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**Occupation, Prestige, and  
Voluntary Work in Retirement:  
Empirical Evidence from Germany**

Holger Lengfeld and Jessica Ordemann

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# **Occupation, Prestige, and Voluntary Work in Retirement: Empirical Evidence from Germany**

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## **Abstract**

The paper examines the extent to which the prestige value of a retiree's former occupation increases the likelihood that they will make a transition into volunteering after retirement. Following social production function theory, we assume that when a person retires, the prestige value attached to their former occupation fades. The fact that volunteering has the character of a collective good provides the opportunity to gain social prestige to offset the loss of occupational prestige. However, the extent of the incentive to volunteer will be distributed unequally across occupations: the higher the former occupational prestige value, the higher the perceived loss of prestige after retirement. Thus, doing a job with high prestige value increases the incentive to volunteer in retirement. This assumption is tested, using data taken from the German Socio-Economic Panel (SOEP) 1992-2013. The sample contains 1,631 workers and 589 retirees, 278 of whom transitioned into volunteering during the observation window. Based on Kaplan-Meier-Failure-Estimates and complementary log-log hazard models, findings show a positive effect of occupational prestige on the transition into volunteering. Thus, the loss of high occupational prestige can be compensated by the social prestige associated with volunteering. Formal volunteering in retirement follows, albeit to a lesser extent, the logic of the occupational social strata.

## **Keywords**

Social Production Function Theory, Retirement, Volunteering, Occupations

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## Introduction

Volunteering has been widely discussed in OECD societies in the last few years (recently by Manatschal and Freitag, 2014, Häuberer, 2014). One reason for this may be the association of volunteering with virtue, since it can be seen as “any activity in which time is given freely to benefit another person, group, or organization” (Wilson, 2000: 215). It therefore stands at the center of any communitarian society in which the actor’s needs are sacrificed to the greater common good. In this context, especially, volunteering done by elderly people in groups or organizations – called ‘formal volunteering’ – can be interpreted as an important collective good. It can stabilize the social integration of a society which is confronted with demographic change and the task of maintaining a workable welfare state that meets the growing needs of those on the top of the demographic pyramid. Retired volunteers with a lifetime of resources and plenty of spare time on their hands can fulfill roles that welfare state institutions cannot. But what are the factors that prompt elderly people to volunteer their time? As prior research has shown, different socio-economic attributes and resources are the main determinants of volunteering in retirement and at a later stage of life.<sup>1</sup> Thus, it has been shown that the level of education and the household net income positively impact on the volunteering of older actors (Chambré, 1997; Choi, 2003; Erlinghagen and Hank, 2006; Erlinghagen, 2010; Tang, 2006; Börsch-Supan et al., 2009), that retired women are more engaged than men (Choi, 2003; Tang, 2006; Hank, 2011), and that prior volunteering experience (Butrica et al., 2009; Erlinghagen, 2010) and a higher degree of physical and mental health increases the likelihood to volunteer in old age (Broese van Groenou, Marjolein and van Tilburg, 2012; Caro and Bass, 1997; Choi, 2003; Erlinghagen and Hank, 2006; Komp et al., 2012; Li and Ferraro, 2006).

However, little is known about the effect of an actor’s (previous) employment. The few extant studies show that former employment has no or little effect on future volunteering in organizations (Caro and Bass, 1997; Choi, 2003; Mutchler et al., 2003; Broese van Groenou, Marjolein and van Tilburg, 2012). This,

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<sup>1</sup> Another thread of research concentrates on macro-societal explanations for volunteering in retirement, e.g. Hank (2011) or Curtis *et al.* (2001).

however, should not necessarily be taken as a categorical conclusion. As far as we can see, previous studies lack an action-based explanation that focuses on the social mechanisms which shape an actor's decision to take part in volunteering. From a rational choice perspective, formal volunteering becomes a collective good which is produced within the frame of resources, incentives and constraints typically produced by occupations. From this perspective, incentives can be identified as pivotal in an actor's decision about whether to volunteer in old age. Furthermore it is possible to show how they are connected to resources which are distributed unequally over the occupational structure. In this paper, we propose an occupation based explanation which uses the framework of social production function (SPF) theory (section 2). We argue that the occupational prestige, satisfies the actor's desire for social recognition and, consequentially, for social well-being. Since occupational prestige is distributed unequally between occupations, actors holding highly recognized (valued) positions experience retirement as associated with a loss of prestige. Essentially, formal volunteering can be instrumental to offset the loss of prestige since it is recognized as a collective good that is honored with social prestige. Therefore, if the prestige value of the former occupation was high, a retiree will be more attracted to volunteering. Thus, the likelihood of becoming a volunteer in retirement depends, among other factors, on an employee's hierarchical position within the occupational structure.

In order to test our hypothesis we analyze longitudinal data (waves 1992 – 2013) from the German Socio-Economic Panel (SOEP) (section 3). Descriptive Kaplan-Meier estimates and log-rank as well as Wilcoxon significance tests give a first indication on the impact of an actor's occupational prestige on formal volunteering. These are followed by regression analyses (complementary log-log hazard models) which show the positive effect of former occupational prestige on formal volunteering in retirement. Conditional effects plots show the strength of the occupational prestige effect, which is stronger for retirees than for individuals already employed. Thus, retirement seems to be a decisive event in the decision for or against taking part in volunteering. These findings indicate that the loss of high occupational prestige can be compensated by the social prestige associated with volunteering. Thus, formal volunteering in retirement follows, albeit to a

lesser extent, the logic of the occupational social strata. A discussion of the scope of the findings concludes the paper (section 5).

