</td>
<td>.16</td>
<td>-.26**</td>
<td>.04</td>
<td>-.08</td>
<td>-.10</td>
<td>15.13</td>
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<td>.17</td>
<td>.01</td>
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<td>.28**</td>
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<td>.17</td>
<td>.26**</td>
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<td>1.66</td>
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<tr>
<td>Neuroticism</td>
<td>(.89)</td>
<td>-.45***</td>
<td>-06</td>
<td>.43***</td>
<td>-.24*</td>
<td>.49***</td>
<td>.36***</td>
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<td></td>
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<td>2.71</td>
<td>.83</td>
</tr>
<tr>
<td>NMR-Expectancies</td>
<td>(.81)</td>
<td>.20*</td>
<td>-.43***</td>
<td>.23*</td>
<td>-.46***</td>
<td>-.20*</td>
<td>3.79</td>
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<tr>
<td>Productive Coping</td>
<td>(.79)</td>
<td>-.20*</td>
<td>.33***</td>
<td>.04</td>
<td>-.10</td>
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<td>.52</td>
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<tr>
<td>Non-Productive Coping</td>
<td>(.59)</td>
<td>-.23*</td>
<td>.46***</td>
<td>.39***</td>
<td>1.69</td>
<td>.39</td>
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<tr>
<td>Positive Affect</td>
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<td>-.26**</td>
<td>-.19*</td>
<td>3.09</td>
<td>.74</td>
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<tr>
<td>Negative Affect</td>
<td>(.84)</td>
<td>.38***</td>
<td>2.11</td>
<td>.74</td>
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<tr>
<td>Somatic Complaints</td>
<td>(.86)</td>
<td>1.65</td>
<td>.58</td>
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</table>

Note. N = 117-119. Figures in parentheses are reliabilities estimated by coefficient alpha.

* p < .05.  ** p < .01.  *** p < .001.
Table 2.

*Mean Ratings of Positive Affect, Negative Affect, Somatic Complaints, Neuroticism, and Negative Mood-Regulation Expectancies as a Function of Duration of Unemployment (Standard Deviations are Given in Parentheses).*

<table>
<thead>
<tr>
<th>Duration of Unemployment</th>
<th>Less than 6 months</th>
<th>6 to 12 months</th>
<th>1 to 2 years</th>
<th>2 to 4 years</th>
<th>More than 4 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Positive Affect</td>
<td>3.17 (.73)</td>
<td>3.13 (.83)</td>
<td>2.94 (.88)</td>
<td>3.00 (.65)</td>
<td>3.08 (.67)</td>
</tr>
<tr>
<td>2. Negative Affect</td>
<td>1.91 (.72)</td>
<td>2.26 (.60)</td>
<td>2.29 (.67)</td>
<td>1.92 (.68)</td>
<td>2.53 (.93)</td>
</tr>
<tr>
<td>3. Somatic Symptoms</td>
<td>1.45 (.45)</td>
<td>1.75 (.51)</td>
<td>1.63 (.58)</td>
<td>1.67 (.70)</td>
<td>2.03 (.67)</td>
</tr>
<tr>
<td>4. Neuroticism</td>
<td>2.53 (.79)</td>
<td>2.81 (.82)</td>
<td>2.67 (.64)</td>
<td>2.61 (.96)</td>
<td>3.21 (.73)</td>
</tr>
<tr>
<td>5. NMR-Expectancies</td>
<td>3.88 (.68)</td>
<td>3.83 (.62)</td>
<td>3.64 (.66)</td>
<td>3.83 (.64)</td>
<td>3.59 (.58)</td>
</tr>
</tbody>
</table>
Figure Captions

Figure 1. Standardized scores of productive coping (solid line) and non-productive coping (dashed line) as a function of duration of unemployment.

Figure 2. Path analyses testing the mediating role of non-productive coping in the relationship between duration of unemployment and somatic complaints.

Figure 3. Path analyses testing the mediating role of non-productive coping in the relationship between neuroticism (and, in parentheses, negative mood-regulation expectancies) and somatic complaints.
Figure 1.
Figure 2.
Neuroticism (NMR-Expectancies) → .36** (-.20*) Somatic Complaints

Neuroticism (NMR-Expectancies) → .29** (-.04) Somatic Complaints

.43*** (-.43***) Non-Productive Coping → .29** (.37***)

Figure 3.