### **Social integration, occupational prestige and voluntary work in retirement**

#### *Gain and loss of social well-being in retirement*

Social Production Theory postulates that actors strive to achieve subjective well-being by attaining physical well-being and social approval (Lindenberg, 1996; Ormel et al., 1999). In the current study we concentrate on the latter. As a universal good, social well-being has a compositional nature, meaning it consists of prestige derived from the first-order instrumental goals of 1) status, 2) affection (love, friendship, emotional support) and 3) doing what is right – behavioral confirmation (Ormel et al., 1999: 62). Although one's desire for social well-being can be satisfied through different activities and endowments, the employment position of an actor is a vital social-integrative anchor insofar as other resources (power, income) are controlled by it. Thus, the respective occupation concentrates the resources the actor has accumulated to reach all three first order goals mentioned above. Due to the fact that each is endowed with prestige which can be converted into social well-being, occupational success becomes a goal in itself. If the actor fails to meet the goal of a subjectively acceptable level of success, they cannot fulfill their need for social recognition and well-being. In this case, the individual degree of social integration can decline (Simons, 1983/84). Furthermore, since the occupation focuses on the primary resources and achievements of an actor, occupational status allocates a socially defined level of prestige that is relative to others. Moreover, the occupation has a multifunctional character in relation to the composition of social well-being: while employed, an actor can attain affection and behavioral confirmation through his occupation (Ormel et al., 1999: 67ff). Thus, occupations are exceedingly effective in the exchange into social well-being.

How is occupational prestige linked to volunteering in retirement? SPF theory provides a clear answer: upon entering retirement, the multidimensionality of an occupation ceases to exist as the previous status can no longer be produced (or

only at a high cost). Thus, an actor's occupational prestige fades (Ormel et al., 1999: 73). This holds especially true for Germany, where the statutory retirement age is regulated by law, and being employed beyond the mandatory age of retirement is either prohibited or penalized by taxes and cuts in pension. Yet, simultaneously the previous occupation becomes an endowment to reach future instrumental goals which can be converted into social well-being. The actor receives this "non-functional" endowment as a retiree, along with a new type of prestige. Without the mobilization of further means of production, society honors the achievements of the aged (Simmons, 1947) by paying deference and respect to past achievements. As a result, occupational prestige is converted into retirement-endowed prestige. At first sight, it seems that retirement yields stratified social prestige as well, which can satisfy the actor's individual desire for social well-being beyond the work sphere.

However, occupational prestige is distinct from retirement-endowed prestige in one crucial regard. Compared to occupational prestige, which is distributed unequally throughout society, retirement-endowed prestige is, to a higher degree, equally distributed, because it is not strongly linked to previous occupational performance. Instead of being able to actively generate prestige directly by way of status, behavioral confirmation and affection, the previous occupation loses its multidimensional character. It becomes more of a resource in itself that can only yield a reduced degree of prestige. Thus, two things change in retirement. First, the memory of the functional role during the career fades over time, and the actor adapts to their non-functional status as their resources age. Secondly, the actor can in fact use any remaining prestige from their occupational activity. Nonetheless, residual prestige granted by others through affection and behavioral confirmation is unpredictable and cannot be considered a constant source of prestige. As a result, the occupation's multifunctional character dissolves, and affection and behavioral confirmation are lost. Together with the process of aging and discontinuation of the resources, occupational prestige will be reduced up to the point when retirement-endowed prestige becomes more prominent. Thus, all social well-being is stratified during employment, but leveled in retirement.

How will workers perceive this change in social prestige after entering retirement? The answer depends on the degree of previously held occupational prestige. An actor who had controlled many resources throughout their career, such as a teacher, would perceive the prestige-leveling effect of retirement as a greater loss than someone who had controlled few resources, e.g. an unskilled worker. As a result, retirement is associated with a shift in social well-being dependent on the degree of prestige of the former occupation. Hence, the teacher will experience a loss of well-being because their occupational prestige will fade when leveled – and therefore lower – retirement-endowed prestige is ascribed to them. In contrast, the unskilled worker might experience gaining prestige upon entering retirement as they shed their (lower) occupational prestige. As a consequence, their total overall prestige value will rise. When assuming that any actor is interested in maintaining social prestige, incumbents of renowned occupations have to produce new primary means that can be substituted for one's occupation.

*Formal volunteering as a substitutional activity*

Strictly following SPF theory, Ormel et al. (1999) argue that, upon retirement, an actor can no longer reap social approval from the occupational status. They therefore concentrate on generating it from affection and behavioral confirmation, i.e. by grand-parenting (ibid.). However, especially for the young and active old, withdrawal into the family seems not to be an effective way of attaining prestige. Formal volunteering, in contrast, provides the opportunity to compensate for the loss of prestige. As a multifunctional activity, formal volunteering can effectively enhance the universal good of subjective well-being due to its character as a highly valued collective good. Following Olson (Olson, 1971: 59), a collective good is one that, “if any person  $X_i$  in a group  $X_1, \dots, X_i, \dots, X_n$  consumes it, it cannot feasibly be withheld from the others in that group” (Olson, 1971: 14). Most types of volunteering in organizations meet this criterion. As a collective good, volunteering draws prestige from all three dimensions of subjective well-being – status, behavioral confirmation, affection. As a result, taking up volunteering in retirement doesn't follow a monetary incentive but a social one.

Therefore, volunteering is part of an actor's social production function to produce social well-being by compensating for a loss of occupational prestige. In a nutshell, the production of social well-being can become either more or less costly due to different levels of occupational status before retirement. Because unskilled workers draw greater approval from their status as retirees than they do from occupation, there is no incentive for them to take up volunteering as a way of substituting occupational status. For professionals, the situation is different, it is not sufficient to receive retirement-endowed prestige or approval from family work to offset the loss of occupational prestige.

H<sub>1</sub>: The higher the former occupational prestige of a retiree, the higher the probability that they will transition into volunteering.

Previous studies show that doing volunteer work in retirement is more likely if a person has gained related experience earlier in life (Butrica et al., 2009; Erlinghagen, 2010). This makes it plausible to assume that the postulated prestige-compensation effect should also be observable for active workers before they enter retirement. However, the effect size should be greater for retirees than it is for workers, since the incentive to offset the loss of prestige takes full effect shortly before or after leaving the workforce. From the empirical point of view, this means that we must compare the sizes of the compensation effect for both phases of life, before and after reaching statutory retirement age. Thus, we must also test the following hypothesis:

H<sub>2</sub>: For retirees, the impact of occupational prestige on the transition into voluntary work is stronger for retirees than it is for individuals currently employed.

## **Data and methods**

### *Data*

To test our hypotheses, we used data taken from the German Socio-Economic Survey (SOEP) (Wagner et al., 2007). The SOEP is a representative longitudinal panel study of German households that is centered on the question of well-being

over the life course and concentrates on multiple topics ranging from employment and earnings to daily life, health and others. The study began in 1984 and now includes 30 waves. We used individual-level data from the years 1992 to 2013, spanning 22 waves. Based on actors who were employed, we curtailed the data according to the following criteria: all observations of an actor are omitted a) if they retired before age 58 or b) entered retirement before the statutory retirement age of 65 years and re-entered the labor market. As our assumption focuses on the transition into retirement, we also c) omitted left-censored cases aged 49 years or younger. Therefore our observation window opens at age 50 and closes with the last available observation. The sample contains 17,940 observations of 1,649 respondents who are at risk to volunteer. 899 people in the risk set transitioned into retirement and 278 respondents transitioned into volunteering for the first time, 74 of those in retirement.

### *Variables*

*Dependent Variable.* The indicator used to measure volunteering was based on the following question: “Which of the following activities do you take part in during your free time? Please check off how often you do each activity: [...]”. In 1995, 1998, 2003, 2008 and 2013 nine different items were provided to the respondent, ranging from “Going to cultural events (such as concerts, theater, lectures, etc.)” to “Attending church, religious events” and combined with the following scale: “daily, at least once a week, at least once a month, less often, never”. In 1992, 1994, 1996, 1997, 1999, 2001, 2005, 2007, 2009 and 2011 a shorter scale was used: “at least once a week, at least once a month, less often, never”. In line with the definition of Wilson, we used the item “Volunteer work in clubs or social services” dichotomized with 1 for “daily”, “at least once a week” or “at least once a month” and 0 for “less often” or “never”.

As for the fact that volunteering was polled bi-annually in 1992, 2001, 2003, 2005, 2011 and 2013 and annually from 1994 to 1999 and 2007 to 2009, we used a conservative imputation strategy to gain maximum data usage for the years for which data were missing. If in t1 a person volunteered but in t3 no volunteer work

is indicated we assumed that volunteering was not done in t2. Analogously, we proceeded for non-volunteering in t1 and volunteering in t3. Only if a person volunteered in t1 and t3 did we imputed the value 1 for volunteering in t2.

*Independent variable.* Occupational prestige was operationalized according to the “Standard International Occupational Prestige Scala” (SIOPS, see Treiman, 1977) which is provided by SOEP. Compared to other socio-economic status scales, SIOPS concentrates on occupational prestige, which is central to our argument. Higher SIOPS values indicate higher occupational prestige, ranging from 13 (farm workers) to 78 (medical doctors, professors) (excepting soldiers). If the SIOPS value of a retiree was missing, we imputed the last SIOPS score before entering retirement. This imputation is legitimized by the fact that, due to the fixed age entrance barrier of the German pension scheme, changes in occupational status after entering retirement seem to be rather unlikely.

*Control variables.* First, we assumed that a retiree who was intrinsically motivated to do a certain job may also be more likely than others to be interested in volunteering since, after leaving the workforce, they will lack opportunities to perform a subjectively valued meaningful task. The level of intrinsic motivation of a person depends at least partly on the degree of a job’s working autonomy which, in turn, increases according to an occupation’s status value (e.g. Kohn and Schooler, 1969). Thus, if we observe a positive effect of the SIOPS variable on the transition to volunteer, we cannot definitely trace back this finding to our hypothesis of compensating loss of prestige through volunteering. To solve this problem, we had to control for the degree of intrinsic motivation to work. Unfortunately, the SOEP data not contain such a variable. Instead, we made use of the degree of satisfaction the respondents reported in their (previous) work, since evidence shows (Herzberg et al., 1959) that the more doing the job is guided by intrinsic motivation, the more the employee will be satisfied with his job (scale is ranging from 0 = very unhappy to 10 = very happy).

We also included a time-counting variable which shows experience of volunteering (in years). Furthermore employment status was controlled for (0 = active, 1 = retired). Since previous research shows a negative impact of a declining (self-evaluated) state of health (Caro and Bass, 1997; Li and Ferraro,

2006) and of a retirees age on the transition into volunteering (Broese van Groenou, Marjolein and van Tilburg, 2012; Komp et al., 2012), we include both indicators. Furthermore, we controlled for sex (Choi, 2003; Tang, 2006; Hank, 2011), marital status (Broese van Groenou, Marjolein and van Tilburg, 2012), living in the former East Germany (Erlinghagen, 2010) and education (Chambré, 1997; Choi, 2003; Erlinghagen and Hank, 2006, Erlinghagen, 2010, 2010, Tang, 2006; Börsch-Supan et al., 2009; Hank, 2011).

### *Method*

In a first step we carried out a descriptive analysis using Kaplan-Meier-failure estimates (presented as graphs) followed by log-rank and Wilcoxon-Breslow-Gehan analyses. For the latter, we tested for significant differences in low (15-35), medium (36-57) and high (58-78) occupational prestige on the process of transitioning into volunteering. Our compensation hypothesis H1 anticipates a difference between the occupational prestige values of retirees when transitioning into volunteering. Therefore, we separated our analytic database into two subsamples of retirees and active workers for the descriptive analysis. To get an indication of whether our first hypothesis had merit, we concentrated on the subsample of retirees. After evaluation of the Kaplan-Meier-failure plot for retirees, we fell back on the metric SIOPS-variable and checked whether the visual differences in the transitioning rates differed significantly from each other. Calculating both log-rank and Wilcoxon-Breslow-Gehan tests has the advantage that one can test for differences at the beginning and towards the end of the process time. The tests should give us an indication of the validity of H2. We expect that for retirees, both tests will show a significant difference with the status differences becoming larger over time. For H2 to be viewed positively, the status differences should follow the same trend but should be less significant in their  $\chi^2$ -comparison.

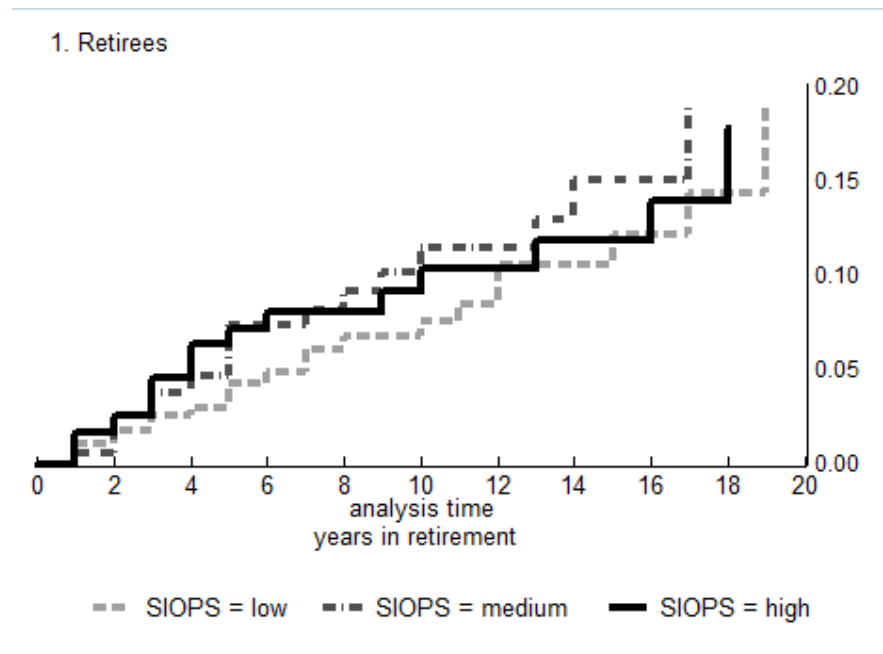
In a second step, we performed regression analysis to evaluate the impact of the pre-retirement occupational prestige on transitioning into volunteering by controlling for other variables. To do so we drew upon the combined dataset.

Three methodological problems guided the selection of the specific analytic model. First, there were multiple episodes for each person in the dataset (long format) that challenged the assumption of the statistical independence of the person-episodes. Second, the time-intervals in between the collected volunteering data varied from one to two years, if they were available for every occasion a person was interviewed - regardless of the fact, that we have imputed data whenever conservatively possible to minimize the time intervals. Third, volunteering was unequally distributed, with only a fringe population in the dataset actually transitioning into volunteering. This violates the regression assumption of unequal distribution. In sum, we needed a model that controlled for unobserved heterogeneity, one which was time insensitive and worked with a polar value distribution. In the end, we used conditional maximum likelihood modeling, specifically, a complementary log-log hazard model was used to estimate the continuous-time hazard rate (Andreß et al., 2013; Cameron and Trivedi, 2005). Like random effect models, (random effect) complementary log-log hazard models were used to control for the unobserved heterogeneity in clustered datasets such as the long-format version we were using. The model had another specific advantage that pertains to the second problem mentioned. Due to the time invariance of this specific model with regard to the length of time intervals, problems could have occurred with the non-continuous volunteering data points in the SOEP. Finally, the complementary log-log hazard model was sensitive to unequal distribution of values and therefore reduced potential problems due to the unequal distribution of volunteering in the sample.

We finalized our methodological design by presenting a conditional-effect plot on the basis of the complementary log-log hazard model. This will help to visualize the degree of the interaction term for retirees and active workers on the whole scale of the SIOPS variable. It will effectively demonstrate the compensation effect beyond the difference in the regression coefficients.

## Findings

**Graph 1.** Kaplan-Meier-Failure-Estimates (Retirees)



Data: SOEP 1992-2013, v30 (beta); own calculations based on subsamples for retirees (N of observations = 6,093) and active workers (N of observations = 11,847).

Graph 1 presents the findings of the Kaplan-Meier-failure estimators. The graph shows how quickly retirees with low, medium and high occupational prestige transitioned into volunteering. We found that retirees with a higher occupational prestige transitioned faster into volunteering than those of medium or lower occupational prestige. About six years into retirement, this effect changed and retirees with a medium occupational degree exited the risk set faster into volunteering. Over the whole retirement period, retirees with low occupational prestige remained less likely to volunteer. This gives us a first positive indication towards hypothesis H1.

But do retirees and active workers transition significantly faster into volunteering if they possess a high occupational prestige? Next we consider the Wilcoxon-Breslow-Gehan and log-rank significant tests. Whereas Wilcoxon-Breslow-Gehan tests for significances in the beginning of the process time, the log-rang test shows significant differences at the end of the observation window.

**Table 1.** Occupational Status, SIOPS and Volunteering ( $\chi^2$ -values)

|                                | Retirees<br>(N of observations =<br>6,093) | Active Workers<br>(N of observations =<br>11,847) |
|--------------------------------|--|---|
| Wilcoxon-Breslow-Gehan<br>test | 51.17*                                     | 63.92   |
| Log-Rank test                  | 60.11**                                    | 61.68   |

Data: SOEP 1992-2013, v30 (beta); own calculations based on subsamples for retirees and active workers. \* $p_z < .05$ , \*\*  $p_z < .01$ , \*\*\*  $p_z < .001$ .

In the first two rows we see the significance of the overall SIOPS for the subsamples of retirees and active workers. As both subsamples are independent of each other, we cannot compare them with regard to the  $\chi^2$ -values and significance levels. Therefore we consider each sample individually. Turning to the column with active workers first, we note that the overall SIOPS of active workers indicates a high statistical dependence but shows no significant difference on the transitioning process into volunteering. This is different for retirees. The log-rank and the Wilcoxon-Breslow-Gehan tests both show  $\chi^2$ -values with significant differences. Due to the different sensitivity in the process time, we interpret the growing significance in the log-rank test as follows: After retirement it becomes more and more likely for retirees with a higher occupational prestige to transition into volunteering. We take these findings as an indication that, in line with our compensation hypothesis, the impetus to volunteer is stronger for retirees with a high occupational prestige than it is for workers and for retirees with low occupational prestige.

In the next step we analyze whether the descriptive evaluation holds steady under the consideration of process time and identified control variables.

Table 2 displays the results from the complementary log-log hazard models. Baseline model M1 contains socio-demographic control variables, (former) work satisfaction and the retirement variable. In model M2, the SIOPS score is added. In order to test if the expected occupational prestige effect gains strength in retirement, model M3 extends model M2 by adding an interaction term between retirement and SIOPS.

Before looking at the regression coefficients, we turn to a likelihood-ratio test to evaluate the fit of our model. In a nested design such as that seen in the following, this test indicates whether adding a variable in a subsequent model provides a significant advantage over the previous ones. As the findings show, adding the SIOPS in M2 significantly improves M1 (with  $\chi^2 = 10.61^{**}$ ). The same holds true when adding the interaction term in M3 ( $\chi^2 = 13.7^{***}$ ). Therefore we can turn towards the discussion of the single effects over all three models.

**Table 2.** Determinants of Volunteering (Complementary Log-Log Hazard Model)

|   | Model M1             | Model M2             | Model M3             |
|---|----------------------|----------------------|----------------------|
| Age (in years)  | -0.047***<br>(0.012) | -0.048***<br>(0.012) | -0.047***<br>(0.012) |
| Education (acc. to CASMIN,<br>1 low, 2 medium, 3<br>high) | 0.432***<br>(0.106)  | 0.313**<br>(0.111)   | 0.318**<br>(0.112)   |
| Sex (1 female)  | -1.015***<br>(0.193) | -0.989***<br>(0.193) | -0.986***<br>(0.193) |
| Perceived Health Status<br>(0 bad to average, 1 good)     | 0.114<br>(0.061)     | 0.115<br>(0.061)     | 0.111<br>(0.061)     |
| Marital Status<br>(0 single, 1 partnership)               | 0.269*<br>(0.127)    | 0.273*<br>(0.128)    | 0.244<br>(0.128)     |
| Region<br>(0 East Germany, 1 West<br>Germany)             | -0.386*<br>(0.181)   | -0.346<br>(0.181)    | -0.355<br>(0.182)    |
| Work Satisfaction<br>(0 low, 10 high)                     | 0.021<br>(0.017)     | 0.022<br>(0.017)     | 0.019<br>(0.017)     |
| Experience in Volunteering<br>(in years)                  | 1.542***<br>(0.069)  | 1.543***<br>(0.069)  | 1.553***<br>(0.070)  |
| Employment Status<br>(0 employed, 1 retired)              | 0.348***<br>(0.092)  | 0.346***<br>(0.092)  | -0.486*<br>(0.245)   |
| SIOPS   |                      | 0.164***<br>(0.005)  | 0.013*<br>(0.005)    |
| Retired* SIOPS  |                      |                      | 0.017***<br>(0.005)  |
| Constant  | -1.899*<br>(0.812)   | -2.541**<br>(0.836)  | -2.382**<br>(0.838)  |
| /lnsig2u  | 2.299                | 2.299                | 2.304                |
| sigma_u   | 3.157                | 3.157                | 3.165                |
| Rho   | 0.858                | 0.858                | 0.859                |
| N of observations   | 17,940               | 17,940               | 17,940               |
| N of groups   | 1,649                | 1,649                | 1,649                |

Data: SOEP 1992-2013, v30, based on person-year observations, own calculations, unweighted. Coefficients for dummy wave variables are not presented. Standard error in brackets (\* $p_z < .05$ , \*\* $p_z < .01$ , \*\*\* $p_z < .001$ ).

Starting with M1, we notice a negative age effect: the older a person gets, the less likely it becomes that they will enter into volunteering. Second, and similar to previous findings, a higher degree of education has a strong effect on volunteering at an older age (Chambré, 1997; Choi, 2003; Erlinghagen and Hank, 2006; Erlinghagen, 2010). Contrary to our expectations, women had a lower propensity to transition into volunteering than men. Yet research has shown a differentiated gender-effect that can even change direction depending on the type of organization a person volunteers in (Tang, 2006). A possible cause for this unexpected effect may be the highly selective sample of full-time employed people. Living in the former Western Germany only has a significant impact on volunteering in M1. As soon as the SIOPS was included in M2, the significance vanishes, but nevertheless the negative effect remains strong. When coming to satisfaction with one's work as an indicator for the intrinsic motivation to volunteer, all models show a positive, but insignificant effect. In line with previous studies M1 shows that the more experience a person has in volunteering, the more likely it becomes that the same person will also volunteer in a later stage of life (Erlinghagen, 2010; Butrica et al., 2009). This effect holds true over all three models.

Finally, M1 displays a strong positive effect of being retired on the propensity to transition into volunteering. This effect remains fairly similar when the SIOPS is introduced in M2. The SIOPS variable indicates that the propensity to transition into volunteering increases with occupational prestige. In order to shed light upon the postulated compensation effect, we turn to M3. More precisely, we have to simultaneously focus on the retirement and the SIOPS variable. To do so we look at the interaction effect. The interpretation of the interaction term goes hand-in-hand with the main effects of the retirement and the SIOPS variables in M3. Since, by introducing the interaction term, all three have to be interpreted dependently with each other, and their meaning is thus altered. The retirement and SIOPS variables indicate the net effects of active workers and their occupational prestige, respectively. The interaction term displays the effect of the occupational prestige of retirees on volunteering.

We concentrate first on retirement and then occupational prestige before turning to the interaction term. In comparison to M1 and M2, the main effect of occupational status has changed direction and lost significance but has gained strength. As the variable now indicates the propensity of active workers to transition into volunteering, we can note that working influences volunteering negatively. Still, this effect is stratified as well: with increasing occupational prestige, the transitioning process into volunteering for the active worker is affected positively. Despite this finding, one has to be careful. In comparison to M2 the influence of the SIOPS on the transitioning process has lost strength and the extent of its significance. This indicates that most of the previous strength of the SIOPS in M2 comes from retirees.

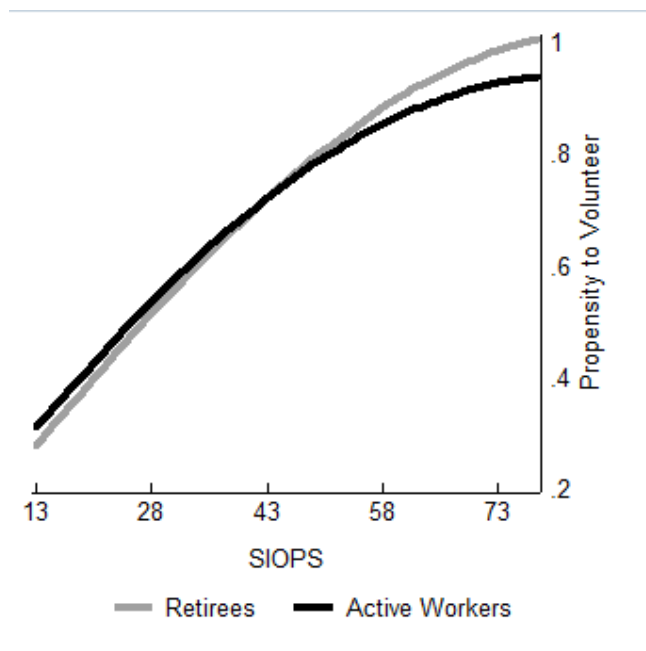
The interaction term in M3 indicates the importance of the retiree's former occupational prestige on volunteering. Highly significant and stronger than an active workers SIOPS, the propensity of a retiree to transition into volunteering increases by 1.7 percentage points with each additional unit of occupational prestige. This finding indicates an endorsement of our first hypothesis which proposed that a retiree with higher former occupational prestige has a higher propensity to volunteer than a retiree with a formerly lower occupational prestige.

This finding is the first step towards our compensation hypothesis. If we can confirm that the stratification effect is stronger for retirees than it is for active workers, we could interpret the finding as potential compensation for the loss of work due to retirement. Therefore we concentrate on the second hypothesis, which acknowledged the stratification of volunteering through occupational prestige for both active workers and retirees. At the same time it was made clear that due to the compensation effect, the impact of the occupational prestige on transitioning into volunteering was stronger for retirees than for active workers. For testing the hypothesis, we compare the strength of the SIOPS of active workers (SIOPS variable) to retirees (interaction term). The comparison on the basis of the regression analysis affirms hypothesis H2, since M3 shows a positive difference of 0.4 percentage points for retirees over active workers. Whereas a difference of 0.4 seems almost negligible, one has to account for the scale of the SIOPS variable, which ranges from 13 to 78 prestige points. At the same time one

has to account for the interaction term which can result in a different gradient at different points on the SIOPS scale. Therefore we turn to a conditional-effects plot to display a more differentiated view of the effect of occupational prestige (SIOPS).

First, the graphs indicate that, with increasing SIOPS, the propensity to transition into volunteering increased. When comparing the graphs, the findings demonstrate that actors with a lower prestige score have a higher propensity to transition into volunteering while employed. Calculations of the propensity score for retirees and workers show that for an SIOPS of 13, group difference amounts to approximately 3 percent. Around the average SIOPS value of 44, this group difference vanishes (0.12 percentage points), only to reappear for the subsequent and higher occupational scores. For the highest score of 78, groups differ by 6.7 percent. This finding is in line with our compensation hypothesis H2 which states that actors with high occupational prestige are more likely to take up volunteering in retirement than while employed.

**Figure 1.** Impact of SIOPS on volunteering, by sub-groups



Data: SOEP 1992-2013, v30 (beta); own plot based on the regression coefficients of the complementary log-log hazard model.

However, the question remains of why workers with lower occupational status have a higher propensity to volunteer than retirees with the same prestige score. We see two possible reasons. First and in line with our argument, for workers with low prestige scores their job does not give them a chance to draw social recognition to a satisfying degree. Therefore, incentives to volunteer are high. The second explanation refers to the opportunity structure of volunteering. In Germany, many firms support the volunteering efforts of their workers, i.e. by introducing company volunteering programs. In particular, actors with a low occupational prestige score who have no intrinsic motivation to volunteer but have multiple opportunities in their company, do volunteer. Theoretically speaking, it should be the case that upon entering retirement, their opportunity structure ceases to exist and they stop volunteering. In principal, the same holds true for actors with high occupational prestige, with one decisive difference. Their opportunity structure is not time dependent because it expands over the horizons of the individual company they work(ed) for into volunteering opportunities qua occupational status. In particular, more highly ranking actors will be offered honorary positions, such as membership of the Rotary Club and or opportunities to volunteer for soup kitchens or homebuilding, or working as a layman judge in court.

However, why do we still assume that volunteering in retirement can be seen as a compensation strategy for retirees with medium to high occupational prestige scores? We draw upon their intrinsic motivation, which will guide them into the volunteering opportunities provided by the structure in which they act. Controlled for the intrinsic motivation effect in our regression models (table 2), the SIOPS presents the net effect of occupational prestige and the interaction term as well as the impact retirement has on it. Interestingly enough, when the work satisfaction variable is left out of our models, the interaction effects strengthen. We take this as additional validation of the postulated compensation strategy.

## Conclusion

In this paper we ask to what extent former occupation influences a retiree's propensity to transition into formal volunteering. Drawing on insights from social production function theory, we have argued that, in order to achieve social well-being, one's occupation provides the means to reach this goal. By entering retirement, the previously stratified occupational prestige fades and the retiree gains age-related prestige which is more or less equally distributed throughout society. As a consequence, actors with previously highly prestigious jobs will lose social well-being. Due to the character of formal volunteering as a collective good, it should act as a substitution activity for the former occupation after entering retirement. We assumed that both goods are multifunctional in nature and therefore efficient for the exchange into subjective well-being. We therefore postulated that, with rising occupational prestige, a person's disposition to volunteer should also increase.

Using data from the German Socio-Economic Panel we tested our hypothesis by a Kaplan-Meier estimate, log-rank and Wilcoxon-Breslow-Gehan tests and regression analysis (complementary log-log hazard models). The findings show that higher occupational prestige results in a higher propensity to volunteer in retirement. This effect is significantly higher than the effect of occupational prestige of active workers on volunteering. We interpreted this as "compensation-effect", that is the aspiration to offset the loss of occupational prestige by the socially visible prestige gained by volunteering. This course of argument also casts light on the remaining effect of social prestige on volunteering during one's occupational career: some actors might feel a higher need for social prestige than they can draw from their job. It is in their interests to volunteer to gain additional social prestige.

In addition to our compensation argument, yet other interpretations are also plausible. The literature refers to spillover and network theory. The former argues that the characteristics of one's occupation have an indirect effect on social participation (Wilensky 1961, Wilson and Musick 1997). Work characteristics therefore structure the activities a person favors via their - more or less - self-directed personality (Kohn and Schooler 1983). Thus, holding a job with higher

prestige results in a higher probability of volunteering. Drawing on network theory, it is imaginable, that, with increasing occupational prestige, formal volunteering positions are offered more often to the actor in their role as professional. Therefore the former CEO of a company might be offered a place as a business angel for a young company to impart knowledge. Or a former doctor will volunteer time in a free clinic. If offered, the actor might accept these responsibilities in order to receive further affection and behavioral conformation.

Therefore, our findings should be viewed with circumspection. The main reservation concerns the extent and the nature of formal volunteering. Even if we were able to test whether occupational prestige has an effect on the propensity to volunteer in retirement, we do not know to what extent the temporal scope of the volunteering activity changes. Furthermore the question remains of whether the nature of volunteering is different while an actor is active in the workforce to its nature during retirement. Do retirees take on different activities than workers, even though we only register them as “volunteering”? For example, it could be assumed that retirees with a high former occupational prestige do not volunteer more, but rather in roles with higher responsibility (e.g. in the management of an association) due to time intensive activities in other areas of life (e.g. cultural activities). Recent research points towards the direction of differentiating types of volunteering organizations more clearly: As Manatschal and Freitag (2014) have shown, formal volunteering in non-solidary organizations is motivated by strategic reciprocity of rational, self-interested individuals. At the same time, formal volunteering in solidary organizations is not. Mindful of this reservation, one can nevertheless draw conclusions in the light of social inequality. Comparable to the life chances that a person accumulates during their life course, volunteering in retirement is stratified as well. Inequality that accumulated over the occupational life course continues to have an effect into retirement and cumulates in an unexpected relevance of volunteering. Keeping in mind the effect of formal volunteering on a person’s social inclusion, as discussed in the introduction, people who held lower status positions during their occupational careers, will be even less socially integrated in retirement. Because the share of retirees will grow in the future due to demographic changes, a new potential cleavage may open up between formerly low and high occupational status groups.

Actors with formerly low occupational status can develop into a problem area, since in comparison to former holders of high status jobs they will have – despite the attainment of retirement-endowed prestige – a lower degree of social inclusion, partially due to the fact that they have no incentive to volunteer. This is the long shadow of one's occupation: social inequality accumulated in the occupational sphere has an effect in retirement, albeit a less significant one. Formal volunteering cannot break this mechanism.

## Appendix

**Table A1.** Description of Variables

| Variable   | Original Scale   | Recoding  |
|--|--|---|
| Volunteering<br><i>Waves 1995, 1998, 2003, 2008 and 2013</i>         | 1 = at least once a week,<br>2 = at least once a month, 3 = less often,<br>4 = never   | Dummy coded<br>(0=not engaged, 1= engaged)                          |
| <i>Waves 1992, 1994, 1997, 1999, 2001, 2005, 2007, 2009 and 2011</i> | 1 = daily, 2= at least once a week<br>3 = at least once a month, 4 = less often,<br>5 = never  |   |
| Occupational prestige (SIOPS)  | Continuous<br>(13 to 78)   |   |
| Retirement   | 1 = yes, 2 = no<br>(based on calendar data of retirement in previous year)   | Dummy coded<br>(0=working, 1= retired)                              |
| Age  | continuous, in years   |   |
| Education  | CASMIN<br>0 = in school, 1 = inadequately completed,<br>2 = general elementary school,<br>3 = basic vocational qualification,<br>4 = intermediate general qualification,<br>5 = intermediate vocational qualification,<br>6 = general maturity certification,<br>7 = vocational maturity certification,<br>8 = lower tertiary education,<br>9 = higher tertiary education, | 1 = low<br>2 = middle<br>3 = high                                   |
| Partner<br><i>waves 1998-2010</i>                                    | 1 = married, living together,<br>2 = married, living apart,<br>3 = single, 4 = divorced, 5 = widowed,  | Dummy coded<br>(0=in partnership,<br>1= single/widowed/divorced)    |
| <i>in addition since 2011</i>  | 6 = registered partnership, living together  |   |
| Region   | 1 = formerly West Germany,<br>2 = formerly East Germany  | 0=formerly West Germany<br>1= formerly East Germany                 |
| Sex  | 1 = male,<br>2 = female  | 0 = male,<br>1 = female   |
| Perceived status of health   | 1 = very good, 2 = good, 3 = satisfactory,<br>4 = less good, 5 = poor  | Dummy-coded<br>(0 = very poor to average,<br>1 = good to very good) |
| Work Satisfaction  | 0 = completely dissatisfied to<br>10 = completely satisfied  |   |
| Years of volunteering experience                                     | Continuous, in years   |   |

Data: SOEP 1992-2013, v30 (beta); based on person-year observations, own calculations, observations: 17,940.

## References

- Andreß H, Golsch K and Schmidt AW (2013) *Applied panel data analysis for economic and social surveys*. Heidelberg: Springer Verlag.
- Börsch-Supan A, Erlinghagen M, Hank K, Jürges H and Wagner G (2009) *Altern in Deutschland: Produktivität in alternden Gesellschaften*. Halle (Saale): Wiss. Verlagsgesellschaft.
- Broese van Groenou, Marjolein and van Tilburg T (2012) Six-year follow-up on volunteering in later life: a cohort comparison in the Netherlands. *European Sociological Review* 28(1): 1–11.
- Butrica BA, Johnson RW and Zedlewski SR (2009) Volunteer dynamics of older Americans. *The Gerontologist: Social Sciences* 64B: 644–655.
- Cameron AC and Trivedi PK (2005) *Microeconometrics: Methods and Applications*. Cambridge: Cambridge University Press.
- Caro FG and Bass SA (1997) Receptivity to Volunteering in the Immediate Postretirement Period. *Journal of Applied Gerontology* 16: 427–441.
- Chambré SM (1997) Is volunteering a substitute for role loss in old age?: An empirical test of activity theory. *The Gerontologist: Social Sciences*(24): 292–298.
- Choi LH (2003) Factors affecting volunteerism among older adults. *Journal of Applied Gerontology*(22): 179–196.
- Erlinghagen M (2010) Volunteering after retirement. *European Societies*(12): 603–625.
- Erlinghagen M and Hank K (2006) The participation of older Europeans in volunteer work. *Ageing and Society* 26(4): 567–584.
- Hank K (2011) Societal determinants of productive ageing: a multilevel analysis across 11 European countries. *European Sociological Review*(27): 526–541.
- Häuberer J (2014) Social Capital in Voluntary Associations. *European Societies*: 1–24.
- Herzberg F, Mausner B and Synderman BB (1959) *The motivation to work*. New York: Wiley [u.a.].
- Kohn ML and Schooler C (1969) Class, Occupation, and Orientation. *American Sociological Review* 34(5): 659–678.
- Komp K, van Tilburg T and Broese van Groenou, Marjolein (2012) Age, retirement, and health as factors in volunteering in later life. *Nonprofit and Voluntary Sector Quarterly* 41(2): 280–299.
- Li Y and Ferraro KF (2006) Volunteering in middle and later life: is health a benefit, barrier or both? *Social Forces* 85: 497–519.

- Lindenberg S (1996) Continuities in the theory of social production functions. In: Ganzeboom HBG and Lindenberg S (eds) *Verklarende Sociologie: Opstellen voor Reinhard Wippler*. Amsterdam: Thela Thesis, pp. 169–184.
- Manatschal A and Freitag M (2014) Reciprocity and volunteering. *Rationality and Society* 26(2): 208–235.
- Mutchler JE, Burr JA and Caro FG (2003) From paid work to volunteer: leaving the paid workforce and volunteering in later life. *Social Forces* 81: 1267–1293.
- Olson M (1971) *The logic of collective action public goods and the theory of groups*. New York: Schocken Books.
- Ormel J, Lindenberg S, Steverink N and Verbrugge LM (1999) Subjective Well-Being and Social Production Functions. *Social Indicators Research*(46): 61–90.
- Simmons LW (1947) *The role of the aged in primitive society*. New Haven: Yale University Press.
- Simons RL (1983/84) Specificity and substitution in the social networks of the elderly. *The International Journal of Aging and Human Development* 18(2): 121–139.
- Tang F (2006) What resources are needed for volunteerism?: A life course perspective. *Journal of Applied Gerontology* 25: 375–390.
- Treiman DJ (1977) *Occupational prestige in comparative perspective*. New York: Academic Press Inc.
- Wagner GG, Frick JR and Schupp J (2007) The German Socio-Economic Panel Study (SOEP) – scope, evolution and enhancements. *Schmollers Jahrbuch*(127): 139–169.
- Wilson J (2000) Volunteering. *Annual Review of Sociology*(26): 215–240.